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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 40-F

☐ REGISTRATION STATEMENT PURSUANT TO SECTION 12 OF THE SECURITIES EXCHANGE ACT OF 1934

OR

☒ ANNUAL REPORT PURSUANT TO SECTION 13(a) OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2021 **Commission File Number 001-15144**

TELUS Corporation

(Exact Name of Registrant as specified in its charter)

British Columbia, Canada
(Province or other jurisdiction of incorporation or organization)

4812
(Primary Standard Industrial Classification Code Number (if applicable))

7th Floor – 510 West Georgia Street
Vancouver, British Columbia V6B 0M3, Canada
(604) 697-8044
(Address and telephone number of Registrant's principal executive offices)

CT Corporation System, 28 Liberty Street
New York, New York 10005
(212) 590-9200
(Name, address (including zip code) and telephone number (including area code) of agent for service in the United States)

Securities registered pursuant to section 12(b) of the Act.

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Shares	**TU**	**New York Stock Exchange**

Securities registered or to be registered pursuant to Section 12(g) of the Act.

None
(Title of Class)

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act.

None
(Title of Class)

For annual reports, indicate by check mark the information filed with this Form:

☒ Annual information form ☒ Audited annual financial statements

Indicate the number of outstanding shares of each of the issuer's classes of capital or common stock as of December 31, 2021:

1,370,214,882 Common Shares

Indicate by check mark whether the Registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Exchange Act during the preceding 12 months (or for such shorter period that the Registrant was required to file such reports) and (2) has been subject to such filing requirements for the past 90 days.

Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the Registrant was required to submit such files).

Yes ☒ No ☐

Indicate by check mark whether the Registrant is an emerging growth company as defined in Rule 12b-2 of the Exchange Act.

Emerging Growth Company ☐

If an emerging growth company that prepares its financial statements in accordance with U.S. GAAP, indicate by check mark if the Registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards† provided pursuant to Section 13(a) of the Exchange Act.

☐

†The term "new or revised financial accounting standard" refers to any update issued by the Financial Accounting Standards Board to its Accounting Standards Codification after April 5, 2012.

Indicate by check mark whether the Registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report.

☒

This annual report on Form 40-F shall be incorporated by reference into or as an exhibit to, as applicable, each of the following of the Registrant's Registration Statements under the Securities Act of 1933, as amended: Form S-8s (File Nos. 333-125486 and 333-181463), Form F-3D (File No. 333-258770), and Form F-10 (File No. 333-256124).

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CONTROLS AND PROCEDURES

Disclosure Controls and Procedures

Based on the evaluation by TELUS Corporation ("TELUS" or the "Registrant") as of December 31, 2021 of the effectiveness of the design and operation of the Registrant's disclosure controls and procedures under the supervision of the Audit Committee, including the Registrant's Chief Executive Officer and Chief Financial Officer, the Chief Executive Officer and Chief Financial Officer have concluded that the Registrant's disclosure controls and procedures as defined in Rule 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934 (the "Exchange Act") are effective to a reasonable level of assurance to ensure that information required to be disclosed by the Registrant in reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the United States Securities and Exchange Commission's (the "SEC") rules and forms, and to ensure that information required to be disclosed by the Registrant in the reports that it files or submits under the Exchange Act is accumulated and communicated to the Registrant's management, including the Registrant's Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure.

It should be noted that while TELUS' Chief Executive Officer and Chief Financial Officer believe that TELUS' disclosure controls and procedures provide a reasonable level of assurance that they are effective, they do not expect that TELUS' disclosure controls and procedures or internal control over financial reporting will prevent all errors and fraud. A control system, no matter how well conceived or operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met.

Management's Annual Report on Internal Control Over Financial Reporting

The report of management on our internal control over financial reporting is located under the heading "Report of Management on Internal Control Over Financial Reporting" in our audited consolidated financial statements, which are filed as Exhibit 99.4 to this annual report on Form 40-F, and is incorporated by reference herein.

Attestation Report of Independent Registered Public Accounting Firm

The attestation report on our internal control over financial reporting is located under the heading "Report of Independent Registered Public Accounting Firm" in our audited consolidated financial statements, which are filed as Exhibit 99.4 to this annual report on Form 40-F, and is incorporated by reference herein.

Changes in Internal Controls Over Financial Reporting

There were no changes in our internal control over financial reporting identified in connection with the above evaluation that occurred during the period covered by this annual report on Form 40-F that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

IDENTIFICATION OF THE AUDIT COMMITTEE

TELUS has a separately designated standing Audit Committee established in accordance with section 3(a)(58)(A) of the Exchange Act. The current members of the Audit Committee are David Mowat (Chair), Hazel Claxton, Thomas Flynn, Denise Pickett and Sean Willy. All members of the Audit Committee are "independent" as such term is defined under applicable securities laws and applicable New York Stock Exchange ("NYSE") rules.

AUDIT COMMITTEE FINANCIAL EXPERT

The Board of Directors (the "Board") of TELUS has determined that David Mowat, the Audit Committee Chair, is the "audit committee financial expert" as such term is defined by U.S. securities laws and "independent" as noted above. The information contained under the heading "Audit Committee" starting on page 31 of TELUS' year-end 2021 Annual Information Form, filed as Exhibit 99.3 to this annual report on Form 40-F, is incorporated by reference herein.

CODE OF ETHICS

The Registrant has adopted a Code of Ethics and Conduct (the "Code") that applies to all directors, officers, including the Chief Executive Officer and the Chief Financial Officer, and employees. The Code has been posted on the Registrant's Internet website at https://www.telus.com/en/about/policies-and-disclosures/code-of-ethics-and-conduct. The Code is also available to any person, upon request, without charge by contacting TELUS Investor Relations by telephone at 1-800-667-4871 or by mail at 510 W. Georgia Street, 8th Floor, Vancouver, B.C. V6B 0M3 . The Code was amended in November 2021 to make minor clarifications to existing provisions.

PRINCIPAL ACCOUNTANT FEES AND SERVICES

The following table is a summary of billing by Deloitte LLP (PCAOB ID No. 0 1208), as external auditor of TELUS (the "External Auditor"), during the period from January 1, 2021 to December 31, 2021 (all amounts are in Canadian dollars):

Type of work	$ (millions)	%
Audit fees (1)	2.810	25.8
Audit-related fees (2)	6.869	63.2
Tax fees (3)	0.834	7.7
All other fees (4)	0.359	3.3
Total	**10.871**	**100.0**

(1) Includes fees for services rendered by Deloitte in relation to the audit and review of our financial statements.
(2) Includes fees for audits in relation to our statutory and regulatory filings, audits and reviews of subsidiaries including TELUS International, pension-related audits, customer required reviews and translation services rendered by Deloitte in relation to the audit or review of our financial statements that were not part of audit fees.
(3) Relates to tax compliance, tax advice and tax planning.
(4) Includes fees for services rendered by Deloitte that were not in relation to the audit or review of our financial statements, such as Board Effectiveness Assessment, M&A Due Diligence, Advisory services for private investment fund establishment and other Specified Procedures.

The following table is a summary of billing by the External Auditor, during the period from January 1, 2020 to December 31, 2020 (all amounts are in Canadian dollars):

Type of work	$ (millions)	%
Audit fees (1)	2.415	27.2
Audit-related fees (2)	5.810	65.4
Tax fees (3)	0.405	4.6
All other fees (4)	0.247	2.8
Total	**8.877**	**100.0**

(1) Includes fees for services rendered by Deloitte in relation to the audit and review of our financial statements.
(2) Includes fees for audits in relation to our statutory and regulatory filings, audits and reviews of subsidiaries, pension-related audits, customer required reviews and translation services rendered by Deloitte in relation to the audit or review of our financial statements that were not part of audit fees.
(3) Relates to tax compliance, tax advice and tax planning.
(4) Includes fees for services rendered by Deloitte that were not in relation to the audit or review of our financial statements, such as the Board Effectiveness Assessment, M&A Due Diligence and other Specified Procedures.

All requests for non-prohibited audit, audit-related and non-audit services provided by the External Auditor and its affiliates to TELUS are required to be pre-approved by the Audit Committee of the Board. To enable this, TELUS has implemented a process by which all requests for services involving the External Auditor are routed for review by the VP Risk Management and Chief Internal Auditor to validate that the requested service is a non-prohibited service and to verify that there is a compelling business reason for the request. If the request passes this review, it is then forwarded to the Chief Financial Officer for further review. Pending the Chief Financial Officer's

affirmation, the request is then presented to the Audit Committee for its review, evaluation and pre-approval or denial at its next scheduled quarterly meeting. If the timing of the request is urgent, it is provided to the Audit Committee Chair for his review, evaluation and pre-approval or denial on behalf of the Audit Committee (with the Audit Committee's review at the next scheduled quarterly meeting). Throughout the year, the Audit Committee monitors the actual versus approved expenditure for each of the approved requests. During the fiscal year ended December 31, 2021, the Audit Committee did not approve any of the fees captioned in the table above subject to waiver of pre-approval provisions set forth in Rule 2-01(c)(7)(i)(C) of Regulation S-X.

OFF-BALANCE SHEET ARRANGEMENTS

The Registrant has no off-balance sheet arrangements that have or are reasonably likely to have a current or future effect on the financial condition, changes in financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources that is material to investors.

TABULAR DISCLOSURE OF CONTRACTUAL OBLIGATIONS

The information provided under the heading "Commitments and contingent liabilities - Contractual obligations as at December 31, 2021" set forth on page 66 of the Management's Discussion and Analysis filed as Exhibit 99.4 to this annual report on Form 40-F, is incorporated by reference herein.

MINE SAFETY DISCLOSURE

Not applicable.

DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS

Not applicable.

SUMMARY OF SIGNIFICANT DIFFERENCES FROM NYSE CORPORATE GOVERNANCE RULES

A summary of significant ways in which corporate governance practices followed by TELUS differ from the corporate governance practices required to be followed by U.S. domestic companies under the New York Stock Exchange's Listing Standards (disclosure required by section 303A.11 of the NYSE Listed Company Manual) is available on the Registrant's corporate governance website at https://www.telus.com/en/about/investor-relations/corporate-governance/statement-of-our-governance-practices.

UNDERTAKING AND CONSENT TO SERVICE OF PROCESS

A. Undertaking

The Registrant undertakes to make available, in person or by telephone, representatives to respond to inquiries made by the SEC staff, and to furnish promptly, when requested to do so by the SEC staff, information relating to: the securities registered pursuant to Form 40-F; the securities in relation to which the obligation to file an annual report on Form 40-F arises; or transactions in said securities.

B. Consent to Service of Process

The Registrant has previously filed with the SEC a Form F-X in connection with the class of securities in relation to which the obligation to file this annual report on Form 40-F arises.

EXHIBIT INDEX

The following documents are filed as exhibits to this annual report on Form 40-F:

Exhibit Number	Document
99.1	Certifications of Chief Executive Officer and Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act
99.2	Certifications of Chief Executive Officer and Chief Financial Officer pursuant to Section 906 of the Sarbanes-Oxley Act
99.3	Annual Information Form for the year ended December 31, 2021, dated February 10, 2022
99.4	Audited Consolidated Financial Statements as at and for the years ended December 31, 2021 and 2020 and Management's Discussion and Analysis
99.5	Consent of Independent Registered Public Accounting Firm
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema
101.CAL	XBRL Taxonomy Extension Scheme Calculation Linkbase
101.DEF	XBRL Taxonomy Extension Scheme Definition Linkbase
101.LAB	XBRL Taxonomy Extension Scheme Label Linkbase
101.PRE	XBRL Taxonomy Extension Scheme Presentation Linkbase
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101)

SIGNATURES

Pursuant to the requirements of the Exchange Act, the Registrant certifies that it meets all of the requirements for filing on Form 40-F and has duly caused this annual report to be signed on its behalf by the undersigned, thereto duly authorized.

Registrant: TELUS Corporation

By: */s/ Andrea Wood*
Andrea Wood
Chief Legal and Governance Officer

Date: February 10, 2022

Exhibit 99.1

Certification

I, Darren Entwistle, certify that:

1. I have reviewed this annual report on Form 40-F of TELUS Corporation;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the issuer as of, and for, the periods presented in this report;

4. The issuer's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the issuer and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the issuer, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the issuer's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the issuer's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the issuer's internal control over financial reporting; and

5. The issuer's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the issuer's auditors and the audit committee of the issuer's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the issuer's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the issuer's internal control over financial reporting.

Date: February 10, 2022

/s/ Darren Entwistle
Darren Entwistle
President and Chief Executive Officer

Certification

I, Doug French, certify that:

1. I have reviewed this annual report on Form 40-F of TELUS Corporation;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the issuer as of, and for, the periods presented in this report;

4. The issuer's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the issuer and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the issuer, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the issuer's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the issuer's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the issuer's internal control over financial reporting; and

5. The issuer's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the issuer's auditors and the audit committee of the issuer's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the issuer's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the issuer's internal control over financial reporting.

Date: February 10, 2022

/s/ Doug French
Doug French
Executive Vice President and Chief Financial Officer

Exhibit 99.2

Certifications

Pursuant to 18 U.S.C. §1350, each of the undersigned officers of TELUS Corporation ("TELUS") hereby certifies that to his knowledge, (a) the annual report for the period ended December 31, 2021 (the "Report") fully complies with the requirements of Section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934 and (b) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of TELUS.

Date: February 10, 2022

/s/ Darren Entwistle
Darren Entwistle
President and Chief Executive Officer

Date: February 10, 2022

/s/ Doug French
Doug French
Executive Vice President and Chief Financial Officer

Exhibit 99.3

Annual Information Form for the year ended December 31, 2021, dated February 10, 2022

[previously filed on SEDAR]

TELUS Corporation
Annual Information Form for the year ended
December 31, 2021

February 10, 2022



1. CAUTION REGARDING FORWARD-LOOKING STATEMENTS

The terms *TELUS, the Company, we, us* and *our* refer to TELUS Corporation and, where the context of the narrative permits or requires, its subsidiaries.

This document contains forward-looking statements about expected events and our financial and operating performance. Forward-looking statements include any statements that do not refer to historical facts. They include, but are not limited to, statements relating to our objectives and our strategies to achieve those objectives, our plans and expectations regarding the impact of the COVID-19 pandemic and responses to it, our expectations regarding trends in the telecommunications industry including demand for mobile data and ongoing internet subscriber base growth, and our financing plans including our multi-year dividend growth program. Forward-looking statements are typically identified by the words assumption, goal, guidance, objective, outlook, strategy, target and other similar expressions, or future or conditional verbs such as *aim*, *anticipate*, *believe*, *could*, *expect*, *intend*, *may*, *plan*, *predict*, *seek*, *should*, *strive* and *will*. These statements are made pursuant to the "safe harbour" provisions of applicable securities laws in Canada and the United States *Private Securities Litigation Reform Act of 1995*.

By their nature, forward-looking statements are subject to inherent risks and uncertainties and are based on assumptions, including assumptions about future economic conditions and courses of action. These assumptions may ultimately prove to have been inaccurate and, as a result, our actual results or events may differ materially from expectations expressed in or implied by the forward-looking statements. Our general outlook and assumptions for 2022 are presented in *Section 9 General trends, outlook and assumptions, and regulatory developments and proceedings* in the 2021 annual Management's discussion and analysis (MD&A).

Risks and uncertainties that could cause actual performance or events to differ materially from the forward-looking statements made herein and in other TELUS filings include, but are not limited to, the following:

- The COVID-19 pandemic including its impacts on our customers, suppliers and vendors, our team members and our communities, as well as changes resulting from the pandemic to our business and operations including changes to the demand for and supply of the products and services that we offer and the channels through which we offer them.
- Regulatory decisions and developments including: changes to our regulatory regime (the timing of announcement or implementation of which are uncertain) or the outcomes of proceedings, cases or inquiries relating to its application, including but not limited to those set out in *Section 9.4 Communications industry regulatory developments and proceedings* in the 2021 annual MD&A, such as the potential for government to allow consolidation of competitors in our industry or conversely for government intervention intended to further increase competition, for example, through mandated wholesale access; the potential for additional government intervention on pricing, including the March 2020 announcement by the federal government targeting a 25% price reduction over a two-year period by the national mobile carriers in postpaid mobile bring-your-own-device plans using between 2 to 6 GB of data; federal and provincial consumer protection legislation and the possible re-introduction by the federal government of privacy legislation to give consumers new privacy rights and to impose new monetary penalties for non-compliance; amendments to existing federal legislation; potential threats to unitary federal regulatory authority over communications in Canada; potential threats to the CRTC's ability to enforce the *Wholesale Code*, which aims to ensure the fair treatment by vertically integrated firms of rival broadcasting distributors and programming services; regulatory action by the Competition Bureau or other regulatory agencies; spectrum and compliance with licences, including our compliance with licence conditions, changes to spectrum licence fees, spectrum policy determinations such as restrictions on the purchase, sale, subordination, use and transfer of spectrum licences, the cost and availability of spectrum and timing of spectrum allocation, and ongoing and future consultations and decisions on spectrum licensing and policy frameworks, auctions and allocation; the impact on us and other Canadian telecommunications carriers of government or regulatory actions with respect to certain countries or suppliers, including U.S. federal regulations pertaining to certain technology transactions deemed to constitute national security risks and the imposition of additional licence requirements on the export, re-export and transfer of goods, services and technology to Huawei Technologies Co. Ltd. and its non-U.S. affiliates, and decisions of other foreign governments, which could result in a general shortage of chipsets and other equipment; restrictions on non-Canadian ownership and control of the common shares of TELUS Corporation (Common Shares) and the ongoing monitoring of and compliance with such restrictions; unanticipated changes to the current copyright regime; and our ability to comply with complex and changing regulation of the healthcare and medical devices industry in the jurisdictions in which we operate, including as an operator of health clinics. The jurisdictions in which we operate, as well as the contracts that we enter into (particularly contracts entered into by TELUS International (Cda) Inc. (TELUS International or TI)), require us to comply with or facilitate our clients ' compliance with numerous, complex and sometimes conflicting legal regimes, both domestically and internationally. See *TELUS International's financial performance which impacts our financial performance* below.
- Competitive environment including: our ability to continue to retain customers through an enhanced customer service experience that is differentiated from our competitors, including through the deployment and operation of evolving network infrastructure; intense competition, including the ability of industry competitors to successfully combine a mix of new service offerings and, in some cases, under one bundled and/or discounted monthly rate, along with their existing services; the success of new products,

services and supporting systems, such as home automation, security and Internet of Things (IoT) services for internet-connected devices; continued intense competition across all services among telecommunications companies, cable companies, other communications companies and over-the-top (OTT) services, which, among other things, places pressures on current and future average billing per subscriber per month (ABPU), average revenue per subscriber per month (ARPU), cost of acquisition, cost of retention and churn rates for all services, as do market conditions, government actions, customer usage patterns, increased data bucket sizes or flat-rate pricing trends for voice and data, inclusive rate plans for voice and data and availability of Wi-Fi networks for data; consolidation, mergers and acquisitions of industry competitors; subscriber additions, losses and retention volumes; our ability to obtain and offer content on a timely basis across multiple devices on mobile and TV platforms at a reasonable cost as content costs per unit continue to grow; vertical integration in the broadcasting industry resulting in competitors owning broadcast content services, and timely and effective enforcement of related regulatory safeguards; TI's ability to compete with professional services companies that offer consulting services, information technology companies with digital capabilities, and traditional contact centre and business process outsourcing companies that are expanding their capabilities to offer higher-margin and higher-growth digital services; in our TELUS Health business, our ability to compete with other providers of electronic medical records and pharmacy management products, claims adjudicators, systems integrators and health service providers including those that own a vertically integrated mix of health services delivery, IT solutions and related services, global providers that could achieve expanded Canadian footprints, and in the provision of virtual healthcare services, preventative health services and personal emergency response services; and in our TELUS Agriculture business, our ability to compete with focused software and IoT competitors.

- Technological substitution including: reduced utilization and increased commoditization of traditional fixed voice services (local and long distance) resulting from impacts of OTT applications and mobile substitution; a declining overall market for TV services, including as a result of content piracy and signal theft, a rise in OTT direct-to-consumer video offerings and virtual multichannel video programming distribution platforms; the increasing number of households that have only mobile and/or internet-based telephone services; potential declines in ABPU and ARPU as a result of, among other factors, substitution by messaging and OTT applications; substitution by increasingly available Wi-Fi services; and disruptive technologies, such as OTT IP services, including software-defined networks in the business market, that may displace or cause us to reprice our existing data services, and self-installed technology solutions.
- Challenges to our ability to deploy technology including: high subscriber demand for data that challenges wireless networks and spectrum capacity levels and may be accompanied by increases in delivery cost; our reliance on information technology and our ability to streamline our legacy systems; the roll-out, anticipated benefits and efficiencies, and the evolution of wireless broadband technologies and systems, including video distribution platforms and telecommunications network technologies (broadband initiatives, such as fibre-to-the-premises (FTTP), wireless small-cell deployment, 5G wireless and availability of resources and our ability to build out adequate broadband capacity); our reliance on wireless network access agreements, which have facilitated our deployment of mobile technologies; our choice of suppliers and those suppliers' ability to maintain and service their product lines, which could affect the success of upgrades to, and evolution of, technology that we offer; supplier limitations and concentration and market power for products such as network equipment, TELUS TV® and mobile handsets; our expected long-term need to acquire additional spectrum capacity through future spectrum auctions and from third parties to address increasing demand for data and our ability to utilize spectrum we acquire; deployment and operation of new fixed broadband network technologies at a reasonable cost and the availability and success of new products and services to be rolled out using such network technologies; network reliability and change management; and our deployment of self-learning tools and automation, which may change the way we interact with customers.
- Capital expenditure levels and potential outlays for spectrum licences in auctions or purchases from third parties affect and are affected by: our broadband initiatives, including connecting more homes and businesses directly to fibre; our ongoing deployment of newer mobile technologies, including wireless small cells to improve coverage and capacity; investments in network resiliency and reliability, including to address changes in usage resulting from restrictions imposed in response to the COVID-19 pandemic; the allocation of resources to acquisitions and future spectrum auctions held by Innovation, Science and Economic Development Canada (ISED), including the announcement of a second consultation on the auctioning of the 3800 MHz spectrum, which the Minister of Innovation, Science and Industry stated is expected to take place in 2023, and the millimetre wave spectrum auction, which is expected to commence in 2024. Our capital expenditure levels could be impacted if we do not achieve our targeted operational and financial results or by changes to our regulatory environment.
- Operational performance and business combination risks including: our reliance on legacy systems and our ability to implement and support new products and services and business operations in a timely manner; our ability to manage the requirements of large enterprise deals; our ability to implement effective change management for system replacements and upgrades, process redesigns and business integrations (such as our ability in a timely manner to successfully complete and integrate acquisitions into our operations and culture, complete divestitures or establish partnerships and realize expected strategic benefits, including those following compliance with any regulatory orders); our ability to identify and manage new risks inherent in new service offerings that we may provide, including as a result of acquisitions, which could result in damage to our brand, our business in the relevant area or as a whole, and additional exposure to litigation or regulatory proceedings; and our ability to effectively manage the growth of our infrastructure and integrate new team members.

- Data protection including risks that malfunctions or unlawful acts could result in unauthorized access to, change, loss, or distribution of data, which may compromise the privacy of individuals and could result in financial loss and harm to our reputation and brand.
- Security threats including intentional damage, or unauthorized access or attempted access to our physical assets or our IT systems and networks, or those of our customers or vendors, which could prevent us from providing reliable service or result in unauthorized access to our information or that of our customers.
- Ability to successfully implement cost reduction initiatives and realize planned savings, net of restructuring and other costs, without losing customer service focus or negatively affecting business operations. Examples of these initiatives are: our operating efficiency and effectiveness program to drive improvements in financial results; business integrations; business product simplification; business process automation and outsourcing; offshoring and reorganizations; procurement initiatives; and real estate rationalization.
- Foreign operations and our ability to successfully manage operations in foreign jurisdictions, including managing risks such as currency fluctuations and exposure to various economic, international trade, political and other risks of doing business globally. See also *TELUS International's financial performance which impacts our financial performance* .
- Business continuity events including: our ability to maintain customer service and operate our network in the event of human error or human-caused threats, such as cyberattacks and equipment failures that could cause various degrees of network outages; technical disruptions and infrastructure breakdowns; supply chain disruptions, delays and rising costs, including as a result of government restrictions or trade actions; natural disaster threats; extreme weather events; epidemics; pandemics (including the ongoing COVID-19 pandemic); political instability in certain international locations; information security and privacy breaches, including loss or theft of data; and the completeness and effectiveness of business continuity and disaster recovery plans and responses.
- TELUS International's financial performance which impacts our financial performance . Factors that may affect TI 's financial performance are described in TI's public filings available on SEDAR and EDGAR and may include: intense competition from companies offering similar services; attracting and retaining qualified team members to support its operations; TI's ability to grow and maintain profitability if changes in technology or if client expectations outpace service offerings and internal tools and processes; TI maintaining its culture as it grows; effects of economic and geopolitical conditions on its clients' businesses and demand for its services; a significant portion of TI's revenue being dependent on a limited number of large clients; continued consolidation in many of the verticals in which TI offers services could result in the loss of a client; adverse impacts of the COVID-19 pandemic on TI's business and financial results; TI 's business being adversely affected if certain independent contractors were classified as employees, and the costs associated with defending, settling or resolving any future lawsuits (including demands for arbitration) relating to the independent contractor classification; TI's ability to successfully identify, complete, integrate and realize the benefits of acquisitions and manage associated risks; cyberattacks or unauthorized disclosure resulting in access to sensitive or confidential information and data of its clients or their end customers, which could have a negative impact on its reputation and client confidence; TI's business not developing in ways it currently anticipates due to negative public reaction to offshore outsourcing, proposed legislation or otherwise; ability to meet client expectations regarding its content moderation services being adversely impacted due to factors beyond its control and its content moderation team members suffering adverse emotional or cognitive effects in the course of performing their work; and TI's short history operating as a separate, publicly traded company. TELUS International 's primary functional and reporting currency is the U.S. dollar and the contribution to our consolidated results of positive results in our digitally-led customer experiences – TELUS International (DLCX) segment may be offset by any strengthening of the Canadian dollar (our reporting currency) compared to the U.S. dollar. The price of the subordinate voting shares of TI (TI Subordinate Voting Shares) may be volatile and is likely to fluctuate due to a number of factors beyond its control, including actual or anticipated changes in profitability; general economic, social or political developments; changes in industry conditions; changes in governance regulation; inflation; low trading volume; the general state of the securities markets; and other material events. TI may choose to publicize targets or provide other guidance regarding its business and it may not achieve such targets. Failure to do so could also result in a reduction in the trading price of the TI Subordinate Voting Shares. A reduction in the trading price of the TI Subordinate Voting Shares due to these or other factors could result in a reduction in the fair value of TI multiple voting shares held by TELUS.
- Human resource matters including: recruitment, retention and appropriate training in a highly competitive industry (including retention of team members leading recent acquisitions in emerging areas of our business), the level of our employee engagement and impact on engagement or other aspects of our business or any unresolved collective agreements, our ability to maintain our unique culture as we grow, the risk that certain independent contractors in our business could be classified as employees, unanticipated reaction to our COVID-19 vaccine policy or the reopening of our administrative offices and the health of our team.
- Financing and debt requirements including: our ability to carry out financing activities, refinance our maturing debt, lower our net debt to EBITDA ratio to our objective range given the cash demands of spectrum auctions, and/or our ability to maintain investment grade credit ratings in the range of BBB+ or the equivalent. Our business plans and growth could be negatively affected if existing financing is not sufficient to cover our funding requirements.
- Lower than planned free cash flow could constrain our ability to invest in operations, reduce leverage or return capital to shareholders, and could affect our ability to sustain our dividend growth program through 2022 and any further dividend growth

programs. This program may be affected by factors such as the competitive environment, fluctuations in the Canadian economy or the global economy, our earnings and free cash flow, our levels of capital expenditures and spectrum licence purchases, acquisitions, the management of our capital structure, regulatory decisions and developments, and business continuity events. Quarterly dividend decisions are subject to assessment and determination by our Board of Directors based on our financial position and outlook. Common Shares may be purchased under our normal course issuer bid (NCIB) when and if we consider it opportunistic, based on our financial position and outlook, and the market price of our Common Shares. There can be no assurance that our dividend growth program or our NCIB will be maintained, unchanged and/or completed.

- Taxation matters including: interpretation of complex domestic and foreign tax laws by the relevant tax authorities that may differ from our interpretations; the timing and character of income and deductions, such as tax depreciation and operating expenses; tax credits or other attributes; changes in tax laws, including tax rates; tax expenses being materially different than anticipated, including the taxability of income and deductibility of tax attributes or retroactive application of new legislation; elimination of income tax deferrals through the use of different tax year-ends for operating partnerships and corporate partners; and changes to the interpretation of tax laws, including those resulting from changes to applicable accounting standards or the adoption of more aggressive auditing practices by tax authorities, tax reassessments or adverse court decisions impacting the tax payable by us.
- Litigation and legal matters including: our ability to successfully respond to investigations and regulatory proceedings; our ability to defend against existing and potential claims and lawsuits (including intellectual property infringement claims and class actions based on consumer claims, data, privacy or security breaches and secondary market liability), or to negotiate and exercise indemnity rights or other protections in respect of such claims and lawsuits; and the complexity of legal compliance in domestic and foreign jurisdictions, including compliance with competition, anti-bribery and foreign corrupt practices laws.
- Health, safety and the environment including: lost employee work time resulting from illness or injury; public concerns related to radio frequency emissions; environmental issues affecting our business, including climate-related risk (such as extreme weather events and other natural hazards), waste and waste recycling, risks relating to fuel systems on our properties, changing government and public expectations regarding environmental matters and our responses; and challenges associated with epidemics or pandemics, including the COVID-19 pandemic and our response to it, which may add to or accentuate these factors.
- Economic growth and fluctuations including: the state of the economy in Canada, which may be influenced by economic and other developments outside of Canada, including potential outcomes of yet unknown policies and actions of foreign governments and the ongoing COVID-19 pandemic, as well as public and private sector responses to the pandemic; expectations regarding future interest rates; inflation; unemployment levels; effects of fluctuating oil prices; effects of low business spending (such as reducing investments and cost structure); pension investment returns and factors affecting pension benefit obligations, funding and solvency discount rates; fluctuations in exchange rates of the currencies in the regions in which we operate; sovereign credit ratings and effects on the cost of borrowing; the impact of tariffs on trade between Canada and the United States; and global implications of the dynamics of trade relationships among major world economies.
- Energy use including: our ability to identify and implement solutions to reduce energy consumption and adopt cleaner sources of energy; our ability to identify and make suitable investments in renewable energy, including in the form of power purchase agreements; our ability to continue to realize significant absolute reductions in energy use and the resulting greenhouse gas (GHG) emissions in our operations (including as a result of programs and initiatives focused on our buildings and network); and other risks associated with achieving our goals to achieve carbon neutrality and reduce our GHG emissions by 2030.

These risks are described in additional detail in *Section 9 General trends, outlook and assumptions, and regulatory developments and proceedings* and *Section 10 Risks and risk management* in the 2021 annual MD&A. Those descriptions are incorporated by reference in this cautionary statement but are not intended to be a complete list of the risks that could affect the Company.

Many of these factors are beyond our control or outside of our current expectations or knowledge. Additional risks and uncertainties that are not currently known to us or that we currently deem to be immaterial may also have a material adverse effect on our financial position, financial performance, cash flows, business or reputation. Except as otherwise indicated in this document, the forward-looking statements made herein do not reflect the potential impact of any non-recurring or special items or any mergers, acquisitions, dispositions or other business combinations or transactions that may be announced or that may occur after the date of this document.

Readers are cautioned not to place undue reliance on forward-looking statements. Forward-looking statements in this document describe our expectations, and are based on our assumptions, as at the date of this document and are subject to change after this date. Except as required by law, we disclaim any intention or obligation to update or revise any forward-looking statements.

This cautionary statement qualifies all of the forward-looking statements in this Annual Information Form.

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1 As filed on SEDAR on February 10, 2022

Each Section of the Management's Discussion and Analysis for the fiscal year ended December 31, 2021 (2021 annual MD&A), referred to in this Annual Information Form (AIF) is incorporated by reference and filed on SEDAR at sedar.com. For greater certainty, notwithstanding references to TELUS' information circular, consolidated financial statements, sustainability report and the telus.com website, these documents and website are not incorporated into this AIF.

In this AIF, except where otherwise indicated, all references to dollars or $ are to Canadian dollars.

3. CORPORATE STRUCTURE

3.1 Name, address and incorporation

TELUS was incorporated under the *Company Act* (British Columbia) (the B.C. Company Act) on October 26, 1998, under the name BCT.TELUS Communications Inc. (BCT). On January 31, 1999, pursuant to a court-approved plan of arrangement under the *Canada Business Corporations Act* among BCT, BC TELECOM Inc. (BC TELECOM) and the former Alberta-based TELUS Corporation (TC), BCT acquired all of the shares of BC TELECOM and TC in exchange for common shares, and non-voting shares of BCT and BC TELECOM were dissolved. On May 3, 2000, BCT changed its name to TELUS Corporation and in February 2005, the Company transitioned under the *Business Corporations Act* (British Columbia), successor to the B.C. Company Act. On February 4, 2013, in accordance with the terms of a court approved plan of arrangement under the *Business Corporations Act* (British Columbia), TELUS exchanged all of its issued and outstanding Non-Voting Shares into Common Shares on a one-for-one basis. On April 16, 2013, TELUS subdivided its Common Shares on a two-for-one basis. On March 17, 2020, TELUS subdivided its issued and outstanding Common Shares on a two-for-one basis.

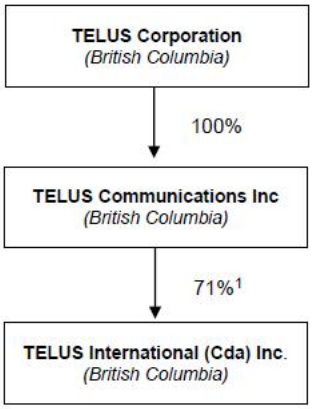
TELUS maintains its registered office at Floor 7, 510 West Georgia Street, Vancouver, British Columbia (B.C.) and its executive office at Floor 23, 510 West Georgia Street, Vancouver, B.C.

3.2 Intercorporate relationships and TELUS subsidiaries

TELUS' mobile and fixed telecommunications businesses are primarily operated through TELUS Communications Inc (TCI). TELUS International (Cda) Inc. (TELUS International or TI) is a digital customer experience innovator that designs, builds and delivers next-generation solutions, including artificial intelligence and content moderation, for global and disruptive brands, supporting their clients' digital transformation journeys and enabling clients to swiftly embrace next-generation digital technologies to deliver better business outcomes.

In February 2021, TELUS International made an initial public offering (IPO) of subordinate voting shares (TI Subordinate Voting Shares); both TELUS Corporation and a TELUS International non-controlling shareholder individually also offered TI Subordinate Voting Shares in conjunction with the IPO.

In the year ended December 31, 2021, TCI and TI were the only subsidiaries that owned assets constituting more than 10 per cent of the consolidated assets of TELUS and that generated sales and operating revenues that exceeded 10 per cent of the consolidated sales and operating revenues of TELUS. In addition, all of the assets, sales and operating revenues of TELUS' other subsidiaries (other than TCI and TI), together did not exceed 20 per cent of TELUS' total consolidated assets or 20 per cent of TELUS' total consolidated sales and operating revenues as at December 31, 2021.



1 As of December 31, 2021, TELUS Communications Inc. retained approximately 71% of the combined voting interest attached to all issued and outstanding shares in TI.

4. GENERAL DEVELOPMENT OF THE BUSINESS

4.1 Three-year history

During the three-year period ended on December 31, 2021, we continued to advance our national growth strategy, guided by our six strategic imperatives.

For a review of the events and conditions that influenced our general development during 2021, and how our business has continued to evolve, please see *Section 1.2 - The environment in which we operate* , *Section 2.2 - Strategic imperatives*, as well as progress on our corporate priorities in *Section 3 - Corporate priorities* and *Section 5 – Discussion of operations o*f our 2021 annual MD&A which sections are hereby incorporated by reference. This AIF also incorporates by reference *Section 11 - Definitions and reconciliations* of our 2021 annual MD&A.

The following discussion relates to 2019 and 2020 events and conditions.

Strategic imperative: Focusing relentlessly on growth markets of data, IP and wireless

External wireless network and wireline data service revenues were $12.1 billion in 2020, up $937 million or 8.4% from 2019, despite the impacts of the COVID-19 pandemic. In total, 2020 external wireless network and wireline data revenues combined represented 91 per cent of our consolidated service revenues in 2020, up from 90 per cent in 2019. Network revenue decreased by $94 million or 1.5% in 2020, due to declining mobile phone ARPU primarily from reduced roaming related to travel restrictions and chargeable data usage revenue, as discussed below, partly offset by growth of 5.2% in the subscriber base over the past 12 months, in addition to growth in monthly recurring charges reflecting a greater mix of high-value customer additions and selection of higher-tier plans.

Data services revenues increased by $1,031 million in 2020. The increase was driven by: (i) growth in TI's revenues, primarily driven by the acquisition of Competence Call Center (now rebranded as TELUS International Northern Europe or TINE), growth in business volumes resulting from expanded services for existing customers and customer growth, partly offset by temporary disruptions due to government-mandated site closures in response to the COVID-19 pandemic; (ii) increased internet and third wave data service revenues, reflecting a 7.9% increase in our internet subscribers over the past 12 months and higher revenue per customer resulting from internet speed upgrades, larger data usage internet rate plans and rate changes, partly offset by ongoing initiatives to assist customers during the pandemic; (iii) increased revenues from home and business smart technology (including security), driven by business acquisitions, including ADT Canada, expanded services and customer growth; (iv) higher TV revenues, reflecting subscriber growth of 4.7% over the past 12 months; and (v) increased revenues from our virtual care solutions. This growth was partly offset by other impacts caused by the pandemic, including a decline in health revenue mainly from the temporary closures of our TELUS Health Care Centres for all non-essential services and reduced health benefit claims, in addition to lower revenue from our business customers as they redeploy their resources. Additionally, data services revenue growth was partially offset by the ongoing decline in legacy data service revenues.

Strategic imperative: Providing integrated solutions that differentiate TELUS from our competitors

Throughout 2020, we continued to invest in our leading-edge broadband technology, which has enabled the success of our internet, Optik TV and Pik TV offerings and business services, as well as our mobility solutions, and helped allow us to deploy our 5G technology.

- Our 4G LTE infrastructure covered 99% of Canada 's population at December 31, 2020 and December 31, 2019.
- Approximately 2.5 million households and businesses in B.C., Alberta and Eastern Quebec were connected with fibre-optic cable (representing approximately 81% of our total high-speed broadband footprint), which provided these premises with immediate access to our fibre-optic infrastructure. This was up from approximately 2.2 million households and businesses at December 31, 2019.
- Our 5G network, launched in the second quarter of 2020, connected over 10.5 million Canadians, representing more than 28% of the population at December 31, 2020.

In the third quarter of 2019, we launched TELUS Home Assistant, a platform that enables Optik TV customers the ability to control their entertainment experience hands-free using voice commands, at no additional cost.

Upon the opening of the O-Train Confederation line in Ottawa in September 2019, we commenced providing free Wi-Fi service in three downtown, underground Line 1 station's platforms and door-to-door cellular service, including through the downtown tunnel. This continuous cellular connection between stations and in the tunnel ensures that customers will not miss calls or be disconnected during their time underground.

In September 2019, we entered into a long-term arrangement with Zú, a Montreal-based organization with the mission to develop leading-edge innovative projects in the entertainment sector, to launch an experimental 5G laboratory entirely dedicated to the creative and entertainment industry.

In September 2019, we launched our TELUS IoT Shop, a self-serve online portal that enables businesses to easily purchase and manage prepaid Internet of Things (IoT) connectivity. Ideal for businesses such as start-ups and developer labs, the TELUS IoT Shop makes it easy for them to connect their IoT devices to our network.

In the fourth quarter of 2019, we launched a new Managed Detection and Response service, which provides mid-sized Canadian organizations with technology that delivers rapid detection and targeted responses to cybersecurity threats.

In January 2020, we acquired a 28% basic equity interest in Miovision Technologies Incorporated (Miovision), with a view to advancing our Internet of Things (IoT) and smart cities strategy. Miovision is a developer of intelligent mobility systems and traffic management solutions for municipalities worldwide.

In June 2020, we launched TELUS PureFibre 1.5 Gigabit Internet with up to 1,500 Mbps download and 940 Mbps upload speeds for homes and businesses in B.C. and Alberta.

In September 2020, we officially unveiled GoCo, simplifying access to robust and flexible business communications technologies for Canadian businesses. Combining the collective strengths and expertise of bluArc, BroadConnect Canada, Infra-Solutions, Netrium, Radiant and Ubity (all previously acquired by TELUS), GoCo provides businesses with simple and scalable solutions for unified communications, managed connectivity and network security.

Strategic imperative: Building national capabilities across data, IP, voice and wireless

In Opensignal's *Mobile Network Experience Canada* report released in February 2019, we were recognized as being number one for LTE download speeds, latency and network availability, and we tied for number one for LTE upload speeds and video experience. In Opensignal's *Mobile Network Experience: Canada Report* (August 2019), we won the top spot in four awards (4G Availability, Video Experience, Download Speed Experience and Latency Experience) and tied for number one in the fifth award (Upload Speed Experience). We were also the first Canadian operator to surpass the 90% milestone in 4G Availability.

In the report *Canada: State of Mobile Networks March 2019*, published by Tutela, a Canadian independent mobile network data company, TELUS was ranked as number one for latency and tied for first place for consistent quality.

In the J.D. Power *2019 Canada Wireless Network Quality Study*, TELUS was recognized for the Highest Wireless Network Quality Performance.

In 2019, we won two Speedtest Awards from Ookla for Canada's Fastest Mobile Network and Canada's Best Mobile Coverage.

In April 2019, we announced that we were the successful bidder on 12 wireless spectrum licences in B.C., Alberta, Saskatchewan, Ontario and Quebec in the Innovation, Science and Economic Development Canada (ISED) 600 MHz wireless spectrum auction. The 600 MHz band is important for its ability to travel long distances in rural areas and infiltrate barriers to better reach in-building locations, such as elevators and parking garages, making it highly conducive to 5G deployment. The licences, acquired for $931 million ($2.35 per MHz-pop, where pop refers to the population in a licence area), equate to a national average of 11.3 MHz and will enable us to deliver enhanced mobile broadband connectivity as the industry transitions from 4G LTE to 5G. The design of the combinatorial clock auction (CCA), coupled with a 30 MHz set-aside for regional carriers (representing 43% of the spectrum at auction), led to national carriers paying a 134% premium over regional operators, and according to our analysis, the highest prices for 600 MHz spectrum in the world. Outside of Canada, set-asides are very rare, and in the few instances of CCAs with set-asides, the set-asides have represented only approximately 5% of the spectrum at auction.

During the third quarter of 2019, we obtained the use of certain AWS-4 spectrum licences from the original licensee (for approximately $1.16 per MHz-pop) and have accounted for them as intangible assets with indefinite lives; such subordination of licences has been approved by ISED. Additionally, we obtained AWS-1 and AWS-3 spectrum licences in Northern Ontario.

According to PCMag's *Fastest Mobile Network Canada 2019* report released in September 2019, we were recognized as having the fastest mobile network nationally, for the third consecutive year. We were also recognized as having the fastest network in Victoria, Calgary, Edmonton, Regina, Winnipeg, Toronto, Ottawa, Montreal, Quebec City, Saint John, Halifax and Prince Edward Island. Additionally, TELUS was recognized as having the best wireless plan in Canada.

In the fourth quarter of 2019, we built a new cell site in Ahousaht, a remote community off Tofino on the west coast of Vancouver Island, and were the first provider to bring high-speed wireless voice, text and internet service to the community.

In November 2019, we announced that, thanks to an innovation based on LTE advanced technology, we provided families and businesses from the communities of Brador, Middle Bay, Pakua Shipu, Saint-Augustin and Old Fort in Quebec's Lower North Shore with access to high-speed internet and wireless phone services.

Together with MobiledgeX, in November 2019, we announced the MobiledgeX Early Access Program, which allows developers to build, experiment and test applications and experiences using next-generation, low-latency edge computing powered by MobiledgeX.

Throughout 2019, we made a series of announcements regarding the connection of more homes and businesses to our TELUS PureFibre infrastructure, including:

- The city of Nanaimo and district of Lantzville, B.C., including the Snuneymuxw and Snaw-Naw-As Nations, to connect by the spring of 2021
- The city of Airdrie, Alberta to connect by the end of 2020
- The city of Nelson, B.C.
- A further investment in our wireless and fibre-optic infrastructure across rural communities in the Greater Quebec City and Eastern Quebec regions. This investment was made with support from the federal government's Connect to Innovate program and the provincial government's Québec branché program. With this support, we will connect 34,000 new families and businesses in 80 remote communities
- The city of St. Albert, Alberta, including neighbouring communities in Sturgeon County, to connect by the end of 2020
- The city of Prince George, B.C., including the North Side of Lheidli T 'enneh First Nation's Fort George 2 reserve, to connect by the beginning of 2022
- The city of Pitt Meadows, B.C., including Katzie First Nation 's IR #1 reserve, to connect by the end of the summer of 2020

We were recognized with various accolades from U.K.-based Opensignal throughout 2020.

- In the *Mobile Network Experience Canada* report released in February 2020, we were recognized as being number one for Video Experience, Download Speed Experience, Upload Speed Experience, Latency Experience and 4G Availability, and we tied for number one for Voice App Experience. Additionally, according to the Mobile Experience during the COVID-19 pandemic: 4G Download Speed report issued on April 8, 2020, Canada's speeds held up extremely well under the demands of the COVID-19 pandemic.
- In the report entitled *The State of Mobile Network Experience 2020: One Year into the 5G Era*, released in May 2020, Canada tied with South Korea for the fastest Download Speed Experience in the world and Canada continued to have the fastest Download Speed Experience among the G7 countries.
- According to the report entitled *State of Rural Canada's Mobile Network Experience*, dated May 2020, we were recognized as having the fastest network in rural Canada. If Canada's rural networks were categorized as a stand-alone country, rural Canada would rank second only to Japan among the G7 countries, which is notable given Canada's vast geography and population dispersion.
- In the *Mobile Network Experience: Canada Report (August 2020)*, we won the top spot in four awards (Download Speed Experience, Upload Speed Experience, Video Experience and Voice App Experience), and tied for first in two awards (Games Experience and 4G Coverage Experience). Our speed in the Download Speed Experience category was 72.7 Mbps, which is 5.2 Mbps faster than the second place finisher. This Opensignal recognition for fastest download speed experience marked our seventh consecutive win in this category since January 2017.
- The Global Mobile Network Experience Awards 2020 (September 2020) report recognized us as having the world 's fastest network. We were the global winner for Download Speed Experience as our 4G LTE download speeds achieved a score of 75.8 Mbps and won the highest average overall download speeds in the world. The second fastest country in the world was South Korea's average of 59 Mbps on their 5G networks, which were launched nationally in 2019.

In February 2020, we were named the Best Gaming Internet Service Provider (ISP) for Canada 2020 according to the U.S.-based PCMag Gaming Quality Index. Additionally, in the PCMag report entitled *The Fastest ISPs of 2020: Canada* released in June 2020, we were ranked as the fastest internet service provider in Canada among major ISPs.

In 2020, we won two Speedtest Awards from U.S.-based Ookla for Canada's Fastest Mobile Network and Canada's Best Mobile Coverage.

In Canada-based Tutela's report entitled *Canada: State of Mobile Networks April 2020*, TELUS was awarded three of the national awards for Core Consistent Quality, Download Throughput and Latency, and tied for Excellent Consistent Quality, based on data from September 1, 2019 to February 29, 2020. Additionally, in Tutela's report *Canada: Mobile Experience Report June 2020*, based on data from March 1 to May 31, 2020, our wireless network was rated as best in consistent quality, lowest latency and fastest download speeds.

In February 2020, we announced that we had succeeded in bringing wireless connectivity to every community in B.C. with a population of 1,000 people or more. This significant milestone aligns with the federal government's rural connectivity goals.

In June 2020, we launched TELUS PureFibre 1.5 Gigabit Internet with up to 1,500 Mbps download and 940 Mbps upload speeds for homes and businesses in B.C. and Alberta.

Building on our November 2019 announcement that we had provided several communities in Quebec's Lower North Shore region with access to high-speed internet and wireless phone services for the first time, we continued this deployment in June 2020 to the communities of Kegaska and La Romaine.

In September 2020, along with the Government of Canada, we announced a $15 million investment for the deployment of a submarine fibre-optic cable between Sept-Îles and the Gaspésie region, which will improve the reliability and security of telecommunications services in Quebec's North Shore region, ensuring we keep Canadians connected and reach as many rural Canadians as we can.

In September 2020, we announced that we were expanding our high-speed internet and wireless services to reach an additional 25,000 homes and businesses in 45 remote, low-density communities in the Quebec City region and in Eastern Quebec by early 2021, bridging the digital divide in remote communities.

Our 2020 Indigenous Connectivity Report, released in November 2020, highlighted the transformative benefits of connectivity that have resulted from partnerships between us and Indigenous communities throughout B.C. In partnership with Indigenous governments, we have brought high-speed internet to approximately 18,500 premises across 56 Indigenous communities (87 Indigenous Lands) across our footprint.

Strategic imperative: Partnering, acquiring and divesting to accelerate the implementation of our strategy and focus our resources on core business

On January 14, 2019, we acquired a company providing managed network, cloud, security and voice services for consideration consisting of cash and accounts payable and accrued liabilities of $75 million and TELUS Corporation Common Shares of $38 million. The investment was made with a view to growing our managed network, cloud, security and unified communications services.

In August 2019, we acquired a company providing custom data and program management solutions for consideration consisting of cash and accounts payable and accrued liabilities of $135 million.

In the fourth quarter of 2019, TELUS International acquired the remaining 45% interest of Voxpro Limited.

In November 2019, we acquired the customers, assets and operations of ADT Security Services Canada, Inc. (ADT Canada) for approximately $700 million. This acquisition furthers our commitment to leverage the power of technology to enhance convenience, control and safety in the lives, homes and businesses of more Canadians.

On January 31, 2020, TELUS International (Cda) Inc. completed the acquisition of 100% of TINE for approximately $1.3 billion (€915 million), less debt assumed. TINE is a provider of higher-value-added business services with a focus on customer relationship management and content moderation through 28 languages. TINE offers its services across 11 European countries at the time of the

acquisition and partners with industry-leading global brands primarily from fast-growing technology, media and telecommunications, retail, and travel and hospitality sectors.

On July 1, 2020, we acquired 100% of Mobile Klinik, a storefront wireless device repair and sales business complementary to our existing wireless lines of business. The investment was made with a view to growing our wireless business.

On November 12, 2020, we announced TELUS Agriculture, which is dedicated to providing innovative solutions to support the agriculture and related industry with connected technology. At launch, one of our acquired companies was AFS Technologies Inc. (AFS). The acquisition of AFS was completed in the third quarter of 2020. AFS provides trade promotion and supply chain software solutions to consumer packaged goods companies, food distributors and food manufacturers. Other companies acquired over the course of 2019 to 2020 prior to announcement include:

- AGIntegrated – Seamless API integration for agri-businesses (Pennsylvania, U.S.)
- Agrian – Unified management platform for precision, agronomy, sustainability, analytics, and compliance (California, U.S.)
- Decisive Farming – Precision agronomy and farm management expertise (Alberta)
- Farm At Hand – Simplified farm management software (B.C.)
- Feedlot Health Management Solutions – Critical insights and data-based knowledge (Alberta)
- Muddy Boots – Farm-to-food traceability and supply chain management (Ross-on-Wye, United Kingdom)
- TKXS – Custom data and program management (North Carolina, U.S.)

On November 24, 2020, we announced the launch of our TELUS Pollinator Fund for Good, a social impact investment fund created to power ideas in new responsible and sustainable start-up businesses. The fund will invest in early-stage (Seed and Series A) for-profit, purpose-driven companies with exceptional and diverse leadership. These companies' goals must align with our goals and should already have a product or service in market, and demonstrated an ability to grow their customer base and generate revenue.

On December 16, 2020, we acquired 100% of EQ Care, a national virtual healthcare provider offering convenient and confidential bilingual access to doctors and specialists via secure text and video chat from anywhere at any time. This acquisition strengthens our virtual care offerings in Canada.

On December 31, 2020, TI acquired Lionbridge AI, the data annotation business of Lionbridge Technologies, Inc. for approximately $1.2 billion (US$939 million). Lionbridge AI is a global provider of crowd-based training data and annotation platform solutions used in the development of AI algorithms to power machine learning. Lionbridge AI annotates data in text, images, videos and audio in more than 300 languages and dialects for some of the world's largest technology companies in social media, search, retail and mobile.

Strategic imperative: Going to market as one team under a common brand, executing a single strategy

Our team works together to implement our top corporate priority: putting customers first, as we strive to consistently deliver exceptional client experiences and become the most recommended company in the markets we serve. The Commission for Complaints for Telecom-television Services (CCTS) annual reports have indicated the successful results of this strategy.

In November 2019, the CCTS issued its annual report for the 12-month period ended July 31, 2019, and TELUS again was the subject of the fewest customer complaints among national carriers, while Koodo again was the subject of the fewest complaints among the national flanker brands. TELUS, Koodo and Public Mobile were named in 8.3%, 3.9% and 1.0% of the total customer complaints accepted by the CCTS, respectively, or 13.2% of total customer complaints, in aggregate. Additionally, TELUS had the highest rate of complaint resolution of any national carrier at 91.5%.

In November 2020, the CCTS issued its annual report for the 12-month period ended July 31, 2020, which determined that TELUS was again the subject of the fewest customer complaints among national carriers and Koodo was again the subject of the fewest complaints among the national flanker brands. TELUS, Koodo and Public Mobile each saw year-over-year reductions in the total customer complaints accepted by the CCTS with improvements of (27.6)%, (9.0)% and (41.4)%, respectively. Total industry complaints decreased year-over-year by 18.8%.

In 2019, we expanded our Mobility for Good® program to support 10,000 more youth in B.C., Alberta, Manitoba and New Brunswick. Mobility for Good® provides youth transitioning out of foster care with fully subsidized smartphones and data plans to stay connected to their vital support networks.

Through our Internet for Good® program and in support of the federal government's Connecting Families program, in 2019, an additional 198,000 Internet for Good® offers were mailed to eligible households in B.C., Alberta and Quebec. Internet for Good® offers low-income families access to low-cost high-speed internet and a computer.

In 2019, we expanded our Health for Good ™ program by establishing seven new strategic partnerships to deploy new mobile health clinics. Our Health for Good™ program funds TELUS Mobile Health Clinics, powered by TELUS Health technology, to improve the way health practitioners deliver care to the most vulnerable among us.

In 2019, we introduced our Tech for Good® program to help Canadians with disabilities use smartphones and wireless devices so they can live more independent, connected lives. Currently available in B.C. and Alberta, this program is designed to help people with disabilities who require a customized solution involving assistive technology to independently access their TELUS smartphone or tablet.

At the end of 2019, close to 65,000 Canadians had participated in our Connecting for Good programs.

Close to 64,000 Canadians participated in TELUS Wise workshops in 2019, up from 52,000 in 2018. These workshops are free of charge and help foster the safe and responsible use of technology in our digital world. Approximately 88% of participants felt more empowered to stay safe online as a result of attending the workshop.

In 2019, we launched online versions of our youth workshops, enabling educators and students, especially those in rural communities, to more easily access program information.

We also continued to work with our peers in TELUS International in 2019, extending TELUS Wise messaging and resources to youth around the world, and delivering 15 workshops in other countries, including the Philippines, Bulgaria, Romania, El Salvador and Guatemala.

We launched a new workshop for teens, TELUS Wise happiness, in February 2019. In August 2019, the workshop became available online, coinciding with the start of the new school year. The workshop engages teens in grades 9 through 12 in a conversation about building and maintaining a healthy relationship with technology and offers tips on ensuring resiliency and well-being.

Throughout 2019, TELUS inspired Canadians from coast to coast to join Team #EndBullying and partnered with 2019 World Juniors Team Canada captain Maxime Comtois, who was cyberbullied after the hockey tournament and showcased The Code – a program developed in partnership between TELUS and Hockey Canada – designed specifically for the hockey community. The Code is an extension of the TELUS Wise program, offering customized education tools, resources and workshops to help hockey fans, players and families safely and respectfully navigate digital spaces.

In the second half of 2019, we launched #EndBullying All-Stars with our five Canadian Football League (CFL) partner teams. #EndBullying All-Stars is an umbrella program that promotes the importance of good sportsmanship both on the field and online, while bringing TELUS Wise workshops to local schools.

During 2019, over 40,000 global volunteers participated in our TELUS Days of Giving and collectively contributed 1.1 million volunteer hours. Both results represented year-over-year increases of 10%.

In the third quarter of 2019, we launched our integrated Pride campaign under our TELUS #ShareLove platform, promoting and celebrating our long-standing commitment to fostering a diverse and inclusive culture. Close to 43,000 team members, family and friends celebrated diversity in nearly 20 Pride events in communities from coast to coast. Last year marked our 14th year of being an active sponsor and participant in Pride events and activities across Canada.

In September 2019, we were recognized for corporate social responsibility by being named to the Dow Jones Sustainability North American Index for the 19th consecutive year. Additionally, we were named to the Dow Jones Sustainability World Index for the fourth year in a row, one of only nine telecommunications companies globally and the only North American telecommunications company included in the World Index this year.

In 2019, we received the BEST Award for excellence in employee learning and development from the Association for Talent Development for the 14th consecutive year.

The TELUS Quebec team earned the 2019 Highest Customer Service by Industry Award in the telecommunications/TV sector, a North American distinction awarded by SQM Group.

In 2019, we successfully celebrated the first year of the TELUS Friendly Future Foundation. Together with the 13 Canadian TELUS Community Boards, the foundation provided nearly $8 million in support of more than 500 projects for vulnerable youth in Canada.

In December 2019, we launched TELUS' Donate the Change program. Donate the Change is a unique, self-serve program that allows customers to automatically round up their monthly TELUS bill and donate 100% of the difference to the TELUS Friendly Future Foundation. This program is available for both mobility and home solutions customers.

Throughout 2020, we continued to leverage our Connecting for Good programs to support marginalized Canadians through the global pandemic and also expanded program eligibility to support those who need it most.

- We expedited access to our Internet for Good® program to kindergarten to grade 12 students in need through partnerships with school boards and principals and expanded the program to include low-income people with disabilities. Over 400,000 vulnerable Canadians were eligible to receive low cost, high-speed internet in B.C., Alberta and Quebec. During the year, we supported nearly 33,000 Canadians, bringing the number of Canadians benefiting from our Internet for Good® program since its launch close to 72,000 at December 31, 2020.
- In partnership with the Children's Aid Foundation of Canada, we expanded our Mobility for Good ® program nationally to all youth aging out of foster care. In December, we expanded the program to include low-income seniors across Canada who are receiving the guaranteed income supplement (GIS), providing access to the technology they need to stay connected to loved ones and address feelings of isolation, enjoy their favourite online games and books, and obtain important healthcare resources and information. Including both youth and seniors, we added close to 2,500 Canadians to the program in 2020, providing them with a free smartphone and a free or subsidized wireless plan. Since its inception, more than 6,300 marginalized Canadians have benefited from our Mobility for Good® program.
- Through our Mobility for Good® COVID-19 Emergency Response program, we distributed 14,200 devices and rate plans to more than 340 organizations. This enabled at-risk individuals to keep in contact with health practitioners and social workers, while helping hospitalized patients and vulnerable seniors stay connected with family. The free rate plans were supported until June 30, 2021.
- We expanded our Health for Good™ program and launched seven new mobile health clinics in 2020. In 2020, our 11 mobile clinics offered health services to homeless and other marginalized Canadians from coast to coast and supported more than 28,000 patient visits, including assisting in the pandemic response by supporting 12,700 COVID-19 assessments and tests. Since inception in 2014, our Health for Good™ program has supported over 50,000 patient visits up to December 31, 2020.

We continued to evolve our TELUS Wise program during 2020 to build digital literacy and safety in our connected world.

- More than 90,000 Canadians participated in our online TELUS Wise workshops. These workshops are free of charge and help foster the safe and responsible use of technology in our digital world. Approximately 85% of participants felt more empowered to stay safe online as a result of attending a workshop.
- In line with our commitment to keep Canadians safe online, we launched two new online TELUS Wise workshops, Empowering you to stay safe in our digital world for adults and Supporting youth in our digital world for parents. Available at telus.com/WiseWorkshops, the first workshop offers important tips about protecting one's online safety and privacy, while the second workshop shares tips and guidance on navigating screen time, gaming, sexting, cyberbullying and helping youth stay safe in our digital world.

In March 2020, the arm's-length TELUS Friendly Future Foundation, together with the TELUS Community Boards, announced a commitment to help build public healthcare capacity throughout the COVID-19 pandemic and beyond, including funding for new technology and equipment, such as ventilators, as well as increased support for food banks, elderly Canadians and mental health programs.

We donated $500,000 to a research team from the Vancouver General Hospital and University of British Columbia Hospital Foundation to assist in the search for therapeutic antiviral treatments for COVID-19.

In the first quarter of 2020, we launched our #StayStrongStayConnected video in English and French on our social media handles, intended to help share positive messages and keep citizens connected during the COVID-19 pandemic.

In March 2020, we introduced our TELUS Talks podcast. We produced 49 podcast episodes throughout the year, including episodes with guests Dr. Bonnie Henry, Dr. Michael Osterholm, Dr. Gabor Maté and Carol Todd. We garnered more than 118,000 listens, helping to support Canadians with information and insights to manage through a most unprecedented year.

For the first time, our annual TELUS Days of Giving became a year-long virtual event in 2020, with TELUS team members, retirees and fellow Canadians volunteering – safely and virtually – to support our local communities. As of December 31, 2020, our TELUS family had participated in 1.2 million safe acts of giving, including more than 1.25 million volunteer hours of service, sewing 150,000 masks and donating 210,000 TELUS-branded masks.

Commencing in the second quarter of 2020, TELUS-branded, non-medical masks were made available in adult and youth sizes to help keep Canadians safe, with all proceeds going to the TELUS Friendly Future Foundation to support COVID-19 pandemic relief efforts. As of December 31, 2020, we had sold 79,000 masks, raising more than $535,000 to support the work of our Foundation.

In 2011, we initiated our first set of long-term energy and greenhouse gas emission reduction goals and surpassed them in early 2019, ahead of our 2020 target. As such, in our 2019 sustainability report issued during the second quarter of 2020, we released our new transformational climate action targets, including having our operations become net carbon neutral by 2030.

In May 2020, we launched our #StandWithOwners program in support of Canadian small businesses through the pandemic, committing in direct revenue, marketing and expert advice to support, promote and celebrate small business owners.

As part of our Data for Good program, which launched in the second quarter of 2020, we partnered with 24 public sector and/or research organizations to provide de-identified and aggregated network mobility data free of charge in support of COVID-19 research. In November 2020, we were awarded the Privacy Innovation Award by the International Association of Privacy Professionals in recognition of our Data for Good program.

As part of our annual 2020 Kits for Kids program, in 2020 we donated 13,000 backpacks filled with essential school supplies and reusable youth-sized face masks to support a successful return to learning.

On World Mental Health Day in October, 2020, we premiered our latest TELUS Originals documentary, Dark Cloud, which spotlights the stories and life-altering impacts of cyberbullying in Canada. As of year-end 2020, we achieved 709,000 documentary views across Optik TV and YouTube. With Canadians spending more time than ever online during the COVID-19 pandemic, from socializing to schooling, this film is relevant for parents, youth and all Canadians, as it shares insights into what causes cyberbullying and how we can stop it.

Strategic imperative: Investing in internal capabilities to build a high-performance culture and efficient operation

Each year, we conduct team member Pulsecheck engagement surveys to gather confidential team member feedback about TELUS as a place to work and measure our progress in establishing a high-performance culture. Following each survey, business units and departments make use of their Pulsecheck results to review their current action plans and prioritize their ongoing actions. In 2019, our employee engagement score was 84 per cent, which was an encouraging accomplishment against a backdrop of change across our organization over the course of the year and maintained our Company within the top 10 per cent of all employers surveyed on a global basis. In 2020, we achieved an engagement score of 87% (a 3 percentage point increase over 2019) – our highest engagement score achieved to date (tied with 2015) amidst a year like no other given the numerous COVID-19 pandemic impacts. This result continues to place TELUS within the top 10% of employers worldwide according to our survey provider, Kincentric.

5. DESCRIPTION OF BUSINESS

5.1 Who we are

TELUS is one of Canada's largest telecommunications and information technology companies, providing a wide range of products and services, spanning wireless, data, IP, voice, television, entertainment, video, and security. TELUS Health is Canada's leader in digital health technology, improving access to care and revolutionizing the flow of information while facilitating collaboration, efficiency, and productivity so people can live healthier lives. TELUS Agriculture provides innovative digital solutions to the agriculture industry by connecting each piece of the agriculture value chain, leveraging advanced data systems and artificial intelligence to streamline operations, improve food traceability, and provide consumers globally with more sustainable with fresher and healthier food sources.

TELUS International is a leading digital customer experience innovator that designs, builds and delivers next-generation solutions, including artificial intelligence and content moderation, for global and disruptive brands, supporting the full lifecycle of its clients' digital transformation journeys and enabling clients to swiftly embrace next-generation digital technologies to deliver better business outcomes.

In 2021, we generated $17.3 billion in operating revenue and other income and had 16.9 million subscriber connections. This included 9.3 million mobile phone subscribers, 2.1 million connected device subscribers, 2.3 million internet subscribers, 1.1 million residential voice subscribers, 1.3 million TV subscribers and 804,000 security subscribers.

(a) Organization

Please see *Section 5 - Discussion of Operations* of our 2021 annual MD&A which is hereby incorporated by reference and describes our reporting segments: TELUS technology solutions (TTech); and Digitally-led customer experiences – TELUS International (DLCX).

(b) Our strategy

Please see *Section 2 - Core business and strategy* of our 2021 annual MD&A which is hereby incorporated by reference.

(c) Business overview

Please see *Section 4 - Capabilities* of our 2021 annual MD&A which is hereby incorporated by reference and which describes our principal markets, products and services and our distribution channels.

Our assets and resources, including employees, brand and distribution methods, tangible properties (such as our telecommunications networks and network facilities), intangible properties (such as brand and wireless spectrum licences) and an overview of foreign operations are discussed in *Section 4.2 - Operational resources* in the 2021 annual MD&A.

For revenue and other financial information on the two most recently completed financial years with respect to our mobility and fixed businesses, see *Section 5.4 TELUS technology solutions segment* and for TELUS International please see *Section 5.5 Digitally-led customer experiences* in the 2021 annual MD&A.

An overview of the Canadian economic environment and the telecommunications industry can be found in *Section 1.2 The environment in which we operate* and *Section 9 General trends, outlook and assumptions, and regulatory developments and proceedings* in the 2021 annual MD&A. Seasonal trends that have impacted us are described in *Section 5.2 Summary of consolidated quarterly results, trends and fourth quarter recap* and in *Section 5.4 TELUS technology solutions segment* in the 2021 annual MD&A.

(d) Competitive environment

Please see *Sections 4.1 - Principal markets addressed and competition* and *10.4 - Competitive environment* of our 2021 annual MD&A which is hereby incorporated by reference

(e) Corporate social responsibility and environment

We are committed to following sustainable and responsible business practices and to making decisions that balance economic growth with enabling positive social and environmental outcomes. More information about our approach to corporate social responsibility and environmental sustainability can be found in our annual Sustainability Report.

We have a strong foundation of sustainability governance which supports our commitment to environmental stewardship and social capitalism – how we are using our core business to serve a greater social purpose that benefits our stakeholders. This governance includes developing and implementing effective strategies, assessing and managing risks (including climate-related risks), setting targets and objectives as well as reporting on our progress and performance.

We offer a number of communication and information technology solutions and programs that support social opportunities within our communities including our Connecting Canada for Good programs. Each year, TELUS team members and retirees volunteer one million hours in their local communities and support over 4,000 charities, impacting two million youth. Details can be found at https://www.telus.com/en/social-impact.

We also understand our operations can have an impact on the environment. Our Environmental Policy and Environmental Management System (ISO 14001:2015 certified in Canada), act as a guide and framework, respectively, in which we manage and report on environmental risk.

(f) Employee relations

Please see *Section 4.2 - Operational resources* of our 2021 annual MD&A which is hereby incorporated by reference.

5.2 Climate-related Risks and Opportunities

We understand there can be direct or indirect financial impacts on our operations from climate-related risks and opportunities and we aim to provide transparency on how these risks and opportunities affect our strategy and operations. We support the Task Force on Climate-related Financial Disclosures (TCFD) and disclose below relevant climate-related information in accordance with the TCFD recommendations published in June 2017. This disclosure is structured into four sections which provide a comprehensive view into how we understand and manage the risks and opportunities associated with climate change at TELUS: Governance, Strategy, Risk Management and Metrics & Targets.

Governance

We have a long-standing foundation of sustainability governance which supports our commitment to environmental stewardship and responsible corporate citizenship.

Board oversight of climate-related risks and opportunities

Our Board of Directors (Board) is responsible for the stewardship of the Company, which includes risk oversight and management. At our quarterly board meetings, our Board reviews reports and engages in discussions on corporate strategies, progress and targets, in addition to emerging risks and opportunities for innovation such as how technology can assist in responding to climate-related extreme weather events.

The Corporate Governance Committee of our Board has specific oversight of our corporate social responsibility and environmental management programs, targets and performance. Our Sustainability and Environment and Enterprise Risk Management teams provide quarterly reports to the Corporate Governance Committee. These reports contain pertinent information regarding our environmental and climate-related risks and related compliance activities and identify potential liability. The Corporate Governance Committee also oversees climate-related opportunities as they arise or are otherwise identified and discussed during quarterly Committee meetings. This Committee also reviews and makes recommendations to our Board regarding approval of our annual Sustainability Report.

Our Board succession planning process involves an ongoing assessment of Board member skills which helps the Corporate Governance Committee and the Board identify any gaps in the skills and competencies considered most relevant for the Company. As part of this process, Board members are asked to identify their experience or education as it relates to sustainability, environment and climate risk management.

Management oversight of climate-related risks and opportunities

Our Chief Executive Officer and Executive Team are responsible for the approval of the overall strategic direction of our sustainability programs, which includes assessing and managing climate-related risk and mitigation as well as identifying climate-related opportunities.

Our Sustainability and Environment Team reports to our Executive Vice-President and Chief Financial Officer, who is responsible for the development and governance of our sustainability strategy.

The Sustainability and Environment Team seeks to assess climate-related risks and opportunities by integrating sustainability considerations and implementing projects across the business, delivering in-house training and awareness on sustainability, and managing our Environmental Management System (EMS), which is ISO 14001:2015 certified in Canada. This process includes benchmarking through formal and informal materiality assessments, data and scenario analysis, considering internal and external stakeholder input and reviewing the regulatory environment in which we operate.

As we work to mitigate the climate impacts of our own operations, we also integrate climate considerations throughout our product development and innovation processes across our business and in emerging areas such as TELUS Health and TELUS Agriculture. As we enhance our current products and develop new ones, we work to consider relevant climate risks and opportunities to align with our low-carbon future.

Additionally, we link organizational sustainability performance to compensation through our corporate scorecard, which affects the company-wide performance bonus structure. The social capitalism index within the scorecard contains metrics which measure our performance in reducing greenhouse gas (GHG) emissions as well as social impact metrics. In addition, our Sustainability and Environment team's performance bonus structure is linked more broadly to our 2025 and 2030 environmental goals.

Strategy

Climate-related risks identified over the short, medium, and long term.

Each year, we identify, and are exposed to, both climate-related physical risks as well as risks associated with transitioning to a low-carbon future. Climate-related physical risks are those resulting from the increasing severity and frequency of extreme weather events and rising global temperatures, in our operations, our supply chain, and in our communities. We identify transition risks as those related to climate change, including the impact of changes in policy or implementation of lower-emission technology.

Some of the physical and transitional climate risks we have identified that may impact us in the short-term (1-5 years), include the following:

- Carbon regulations impacting our supply chain partners.
- Increased insurance premiums and resulting difficulty to obtain coverage for our direct and indirect operations.
- Increased energy demand and resulting operational costs both on TELUS and our customers.
- Increased customer and organizational expectations for TELUS to provide products and services enabling the transition to a low-carbon economy.
- Carbon pricing mechanisms in the areas in which we operate that directly impact the cost of motor fuels and natural gas consumption, particularly in British Columbia and Alberta.

Some of the physical and transitional climate risks we have identified that may impact us in the medium to long-term (5+ years), include the following:

- Critical infrastructure needing significant updates to remain resilient to climate hazards.
- Recalibrating financial planning due to the rising costs of physical climate impacts.
- Disruptions to the supply of our goods and services both directly and indirectly.
- Flow-through costs from suppliers impacted by carbon regulations.
- Ability of our suppliers to transition to a low-carbon economy and growing expectations for net-carbon neutral operations.
- Our success in reaching our long-term environmental targets and resulting impacts if they are not met such as the interest payable under our Sustainability-Linked Bonds.

Climate-related opportunities identified over the short, medium, and long term.

With world-class networks, a customers-first approach and shareholder-friendly initiatives, we aim to improve the lives of Canadians and our communities while providing robust shareholder returns. Our corporate strategy seeks to be nimble to opportunities, including those consistent with adapting to rising climate risks and transitioning to a low-carbon economy. Furthermore, our Sustainability and Environment team regularly seeks opportunities to invest in climate technologies, implement trials and seek out new, financially sound opportunities to reduce our GHG impact.

Our business investments connect our country's dispersed population digitally, and as a result, attract customers who are looking to reduce their carbon footprint. In addition, we continue to focus on investments in network optimization, infrastructure upgrades, real estate space reduction and lighting retrofits to drive future savings and absolute energy reductions.

The following are examples of climate-related opportunities that we are currently pursuing:

- We have a corporate-wide goal to effectively procure 100% of our electricity requirements from renewable or low-emitting sources by 2025 and, in an effort to reach that goal, we have signed four power purchase agreements with wind and solar energy developers in Alberta for over 150 MW of renewable energy capacity.

- We have built a broadband network that enables our customers to live and work in locations of their choosing while minimizing their travel-related environmental footprint and optimizing productivity.
- For over a decade, TELUS Health has been working with health authorities, community partners and stakeholders to build a more sustainable healthcare system leveraging the power of technology. TELUS Health offers healthcare products that allow customers to connect virtually with healthcare practitioners, which improves efficiency of services offered, limits physical travel-related climate impacts, and increases accessibility to prevention and wellness services for those who seek it.
- TELUS Agriculture provides innovative solutions to empower a sustainable agriculture industry through technology, securely linking together the food value chain and leveraging data to increase efficiencies, production and yields.
- TELUS continues to develop new LEED certified buildings that incorporate world-leading technology, energy efficient and sustainable solutions and contemporary workstyles. We recently opened the doors to TELUS Sky, our latest LEED platinum building in downtown Calgary.
- We continue to expand our Work Styles program that allows over 90% of our domestic team members to work from home, reducing the emissions associated with commuting.

In addition to enhancing the opportunities stated above, we will continue to develop low-carbon and climate friendly solutions for our customers and communities, enabled by our networks, in the medium-long term (over 5 years). For example, through our TELUS Ventures and Pollinator for Good fund, we are investing in responsible startups driving social and environmental change to make the world a better place.

Scenario Analysis

We conduct scenario analyses to better understand the resilience of our corporate strategy in different climate scenarios. Performing and disclosing the outcome of the various scenarios help us determine how our operations can prepare and help mitigate changes in climate, as new climate regulations, technologies and other impacts emerge and evolve. At the same time, these analyses also help us identify new opportunities for our business and help us inform our stakeholders about how our organization is positioning itself in light of these risks and opportunities.

The two types of climate change risks we have assessed in our scenario analyses include:

- Transition risks: Transition scenarios typically present plausible assumptions about the development of climate policies and the deployment of decarbonization technologies to limit GHG emissions. Transition scenarios draw conclusions about how policy and technology regarding energy supply and GHG emissions interact with economic activity, energy consumption, and supply chain operations, among other key factors.
- Physical risks: Physical climate scenarios typically present the results of global climate models that show the response of the earth's climate to changes in atmospheric GHG concentrations. Physical scenarios of climate change may include impacts such as flooding or drought.

Scenario selection and assumptions

We have chosen to use the following climate scenarios to assess our risks and opportunities:

- Low-carbon adaptation (global temperature rises approximately 1.5 ° Celsius): In this scenario, our global temperature is on a pathway to rise approximately 1.5° Celsius above pre-industrial levels by 2100 and is aligned with achieving the Paris Agreement goals. Across the world, countries adapt to a low-carbon economy, which greatly reduces the potential rises in our global temperature. This is achieved by pervasive regulatory changes supporting clean economic growth.
- Extreme global warming (global temperature rises approximately 4 ° Celsius): In this scenario, our global temperature is on a pathway to rise approximately 4° Celsius above pre-industrial levels by 2100. The extreme rise in temperature is a result of limited action from societies, large emitters and lack of regulatory changes supporting clean economic growth. As a result, extreme weather patterns emerge, causing displacement of large populations, primary resource scarcity, poor air quality and resulting health impacts.

Please note that these scenarios were produced as a tool to envision a future of two divergent climate scenarios, so that we can outline plausible risks and opportunities, and plan for resilience. They are not future predictions.

Low-carbon adaptation (1.5° Celsius)

	Enterprise Risks	Potential impacts	TELUS resilience
Transition Risk	Supply chain resiliency	Rapid changes to limit carbon emissions may create significant changes to our suppliers' practices. Suppliers who fail to transition to low-carbon strategies for product development, component manufacturing, or service delivery and support, may impact the ability to meet constantly changing and increasing customer expectations while maintaining quality of service.	We are increasing climate awareness throughout our supply chain by implementing increased weighting on organizational sustainability practices in our supplier selection processes, enhancing monitoring processes for our current suppliers' environmental performance, setting a Scope 3 Science Based Target, and increasing proactive engagement with our suppliers to support them to improve their environmental practices.
	Regulatory decisions and political intervention	Strategies to limit global warming to 1.5 ° Celsius may require significant regulatory and policy changes both domestically and internationally to mandate action to implement decarbonization strategies.	We have set ambitious public carbon reduction goals and are aware of current and future regulatory policy and regulation and anticipate additional future changes. We are developing and implementing strategies such as fleet electrification and investments in renewable energy to decarbonize our operations and value chain.
	Corporate sustainability and social purpose (brand and reputation)	Evolving stakeholder expectations to address environmental concerns, influenced by competitive, regulatory, social and environmental developments in a low-carbon economy, as well as our disclosure and transparency on our strategies and progress, may impact our brand and reputation.	We broadly communicate our social purpose and commitments and seek customer, investor, team member and other stakeholder feedback and share these outcomes in our sustainability disclosure. As a result, we receive high ratings for our environmental, social and governance performance from independent rating agencies and analysts demonstrating a strong foundation from which we will continue to meet growing stakeholder expectations to adapt to a low-carbon future.
	Customer retention	Customers may be impacted as we transition to a low-carbon economy as businesses may flow through increased costs associated with offering low-carbon solutions, making them less accessible economically.	We are developing and implementing low carbon solutions that can create environmental, social and financial benefits for our customers and communities, such as TELUS Health and TELUS Agriculture.

	Enterprise Risks	Potential impacts	TELUS resilience
Physical Risk	Environmental management and hazards	Shifting strategies for management of environmental risks (including, but not limited to, fuel storage, regulatory reporting, recycling and waste management) and compliance with increased environmental legislation may impact our reputation through media attention or third-party claims. Climate-related impacts to our operations, such as extreme weather events, can impact our ability to serve our customers and keep our team members and communities safe.	We have an ISO 14001:2015 certified EMS for our Canadian operations, audited annually, that helps us manage environmental risks with a strong governance framework. We also implement mitigation initiatives to address severe environmental threats and we have operationalized enhanced severe weather and environmental monitoring, stakeholder notification, and incident management processes. We have created climate incident playbooks that leverage learnings from prior events, which are shared with local government agencies. With our EMS and business continuity planning, we anticipate less risk from environmental hazards.
	Systems and processes, including network reliability	Effectiveness of network design, maintenance, change management processes, event monitoring, and incident response management and investigation may impact network reliability and the frequency and duration of outages.	As network performance and reliability is core to the success of our business, we maintain robust monitoring and maintenance programs to support sustained network operations. Thus, we expect relatively limited impacts under this scenario. We deploy best practices in network engineering and design and test our network regularly. We also conduct incident exercises and reviews on the most critical sites to ensure that there are robust controls in place, particularly if those sites are located within a high-risk zone of physical climate disturbance. In addition, we update our infrastructure to ensure it meets or exceeds current and anticipated future standards for resilience to physical climate impacts.

Extreme global warming (4° Celsius)

	Enterprise Risks	Potential impacts	TELUS resilience
Transition Risk	Supply chain resiliency	Extreme global warming may cause impacts and disruptions to our supply chain by impacting the cost of materials and equipment due to rising supplier insurance, manufacturing and shipping costs. This may also impact availability of our products, components, service delivery, and support network.	We may have to devote increased resources to further source and develop a diverse network of suppliers that have robust mitigation plans in place for an extreme global warming scenario.
	Regulatory decisions and political intervention	Regulatory and policy changes both domestically and internationally have failed to spur required action to implement decarbonization strategies and limit global warming, increasing the need for broader and stringent regulatory decisions and policies.	We may have to refine and enhance action plans and adjust our climate target timelines but have a strong foundation of implementing effective decarbonization strategies to be able to react and innovate quickly to any regulatory and policy change.
	Corporate sustainability and social purpose (brand and reputation)	Stakeholder expectations to address environmental concerns, influenced by competitive, regulatory, social and environmental developments remain consistent or increase. There is increased expectation for relevant disclosure and transparency on our strategies and progress, with possible increasing likelihood and impact on our brand and reputation if progress does not meet expectations.	We continue to amplify our communication with respect to our social purpose and commitments and increase efforts to seek customer, investor, team member and other stakeholder feedback and share these outcomes in our sustainability disclosure. We may dedicate additional resources to effectively engage with independent rating agencies and analysts to maintain high ratings for our environmental, social and governance performance.
Physical Risk	Environmental management and hazards	With extreme global warming, the International Energy Association has predicted significant severe environmental and weather impacts, which may affect our network maintenance and operation, our real estate assets, team member safety, supply chain performance and organizational productivity.	We may have to devote increased resources towards network maintenance and repair, environmental monitoring, supply chain management, business continuity programs and team member and customer safety initiatives, which could have financial impacts.
	Systems and processes, including network reliability	Extreme global warming may affect network reliability and the frequency and duration of outages. In addition, rising temperatures may result in increased costs for cooling our network equipment.	We may have to devote increased resources to enhance the design and protection of our network equipment to limit impacts and disruptions, which could have financial and customer retention impacts.

Risk Management

Process for identifying climate-related risk

Effective risk management supports our foundation for sustainability leadership. We define business risk as the degree of exposure associated with the achievement of key strategic objectives in relation to the effectiveness and efficiency of operations; reliability and integrity of financial reporting; compliance with laws and regulations, policies procedures and contracts; and, safeguarding of assets within an ethical organizational culture. Our Enterprise Risk Management (ERM) framework solicits and incorporates the expertise and insight of team members from all areas and levels of the organization, including our Board. Our enterprise risks arise primarily from our business environment and risk identification and assessment drives our strategies and business objectives.

Climate-related physical risks as well as risks associated with transitioning to a low-carbon environment are integrated within our ERM framework. These climate risks, as well as all other risks in our ERM Risk Register, are reviewed each quarter and are assessed for their perceived impacts in the short, medium and long term.

We also maintain an enterprise-wide, award-winning business continuity management program that is aligned with our corporate priorities, including prioritizing the safety of our team members, minimizing the impacts of threats to our facilities, business operations and supply chain, maintaining service to our customers and keeping our communities connected. Ongoing risk-based optimization of our disaster recovery capabilities for our IT and telecommunication network assets is a key focus for preventing outages and limiting their impact on our operations and customers.

In 2021, we undertook an additional climate-specific risks and opportunities assessment as part of our materiality assessment. We interviewed key executive stakeholders across the company to identify their feedback on how our changing climate may impact areas such as finance and insurance, supply chain, business approach, net-zero targets and product opportunities. Results of this assessment have been incorporated within this disclosure.

Process for managing climate-related risk

We mitigate all risk-types, including climate, through contract terms, contingency planning and other risk response strategies, as appropriate. We strive to avoid taking on undue risk whenever possible and work to align risks with business strategies, objectives, values and risk tolerances. Residual exposure for certain risks are mitigated through insurance coverage, where we judge this to be efficient and commercially viable. Our specific strategy for managing climate-related risk strategy includes three key components:

- Mitigation: focusing on reducing energy use and carbon dioxide equivalent (CO_2e) emissions
- Adaptation: focusing on business continuity planning and readiness for the potential physical risks of a changing climate on our operations
- Innovation: helping customers realize their climate change goals through product and service solutions such as video conferencing.

Severe weather risk is a primary aspect of our climate-related risk management framework and is categorized as either having team member impacts, facility impacts or service delivery impacts. These risks are categorized and reported to the Audit Committee of the Board on a quarterly basis where such risks may impact regions in which we operate.

Mitigation initiatives to address severe weather threats have been an increasing focus and we have operationalized enhanced processes with respect to severe weather monitoring, notification of key stakeholders, and incident management in addition to updating climate incident playbooks that leverage learnings from prior events. These measures occur in both short-term planning and long-term planning.

Short-term risk mitigation

On a weekly basis, TELUS' Corporate Business Continuity Office (CBCO) publishes a severe weather outlook for all operating jurisdictions to highlight severe weather events which could pose a threat to our operations, complemented by daily severe weather threat monitoring and notifications for key internal stakeholders.

The CBCO also hosts biannual seasonal preparedness workshops to create awareness and enhance our preparedness for anticipated seasonal threats. The workshops focus on upcoming seasonal trends, potential threats, and reviewing lessons learned from past incidents.

We maintain a property risk governance program that systematically identifies, evaluates, manages and monitors property related risks at critical network facilities. This program also assists in the identification of natural catastrophic hazards.

Long-term risk mitigation

TELUS conducts flood and seismic studies every five to seven years to identify the most vulnerable sites and assist in possible future mitigation strategies. We also support various municipalities on climate change adaptation initiatives by representing the telecommunications industry in advising how the changing risk landscape, as a result of climate change, could affect the delivery of our services to citizens, businesses and communities.

Our ISO 14001:2015 certified EMS, used to identify and control the environmental impacts associated with our operations, is audited annually to assess compliance with standard applicable regulatory requirements.

Metrics and Targets

Metrics used to identify climate-related risks and opportunities

We assess climate-related risks and opportunities by tracking and disclosing our GHG emissions and energy consumption. Our most significant sources of GHG emissions and energy consumption consist of direct energy and indirect energy for owned and leased real estate properties in Canada, cell tower sites, vehicle fleet, and remote generator fuel that are within our operational control. Annual disclosure of our Scope 1, Scope 2 and Scope 3 GHG emissions, as well as data and performance details, can be found in our annual Sustainability Report.

Climate-related targets

Having surpassed our previous climate-related targets, we established the following targets in 2020:

- Effectively procure 100% of our electricity requirements from renewable or low-emitting sources by 2025
- Achieve operational net carbon neutrality by 2030
- Reduce our energy intensity by 50 per cent from 2019 levels by 2030
- Commit to set Science-based Targets in 2021.

In 2021, the Science-based Target initiative (SBTi) approved our Science-based Targets, which include the following:

- Reduce absolute Scope 1 and 2 GHG emissions by 46 per cent from 2019 levels by 2030
- Reduce absolute Scope 3 GHG emissions from business travel and employee commuting by 46 per cent from 2019 levels by 2030
- Reduce Scope 3 GHG emissions from purchased goods, capital goods and the use of sold products by 75 per cent per million dollars revenue from 2019 levels by 2030.

We report our performance against these targets in our annual Sustainability Report. Furthermore, the TELUS Environment Policy keeps us focused on building an environmentally friendly future by collaborating across the Company to:

- Monitor, measure and reduce our overall GHG emissions
- Improve our energy intensity as we grow our business
- Minimize spills and halocarbon releases
- Enhance our Environmental Management System
- Align with green building certifications, such as LEED, within our real estate development projects.

5.3 Risk factors

Please see *Section 10 - Risks and risk management* of our 2021 annual MD&A which is hereby incorporated by reference.

5.4 Regulation

Please see *Sections 9.4 - Communications industry regulatory developments and proceedings and 10.3 - Regulatory matters* of our 2021 annual MD&A which is hereby incorporated by reference.

6. DIVIDENDS AND DISTRIBUTIONS

The dividends per Common Share declared with respect to each quarter by TELUS, during the three-year period ended December 31, 2021, are shown below:

Quarter ended [1]	2021	2020	2019
March 31	$0.3112	$0.29125	$0.27250
June 30	$0.3162	$0.29125	$0.28125
September 30	$0.3162	$0.29125	$0.28125
December 31	$0.3274	$0.31120	$0.29125
Total	**$1.2710**	**$1.18495**	**$1.12625**

1 Paid on or about the first business day of the next month.

Our shareholders received a total of $1.2710 per share in declared dividends in 2021, an increase of 7.3 per cent from 2020. Our Board reviews the dividend rate quarterly. Our quarterly dividend rate will depend on an ongoing assessment of free cash flow generation and financial indicators including leverage, dividend yield and payout ratio. On February 9, 2022, a first quarter dividend of $0.3274 per share was declared, payable on April 1, 2022, to shareholders of record at the close of business on March 11, 2022. The first quarter dividend for 2022 reflects a cumulative increase of $0.0162 per share from the $0.3112 per share dividend paid in April 2021, consistent with our multi-year dividend growth program.

We first announced our dividend growth program in May 2011. In May 2019, we announced our intention to target ongoing semi-annual dividend increases, with the annual increase in the range of 7 to 10 per cent from 2020 through to the end of 2022, thereby extending the policy first announced in May 2011. Notwithstanding this target, dividend decisions will continue to be subject to our Board's assessment and the determination of our financial position and outlook on a quarterly basis. Effective January 1, 2020, our long-term dividend payout ratio target guideline is calculated as 60 to 75 per cent of prospective free cash flow. See *Section 7.5 - Liquidity and capital resource measures* of our 2021 annual MD&A which is hereby incorporated by reference. Based on dividends announced as of February 10, 2022, and 1.37 billion TELUS Corporation Common Shares outstanding at December 31, 2021, dividend declarations would total approximately $1.8 billion in 2022, before taking into account any Common Shares purchased and cancelled under any normal course issuer bid that we may implement. There can be no assurance that we will maintain a dividend growth program through 2022.

7. DESCRIPTION OF CAPITAL STRUCTURE

7.1 General description of capital structure

The authorized capital of TELUS consists of 6,000,000,000 shares, divided into: (1) 4,000,000,000 Common Shares without par value; (2) 1,000,000,000 First Preferred shares without par value, issuable in series and; (3) 1,000,000,000 Second Preferred shares without par value, issuable in series. The Common Shares are listed for trading on the Toronto Stock Exchange (TSX) and the New York Stock Exchange (NYSE).

Common Shares

Subject to the prior rights of the holders of First Preferred shares and Second Preferred shares, the Common Shares are entitled to participate with respect to the payment of dividends as declared by the Board and the distribution of assets of TELUS on the liquidation, dissolution or winding up of TELUS.

The holders of the Common Shares are entitled to receive notice of, attend, be heard and vote at any general meeting of the shareholders of TELUS on the basis of one vote per Common Share held. Holders of Common Shares are entitled to vote by a separate resolution for each director rather than a slate.

The Common Shares are subject to constraints on transfer to ensure our ongoing compliance with the Canadian ownership and control requirements of the Telecommunications Act and the Direction to the CRTC *(Ineligibility of Non-Canadians)* under the Broadcasting Act as noted in *Constraints – Canadian ownership and control requirements* .

Please see *Sections 9.4 - Communications industry regulatory developments and proceedings* and *10.3 - Regulatory matters* of our 2021 annual MD&A which is hereby incorporated by reference.

First Preferred shares

The First Preferred shares may be issued from time to time in one or more series, each series comprising the number of shares, and having attached thereto the designation, rights, privileges, restrictions and conditions which the Board determines by resolution and subject to filing an amendment to the Notice of Articles and Articles of TELUS. No series of First Preferred shares may have attached thereto the right to vote at any general meeting of TELUS or the right to be convertible into or exchangeable for Common Shares. Except as required by law, the holders of the First Preferred shares as a class are not entitled to receive notice of, attend or vote at any meeting of the shareholders of TELUS. The First Preferred shares rank prior to the Second Preferred shares and Common Shares with respect to priority in payment of dividends and in the distribution of assets in the event of liquidation, dissolution or winding up of TELUS.

As of February 10, 2022, there are no First Preferred shares outstanding.

Second Preferred shares

The Second Preferred shares may be issued from time to time in one or more series, each series comprising the number of shares, and having attached thereto the designation, rights, privileges, restrictions and conditions, which the Board determines by resolution and subject to filing an amendment to the Notice of Articles and Articles of TELUS. No series of Second Preferred shares may have attached thereto the right to vote at any general meeting of TELUS or the right to be convertible into or exchangeable for Common Shares. Except as required by law, the holders of the Second Preferred shares as a class are not entitled to receive notice of, attend or vote at any meeting of the shareholders of TELUS. The Second Preferred shares rank, subject to the prior rights of the holders of the First Preferred shares, prior to the Common Shares with respect to priority in payment of dividends and in the distribution of assets in the event of liquidation, dissolution or winding up of TELUS.

As of February 10, 2022, there are no Second Preferred shares outstanding.

Shareholder rights plan

TELUS has had a shareholder rights plan in place since March 2000. Our current shareholder rights plan (Rights Plan) was adopted by the Board on March 13, 2019 (Effective Date) and ratified and confirmed by the shareholders at our annual meeting on May 9, 2019.

Under the current Rights Plan, TELUS issued one right (Right) in respect of each Common Share outstanding as at the Effective Date. The Rights Plan has a term of just over nine years, subject to shareholder confirmation every three years (in 2022 and 2025). Each Right, other than those held by an Acquiring Person (as defined in the Rights Plan) and certain of its related parties, entitles the holder in certain circumstances following the acquisition by an Acquiring Person of 20 per cent or more of the Common Shares of TELUS (otherwise than through the “Permitted Bid” requirements of the Rights Plan) to purchase from TELUS $320 worth of Common Shares for $160 (i.e. at a 50 per cent discount) respectively. For further details, please refer to the Rights Plan, a copy of which is available on SEDAR at sedar.com on EDGAR at www.sec.gov as an exhibit to TELUS’ registration statement on Form 8-A filed with the U.S. Securities and Exchange Commission on May 10, 2019 (Commission File No. 001-15144) or available from TELUS’ Corporate Governance office, 7th Floor, 510 West Georgia Street, Vancouver, British Columbia, V6B 0M3.

Normal course issuer bid and shelf prospectus

Please see *Section 4.3 - Liquidity and capital resources* of our 2021 annual MD&A which is hereby incorporated by reference.

7.2 Constraints

Canadian ownership and control requirements

Certain subsidiaries of TELUS Corporation are Canadian carriers, holders of radio authorizations and holders of broadcasting licences, and are required by the *Telecommunications Act* (Canada) (Telecommunications Act) and the *Direction to the CRTC (Ineligibility of Non-Canadians)* issued pursuant to the *Broadcasting Act* (Canada) (Broadcasting Act) to be Canadian-owned and controlled. Under the Telecommunications Act, a Canadian carrier, such as TCI is considered to be Canadian-owned and controlled if:

(i) not less than 80 per cent of the members of its board of directors are individual Canadians;
(ii) Canadians beneficially own not less than 80 per cent of its voting interests; and
(iii) it is not otherwise controlled in fact by persons who are not Canadians.

Substantially the same rules apply in relation to broadcasting undertakings but an additional requirement set out in the *Direction to the CRTC (Ineligibility of Non-Canadians)* is that the chief executive officer of a company that is a licensed broadcasting undertaking must be a Canadian citizen or a permanent resident of Canada. TELUS Corporation has filed with the CRTC the requisite documentation affirming TCI's status as a Canadian carrier. We further intend that TCI will remain controlled by TELUS Corporation and that it will remain "Canadian" for the purposes of Canadian ownership requirements.

The *Canadian Telecommunications Common Carrier Ownership and Control Regulations* (Ownership and Control Regulations), made pursuant to the Telecommunications Act, further provide that in order for a company that holds shares in a carrier (carrier holding corporation) to be considered Canadian, not less than 66-2/3 per cent of the issued and outstanding voting shares of that company must be beneficially owned by Canadians and that such company must not otherwise be controlled in fact by non-Canadians. To the best of our knowledge, Canadians beneficially own and control in the aggregate not less than 66-2/3 per cent of the issued and outstanding Common Shares of TELUS Corporation and TELUS Corporation is not otherwise controlled in fact by non-Canadians. For the purposes of these regulations, "Canadian" means among other things:

(i) a Canadian citizen who is ordinarily resident in Canada;
(ii) a permanent resident of Canada who is ordinarily resident in Canada and has been so for not more than one year after the date he or she was eligible to apply for Canadian citizenship;
(iii) a corporation with not less than 66-2/3 per cent of the issued and outstanding voting shares of which are beneficially owned and controlled by Canadians and which is not otherwise controlled in fact by non-Canadians; or
(iv) a pension fund society the majority of whose members of its board of directors are individual Canadians, and that is established under applicable federal legislation or any provincial legislation relating to the establishment of pension fund societies.

The *Direction to the CRTC (Ineligibility of Non-Canadians)* provides a similar definition of "Canadian" but also includes a "qualified corporation" which can be a subsidiary corporation whose parent corporation or its directors do not exercise control or influence over any programming decisions of the subsidiary corporation where

(a) Canadians beneficially own and control less than 80 per cent of the issued and outstanding voting shares of the parent corporation and less than 80 per cent of the votes,
(b) the chief executive officer is a non-Canadian, or
(c) less than 80 per cent of the directors of the parent corporation are Canadian.

On August 10, 2017, in response to levels of foreign ownership of shares exceeding 20 per cent and in order to meet the requirements of a "qualified corporation" in accordance with the *Direction to the CRTC (Ineligibility of Non-Canadians)*, the Board appointed an independent programming committee to make all programming decisions relating to its licensed broadcasting undertakings.

The Ownership and Control Regulations provide Canadian carriers and carrier holding corporations, such as TELUS Corporation, with the time and ability to rectify ineligibility resulting from insufficient Canadian ownership of voting interests. Under the Ownership and Control Regulations, such corporations may refuse the subscription, issuance, transfer or purchase of voting interests, if necessary, to ensure that they and their subsidiaries remain eligible under such legislation. For such purposes, in particular but without limitation, a company may, in accordance with the provisions contained in the Ownership and Control Regulations:

(i) refuse to accept any subscription for voting shares;
(ii) refuse to allow any transfer of voting shares to be recorded in its share register;

(iii) suspend the rights of a holder of voting shares to vote at a meeting of its shareholders; and
(iv) sell, repurchase or redeem excess voting shares.

To ensure that TELUS Corporation remains Canadian and that any subsidiary of TELUS Corporation, including TCI, is and continues to be eligible to operate as a Canadian carrier under the Telecommunications Act, to be issued radio authorizations under the *Radiocommunication Act* (Canada) (Radiocommunication Act), or to be issued broadcasting licences under the Broadcasting Act, provisions substantially similar to the foregoing have been incorporated into the Articles of TELUS Corporation permitting its directors to make determinations to effect any of the foregoing actions.

In addition, TELUS has systems in place to monitor the level of Canadian ownership of its Common Shares. For registered shareholders and shares trading on the TSX, a reservation and declaration system requires non-Canadian purchasers of Common Shares to obtain a reservation number from our transfer agent and registrar, Computershare Trust Company and to declare whether or not the purchaser is a Canadian or non-Canadian. For Common Shares trading on the NYSE, non-Canadian ownership is monitored by utilizing the Depository Trust & Clearing Corporation's SEG-100 Account program. All TELUS Common Shares held by non-Canadians must be transferred to this account (no reservation application is required).

The *Telecommunications Act* was amended in June 2012 to remove foreign ownership restrictions for telecommunications common carriers that hold less than a 10 per cent share of the total Canadian telecommunications services revenues. This change was made to enable non-Canadian owned entities to start up or acquire Canadian carriers that hold less than a 10 per cent share of total Canadian telecommunications services revenues. However, given that TELUS and its affiliates exceed this 10 per cent threshold, we remain subject to the pre-existing Canadian ownership and control restrictions outlined above. Canadian ownership requirements for licensees under the Broadcasting Act remain unchanged.

7.3 Ratings

The following information relating to our credit ratings is provided as it relates to our financing costs, liquidity and operations. Additional information relating to credit ratings is contained in *Section 7.5 - Liquidity and capital resource measures* to *Section 7.8 - Credit ratings* in the 2021 annual MD&A.

Credit ratings are important to our borrowing costs and ability to obtain short-term and long-term financing and the cost of such financing. Credit ratings are intended to provide investors with an independent measure of the credit quality of an issue of securities and are indicators of the likelihood of payment and of the capacity of a company to meet its financial commitment on the rated obligation in accordance with the terms of the rated obligation. A reduction in the current rating on our debt by rating agencies, particularly a downgrade below investment grade ratings or a negative change in ratings outlook could adversely affect our cost of financing and our access to sources of liquidity and capital. We believe our investment grade credit ratings, coupled with our efforts to maintain constructive relationships with banks, investors and credit rating agencies, continue to provide TELUS with reasonable access to capital markets. In addition, credit ratings may be important to customers or counterparties when we compete in certain markets and when we seek to engage in certain transactions including transactions involving over-the-counter derivatives. As at December 31, 2021, TCI is a party to an agreement expiring in December 2024, with an arm's-length securitization trust associated with a major Schedule I bank, under which TCI is able to sell an interest in certain trade receivables up to a maximum of $600 million. TCI is required to maintain at least a BB credit rating by DBRS Ltd. (DBRS) or the securitization trust may require the sale program to be wound down.

The rating agencies regularly evaluate TELUS and TCI, and their ratings of our long-term and short-term debt are based on a number of factors, including our financial strength as well as factors not entirely within our control, including conditions affecting the telecommunications industry generally, and the wider state of the economy. The Company's credit ratings are outlined in the chart below. Credit ratings are not recommendations to purchase, hold or sell securities and do not address the market price or suitability of a specific security for a particular investor. In addition, real or anticipated changes in the rating assigned to a security will generally affect the market value of that security. There can be no assurance that a rating will remain in effect for any given period of time or that a rating will not be revised or withdrawn entirely by a rating agency in the future.

Credit rating summary	DBRS Ltd.	Standard & Poor's Rating Services	Moody's Investor Services	Fitch Ratings
TELUS Corporation				
Notes	BBB (high)	BBB+	Baa1	BBB+
Commercial paper	R-2 (high)	A-2	P-2	—
TELUS Communications Inc.				
Debentures	BBB (high)	BBB+	—	BBB+

Institution	Rating
DBRS	The DBRS long-term rating scale provides an opinion on the risk of default. That is, the risk that an issuer will fail to satisfy its financial obligations in accordance with the terms under which an obligation has been issued. Ratings are based on quantitative and qualitative considerations relevant to the issuer, and the relative ranking of claims. All rating categories, other than "AAA" and "D", also contain subcategories "(high)" and "(low)". The absence of either a "(high)" or "(low)" designation indicates the rating is in the middle of the category. A "BBB" rating denotes adequate credit quality. The capacity for the payment of financial obligations is considered acceptable. May be vulnerable to future events. A DBRS rating trend provides guidance with respect to an opinion regarding the outlook for a rating. The rating trend indicates the direction a rating may move if present circumstances continue unless addressed. A positive or negative trend represents an indication that there is a greater likelihood that the rating could change in the future than is the case if a stable trend was assigned. Assignment of a positive or negative trend are resolved typically within a twelve-month period.
S&P	A S&P issue credit rating is a forward-looking opinion about the creditworthiness of an obligor with respect to a specific financial obligation, a specific class of financial obligations, or a specific financial program (including ratings on medium-term note programs and commercial paper programs). It takes into consideration the creditworthiness of guarantors, insurers, or other forms of credit enhancement on the obligation and takes into account the currency in which the obligation is denominated. The opinion reflects S&P's view of the obligor's capacity and willingness to meet its financial commitments as they come due, and may assess terms, such as collateral security and subordination, which could affect ultimate payment in the event of default. An obligation rated "BBB" exhibits adequate protection parameters. However, adverse economic conditions or changing circumstances are more likely to lead to a weakened capacity of the obligor to meet its financial commitment on the obligation. The ratings from "AA" to "CCC" may be modified by the addition of a plus (+) or minus (-) sign to show relative standing within the major rating categories. A S&P rating outlook indicates an opinion regarding the potential direction of a long-term credit rating over the intermediate term (ranging six months to two years). A positive outlook indicates a rating may be raised, and a negative outlook indicates a rating may be lowered. A stable outlook is assigned when the ratings are not likely to be changed, and a developing outlook is assigned when rating may be raised or lowered.
Moody's	Moody's long-term ratings are assigned to issuers or obligations with an original maturity of one year or more and reflect both on the likelihood of a default on contractually promised payments and the expected financial loss suffered in the event of default. Obligations rated "Baa" are judged to be medium-grade and subject to moderate credit risk and as such may possess certain speculative characteristics. Moody's appends numerical modifiers 1, 2, and 3 to each generic rating classification from "Aa" through "Caa". The modifier 1 indicates that the obligation ranks in the higher end of its generic rating category; the modifier 2 indicates a mid-range ranking; and the modifier 3 indicates a ranking in the lower end of that generic rating category. A Moody's rating outlook is an opinion regarding the likely rating direction over the medium term. A stable outlook indicates a low likelihood of a rating change over the medium term. A negative, positive or developing outlook indicates a higher likelihood of a rating change over the medium term.
Fitch	Rated entities in a number of sectors, including financial and non-financial corporations, sovereigns and insurance companies are generally assigned issuer default ratings (IDRs). IDRs opine on an entity's relative vulnerability to default on financial obligations. The "threshold" default risk addressed by the IDR is generally that of the financial obligations whose non-payment would best reflect the uncured failure of that entity. As such, IDRs also address relative vulnerability to bankruptcy, administrative receivership or similar concepts, although the agency recognizes that issuers may also make pre-emptive and therefore voluntary use of such mechanisms. In aggregate, IDRs provide an ordinal ranking of issuers based on the agency's view of their relative vulnerability to default, rather than a prediction of a specific percentage likelihood of default. "BBB" ratings indicate that expectations of default risk are currently low. The capacity for payment of financial commitments is considered adequate but adverse business or economic conditions are more likely to impair this capacity. The modifiers "+" or "-" may be appended to a rating to denote relative status within major rating categories. Such suffixes are not added to the "AAA" Long-Term IDR category, or to Long-Term IDR categories below "B". Ratings may also have a directional Watch or Outlook assigned, which can signify the trajectory of the credit profile. A Fitch rating outlook is an opinion on the direction a rating is likely to move over a one- to two-year period. A positive rating outlook indicates an upward trend on the rating scale, and a negative rating outlook signals a negative trend on the rating scale. Ratings with stable outlooks can be raised or lowered without a prior revision to the outlook. Evolving outlooks may be described when there is conflicting elements of both positive and negative trends.

As of February 10, 2022, TELUS Corporation credit ratings respectively received a 'stable' outlook from Fitch and a 'negative' trend or outlook from each of DBRS, Moody's and S&P. As is common practice, during the last two years, each of the above-noted credit rating agencies charged TELUS for their rating services which include annual surveillance fees covering our outstanding long-term and short-term debt securities, in addition to one-time rating fees for certain agencies when debt is initially issued. We reasonably expect that such payments will continue to be made for rating services in the future.

8. MARKET FOR SECURITIES

8.1 Trading Price and Volume

TELUS' Common Shares are listed on the TSX under the symbol "T" and on the NYSE under the symbol "TU". Monthly share prices and volumes for 2021 are listed below:

	TSX – Common Shares			NYSE – Common Shares		
Month	**High ($)**	**Low ($)**	**Volume**	**High ($U.S.)**	**Low ($U.S.)**	**Volume**
January	27.04	25.14	57,673,506	21.27	19.76	22,370,195
February	27.54	25.33	76,913,480	21.62	20.13	34,888,547
March	27.28	24.93	111,225,622	21.85	19.74	43,164,201
April	26.08	25.12	46,977,174	20.98	19.98	23,850,263
May	27.39	25.36	53,745,182	22.65	20.59	22,145,944
June	28.14	27.20	51,980,750	23.28	22.17	20,598,569
July	28.30	27.39	34,266,494	22.63	21.48	19,017,911
August	29.39	27.77	37,577,032	23.28	22.02	20,025,250
September	29.99	27.75	52,359,344	23.67	21.80	26,520,330
October	28.50	27.34	33,198,561	23.10	21.76	16,529,852
November	29.72	28.16	49,736,081	23.66	22.61	19,012,914
December	30.04	28.79	52,598,797	23.73	22.48	20,201,288

8.2 Prior Sales

In 2021, we undertook two debt offerings of $750 million and $500 million. These offerings lowered our weighted average cost of long-term debt from 3.80 per cent to 3.72 per cent and brought our average term to maturity from 12.2 years to 12.5 years, which indicates our continued flexibility to manage and grow our business.

Please refer to TELUS Corporation's 2021 year-end audited consolidated financial statements – Note 26(b) TELUS Corporation Notes for details on our past debt offerings.

In addition, in the ordinary course of business, the Company has the capability to issue commercial paper with maturities of less than 12 months. As at December 31, 2021, the Company had $1.9 billion of commercial paper outstanding, all of which was denominated in U.S. dollars (US$1.5 billion).

9. DIRECTORS AND OFFICERS

9.1 Name, occupation and security holding

Directors

The names, municipalities of residence and principal occupations of the directors of TELUS as at February 10, 2022, as well as the date each such person became a director of TELUS and committee membership are as set out below. Currently, there are 14 directors on the Board. Each was elected at TELUS' annual general meeting on May 7, 2021. Each director's term of office will expire

immediately before the election of directors at the upcoming annual general meeting on May 6, 2022.They have, however, all been nominated for re-election at the upcoming annual general meeting.

Directors of TELUS Name and municipality of residence)	Director since	Principal occupation
R.H. (Dick) Auchinleck Victoria, B.C.	2003	Chair, TELUS Corporation
Raymond T. Chan [2, 4 – Chair] Vancouver, B.C.	2013	Corporate Director
Hazel Claxton [1] Toronto, Ontario	2021	Corporate Director
Lisa de Wilde [3 - Chair, 4] Toronto, Ontario	2015	Bell Media Professor of Media Management, Schulich School of Business, York University
Darren Entwistle Vancouver, B.C.	2000	President and Chief Executive Officer, TELUS Corporation
Thomas E. Flynn [1] Toronto, Ontario	2020	Corporate Director
Mary Jo Haddad [2 – Chair, 3] Niagara-on-the-Lake, Ontario	2014	Founder and President, MJH & Associates (strategic leadership and healthcare advisory services)
Kathy Kinloch [2, 3] Vancouver, B.C.	2017	President, British Columbia Institute of Technology
Christine Magee [2, 4] Toronto, Ontario	2018	Co-Founder and Chair, Sleep Country Canada
John Manley [2, 3] Ottawa, Ontario	2012	Senior Business Advisor, Bennett Jones LLP
David Mowat [1 – Chair] Vancouver, B.C.	2016	Corporate Director
Marc Parent [2, 4] Montreal, Quebec	2017	President and Chief Executive Officer, CAE Inc.
Denise Pickett [1, 3] Toronto, Ontario	2018	President, Global Services Group, American Express
W. Sean Willy [1] Saskatoon, Saskatchewan	2021	President and Chief Executive Officer of Des Nedhe Development, the economic development entity for English River First Nation

1 Member of Audit Committee
2 Member of Human Resources and Compensation Committee
3 Member of Corporate Governance Committee
4 Member of Pension Committee

All of the directors of TELUS have held the principal occupations set forth above or executive positions with the same companies or firms referred to, or with affiliates or predecessors thereof, for the past five years except as follows: David Mowat was President and CEO of ATB Financial from June 2007 to June 2018; Ray Chan was Chair of Baytex Energy Corp. from 2014 to 2018 and Lead Independent Director from 2018 to 2019; John Manley was President and Chief Executive Officer of the Business Council of Canada from 2010 to 2018; Lisa de Wilde was CEO of the Ontario Educational Communications Authority (TVO) from 2005 to 2019;

Thomas Flynn was CFO of BMO Financial Group from March 2011 to December 2020. Hazel Claxton was Executive Vice-President and Chief Human Resources Officer of Morneau Shepell Inc. from 2013 to 2018. W. Sean Willy was the Director of Corporate Responsibility for Cameco Corporation from 2010 to 2016.

Executive officers

The name, municipality of residence and principal occupations of each of the executive officers of TELUS, as of February 10, 2022, are as follows:

Executive Officers of TELUS

(Name and municipality of residence)	**Position held with TELUS**
Darren Entwistle Vancouver, B.C.	President and Chief Executive Officer
Doug French Whitby, Ontario	Executive Vice President and Chief Financial Officer
Navin Arora Calgary, Alberta	Executive Vice President, TELUS Business Solutions
Tony Geheran Vancouver, B.C.	Executive Vice President and Chief Customer Officer
Stephen Lewis Vancouver, B.C.	Senior Vice President and Treasurer
Zainul Mawji Edmonton, Alberta	Executive Vice President, Home Solutions
Sandy McIntosh Toronto, Ontario	Executive Vice President, People and Culture and Chief Human Resources Officer
Jim Senko Toronto, Ontario	Executive Vice President, Mobility Solutions
Andrea Wood Toronto, Ontario	Chief Legal and Governance Officer

All of the executive officers of TELUS have held their present positions or other executive positions with the Company during the past five years or more.

TELUS shares held by directors and executive officers

As at February 8, 2022, the directors and executive officers of TELUS, as a group, beneficially owned, directly or indirectly, or exercised control or direction over 1,191,855 Common Shares, which represented approximately 0.09 per cent of the outstanding Common Shares.

9.2 Cease trade orders, bankruptcies, penalties or sanctions

For the 10 years ended February 10, 2022, we are not aware that any current director or executive officer of TELUS had been a director or executive officer of any issuer which, while that person was acting in that capacity, or within a year of that person ceasing to act in that capacity, became bankrupt or made a proposal under any legislation relating to bankruptcy or insolvency or was subject to or instituted any proceedings, arrangement or compromise with creditors or had a receiver, receiver manager or trustee appointed to hold its assets.

For the 10 years ended February 10, 2022, we are not aware that any current director or executive officer of TELUS had been a director, chief executive officer or chief financial officer of any issuer which was the subject of a cease trade order, an order similar to a cease trade order or an order that denied such issuer access to any exemption under securities legislation, and that was in effect for a

period of more than 30 consecutive days, (in each such case, an "Order") while that person was acting in that capacity, or was subject to such an Order issued after the director or executive officer ceased to be a director, chief executive officer or chief financial officer and resulted from an event that occurred while that person was acting in that capacity.

10. LEGAL PROCEEDINGS AND REGULATORY ACTIONS

Legal proceedings are described in *Section 10.17 - Litigation and legal matters* in the 2021 annual MD&A and in the Company's December 31, 2021, consolidated financial statements *Note 29(a) Claims and lawsuits*.

From time to time, in the ordinary course of business, the Company and its subsidiaries are assessed fees or fines by securities regulatory authorities in relation to administrative matters, including late filing or reporting fees, which may be considered penalties or sanctions pursuant to Canadian securities regulations but which are not, individually or in the aggregate, material to the Company. In addition, the Company and its subsidiaries are subject to numerous regulatory authorities around the world, and fees, administrative penalties, settlement agreements and sanctions may be categorized differently by each regulator. However, during the most recently completed financial year, the Company is not aware of any material (i) penalties or sanctions imposed against us by a court relating to securities legislation or by a securities regulatory authority; (ii) penalties or sanctions imposed by a court or regulatory body against us that would likely be considered important to a reasonable investor in making an investment decision; or (iii) settlement agreements entered into by us before a court relating to securities legislation or with a securities regulatory authority.

11. INTEREST OF MANAGEMENT AND OTHERS IN MATERIAL TRANSACTIONS

To the best of our knowledge, there were no directors or executive officers, or any associate or affiliate of a director or executive officer with a material interest in any transaction within the three most recently completed financial years or during the current financial year that has materially affected or is reasonably expected to materially affect us.

12. TRANSFER AGENT AND REGISTRAR

Our transfer agent and registrar is Computershare Trust Company of Canada. Computershare maintains the Company's registers at 800, 324 - 8th Avenue SW, Calgary, Alberta T2P 2Z3.

13. MATERIAL CONTRACTS

TCI is a party to a three-year agreement (expiry December 31, 2024) with an arm's-length securitization trust associated with a major Schedule I bank, under which TCI is able to sell an interest in certain of its trade receivables up to a maximum of $600 million. TCI is required to maintain at least a BB credit rating by DBRS Ltd. or the securitization trust may require the sale program to be wound down. The necessary credit rating was exceeded throughout its term.

TELUS holds a five-year unsecured credit facility (2018 Credit Facility) with a syndicate of financial institutions. On April 1, 2021, a second amendment agreement was entered into which extended the maturity date from May 2023 to April 2026 and increased the facility from $2.25 billion to $2.75 billion. The 2018 Credit Facility may be used for general corporate purposes including the backstop of commercial paper.

TELUS has also entered into material contracts in connection with the following financings in 2021:

- On April 5, 2021, TELUS issued $500 million aggregate principal amount of 4.10% Notes, Series CAE, due April 5, 2051.
- On June 28, 2021, TELUS issued $750 million aggregate principal amount of 2.85% Sustainability-Linked Notes, Series CAF, due November 13, 2031.

The applicable trust indenture and supplemental indenture documents in relation to these notes have been filed on SEDAR at www.sedar.com and on EDGAR at www.sec.gov. The terms of the indenture are fully described in our final short form base shelf prospectus dated May 25, 2021 filed on SEDAR. The terms of the various notes issued in 2021 and the applicable supplemental indenture are as set forth in the shelf prospectus supplements dated March 29 and June 21, 2021, filed on SEDAR. The base shelf prospectus dated May 25, 2021 has been filed as part of a registration statement on Form F-10 filed with the U.S. Securities and Exchange Commission (Commission File No. 333-256124).

14. INTERESTS OF EXPERT

Deloitte LLP, Chartered Professional Accountants, is the auditor of the Company and is independent of the Company within the meaning of the Rules of Professional Conduct of the Chartered Professional Accountants of British Columbia.

15. AUDIT COMMITTEE

The Audit Committee of the Company supports the Board in fulfilling its oversight responsibilities regarding the integrity of our accounting and financial reporting, internal controls and disclosure controls, legal and regulatory compliance, ethics policy and timeliness of filings with regulatory authorities, the independence and performance of our external and internal auditors, the management of our risk, credit worthiness, treasury plans and financial policy and whistleblower and complaint procedures. A copy of the Audit Committee's Terms of Reference is attached as Appendix A to this AIF.

The current members of the Audit Committee are David Mowat (Chair), Hazel Claxton, Tom Flynn, Denise Pickett and W. Sean Willy. Each member of the Audit Committee is independent and financially literate within the meaning of Multilateral Instrument 52-110 "Audit Committees" and the Board has determined that David Mowat is the audit committee financial expert and has the required accounting or related financial management expertise. The following lists the relevant education and experience of the members of TELUS' Audit Committee that is relevant to their role on the committee.

David Mowat is the Chair of the Audit Committee. He is the former President and CEO of ATB Financial, a position he held from June 2007 to June 2018. Prior to that, he was the CEO of Vancouver City Savings Credit Union from 2000 until 2007. In 2015, he was named chair of the Alberta Royalty Review panel. He is currently a director of the Laurentian Bank Group. David holds a Bachelor of Commerce from the University of British Columbia and the ICD.D designation from the Institute of Corporate Directors. In 2015, he received an Honorary Bachelor of Business Administration from the Southern Alberta Institute of Technology and in 2017 he received an honorary doctorate of laws from the University of Alberta.

Hazel Claxton is the former Executive Vice-President and Chief Human Resources Officer of Morneau Shepell Inc.; a position she held from 2013 to 2018. Prior to that, Hazel spent 29 years at PwC Canada where she held several leadership roles including Canadian Leadership Group member, Human Capital leader, and Partner within the Corporate Advisory and Restructuring Group, an area she practiced in for 20 years. Hazel currently sits on the boards of the University Pension Plan Ontario, Unity Health Toronto, and Queen's University where she is Vice Chair. Previously, she was on the boards of St. Michael's Hospital and the Shaw Festival Theatre. Hazel holds a Bachelor of Commerce (Honours) from Queen's University and the ICD.D designation from the Institute of Corporate Directors. She is a Chartered Professional Accountant.

Tom Flynn is the former Vice-Chair of BMO Financial Group. Prior to 2021 he was an executive officer and served as Bank of Montreal's Chief Financial Officer from 2011 to 2020 and Chief Risk Officer from 2008 to 2011. Previously, Tom held other leadership positions, including Executive Vice-President Finance and Treasurer, and Head of the Financial Services Corporate and Investment Banking Group in BMO Capital Markets. Tom is Chair of the Board of Sunnybrook Health Sciences Centre and was previously Chair of the Board of Holland Bloorview Kids Rehabilitation Hospital and Symcor Inc. He obtained his MBA and his Bachelor of Arts (Honours) in Business Administration from the Ivey School of Business at Western University and is a Chartered Professional Accountant, a Chartered Accountant and a Fellow of the Chartered Professional Accountants Ontario.

Denise Pickett is the President, Global Services Group of American Express, a position she has held since September 2019. From 1992 to the present, Denise has held a series of progressively senior roles throughout American Express. She was Country Manager for American Express Canada and President and CEO of Amex Bank of Canada. Denise subsequently relocated to the United States where most recently she served as the President of American Express OPEN, the small business division, followed by the President of U.S. Consumer Services and most recently as American Express' Chief Risk Officer. Denise holds an MBA in marketing from the Schulich School of Business at York University and a Bachelor of Science (Honours) from the University of Toronto.

W. Sean Willy is President and Chief Executive Officer of Des Nedhe Development, the economic development entity for English River First Nation, which includes a broad portfolio of businesses and investments that range from construction and mining to retail and communications, a role he has held since August 2017, and prior thereto he was a Vice-President of Des Nedhe Development since June 2016. From 2010 to 2016, Sean was the Director of Corporate Responsibility for Cameco Corporation, a publicly traded uranium producer. Sean is an experienced business executive, with a 25-year history of creating, developing and leading inclusive practices in the resource sector and building opportunities with Indigenous communities. In his career, Sean has developed and implemented progressive and innovative Indigenous inclusion and value-added corporate social responsibility strategies for two leading resource companies, Rio Tinto and Cameco Corporation. Sean has always worked to ensure Indigenous Peoples are seen as full partners in long-term relationships, and this has led to Sean building partnerships in Australia, the United

States and throughout Canada. Sean is currently a member of the Canadian Government's Indigenous Innovation Housing Committee. In the past, he has served as Chair of the Mining Association of Canada's Indigenous Affairs Committee, Co-Chair of the Canadian Council for Aboriginal Business, Chair of the successful Northern Career Quest and a board member of Indigenous Works. Sean holds a Bachelor of Commerce from the Edwards School of Business of the University of Saskatchewan.

Audit, audit-related and non-audit services

All requests for non-prohibited audit, audit-related and non-audit services provided by TELUS' external auditor and its affiliates to TELUS are required to be pre-approved by TELUS' Audit Committee. To enable this, we have implemented a process by which all requests for services involving the external auditor are routed for review by the VP Risk Management and Chief Internal Auditor to validate that the requested service is a non-prohibited service and to verify that there is a compelling business reason for the request. If the request passes this review, it is then forwarded to the Chief Financial Officer for further review. Pending the Chief Financial Officer's affirmation, the request is then presented to the Audit Committee for its review, evaluation and pre-approval or denial at its next scheduled quarterly meeting. If the timing of the request is urgent, it is provided to the Audit Committee Chair for his or her review, evaluation and pre-approval or denial on behalf of the Audit Committee (with the full committee's review at the next scheduled quarterly meeting). Throughout the year, the Audit Committee monitors the actual versus approved expenditure for each of the approved requests.

The following table is a summary of billings by Deloitte LLP (Deloitte), as external auditor of TELUS, during each of the years ended December 31, 2021 and 2020.

	Year ended December 31, 2021		Year ended December 31, 2020	
Type of work	**$ millions**	**%**	**$ millions**	**%**
Audit fees [1]	2.810	25.8	2.415	27.2
Audit-related fees [2]	6.869	63.2	5.810	65.4
Tax fees [3]	0.834	7.7	0.405	4.6
All other fees [4]	0.359	3.3	0.247	2.8
Total	**10.871**	**100.0**	**8.877**	**100.0**

1 Includes fees for services rendered by Deloitte in relation to the audit and review of our financial statements.
2 Includes fees for audits in relation to our statutory and regulatory filings, audits and reviews of subsidiaries including TELUS International, pension-related audits, customer required reviews and translation services rendered by Deloitte in relation to the audit or review of our financial statements that were not part of audit fees.
3 Relates to tax compliance, tax advice and tax planning.
4 Includes fees for services rendered by Deloitte that were not in relation to the audit or review of our financial statements, such as Board Effectiveness Assessment, M&A Due Diligence, Advisory services for private investment fund establishment and other Specified Procedures.

16. ADDITIONAL INFORMATION

Additional information relating to TELUS may be found on SEDAR at sedar.com and EDGAR at sec.gov. Additional information regarding directors' and officers' remuneration, and securities authorized for issuance under equity compensation plans, will be contained in TELUS' information circular for the annual meeting to be held on May 6, 2022. Additional financial information is provided in the Company's consolidated financial statements and MD&A for the year ended December 31, 2021. All of the above information can also be found at telus.com. Additional information about our TELUS International (Cda) Inc. subsidiary, including discussion of its business and results, can be found in its public filings available on SEDAR at sedar.com and EDGAR at sec.gov.

APPENDIX A: TERMS OF REFERENCE FOR THE AUDIT COMMITTEE

The Board has established an Audit Committee (the "Committee") to assist the Board in fulfilling its oversight responsibilities regarding the integrity of the Company's accounting and financial reporting, the Company's internal controls and disclosure controls, the Company's legal and regulatory compliance, the Company's Code of Ethics and Conduct and timeliness of filings with regulatory authorities, the independence and performance of the Company's external and internal auditors, the identification and management of the Company's risks, the Company's credit worthiness, treasury plans and financial policy and the Company's whistleblower and complaint procedures.

1. MEMBERSHIP

1.1 The Committee will have a minimum of three members, including the chair of the Committee. The Board, upon the recommendation of the Corporate Governance Committee, will appoint and remove the members of the Committee by a majority vote. The members will sit on the Committee at the pleasure of the Board.
1.2 The Board, upon the recommendation of the Corporate Governance Committee, will appoint the chair of the Committee from the Committee's members by a majority vote. The chair of the Committee will hold such position at the pleasure of the Board.
1.3 All members of the Committee will be Independent Directors.
1.4 All members of the Committee will be financially literate, as defined in accordance with applicable securities laws and standards of the stock exchanges on which the Company's securities are listed.
1.5 At least one member of the Committee will be an audit committee financial expert, as defined in accordance with applicable securities laws, and at least one member of the Committee will have accounting or related financial management expertise, as defined in accordance with applicable securities laws.

2. MEETINGS

2.1 The Committee will meet at least once each quarter and otherwise as necessary. Any member of the Committee may call meetings of the Committee.
2.2 All directors of the Company, including management directors, may attend meetings of the Committee provided, however, that no director is entitled to vote at such meetings and is not counted as part of the quorum for the Committee if he or she is not a member of the Committee.
2.3 Notwithstanding section 2.2 above, the Committee will, as a regular feature of each regularly scheduled meeting, hold an in-camera session with the external auditors and separately with the internal auditors, and an in-camera session without management or management directors present. The Committee may, however, hold other in-camera sessions with such members of management present as the Committee deems appropriate.
2.4 The Chief Governance Officer or his or her nominee will act as secretary to the Committee.
2.5 The Committee will report to the Board on its meetings and each member of the Board will have access to the minutes of the Committee's meetings and meeting materials, regardless of whether the director is a member of the Committee.
2.6 The external auditors of the Company will receive notice of every meeting of the Committee and may request a meeting of the Committee be called by notifying the chair of the Committee of such request.

3. QUORUM

The quorum necessary for the transaction of business at Committee meetings will be a majority of the members of the Committee. A quorum once established is maintained even if members of the Committee leave the meeting prior to conclusion.

4. DUTIES

The Board hereby delegates to the Committee the following duties to be performed by the Committee on behalf of and for the Board:

4.1 Financial Reporting

Prior to public disclosure, the Committee will review and recommend to the Board, and where applicable, to the boards of the Company's subsidiaries which are reporting issuers, for approval:

(a) the annual audited consolidated financial statements and interim unaudited consolidated financial statements of the Company and those of its subsidiaries that are reporting issuers, as defined in accordance with applicable securities laws;
(b) the interim and annual management's discussion and analysis of financial condition and results of operations ("MD&A") of the Company and those of its subsidiaries that are reporting issuers, as defined in accordance with applicable securities laws;

(c) earnings press releases and earnings guidance, if any; and
(d) all other material financial public disclosure documents of the Company and those of its subsidiaries that are reporting issuers, including prospectuses, press releases with financial results and the annual information form.

4.2 External Auditors

The external auditors will report directly to the Committee and the Committee will:

(a) appoint the external auditors, subject to the approval of the shareholders, and determine the compensation of the external auditors;
(b) conduct an annual review of the external auditors;
(c) oversee the work of the external auditors and review and approve the annual audit plan of the external auditors, including the scope of the audit to be performed and the degree of coordination between the plans of the external and internal auditors;
(d) discuss with the internal auditors, the external auditors and management, the adequacy and effectiveness of the disclosure controls and internal controls over financial reporting of the Company and elicit recommendations for the improvement of such controls or particular areas where new or more detailed controls or procedures are desirable. Particular emphasis will be given to the adequacy of internal controls to prevent, identify or detect fraud, or any payments, transactions or procedures that might be deemed illegal or otherwise improper;
(e) meet regularly with the external auditors without management present and ask the external auditors to report any significant disagreements with management regarding financial reporting, the resolution of such disagreements and any restrictions imposed by management on the scope and extent of the audit examinations conducted by the external auditors;
(f) pre-approve all audit, audit-related and non-audit services to be provided to the Company or any of its subsidiaries, by the external auditors (and its affiliates), in accordance with applicable securities laws. The Committee may also delegate the pre-approval of audit, audit-related and non-audit services to any one member of the Committee, provided, however, a report is made to the Committee on any pre-approval of such services at the Committee's first scheduled meeting following the pre-approval;
(g) annually review the qualifications, expertise and resources and the overall performance of the external audit team and, if necessary, recommend to the Board the termination of the external auditors or the rotation of the audit partner in charge;
(h) at least annually, obtain and review a report by the external auditors describing: the firm 's internal quality-control procedures; any material issues raised by the most recent internal quality control review, or peer review of the firm, or by any inquiry or investigation by governmental or professional authorities, within the preceding five years, respecting one or more independent audits carried out by the firm, and any steps taken to deal with such issues; and all relationships between the external auditors and the Company;
(i) annually, or more frequently as appropriate, assess and confirm the independence, objectivity and professional skepticism of the external auditors and require the external auditors to deliver an annual report to the Committee regarding its independence, such report to include disclosure regarding all engagements (and fees related thereto) by the Company and relationships which may impact the objectivity and independence of the external auditors;
(j) require the external auditors to deliver an annual engagement letter to the Committee;
(k) review post-audit or management letters, containing recommendations of the external auditors and management 's response;
(l) review reports of the external auditors; and
(m) pre-approve the hiring of employees and former employees of current and former auditors in accordance with applicable securities laws and the Company's policies.

4.3 Internal Auditors

The internal auditors will report functionally to the Committee, and administratively to the Company's Chief Financial Officer ("CFO"), and the Committee will:

(a) review and approve management 's appointment, termination or replacement of the Chief Internal Auditor;
(b) review and consider the annual performance objectives, performance evaluation and compensation treatment of the Chief Internal Auditor;
(c) oversee the work of the internal auditors including reviewing and approving the annual internal audit plan and updates thereto;
(d) review the report of the internal auditors on the status of significant internal audit findings, recommendations and management's responses and review any other reports of the internal auditors;
(e) review the scope of responsibilities and effectiveness of the internal audit team, its reporting relationships, activities, organizational structure and resources, its independence from management, its credentials and its working relationship with the external auditors; and

(f) review and approve the internal audit charter and updates thereto at a minimum on a biennial basis.

The internal auditors will report quarterly to the Committee on the results of internal audit activities and will also have direct access to the chair of the Committee when the internal auditors determine it is necessary.

4.4 Whistleblower, Ethics and Internal Controls Processes

The Committee will ensure that the Company has in place adequate procedures for:

(a) the receipt, retention and treatment of complaints received by the Company regarding accounting, internal controls or auditing matters; and
(b) the confidential, anonymous submission by employees of the Company of concerns regarding questionable accounting or auditing matters.

The CEO, CFO, or the Chief Internal Auditor will report to the Committee, and the Committee will review such reports, on any fraud, whether or not material, that involves management or other employees who have a significant role in the Company's internal controls. Where the CEO, CFO and/or the Chief Internal Auditor are named in a complaint, the Director of Ethics will speak directly with the chair of the Committee.

The Committee will review:

(a) annually and recommend to the Board for approval, together with the Human Resources and Compensation Committee, the Code of Ethics and Conduct and material changes thereto; and
(b) quarterly reports on ethics breaches including any pertaining to internal controls over financial reporting or fraud involving management or other employees who have a role in the Company's internal controls over financial reporting.

The Chief Internal Auditor will report to the Committee, and the Committee will consider such reports, on the results of the investigation of whistleblower, ethics and internal controls complaints.

4.5 Accounting and Financial Management

The Committee will review:

(a) with management and the external auditors, the Company 's major accounting policies, including the impact of alternative accounting policies and key management estimates, risks and judgments that could materially affect the financial results and whether they should be disclosed in the MD&A;
(b) emerging accounting issues and their potential impact on the Company 's financial reporting;
(c) significant judgments, assumptions and estimates made by management in preparing financial statements;
(d) the evaluation by either the internal or external auditors of management 's internal control systems, and management 's responses to any identified weaknesses;
(e) the evaluation by management of the adequacy and effectiveness in the design and operation of the Company 's disclosure controls and internal controls for financial reporting;
(f) audits designed to report on management 's representations on the effectiveness and efficiency of selected projects, processes, programs or departments;
(g) management's approach for safeguarding corporate assets, data and information systems, the adequacy of staffing of key financial functions and their plans for improvements; and
(h) internal interim and post implementation reviews of major capital projects.

4.6 Credit Worthiness, Treasury Plans and Financial Policy

The Committee will review with management:

(a) the Company's financial policies and compliance with such policies;
(b) the credit worthiness of the Company;
(c) the liquidity of the Company; and
(d) important treasury matters including financing plans.

4.7 Legal/Regulatory Matters

The Committee will review:

(a) with management, the external auditors and legal counsel, any litigation, claim or other contingency, including any tax assessment, that could have a material effect upon the financial position or operating results of the Company;
(b) annually, management's relationships with regulators, and the accuracy and timeliness of filings with regulatory authorities;
(c) quarterly reports from the Chief Governance Officer on compliance with laws and regulations;
(d) quarterly reports from the Vice-President, Chief Data and Trust Officer ("Chief Compliance Officer") on legal, privacy and regulatory compliance activities; and
(e) the anti-bribery and corruption policy and recommend to the Board for approval any material changes thereto.

4.8 Risk Management

The Committee will:

(a) consider reports on the annual enterprise risk assessment and updates thereto;
(b) except to the extent that responsibility is reserved to the Board or delegated to another Board committee, review management's implementation of risk policies and procedures, and assess the appropriateness and comprehensiveness of those policies and procedures;
(c) consider reports on security (including cybersecurity);
(d) consider reports on financial risk management including derivative exposure and policies;
(e) consider reports on tax risk management and governance;
(f) consider reports on business continuity, disaster recovery planning and external threat/hazard monitoring for the Company; and
(g) review other risk management matters from time to time as the Committee may consider suitable or the Board may specifically direct.

4.9 Other

The Committee will review:

(a) the expenses of the Board and CEO;
(b) significant related party transactions and actual and potential conflicts of interest relating thereto to verify their propriety and that disclosure is appropriate;
(c) the disclosure policy of the Company and recommend any material changes thereto to the Board for approval;
(d) and evaluate, at least once annually, the adequacy of these terms of reference and the Committee 's performance, and report its evaluation and any recommendations for change to the Corporate Governance Committee.

The Committee will also have such other duties and responsibilities as are delegated to it and review such other matters as, from time to time, are referred to it by the Board.

5. AUTHORITY

The Committee, in fulfilling its mandate, will have the authority to:

(a) engage and set compensation for independent counsel and other advisors;
(b) communicate directly with the CFO, internal and external auditors, Chief Compliance Officer, Chief Governance Officer and any other member of management the Committee deems appropriate;
(c) delegate tasks to Committee members or subcommittees of the Committee; and
(d) access appropriate funding as determined by the Committee to carry out its duties.

Exhibit 99.4

Audited Consolidated Financial Statements as at and for the years ended December 31, 2021 and 2020 and Management's Discussion and Analysis

[previously filed on SEDAR]

TELUS CORPORATION

CONSOLIDATED FINANCIAL STATEMENTS

DECEMBER 31, 2021

report of management on internal control over financial reporting

Management of TELUS Corporation (TELUS, or the Company) is responsible for establishing and maintaining adequate internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting.

TELUS' President and Chief Executive Officer and Executive Vice-President and Chief Financial Officer have assessed the effectiveness of the Company's internal control over financial reporting as of December 31, 2021, in accordance with the criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Internal control over financial reporting is a process designed by, or under the supervision of, the President and Chief Executive Officer and the Executive Vice-President and Chief Financial Officer and effected by the Board of Directors, management and other personnel to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles.

Due to its inherent limitations, internal control over financial reporting may not prevent or detect misstatements on a timely basis. Also, projections of any evaluation of the effectiveness of internal control over financial reporting to future periods are subject to the risk that the controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate. Based on the assessment referenced in the preceding paragraph, management has determined that the Company's internal control over financial reporting is effective as of December 31, 2021. In connection with this assessment, no material weaknesses in the Company's internal control over financial reporting were identified by management as of December 31, 2021.

Deloitte LLP, an Independent Registered Public Accounting Firm, audited the Company's Consolidated financial statements for the year ended December 31, 2021, and as stated in the Report of Independent Registered Public Accounting Firm, they have expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting as of December 31, 2021.

/s/ "Doug French"

Doug French
Executive Vice-President
and Chief Financial Officer
February 10, 2022

/s/ "Darren Entwistle"

Darren Entwistle
President
and Chief Executive Officer
February 10, 2022

report of independent registered public accounting firm

To the Shareholders and the Board of Directors of TELUS Corporation

Opinion on the Financial Statements
We have audited the accompanying consolidated statements of financial position of TELUS Corporation and subsidiaries (the Company) as at December 31, 2021 and 2020, the related consolidated statements of income and other comprehensive income, changes in owners' equity and cash flows, for each of the two years in the period ended December 31, 2021, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as at December 31, 2021 and 2020, and its financial performance and its cash flows for each of the two years in the period ended December 31, 2021, in conformity with International Financial Reporting Standards as issued by the International Accounting Standards Board.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2021, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 10, 2022, expressed an unqualified opinion on the Company's internal control over financial reporting.

Basis for Opinion
These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matters
Critical audit matters are matters arising from the current-period audit of the financial statements that were communicated or required to be communicated to the audit committee and that (1) relate to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. We determined that there are no critical audit matters.

/s/ "Deloitte LLP"

Chartered Professional Accountants
February 10, 2022
Vancouver, Canada

We have served as the Company's auditor since 2002.

report of independent registered public accounting firm

To the Shareholders and the Board of Directors of TELUS Corporation

Opinion on Internal Control over Financial Reporting
We have audited the internal control over financial reporting of TELUS Corporation and subsidiaries (the Company) as of December 31, 2021, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2021, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements as of and for the year ended December 31, 2021, of the Company and our report dated February 10, 2022, expressed an unqualified opinion on those financial statements.

Basis for Opinion
The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Report of Management on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting
A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with International Financial Reporting Standards as issued by the International Accounting Standards Board. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with International Financial Reporting Standards as issued by the International Accounting Standards Board, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ "Deloitte LLP"

Chartered Professional Accountants
February 10, 2022
Vancouver, Canada

consolidated statements of income and other comprehensive income

Years ended December 31 (millions except per share amounts)	*Note*	**2021**	2020
OPERATING REVENUES			
Service		**$ 14,535**	$ 13,277
Equipment		**2,303**	2,064
Operating revenues (arising from contracts with customers)	*6*	**16,838**	15,341
Other income	*7*	**420**	122
Operating revenues and other income		**17,258**	15,463
OPERATING EXPENSES			
Goods and services purchased		**6,699**	6,268
Employee benefits expense	*8*	**4,269**	3,701
Depreciation	*17*	**2,126**	2,107
Amortization of intangible assets	*18*	**1,090**	905
		14,184	12,981
OPERATING INCOME		**3,074**	2,482
Financing costs	*9*	**796**	771
INCOME BEFORE INCOME TAXES		**2,278**	1,711
Income taxes	*10*	**580**	451
NET INCOME		**1,698**	1,260
OTHER COMPREHENSIVE INCOME (LOSS)	*11*		
Items that may subsequently be reclassified to income			
Change in unrealized fair value of derivatives designated as cash flow hedges		**124**	(111)
Foreign currency translation adjustment arising from translating financial statements of foreign operations		**(130)**	113
		(6)	2
Items never subsequently reclassified to income			
Change in measurement of investment financial assets		**57**	14
Employee defined benefit plan re-measurements		**600**	(312)
		657	(298)
		651	(296)
COMPREHENSIVE INCOME		**$ 2,349**	$ 964
NET INCOME ATTRIBUTABLE TO:			
Common Shares		**$ 1,655**	$ 1,207
Non-controlling interests		**43**	53
		$ 1,698	$ 1,260
COMPREHENSIVE INCOME ATTRIBUTABLE TO:			
Common Shares		**$ 2,341**	$ 893
Non-controlling interests		**8**	71
		$ 2,349	$ 964
NET INCOME PER COMMON SHARE	*12*		
Basic		**$ 1.23**	$ 0.95
Diluted		**$ 1.22**	$ 0.94
TOTAL WEIGHTED AVERAGE COMMON SHARES OUTSTANDING			
Basic		**1,346**	1,275
Diluted		**1,351**	1,278

The accompanying notes are an integral part of these consolidated financial statements.

consolidated statements of financial position

As at December 31 (millions)	Note	2021	2020
ASSETS			
Current assets			
Cash and temporary investments, net		**$ 723**	$ 848
Accounts receivable	6(b)	**2,671**	2,355
Income and other taxes receivable		**206**	148
Inventories	1(l)	**448**	407
Contract assets	6(c)	**443**	439
Prepaid expenses	20	**528**	478
Current derivative assets	4(h)	**13**	2
		5,032	4,677
Non-current assets			
Property, plant and equipment, net	17	**15,926**	15,014
Intangible assets, net	18	**17,485**	15,048
Goodwill, net	18	**7,281**	7,160
Contract assets	6(c)	**266**	268
Other long-term assets	20	**2,004**	1,106
		42,962	38,596
		$ 47,994	$ 43,273
LIABILITIES AND OWNERS' EQUITY			
Current liabilities			
Short-term borrowings	22	**$ 114**	$ 100
Accounts payable and accrued liabilities	23	**3,705**	2,971
Income and other taxes payable		**104**	122
Dividends payable	13	**449**	403
Advance billings and customer deposits	24	**854**	772
Provisions	25	**96**	73
Current maturities of long-term debt	26	**2,927**	1,432
Current derivative liabilities	4(h)	**24**	32
		8,273	5,905
Non-current liabilities			
Provisions	25	**774**	961
Long-term debt	26	**17,925**	18,856
Other long-term liabilities	27	**907**	1,265
Deferred income taxes	10	**4,056**	3,718
		23,662	24,800
Liabilities		**31,935**	30,705
Owners' equity			
Common equity	28	**15,116**	12,040
Non-controlling interests		**943**	528
		16,059	12,568
		$ 47,994	$ 43,273
Contingent liabilities	29		

The accompanying notes are an integral part of these consolidated financial statements.

Approved by the Directors:

/s/ "David L. Mowat"

David L. Mowat
Director

/s/ "R.H. Auchinleck"

R.H. Auchinleck
Director



consolidated statements of changes in owners' equity

(millions)	Note	Common equity						Non-controlling interests	Total
		Equity contributed				Accumulated other comprehensive income			
		Common Shares *(Note 28)*							
		Number of shares	Share capital	Contributed surplus	Retained earnings		Total		
Balance as at January 1, 2020		1,209	$ 5,660	$ 398	$ 4,371	$ 119	$ 10,548	$ 111	$ 10,659
Net income		—	—	—	1,207	—	1,207	53	1,260
Other comprehensive income (loss)	*11*	—	—	—	(312)	(2)	(314)	18	(296)
Dividends	*13*	—	—	—	(1,520)	—	(1,520)	—	(1,520)
Dividends reinvested and optional cash payments	*13(b), 14(c)*	23	541	—	—	—	541	—	541
Equity accounted share-based compensation		1	15	82	—	—	97	—	97
Issue of Common Shares in business combination		—	8	—	—	—	8	—	8
Common Shares issued		58	1,453	—	—	—	1,453	—	1,453
Change in ownership interests of subsidiaries		—	—	54	(34)	—	20	346	366
Balance as at December 31, 2020		1,291	$ 7,677	$ 534	$ 3,712	$ 117	$ 12,040	$ 528	$ 12,568
Balance as at January 1, 2021		**1,291**	**$ 7,677**	**$ 534**	**$ 3,712**	**$ 117**	**$ 12,040**	**$ 528**	**$ 12,568**
Net income		**—**	**—**	**—**	**1,655**	**—**	**1,655**	**43**	**1,698**
Other comprehensive income (loss)	*11*	**—**	**—**	**—**	**600**	**86**	**686**	**(35)**	**651**
Dividends	*13*	**—**	**—**	**—**	**(1,711)**	**—**	**(1,711)**	**—**	**(1,711)**
Dividends reinvested and optional cash payments	*13(b), 14(c)*	**24**	**621**	**—**	**—**	**—**	**621**	**—**	**621**
Equity accounted share-based compensation	*14(b)*	**4**	**79**	**49**	**—**	**—**	**128**	**13**	**141**
Common Shares issued	*28(a)*	**51**	**1,267**	**—**	**—**	**—**	**1,267**	**—**	**1,267**
Change in ownership interests of subsidiary	*28(c)*	**—**	**—**	**430**	**—**	**—**	**430**	**394**	**824**
Balance as at December 31, 2021		**1,370**	**$ 9,644**	**$ 1,013**	**$ 4,256**	**$ 203**	**$ 15,116**	**$ 943**	**$ 16,059**

The accompanying notes are an integral part of these consolidated financial statements.

consolidated statements of cash flows

Years ended December 31 (millions)	*Note*	**2021**	2020
OPERATING ACTIVITIES			
Net income		**$ 1,698**	$ 1,260
Adjustments to reconcile net income to cash provided by operating activities:			
Depreciation and amortization		**3,216**	3,012
Deferred income taxes	*10*	**47**	76
Share-based compensation expense, net	*14(a)*	**139**	27
Net employee defined benefit plans expense	*15(a)*	**113**	102
Employer contributions to employee defined benefit plans		**(53)**	(51)
Non-current contract assets		**2**	60
Non-current unbilled customer finance receivables	*20*	**(184)**	(136)
Gain on disposition of financial solutions business	*7*	**(410)**	—
Loss from equity accounted investments	*7, 21*	**10**	29
Other		**(108)**	(75)
Net change in non-cash operating working capital	*31(a)*	**(82)**	270
Cash provided by operating activities		**4,388**	4,574
INVESTING ACTIVITIES			
Cash payments for capital assets, excluding spectrum licences	*31(a)*	**(3,097)**	(2,822)
Cash payments for spectrum licences	*18(a)*	**(2,219)**	—
Cash payments for acquisitions, net	*18(b)*	**(468)**	(3,205)
Advances to, and investment in, real estate joint ventures and associates	*21*	**(46)**	(100)
Real estate joint venture receipts	*21*	**4**	5
Proceeds on disposition		**508**	86
Investment in portfolio investments and other		**(148)**	(129)
Cash used by investing activities		**(5,466)**	(6,165)
FINANCING ACTIVITIES	*31(b)*		
Common Shares issued	*28(a)*	**1,300**	1,495
Dividends paid to holders of Common Shares	*13(a)*	**(1,045)**	(930)
Issue (repayment) of short-term borrowings, net		**10**	(8)
Long-term debt issued	*26*	**4,891**	4,882
Redemptions and repayment of long-term debt	*26*	**(4,972)**	(3,863)
Shares of subsidiary issued and sold to non-controlling interests, net	*28(c)*	**827**	400
Other		**(58)**	(72)
Cash provided by financing activities		**953**	1,904
CASH POSITION			
Increase (decrease) in cash and temporary investments, net		**(125)**	313
Cash and temporary investments, net, beginning of period		**848**	535
Cash and temporary investments, net, end of period		**$ 723**	$ 848
SUPPLEMENTAL DISCLOSURE OF OPERATING CASH FLOWS			
Interest paid		**$ (744)**	$ (740)
Interest received		**$ 17**	$ 13
Income taxes paid, net			
In respect of comprehensive income		**$ (563)**	$ (397)
In respect of business acquisitions		**(38)**	(33)
		$ (601)	$ (430)

The accompanying notes are an integral part of these consolidated financial statements.

DECEMBER 31, 2021

TELUS Corporation is one of Canada's largest telecommunications companies, providing a wide range of technology solutions, including mobile and fixed voice and data telecommunications services and products, healthcare software and technology solutions, and digitally-led customer experiences. Data services include: internet protocol; television; hosting, managed information technology and cloud-based services; software, data management and data analytics-driven smart-food chain technologies; and home and business security.

TELUS Corporation was incorporated under the *Company Act* (British Columbia) on October 26, 1998, under the name BCT.TELUS Communications Inc. (BCT). On January 31, 1999, pursuant to a court-approved plan of arrangement under the *Canada Business Corporations Act* among BCT, BC TELECOM Inc. and the former Alberta-based TELUS Corporation (TC), BCT acquired all of the shares of BC TELECOM Inc. and TC in exchange for Common Shares and Non-Voting Shares of BCT, and BC TELECOM Inc. was dissolved. On May 3, 2000, BCT changed its name to TELUS Corporation and in February 2005, TELUS Corporation transitioned under the *Business Corporations Act* (British Columbia), successor to the *Company Act* (British Columbia). TELUS Corporation maintains its registered office at Floor 7, 510 West Georgia Street, Vancouver, British Columbia, V6B 0M3.

The terms “TELUS”, “we”, “us”, “our” or “ourselves” refer to TELUS Corporation and, where the context of the narrative permits or requires, its subsidiaries. Our principal subsidiaries are: TELUS Communications Inc., in which, as at December 31, 2021, we have a 100% equity interest; and TELUS International (Cda) Inc., in which, as at December 31, 2021, we have a 55.1% equity interest, and which completed its initial public offering in February 2021, as discussed further in *Note 28(c)*.

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1 summary of significant accounting policies

Our consolidated financial statements are expressed in Canadian dollars. The generally accepted accounting principles that we apply are International Financial Reporting Standards as issued by the International Accounting Standards Board (IFRS-IASB), and Canadian generally accepted accounting principles.

Generally accepted accounting principles require that we disclose the accounting policies we have selected in those instances in which we have been obligated to choose from among various accounting policies that comply with generally accepted accounting principles. In certain other instances, including those in which no selection among policies is allowed, we are also required to disclose how we have applied certain accounting policies. In the selection and application of accounting policies, we consider, among other factors, the fundamental qualitative characteristics of useful financial information, namely relevance and faithful representation. In our assessment, the accounting policy disclosures we are required to make are not all equally significant for us, as set out in the accompanying table; their relative significance for us will evolve over time, as we do.

These consolidated financial statements for each of the years ended December 31, 2021 and 2020, were authorized by our Board of Directors for issue on February 10, 2022.

	Accounting policy requiring a more significant choice among policies and/or a more significant application of judgment	
Accounting policy	Yes	No
General application		
(a) Consolidation		X
(b) Use of estimates and judgments	X	
(c) Financial instruments – recognition and measurement		X
(d) Hedge accounting		X
Results of operations focused		
(e) Revenue recognition	X	
(f) Depreciation, amortization and impairment	X	
(g) Translation of foreign currencies		X
(h) Income and other taxes	X	
(i) Share-based compensation		X
(j) Employee future benefit plans	X	
Financial position focused		
(k) Cash and temporary investments, net		X
(l) Inventories		X
(m) Property, plant and equipment; intangible assets	X	
(n) Investments		X

(a) Consolidation

Our consolidated financial statements include our accounts and the accounts of all of our subsidiaries, the principal ones of which are: TELUS Communications Inc. and TELUS International (Cda) Inc. TELUS Communications Inc. includes substantially all of our mobile and fixed operations, excluding the customer experience and digital enablement transformation provided through the customer care and business services business of TELUS International (Cda) Inc.

Our financing arrangements and those of our wholly owned subsidiaries do not impose restrictions on inter-corporate dividends.

On a continuing basis, we review our corporate organization and effect changes as appropriate so as to enhance the value of TELUS Corporation. This process can, and does, affect which of our subsidiaries are considered principal subsidiaries at any particular point in time.

(b) Use of estimates and judgments

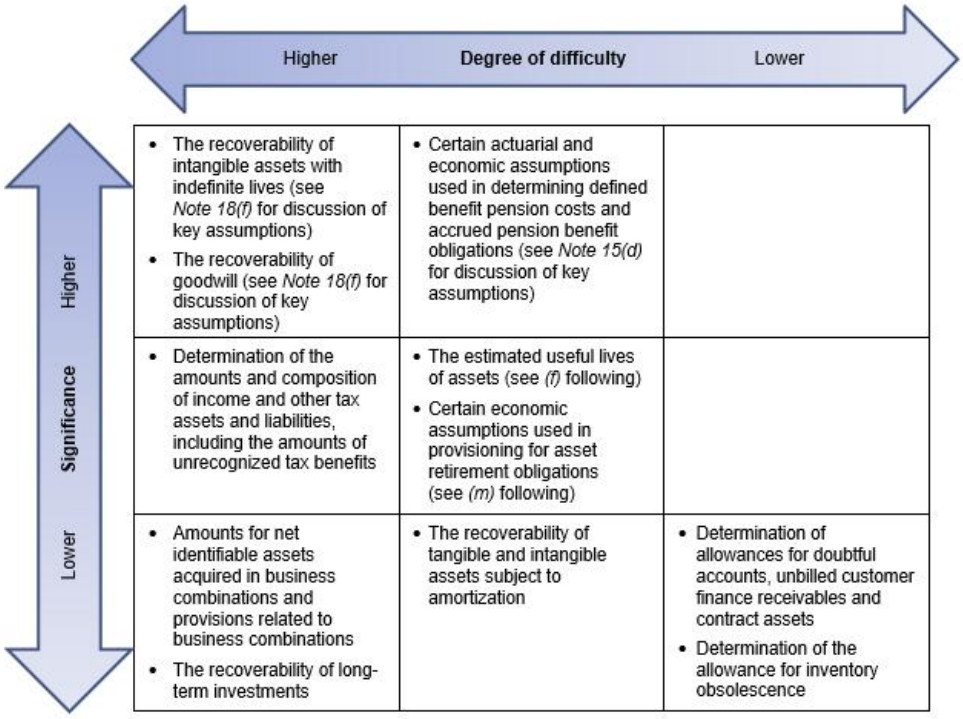
The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates, assumptions and judgments that affect: the reported amounts of assets and liabilities at the date of the financial statements; the disclosure of contingent assets and liabilities at the date of the financial statements; and the reported amounts and classification of revenue and expense during the reporting period. Actual results could differ from those estimates.

Denotes accounting policy requiring, for us, a more significant choice among accounting policies and/or a more significant application of judgment.



Estimates

Examples of the significant estimates and assumptions that we make, and their relative significance and degree of difficulty, are set out in the graphic at right.



Judgments

Examples of our significant judgments, apart from those involving estimation, include the following:

- Assessments about whether line items are sufficiently material to warrant separate presentation in the primary financial statements and, if not, whether they are sufficiently material to warrant separate presentation in the notes to the financial statements. In the normal course, we make changes to our assessments regarding materiality for presentation so that they reflect current economic conditions. Due consideration is given to the view that it is reasonable to expect differing opinions of what is, and is not, material.

Denotes accounting policy requiring, for us, a more significant choice among accounting policies and/or a more significant application of judgment.

- In respect of revenue-generating transactions, we must make judgments that affect the timing of the recognition of revenue, as set out following:
  - We have millions of multi-year contracts with our customers and we must make judgments about when we have satisfied our performance obligations to our customers, either over a period of time or at a point in time. Service revenues are recognized based upon customers' access to, or usage of, our telecommunications infrastructure; we believe that this method faithfully depicts the transfer of the services, and thus the revenues are recognized as the services are made available and/or rendered. We consider our performance obligations arising from the sale of equipment to have been satisfied when the equipment has been delivered to, and accepted by, the end-user customers (see *(e)* following).
  - Principally in the context of revenue-generating transactions involving mobile handsets, we must make judgments as to whether third-party re-sellers that deliver equipment to our customers are acting in the transactions as principals or as our agents. Upon due consideration of the relevant indicators, we believe that the decision to consider the re-sellers to be acting, solely for accounting purposes, as our agents is more representative of the economic substance of the transactions, as we are the primary obligor to the end-user customers. The effect of this judgment is that no equipment revenue is recognized upon the transfer of inventory to third-party re-sellers.
  - We compensate third-party re-sellers and our employees for generating revenues, and we must make judgments as to whether such sales-based compensation amounts are costs incurred to obtain contracts with customers that should be capitalized (see *Note 20*). We believe that compensation amounts tangentially attributable to obtaining a contract with a customer, because the amount of such compensation could be affected in ways other than by simply obtaining that contract, should be expensed as incurred; compensation amounts directly attributable to obtaining a contract with a customer should be capitalized and subsequently amortized on a systematic basis, consistent with the satisfaction of our associated performance obligations.

    Judgment must also be exercised in the capitalization of costs incurred to fulfill revenue-generating contracts with customers. Such fulfilment costs are those incurred to set up, activate or otherwise implement services involving access to, or usage of, our telecommunications infrastructure that would not otherwise be capitalized as property, plant, equipment and/or intangible assets (see *Note 20*).

- The decision to depreciate and amortize any property, plant, equipment (including right-of-use lease assets) and intangible assets that are subject to amortization on a straight-line basis, as we believe that this method reflects the consumption of resources related to the economic lifespan of those assets better than an accelerated method and is more representative of the economic substance of the underlying use of those assets.
- The preparation of financial statements in accordance with generally accepted accounting principles requires management to make judgments that affect the financial statement disclosure of information regularly reviewed by our chief operating decision-maker used to make resource allocation decisions and to assess performance (segment information, *Note 5*). A significant judgment we have historically made is in respect of distinguishing between our wireless and wireline operations and cash flows (and this extends to allocations of both direct and indirect expenses and capital expenditures). The clarity of this distinction has been increasingly affected by the convergence and integration of our wireless and wireline telecommunications infrastructure technology and operations. Less than one-half of the operating expenses included in the segment performance measure reported to our chief operating decision-maker during the year ended December 31, 2020, were direct costs; judgment, largely based upon historical experience, was applied in apportioning indirect expenses that were not objectively distinguishable between our wireless and wireline operations.

Denotes accounting policy requiring, for us, a more significant choice among accounting policies and/or a more significant application of judgment.

Until recently, our judgment was that our wireless and wireline telecommunications infrastructure technology and operations had not experienced sufficient convergence to objectively make their respective operations and cash flows practically indistinguishable. The continued build-out of our technology-agnostic fibre-optic infrastructure, in combination with converged edge network technology, has significantly affected this judgment, as have the commercialization of fixed-wireless telecommunications solutions for customers and the consolidation of our non-customer facing operations.

As a result, it has become increasingly difficult and impractical to objectively and clearly distinguish between our wireless and wireline operations and cash flows, and the assets from which those cash flows arise. Our judgment as to whether these operations can continue to be judged to be individual components of the business and discrete operating segments has changed; effective January 1, 2020, we embarked upon the modification of our internal and external reporting processes, systems and internal controls to accommodate the technology convergence-driven cessation of the historical distinction between our wireless and wireline operations at the level of regularly reported discrete performance measures that are provided to our chief operating decision-maker. We transitioned to a new segment reporting structure during the first quarter of 2021 (see *Note 5*).

The impracticality of objectively distinguishing between our wireless and wireline cash flows, and the assets from which those cash flows arise, is evidence of their increasing interdependence, and this has resulted in the unification of the wireless cash-generating unit and the wireline cash-generating unit as a single telecommunications cash-generating unit, and the identification of the digitally-led customer experiences – TELUS International cash-generating unit, for impairment testing purposes (see *Note 18(f)*). As our business continues to evolve, new cash-generating units may also develop.

- The view that our spectrum licences granted by Innovation, Science and Economic Development Canada (including spectrum licences that have been subordinated to us) will likely be renewed; that we intend to renew them; that we believe we have the financial and operational ability to renew them; and thus, that they have an indefinite life, as discussed further in *Note 18(e)*.
- In connection with the annual impairment testing of intangible assets with indefinite lives and goodwill, there may be instances in which we must exercise judgment in allocating our net assets, including shared corporate and administrative assets, to our cash-generating units when determining their carrying amounts. Historically, these judgments were necessary because of the convergence that our wireless and wireline telecommunications infrastructure technology and operations had experienced to date, and because of our continuous development. There were instances in which similar judgments were also necessary in respect of future capital expenditures in support of both wireless and wireline operations, which were a component of the determination of recoverable amounts used in the annual impairment testing, as discussed further in *Note 18(f)*.
- In respect of claims and lawsuits, as discussed further in *Note 29(a)*, the determination of whether an item is a contingent liability or whether an outflow of resources is probable and thus needs to be accounted for as a provision.

Denotes accounting policy requiring, for us, a more significant choice among accounting policies and/or a more significant application of judgment.

(c) Financial instruments – recognition and measurement

In respect of the recognition and measurement of financial instruments, we have adopted the following policies:

- Regular-way purchases or sales of financial assets or financial liabilities (purchases or sales that require actual delivery of financial assets or financial liabilities) are recognized on the settlement date. We have selected this method as the benefits of using the trade date method were not expected to exceed the costs of selecting and implementing that method.
- Transaction costs, other than in respect of items held for trading, are added to the initial fair value of the acquired financial asset or financial liability. We have selected this method as we believe that it results in a better matching of the transaction costs with the periods in which we benefit from those costs.

(d) Hedge accounting

General

We apply hedge accounting to the financial instruments used to establish designated currency hedging relationships for certain U.S. dollar-denominated future purchase commitments and debt repayments, as set out in *Note 4(a)* and *(d)*.

Hedge accounting

The purpose of hedge accounting, in respect of our designated hedging relationships, is to ensure that counterbalancing gains and losses are recognized in the same periods. We have chosen to apply hedge accounting, as we believe that it is more representative of the economic substance of the underlying transactions.

In order to apply hedge accounting, a high correlation (which indicates effectiveness) is required in the offsetting changes in the risk-associated values of the financial instruments (the hedging items) used to establish the designated hedging relationships and all, or a part, of the asset, liability or transaction having an identified risk exposure that we have taken steps to modify (the hedged items). We assess the anticipated effectiveness of designated hedging relationships at inception and their actual effectiveness for each reporting period thereafter. We consider a designated hedging relationship to be effective if the following critical terms match between the hedging item and the hedged item: the notional amount of the hedging item and the principal amount of the hedged item; maturity dates; payment dates; and interest rate index (if, and as, applicable). As set out in *Note 4(i)*, any ineffectiveness, such as would result from a difference between the notional amount of the hedging item and the principal amount of the hedged item, or from a previously effective designated hedging relationship becoming ineffective, is reflected in the Consolidated statements of income and other comprehensive income as Financing costs if in respect of long-term debt and as Goods and services purchased if in respect of U.S. dollar-denominated future purchase commitments.

Hedging assets and liabilities

In the application of hedge accounting, an amount (the hedge value) is recorded in the Consolidated statements of financial position in respect of the fair value of the hedging items. The net difference, if any, between the amounts recognized in the determination of net income and the amounts necessary to reflect the fair value of the designated cash flow hedging items recorded in the Consolidated statements of financial position is recognized as a component of Other comprehensive income, as set out in *Note 11*.

Denotes accounting policy requiring, for us, a more significant choice among accounting policies and/or a more significant application of judgment.

(e) Revenue recognition

General

We earn the majority of our TELUS technology solutions service revenues from access to, and usage of, our telecommunications infrastructure, including:

- Mobile network (voice and data);
- Fixed data services (which include: internet protocol; television; hosting, managed information technology and cloud-based services; software, data management and data analytics-driven smart-food chain technologies; and home and business security);
- Fixed voice services; and
- Health services.

The majority of the balance of our TELUS technology solutions revenues (mobile equipment and other service; fixed equipment and other service) arises from providing services and products facilitating access to, and usage of, our telecommunications infrastructure. Our digitally-led customer experiences – TELUS International segment service revenues arise from the provision of digital customer experience solutions, including artificial intelligence and content management solutions.

We offer complete and integrated solutions to meet our customers' needs. These solutions may involve deliveries of multiple services and products (our performance obligations) that occur at different points in time and/or over different periods of time; as referred to in *(b)*, this is a significant judgment for us. As required, the performance obligations of these multiple element arrangements are identified and the transaction price for the entire multiple element arrangement is determined and allocated among the performance obligations based upon our relative stand-alone selling prices for each of them; our relevant revenue recognition policies are then applied, so that revenue is recognized when, or as, we satisfy the performance obligations. To the extent that variable consideration is included in determining the minimum transaction price, it is constrained to the "minimum spend" amount required in a contract with a customer. Service revenues arising from contracts with customers typically have variable consideration, because customers have the ongoing ability to both add and remove features and services, and because customer usage of our telecommunications infrastructure may exceed the base amounts provided for in their contracts.

For purposes of IFRS 15, *Revenue from Contracts with Customers*, our contracts with customers are not considered to have a significant financing component. With the exception of both equipment-related upfront payments that may be required under the terms of contracts with customers and in-store "cash and carry" sales of equipment and accessories, payments are typically due 30 days from the billing date. Billings are typically rendered on a monthly basis.

Multiple contracts with a single customer are normally accounted for as separate arrangements. In instances where multiple contracts are entered into with a customer in a short period of time, the contracts are reviewed as a group to ensure that, as with multiple element arrangements, their relative transaction prices are appropriate.

Lease accounting is applied to an accounting unit if it conveys to a customer the right to use a specific asset but does not convey the risks and/or benefits of ownership.

Denotes accounting policy requiring, for us, a more significant choice among accounting policies and/or a more significant application of judgment.

Our revenues are recorded net of any value-added and/or sales taxes billed to the customer concurrent with a revenue-generating transaction.

We use the following revenue accounting practical expedients provided for in IFRS 15, *Revenue from Contracts with Customers*:

- No adjustment of the contracted amount of consideration for the effects of financing components when, at the inception of a contract, we expect that the effect of the financing component is not significant at the individual contract level.
- No deferral of contract acquisition costs when the amortization period for such costs would be one year or less.
- When estimating minimum transaction prices allocated to any remaining unfulfilled, or partially unfulfilled, performance obligations, exclusion of amounts arising from contracts originally expected to have a duration of one year or less, as well as amounts arising from contracts under which we may recognize and bill revenue in an amount that corresponds directly with our completed performance obligations.

Contract assets

Many of our multiple element arrangements arise from bundling the sale of equipment (*e.g.* a mobile handset) with a contracted service period. Although the customer receives the equipment at contract inception and the revenue from the associated completed performance obligation is recognized at that time, the customer's payment for the equipment will effectively be received rateably over the contracted service period to the extent it is not received as a lump-sum amount at contract inception. The difference between the equipment revenue recognized and the associated amount cumulatively billed to the customer is recognized on the Consolidated statements of financial position as a contract asset and/or an unbilled customer finance receivable, depending upon the form of the contract.

Contract assets may also arise in instances where we give consideration to a customer. When we receive no identifiable, separable benefit for consideration given to a customer, the amount of the consideration is recognized as a reduction of revenue rather than as an expense. Such amounts are included in the determination of transaction prices for allocation purposes in multiple element arrangements.

- Some forms of consideration given to a customer, effectively at contract inception, such as rebates (including prepaid non-bank cards) and/or equipment, are considered to be performance obligations in a multiple element arrangement. Although the performance obligation is satisfied at contract inception, the customer's payment associated with the performance obligation will effectively be received rateably over the associated contracted service period. The difference between the revenue arising from the satisfied performance obligation and the associated amount cumulatively billed to the customer is recognized on the Consolidated statements of financial position as a contract asset.
- Other forms of consideration given to a customer, either at contract inception or over a period of time, such as discounts (including prepaid bank cards), may result in us receiving no identifiable, separable benefit and thus are not considered performance obligations. Such consideration is recognized as a reduction of revenue rateably over the term of the contract. The difference between the consideration provided and the associated amount recognized as a reduction of revenue is recognized on the Consolidated statements of financial position as a contract asset.

Contract liabilities

Advance billings are recorded when billing occurs prior to provision of the associated services; such advance billings are recognized as revenue in the period in which the services and/or equipment are provided (see *Note 24*). Similarly, and as appropriate, upfront customer activation and connection fees are deferred and recognized over the average expected term of the customer relationship.

Denotes accounting policy requiring, for us, a more significant choice among accounting policies and/or a more significant application of judgment.

Costs of contract acquisition and contract fulfilment

Costs of contract acquisition (typically commissions) and costs of contract fulfilment are capitalized and recognized as an expense, generally over the life of the contract on a systematic and rational basis consistent with the pattern of the transfer of goods or services to which the asset relates. The amortization of such costs is included in the Consolidated statements of income and other comprehensive income as a component of Goods and services purchased, with the exception of amounts paid to our employees, which are included as Employee benefits expense.

The total cost of mobile equipment sold to customers and advertising and promotion costs related to initial customer acquisition are expensed as incurred; the cost of equipment we own that is situated at customers' premises and associated installation costs are capitalized as incurred. Costs of advertising production, advertising airtime and advertising space are expensed as incurred.

Voice and data

We recognize revenues on an accrual basis and include an estimate of revenues earned but unbilled. Mobile and fixed service revenues are recognized based upon access to, and usage of, our telecommunications infrastructure and upon contract fees.

Advance billings are recorded when billing occurs prior to provision of the associated services; such advance billings are recognized as revenue in the period in which the services are provided. Similarly, and as appropriate, upfront customer activation and connection fees are deferred and recognized over the average expected term of the customer relationship.

We use the liability method of accounting for the amounts of our quality of service rate rebates that arise from the jurisdiction of the Canadian Radio-television and Telecommunications Commission (CRTC).

The CRTC has established a mechanism to subsidize local exchange carriers, such as ourselves, that provide residential basic telephone service to high cost serving areas. The CRTC has determined the per network access line/per band subsidy rate for all local exchange carriers. We recognize the subsidy on an accrual basis by applying the subsidy rate to the number of residential network access lines we provide in high cost serving areas, as discussed further in *Note 7*. Differences, if any, between interim and final subsidy rates set by the CRTC are accounted for as a change in estimate in the period in which the CRTC finalizes the subsidy rate.

Other and mobile equipment

We recognize product revenues, including amounts related to mobile handsets sold to re-sellers and customer premises equipment, when the products are both delivered to, and accepted by, the end-user customers, irrespective of which supply channel delivers the product. With respect to mobile handsets sold to re-sellers, we consider ourselves to be the principal and primary obligor to the end-user customers. Revenues from operating leases of equipment are recognized on a systematic and rational basis (normally a straight-line basis) over the term of the lease. We recognize revenues that arise from the provision of software solutions in the accounting period in which they are provided.

We recognize revenues that arise from the provision of digital customer experience solutions, including artificial intelligence and content management solutions, in the accounting period in which they are provided, typically based upon per-productive hour or per transaction.

Denotes accounting policy requiring, for us, a more significant choice among accounting policies and/or a more significant application of judgment.

(f) Depreciation, amortization and impairment

Depreciation and amortization

Property, plant and equipment (including right-of-use lease assets) are depreciated on a straight-line basis over their estimated useful lives (lease terms for right-of-use lease assets) as determined by a continuing program of asset life studies. Depreciation includes amortization of leasehold improvements, which are normally amortized over the lesser of their expected average service lives or the terms of the associated leases. Intangible assets with finite lives (intangible assets subject to amortization) are amortized on a straight-line basis over their estimated useful lives, which are reviewed at least annually and adjusted as appropriate. As referred to in *(b)*, the use of a straight-line basis of depreciation and amortization is a significant judgment for us.

Estimated useful lives for the majority of our property, plant and equipment (including right-of-use lease assets) and intangible assets subject to depreciation and amortization are as follows:

	Estimated useful lives
Property, plant and equipment (including right-of-use lease assets) subject to depreciation	
Network assets	
Outside plant	17 to 40 years
Inside plant	4 to 25 years
Mobile site equipment	5 to 7 years
Real estate right-of-use lease assets	5 to 20 years
Balance of depreciable property, plant and equipment and right-of-use lease assets	3 to 40 years
Intangible assets subject to amortization	
Customer contracts and related customer relationships	4 to 15 years
Fixed subscriber base	25 years
Software	2 to 10 years
Access to rights-of-way, crowdsource assets and other	5 to 30 years

Impairment – general

Impairment testing compares the carrying values of the assets or cash-generating units being tested with their recoverable amounts (the recoverable amount being the greater of an asset's or a cash-generating unit's value in use or its fair value less costs of disposal); as referred to in *(b)*, this is a significant estimate for us. Impairment losses are immediately recognized to the extent that the carrying value of an asset or a cash-generating unit exceeds its recoverable amount. Should the recoverable amounts for impaired assets or cash-generating units subsequently increase, the impairment losses previously recognized (other than in respect of goodwill) may be reversed to the extent that the reversal is not a result of "unwinding of the discount" and that the resulting carrying values do not exceed the carrying values which would have been the result if no impairment losses had been recognized previously.

Denotes accounting policy requiring, for us, a more significant choice among accounting policies and/or a more significant application of judgment.

Impairment – property, plant and equipment; intangible assets subject to amortization

The continuing program of asset life studies considers such items as the timing of technological obsolescence, competitive pressures and future infrastructure utilization plans; these considerations could also indicate that the carrying value of an asset may not be recoverable, in which case an impairment loss would be recognized.

Impairment – intangible assets with indefinite lives; goodwill

The carrying values of intangible assets with indefinite lives and goodwill are periodically tested for impairment. The frequency of the impairment testing is generally the reciprocal of the stability of the relevant events and circumstances, but intangible assets with indefinite lives and goodwill must, at a minimum, be tested annually; we have selected December as the time of our annual test.

We assess our intangible assets with indefinite lives by comparing the recoverable amounts of our cash-generating units to their carrying values (including the intangible assets with indefinite lives allocated to a cash-generating unit, but excluding any goodwill allocated to a cash-generating unit). To the extent that the carrying value of a cash-generating unit (including the intangible assets with indefinite lives allocated to the cash-generating unit, but excluding any goodwill allocated to the cash-generating unit) exceeds its recoverable amount, the excess amount would be recorded as a reduction of the carrying value of intangible assets with indefinite lives.

Subsequent to assessing intangible assets with indefinite lives, we assess goodwill by comparing the recoverable amounts of our cash-generating units (or group of cash-generating units) to their carrying values (including the intangible assets with indefinite lives and any goodwill allocated to a cash-generating unit(s)). To the extent that the carrying value of a cash-generating unit (including the intangible assets with indefinite lives and the goodwill allocated to the cash-generating unit) exceeds its recoverable amount, the excess amount would first be recorded as a reduction of the carrying value of goodwill and any remainder would be recorded as a reduction of the carrying values of the assets of the cash-generating unit on a pro-rated basis.

(g) Translation of foreign currencies

Trade transactions completed in foreign currencies are translated into Canadian dollars at the rates of exchange prevailing at the time of the transactions. Monetary assets and liabilities denominated in foreign currencies are translated into Canadian dollars at the rate of exchange in effect at the statement of financial position date, with any resulting gain or loss recorded in the Consolidated statements of income and other comprehensive income as a component of Financing costs, as set out in *Note 9*. Hedge accounting is applied in specific instances, as discussed further in *(d)* preceding.

We have foreign subsidiaries that do not have the Canadian dollar as their functional currency. Foreign exchange gains and losses arising from the translation of these foreign subsidiaries' accounts into Canadian dollars are reported as a component of other comprehensive income, as set out in *Note 11*.

Denotes accounting policy requiring, for us, a more significant choice among accounting policies and/or a more significant application of judgment.

(h) Income and other taxes

We follow the liability method of accounting for income taxes; as referred to in *(b)*, this is a significant estimate for us. Under this method, current income taxes are recognized for the estimated income taxes payable for the current year. Deferred income tax assets and liabilities are recognized for temporary differences between the tax and accounting bases of assets and liabilities, and also for any benefits of losses and Investment Tax Credits available to be carried forward to future years for tax purposes that are more likely than not to be realized. The amounts recognized in respect of deferred income tax assets and liabilities are based upon the expected timing of the reversal of temporary differences or the usage of tax losses and the application of the substantively enacted tax rates at the time of reversal or usage.

We account for any changes in substantively enacted income tax rates affecting deferred income tax assets and liabilities in full in the period in which the changes are substantively enacted. We account for changes in the estimates of tax balances for prior years as estimate revisions in the period in which changes in the estimates arise; we have selected this approach, as its emphasis on the statement of financial position is more consistent with the liability method of accounting for income taxes.

Our operations are complex and the related domestic and foreign tax interpretations, regulations, legislation and jurisprudence are continually changing. As a result, there are usually some tax matters in question that result in uncertain tax positions. We recognize the income tax benefit of an uncertain tax position only when it is more likely than not that the ultimate determination of the tax treatment of the position will result in that benefit being realized; however, this does not mean that tax authorities cannot challenge these positions. We accrue an amount for interest charges on current tax liabilities that have not been funded, which would include interest and penalties arising from uncertain tax positions. We include such charges in the Consolidated statements of income and other comprehensive income as a component of Financing costs.

Our research and development activities may be eligible to earn Investment Tax Credits, for which the determination of eligibility is a complex matter. We recognize Investment Tax Credits only when there is reasonable assurance that the ultimate determination of the eligibility of our research and development activities will result in the Investment Tax Credits being received, at which time they are accounted for using the cost reduction method, whereby such credits are deducted from the expenditures or assets to which they relate, as set out in *Note 10(c)*.

(i) Share-based compensation

General

When share-based compensation vests in its entirety at one future point in time (cliff-vesting), we recognize the expense on a straight-line basis over the vesting period. When share-based compensation vests in tranches (graded-vesting), we recognize the expense using the accelerated expense attribution method. An estimate of forfeitures during the vesting period is made at the date of grant of such share-based compensation; this estimate is adjusted to reflect actual experience.

Denotes accounting policy requiring, for us, a more significant choice among accounting policies and/or a more significant application of judgment.

Restricted share units

In respect of restricted share units with neither an equity settlement feature nor market performance conditions, as set out in *Note 14(b)*, we accrue a liability equal to the product of the number of vesting restricted share units multiplied by the fair market value of the corresponding Common Shares at the end of the reporting period. Similarly, we accrue a liability for the notional subset of our restricted share units without an equity settlement feature and with market performance conditions, using a Monte Carlo simulation-determined fair value. Restricted share units that have an equity settlement feature are accounted for as equity instruments. The expense for restricted share units that do not ultimately vest is reversed against the expense that was previously recorded in their respect.

Share option awards

A fair value for share option awards is determined at the date of grant and that fair value is recognized in the financial statements. Proceeds arising from the exercise of share option awards are credited to share capital, as are the recognized grant-date fair values of the exercised share option awards.

Share option awards that have a net-equity settlement feature, as set out in *Note 14(d)*, are accounted for as equity instruments. We have selected the equity instrument fair value method of accounting for the net-equity settlement feature, as it is consistent with the accounting treatment applied to the associated share option awards.

(j) Employee future benefit plans

Defined benefit plans

We accrue amounts for our obligations under employee defined benefit plans and the related costs, net of plan assets. The cost of pensions and other retirement benefits earned by employees is actuarially determined using the accrued benefit method pro-rated on service and management's best estimates of both salary escalation and the retirement ages of employees. In the determination of net income, net interest for each plan, which is the product of the plan's surplus (deficit) multiplied by the discount rate, is included as a component of Financing costs, as set out in *Note 9*.

An amount reflecting the effect of differences between the discount rate and the actual rate of return on plan assets is included as a component of employee defined benefit plan re-measurements within Other comprehensive income, as set out in *Note 11* and *Note 15*. We determine the maximum economic benefit available from the plans' assets on the basis of reductions in future contributions to the plans.

On an annual basis, at a minimum, the defined benefit plan key assumptions are assessed and revised as appropriate; as referred to in *(b)*, these are significant estimates for us.

Denotes accounting policy requiring, for us, a more significant choice among accounting policies and/or a more significant application of judgment.

Defined contribution plans

We use defined contribution accounting for the Telecommunication Workers Pension Plan and the British Columbia Public Service Pension Plan, which cover certain of our employees and provide defined benefits to their members. In the absence of any regulations governing the calculation of the share of the underlying financial position and plan performance attributable to each employer-participant, and in the absence of contractual agreements between the plans and the employer-participants related to the financing of any shortfall (or distribution of any surplus), we account for these plans as defined contribution plans, in accordance with International Accounting Standard 19, *Employee Benefits*.

(k) Cash and temporary investments, net

Cash and temporary investments, which may include investments in money market instruments that are purchased three months or less from maturity, are presented net of outstanding items, including cheques written but not cleared by the related banks as at the statement of financial position date. Cash and temporary investments, net, are classified as a liability in the statement of financial position when the total amount of all cheques written but not cleared by the related banks exceeds the amount of cash and temporary investments. When cash and temporary investments, net, are classified as a liability, they may also include overdraft amounts drawn on our bilateral bank facilities, which revolve daily and are discussed further in *Note 22*.

(l) Inventories

Our inventories primarily consist of mobile handsets, parts and accessories totalling $381 million as at December 31, 2021 (2020 – $328 million), and communications equipment held for resale. Inventories are valued at the lower of cost and net realizable value, with cost being determined on an average cost basis. Costs of goods sold for the year ended December 31, 2021, totalled $2.2 billion (2020 – $2.0 billion).

(m) Property, plant and equipment; intangible assets

General

Property, plant and equipment and intangible assets are recorded at historical cost, which for self-constructed property, plant and equipment includes materials, direct labour and applicable overhead costs. For internally developed, internal-use software, the historical cost recorded includes materials, direct labour and direct labour-related costs. Where property, plant and equipment construction projects are of sufficient size and duration, an amount is capitalized for the cost of funds used to finance construction, as set out in *Note 9*. The rate for calculating the capitalized financing cost is based on the weighted average cost of borrowing that we experience during the reporting period.

When we sell property, plant and/or equipment, the net book value is netted against the sale proceeds and the difference, as set out in *Note 7*, is included in the Consolidated statements of income and other comprehensive income as a component of Other income.

Asset retirement obligations

Provisions for liabilities, as set out in *Note 25*, are recognized for statutory, contractual or legal obligations, normally when incurred, associated with the retirement of property, plant and equipment (primarily certain items of outside plant and mobile site equipment) when those obligations result from the acquisition, construction, development and/or normal operation of the assets; as referred to in *(b)*, this is a significant estimate for us. The obligations are measured initially at fair value, which is determined using present value methodology, and the resulting costs are capitalized as a part of the carrying value of the related asset. In subsequent periods, the provisions for these liabilities are adjusted for the accretion of discount, for any changes in the market-based discount rate and for any changes in the amount or timing of the underlying future cash flows. The capitalized asset retirement cost is depreciated on the same basis as the related asset and the discount accretion, as set out in *Note 9*, is included in the Consolidated statements of income and other comprehensive income as a component of Financing costs.

(n) Investments

We account for our investments in companies over which we have significant influence, as discussed further in *Note 21*, using the equity method of accounting, whereby the investments are initially recorded at cost and subsequently adjusted to recognize our share of earnings or losses of the investee companies and any earnings distributions received. The excess of the cost of an equity investment over its underlying book value at the date of acquisition, except for goodwill, is amortized over the estimated useful lives of the underlying assets to which the excess cost is attributed.

Similarly, we account for our interests in the real estate joint ventures, as discussed further in *Note 21*, using the equity method of accounting. Unrealized gains and losses from transactions with (including contributions to) the real estate joint ventures are deferred in proportion to our remaining interest in the real estate joint ventures.

We account for our other long-term investments at their fair values unless they are investment securities that do not have quoted market prices in an active market or do not have other clear and objective evidence of fair value. When we do not account for our other long-term investments at their fair values, we use the cost basis of accounting, whereby the investments are initially recorded at cost, and earnings from those investments are recognized only to the extent received or receivable. When there is a significant or prolonged decline in the value of an other long-term investment, the carrying value of that other long-term investment is adjusted to its estimated fair value.

Denotes accounting policy requiring, for us, a more significant choice among accounting policies and/or a more significant application of judgment.

2 accounting policy developments

(a) Initial application of standards, interpretations and amendments to standards and interpretations in the reporting period

In August 2020, the International Accounting Standards Board issued *Interest Rate Benchmark Reform - Phase 2*, which amends IFRS 9 *Financial Instruments*, IAS 39 *Financial Instruments: Recognition and Measurement*, IFRS 7 *Financial Instruments: Disclosures*, IFRS 4 *Insurance Contracts* and IFRS 16 *Leases*. The amendments are effective for periods beginning on or after January 1, 2021, although earlier application is permitted. Interest rate benchmarks such as interbank offer rates (IBORs) play an important role in global financial markets as they index a wide variety of financial products, including derivative financial instruments. Market developments have impacted the reliability of some existing benchmarks and, in this context, the Financial Stability Board has published a report setting out recommendations to reform such benchmarks. The *Interest Rate Benchmark Reform-Phase 2* amendments focus on the effects of the interest rate benchmark reform on a company's financial statements that arise when an interest rate benchmark used to calculate interest is replaced with an alternative benchmark rate; most significantly, there will be no requirement to de-recognize or adjust the amount of financial instruments for changes required by the reform, but will instead update the effective interest rate to reflect the change to the alternative benchmark rate. The effects, which have not been material in the current fiscal year, of these amendments on our financial performance and disclosure will be dependent upon the facts and circumstances of future changes in the derivative financial instruments we use, if any, and any future changes in interest rate benchmarks, if any, referenced by such derivative financial instruments we use.

(b) Standards, interpretations and amendments to standards and interpretations in the reporting period not yet effective and not yet applied

- In February 2021, the International Accounting Standards Board issued narrow-scope amendments to IAS 1, *Presentation of Financial Statements*, IFRS Practice Statement 2, *Making Materiality Judgements* and IAS 8*, Accounting Policies, Changes in Accounting Estimates and Errors*. The amendments are effective for annual periods beginning on or after January 1, 2023, although earlier application is permitted. The amendments will require the disclosure of material accounting policy information rather than disclosing significant accounting policies and clarify how to distinguish changes in accounting policies from changes in accounting estimates. We are currently assessing the impacts of the amended standards, but do not expect that our financial disclosure will be materially affected by the application of the amendments.
- In May 2021, the International Accounting Standards Board issued targeted amendments to IAS 12, *Income Taxes*. The amendments are effective for annual periods beginning on or after January 1, 2023, although earlier application is permitted. With a view to reducing diversity in reporting, the amendments will clarify that companies are required to recognize deferred taxes on transactions where both assets and liabilities are recognized, such as with leases and asset retirement (decommissioning) obligations. Based upon our current facts and circumstances, we do not expect our financial performance or disclosure to be materially affected by the application of the amended standard.

3 capital structure financial policies

General

Our objective when managing capital is to maintain a flexible capital structure that optimizes the cost and availability of capital at acceptable risk.

In our definition of capital, we include common equity (excluding accumulated other comprehensive income), non-controlling interests, long-term debt (including long-term credit facilities, commercial paper backstopped by long-term credit facilities and any hedging assets or liabilities associated with long-term debt items, net of amounts recognized in accumulated other comprehensive income), cash and temporary investments, and short-term borrowings, including those arising from securitized trade receivables.

We manage our capital structure and make adjustments to it in light of changes in economic conditions and the risk characteristics of our business. In order to maintain or adjust our capital structure, we may adjust the amount of dividends paid to holders of Common Shares, purchase Common Shares for cancellation pursuant to normal course issuer bids, issue new shares (including Common Shares and TELUS International (Cda) Inc. subordinate voting shares), issue new debt, issue new debt to replace existing debt with different characteristics, and/or increase or decrease the amount of trade receivables sold to an arm's-length securitization trust.

During 2021, our financial objectives, which are reviewed annually, were unchanged from 2020. We believe that our financial objectives are supportive of our long-term strategy.

We monitor capital utilizing a number of measures, including: net debt to earnings before interest, income taxes, depreciation and amortization (EBITDA*) – excluding restructuring and other costs ratio; coverage ratios; and dividend payout ratios.

* EBITDA is not a standardized financial measure under IFRS-IASB and might not be comparable to similar measures disclosed by other issuers; we define EBITDA as operating revenues and other income less goods and services purchased and employee benefits expense. We report EBITDA because it is a key measure that management uses to evaluate the performance of our business, and it is also utilized in measuring compliance with certain debt covenants.

Debt and coverage ratios

Net debt to EBITDA – excluding restructuring and other costs is calculated as net debt at the end of the period, divided by 12-month trailing EBITDA – excluding restructuring and other costs. This measure, historically, is substantially similar to the leverage ratio covenant in our credit facilities. Net debt and EBITDA – excluding restructuring and other costs are measures that do not have any standardized meanings prescribed by IFRS-IASB and are therefore unlikely to be comparable to similar measures presented by other issuers. The calculation of these measures is set out in the following table. Net debt is one component of a ratio used to determine compliance with debt covenants.

As at, or for the 12-month periods ended, December 31 ($ in millions)	Objective	**2021**	2020
Components of debt and coverage ratios			
Net debt [1]		**$ 20,535**	$ 19,826
EBITDA – excluding restructuring and other costs [2]		**$ 6,476**	$ 5,753
Net interest cost [3] (*Note 9*)		**$ 773**	$ 792
Debt ratio			
Net debt to EBITDA – excluding restructuring and other costs	2.20 – 2.70 [4]	**3.17**	3.45
Coverage ratios			
Earnings coverage [5]		**3.9**	3.2
EBITDA – excluding restructuring and other costs interest coverage [6]		**8.4**	7.3

1 Net debt and total capitalization are calculated as follows:

As at December 31	*Note*	**2021**	2020
Long-term debt	*26*	**$ 20,852**	$ 20,288
Debt issuance costs netted against long-term debt		**94**	97
Derivative (assets) liabilities, net		**7**	120
Accumulated other comprehensive income amounts arising from financial instruments used to manage interest rate and currency risks associated with U.S. dollar-denominated long-term debt – excluding tax effects		**191**	69
Cash and temporary investments, net		**(723)**	(848)
Short-term borrowings	*22*	**114**	100
Net debt		**20,535**	19,826
Common equity		**15,116**	12,040
Non-controlling interests		**943**	528
Less : accumulated other comprehensive income included above in common equity and non-controlling interests		**(186)**	(135)
Total managed capitalization		**$ 36,408**	$ 32,259

2 EBITDA – excluding restructuring and other costs is calculated as follows:

Years ended December 31	*Note*	**2021**	2020
EBITDA	*5*	**$ 6,290**	$ 5,494
Restructuring and other costs	*16*	**186**	259
EBITDA – excluding restructuring and other costs		**$ 6,476**	$ 5,753

3 Net interest cost is defined as financing costs, excluding employee defined benefit plans net interest, recoveries on long-term debt prepayment premium and repayment of debt, calculated on a 12-month trailing basis (expenses recorded for long-term debt prepayment premium, if any, are included in net interest cost) (see *Note 9*).

4 Our long-term objective range for this ratio is 2.20 – 2.70 times. The ratio as at December 31, 2021, is outside the long-term objective range. We may permit, and have permitted, this ratio to go outside the objective range (for long-term investment opportunities), but we will endeavour to return this ratio to within the objective range in the medium term (following the recent 2021, and upcoming 2023 and 2024, spectrum auctions), as we believe that this range is supportive of our long-term strategy. We are in compliance with the leverage ratio covenant in our credit facilities, which states that we may not permit our net debt to operating cash flow ratio to exceed 4.25:1.00 (see *Note 26(d)*); the calculation of the debt ratio is substantially similar to the calculation of the leverage ratio covenant in our credit facilities.

5 Earnings coverage is defined by Canadian Securities Administrators National Instrument 41-101 as net income before borrowing costs and income tax expense, divided by borrowing costs (interest on long-term debt; interest on short-term borrowings and other; long-term debt prepayment premium), and adding back capitalized interest, all such amounts excluding amounts attributable to non-controlling interests.

6 EBITDA – excluding restructuring and other costs interest coverage is defined as EBITDA – excluding restructuring and other costs, divided by net interest cost. This measure is substantially similar to the coverage ratio covenant in our credit facilities.

Net debt to EBITDA – excluding restructuring and other costs was 3.17 times as at December 31, 2021, down from 3.45 times one year earlier. The effect of the increase in net debt, primarily due to business acquisitions and the acquisition of spectrum licences, was exceeded by the effect of growth in EBITDA – excluding restructuring and other costs. EBITDA growth was reduced by COVID-19 pandemic impacts.

The earnings coverage ratio for the twelve-month period ended December 31, 2021, was 3.9 times, up from 3.2 times one year earlier. An increase in income before borrowing costs and income taxes increased the ratio by 0.7. The EBITDA – excluding restructuring and other costs interest coverage ratio for the twelve-month period ended December 31, 2021, was 8.4 times, up from 7.3 times one year earlier. Growth in EBITDA – excluding restructuring and other costs increased the ratio by 0.9 and a decrease in net interest costs increased the ratio by 0.2. Fiscal 2021 EBITDA growth was reduced by COVID-19 pandemic impacts.

TELUS Corporation Common Share dividend payout ratio

So as to be consistent with the way we manage our business, our TELUS Corporation Common Share dividend payout ratio is presented as a historical measure calculated as the sum of the most recent four quarters' dividends declared for TELUS Corporation Common Shares, as recorded in the financial statements net of dividend reinvestment plan effects (see *Note 13*), divided by the sum of free cash flow* amounts for the most recent four quarters for interim reporting periods (divided by annual free cash flow if the reported amount is in respect of a fiscal year).

For the 12-month periods ended December 31	Objective	**2021**	2020
Determined using most comparable IFRS-IASB measures			
Ratio of TELUS Corporation Common Share dividends declared to cash provided by operating activities - less capital expenditures (excluding spectrum licences)		**192 %**	84 %
Determined using management measures			
TELUS Corporation Common Share dividend payout ratio – net of dividend reinvestment plan effects	60%–75% [1]	**140 %**	67 %

1 Our objective range for the TELUS Corporation Common Share dividend payout ratio is 60%-75% of free cash flow on a prospective basis.

* Free cash flow is not a standardized financial measure under IFRS-IASB and might not be comparable to similar measures presented by other issuers; we define free cash flow as EBITDA (operating revenues and other income less goods and services purchased and employee benefits expense) excluding certain working capital changes (such as trade receivables and trade payables), proceeds from divested assets and other sources and uses of cash, as found in the consolidated statements of cash flows. We have issued guidance on, and report, free cash flow because it is a key measure that management, and investors, use to evaluate the performance of our business.

For the 12-month periods ended December 31 (millions)	2021	2020
TELUS Corporation Common Share dividends declared	**$ 1,711**	$ 1,520
Amount of TELUS Corporation Common Share dividends declared reinvested in TELUS Corporation Common Shares	**(624)**	(561)
TELUS Corporation Common Share dividends declared – net of dividend reinvestment plan effects	**$ 1,087**	$ 959

Our calculation of free cash flow, and the reconciliation to cash provided by operating activities, is as follows:

For the 12-month periods ended December 31 (millions)	*Note*	2021	2020
EBITDA	*5*	**$ 6,290**	$ 5,494
Deduct gain on disposition of financial solutions business	*7*	**(410)**	—
Deduct non-cash gains from the sales of property, plant and equipment		**—**	(4)
Restructuring and other costs, net of disbursements		**10**	35
Effects of contract asset, acquisition and fulfilment and TELUS Easy Payment device financing		**(45)**	43
Effect of lease principal	*31(b)*	**(502)**	(365)
Leases accounted for as finance leases prior to adoption of IFRS 16		**—**	86
Items from the Consolidated statements of cash flows:			
Share-based compensation, net	*14*	**139**	27
Net employee defined benefit plans expense	*15*	**113**	102
Employer contributions to employee defined benefit plans		**(53)**	(51)
Interest paid		**(744)**	(740)
Interest received		**17**	13
Capital expenditures (excluding spectrum licences)	*5*	**(3,498)**	(2,775)
Free cash flow before income taxes		**1,317**	1,865
Income taxes paid, net of refunds		**(601)**	(430)
Effect of disposition of financial solutions business on income taxes paid		**61**	—
Free cash flow		**777**	1,435
Add (deduct):			
Capital expenditures (excluding spectrum licences)	*5*	**3,498**	2,775
Effects of lease principal and leases accounted for as finance leases prior to adoption of IFRS 16		**502**	279
Gain on disposition of financial solutions business, net of effect on income taxes paid		**(349)**	—
Individually immaterial items included in net income neither providing nor using cash		**(40)**	85
Cash provided by operating activities		**$ 4,388**	$ 4,574

4 financial instruments

(a) Risks – overview

Our financial instruments, their accounting classification and the nature of certain risks to which they may be subject are set out in the following table.

		Risks				
				Market risks		
Financial instrument	Accounting classification	Credit	Liquidity	Currency	Interest rate	Other price
Measured at amortized cost						
Accounts receivable	AC [1]	X		X		
Contract assets	AC [1]	X				
Construction credit facilities advances to real estate joint venture	AC [1]				X	
Short-term borrowings	AC [1]		X	X	X	
Accounts payable	AC [1]		X	X		
Provisions (including restructuring accounts payable)	AC [1]		X	X		X
Long-term debt	AC [1]		X	X	X	
Measured at fair value						
Cash and temporary investments	FVTPL [2]	X		X	X	
Long-term investments (not subject to significant influence) [3]	FVTPL/FVOCI [3]			X		X
Foreign exchange derivatives [4]	FVTPL [2]	X	X	X		

1 For accounting recognition and measurement purposes, classified as amortized cost (AC).

2 For accounting recognition and measurement purposes, classified as fair value through net income (FVTPL). *Unrealized* changes in the fair values of financial instruments are included in net income unless the instrument is part of a cash flow hedging relationship. The effective portions of *unrealized* changes in the fair values of financial instruments held for hedging are included in other comprehensive income.

3 Long-term investments over which we do not have significant influence are measured at fair value if those fair values can be reliably measured. For accounting recognition and measurement purposes, on an investment-by-investment basis, long-term investments are classified as either fair value through net income or fair value through other comprehensive income (FVOCI).

4 Use of derivative financial instruments is subject to a policy which requires that no derivative transaction is to be entered into for the purpose of establishing a speculative or leveraged position (the corollary being that all derivative transactions are to be entered into for risk management purposes only) and sets criteria for the creditworthiness of the transaction counterparties.

Derivatives that are part of an established and documented cash flow hedging relationship are accounted for as held for hedging. We believe that classification as held for hedging results in a better matching of the change in the fair value of the derivative financial instrument with the risk exposure being hedged.

In respect of hedges of anticipated transactions, hedge gains/losses are included with the related expenditure and are expensed when the transaction is recognized in our results of operations. We have selected this method as we believe that it results in a better matching of the hedge gains/losses with the risk exposure being hedged.

Derivatives that are not part of a documented cash flow hedging relationship are accounted for as held for trading and thus are measured at fair value through net income.

Derivative financial instruments

We apply hedge accounting to financial instruments used to establish hedge accounting relationships for U.S. dollar-denominated transactions. We believe that our use of derivative financial instruments for hedging or arbitrage assists us in managing our financing costs and/or reducing the uncertainty associated with our financing or other business activities. Uncertainty associated with currency risk and other price risk is reduced through our use of foreign exchange derivatives that effectively swap floating currency exchange rates for fixed rates. When entering into derivative financial instrument contracts, we seek to align the cash flow timing of the hedging items with that of the hedged items. The effects of this risk management strategy and its application are set out in *(i)* following.

(b) Credit risk

Excluding credit risk, if any, arising from currency swaps settled on a gross basis, the best representation of our maximum exposure (excluding income tax effects) to credit risk, which is a worst-case scenario and does not reflect results we expect, is set out in the following table.

As at December 31 (millions)	**2021**	2020
Cash and temporary investments, net	**$ 723**	$ 848
Accounts receivable	**3,216**	2,716
Contract assets	**709**	707
Derivative assets	**89**	42
	$ 4,737	$ 4,313

Cash and temporary investments, net

Credit risk associated with cash and temporary investments is managed by ensuring that these financial assets are placed with: governments; major financial institutions that have been accorded strong investment grade ratings by a primary rating agency; and/or other creditworthy counterparties. An ongoing review evaluates changes in the status of counterparties.

Accounts receivable

Credit risk associated with accounts receivable is inherently managed by the size and diversity of our large customer base, which includes substantially all consumer and business sectors in Canada. We follow a program of credit evaluations of customers and limit the amount of credit extended when deemed necessary. Accounts are considered to be past due (in default) when customers have failed to make the contractually required payments when due, which is generally within 30 days of the billing date. Any late payment charges are levied at an industry-based market or negotiated rate on outstanding non-current customer account balances.

As at December 31 (millions)		**2021**			2020		
	Note	Gross	Allowance	Net [1]	Gross	Allowance	Net [1]
Customer accounts receivable, net of allowance for doubtful accounts							
Less than 30 days past billing date		**$ 883**	**$ (8)**	**$ 875**	$ 815	$ (19)	$ 796
30-60 days past billing date		**330**	**(7)**	**323**	339	(17)	322
61-90 days past billing date		**92**	**(9)**	**83**	90	(19)	71
More than 90 days past billing date		**140**	**(21)**	**119**	98	(43)	55
Unbilled customer finance receivables		**1,323**	**(65)**	**1,258**	1,026	(42)	984
		$ 2,768	**$ (110)**	**$ 2,658**	$ 2,368	$ (140)	$ 2,228
Current		**$ 2,194**	**$ (81)**	**$ 2,113**	$ 1,986	$ (119)	$ 1,867
Non-current	*20*	**574**	**(29)**	**545**	382	(21)	361
		$ 2,768	**$ (110)**	**$ 2,658**	$ 2,368	$ (140)	$ 2,228

1 Net amounts represent customer accounts receivable for which an allowance had not been made as at the dates of the Consolidated statements of financial position (see *Note 6(b)*).

We maintain allowances for lifetime expected credit losses related to doubtful accounts. Current economic conditions (including forward-looking macroeconomic data), historical information (including credit agency reports, if available), reasons for the accounts being past due and the line of business from which the customer accounts receivable arose are all considered when determining whether to make allowances for past-due accounts. The same factors are considered when determining whether to write off amounts charged to the allowance for doubtful accounts against the customer accounts receivable. The doubtful accounts expense is calculated on a specific-identification basis for customer accounts receivable above a specific balance threshold and on a statistically derived allowance basis for the remainder. No customer accounts receivable are written off directly to the doubtful accounts expense.

The following table presents a summary of the activity related to our allowance for doubtful accounts.

Years ended December 31 (millions)	**2021**	2020
Balance, beginning of period	**$ 140**	$ 55
Additions (doubtful accounts expense)	**42**	91
Accounts written off [1] less than recoveries	**(77)**	(22)
Other	**5**	16
Balance, end of period	**$ 110**	$ 140

1 For the year ended December 31, 2021, accounts written off, but that were still subject to enforcement activity, totalled $ 110 (2020 – $92).

Contract assets

Credit risk associated with contract assets is inherently managed by the size and diversity of our large customer base, which includes substantially all consumer and business sectors in Canada. We follow a program of credit evaluations of customers and limit the amount of credit extended when deemed necessary.

As at December 31 (millions)	**2021**			2020		
	Gross	Allowance	Net *(Note 6(c))*	Gross	Allowance	Net *(Note 6(c))*
Contract assets, net of impairment allowance						
To be billed and thus reclassified to accounts receivable during:						
The 12-month period ending one year hence	**$ 595**	**$ (24)**	**$ 571**	$ 611	$ (29)	$ 582
The 12-month period ending two years hence	**259**	**(11)**	**248**	265	(12)	253
Thereafter	**19**	**(1)**	**18**	16	(1)	15
	$ 873	**$ (36)**	**$ 837**	$ 892	$ (42)	$ 850

We maintain allowances for lifetime expected credit losses related to contract assets. Current economic conditions, historical information (including credit agency reports, if available), and the line of business from which the contract asset arose are all considered when determining impairment allowances. The same factors are considered when determining whether to write off amounts charged to the impairment allowance for contract assets against contract assets.

Derivative assets (and derivative liabilities)

Counterparties to our material foreign exchange derivatives are major financial institutions that have been accorded investment grade ratings by a primary credit rating agency. The total dollar amount of credit exposure under contracts with any one financial institution is limited and counterparties' credit ratings are monitored. We do not give or receive collateral on swap agreements and hedging items due to our credit rating and those of our counterparties. While we are exposed to the risk of potential credit losses due to the possible non-performance of our counterparties, we consider this risk remote. Our derivative liabilities do not have credit risk-related contingent features.

(c) Liquidity risk

As a component of our capital structure financial policies, discussed further in *Note 3*, we manage liquidity risk by:

- maintaining a daily cash pooling process that enables us to manage our available liquidity and our liquidity requirements according to our actual needs;
- maintaining an agreement to sell trade receivables to an arm's-length securitization trust and bilateral bank facilities (*Note 22*), a commercial paper program (*Note 26(c)*) and syndicated credit facilities (*Note 26(d),(f)*);
- maintaining an in-effect shelf prospectus;
- continuously monitoring forecast and actual cash flows; and
- managing maturity profiles of financial assets and financial liabilities.

Our debt maturities in future years are disclosed in *Note 26(i)*. As at December 31, 2021, TELUS Corporation could offer $ 2.75 billion of debt or equity securities pursuant to a shelf prospectus that is in effect until June 2023 (2020 – $2.0 billion of debt or equity securities pursuant to a shelf prospectus that was in effect until June 2022). We believe that our investment grade credit ratings contribute to reasonable access to capital markets.

We closely match the contractual maturities of our derivative financial liabilities with those of the risk exposures they are being used to manage.

The expected maturities of our undiscounted financial liabilities do not differ significantly from the contractual maturities, other than as noted below. The contractual maturities of our undiscounted financial liabilities, including interest thereon (where applicable), are set out in the following tables.

	Non-derivative				**Derivative**					
			Composite long-term debt							
As at December 31, 2021 (millions)	Non-interest bearing financial liabilities	Short-term borrowings [1]	Long-term debt, excluding leases [1] (*Note 26*)	Leases (*Note 26*)	Currency swap agreement amounts to be exchanged [2] (Receive)	Pay	Other	Currency swap agreement amounts to be exchanged (Receive)	Pay	Total
2022	**$ 3,395**	**$ 15**	**$ 3,130**	**$ 504**	**$ (2,050)**	**$ 2,059**	**$ 8**	**$ (544)**	**$ 540**	**$ 7,057**
2023	**62**	**1**	**1,167**	**364**	**(149)**	**148**	**—**	**—**	**—**	**1,593**
2024	**13**	**101**	**1,724**	**305**	**(149)**	**148**	**—**	**—**	**—**	**2,142**
2025	**14**	**—**	**2,217**	**176**	**(522)**	**540**	**—**	**—**	**—**	**2,425**
2026	**2**	**—**	**1,901**	**144**	**(116)**	**118**	**—**	**—**	**—**	**2,049**
2027-2031	**7**	**—**	**7,351**	**398**	**(1,784)**	**1,852**	**—**	**—**	**—**	**7,824**
Thereafter	**—**	**—**	**10,499**	**344**	**(2,805)**	**2,877**	**—**	**—**	**—**	**10,915**
Total	**$ 3,493**	**$ 117**	**$ 27,989**	**$ 2,235**	**$ (7,575)**	**$ 7,742**	**$ 8**	**$ (544)**	**$ 540**	**$34,005**
			Total (*Note 26(i)*)			**$ 30,391**				

1 Cash outflows in respect of interest payments on our short-term borrowings, commercial paper and amounts drawn under our credit facilities (if any) have been calculated based upon the interest rates in effect as at December 31, 2021.

2 The amounts included in undiscounted non-derivative long-term debt in respect of U.S. dollar-denominated long-term debt, and the corresponding amounts in the long-term debt currency swap receive column, have been determined based upon the currency exchange rates in effect as at December 31, 2021. The hedged U.S. dollar-denominated long-term debt contractual amounts at maturity, in effect, are reflected in the long-term debt currency swap pay column as gross cash flows are exchanged pursuant to the currency swap agreements.

As at December 31, 2020 (millions)	Non-derivative				Derivative					
			Composite long-term debt							
	Non-interest bearing financial liabilities	Short-term borrowings [1]	Long-term debt, excluding leases [1] (*Note 26*)	Leases (*Note 26*)	Currency swap agreement amounts to be exchanged [2] (Receive)	Pay	Other	Currency swap agreement amounts to be exchanged (Receive)	Pay	Total
2021	$ 2,669	$ 101	$ 1,658	$ 538	$ (882)	$ 892	$ —	$ (454)	$ 475	$ 4,997
2022	74	—	2,204	371	(149)	151	—	—	—	2,651
2023	8	—	1,149	230	(149)	151	6	—	—	1,395
2024	8	—	1,706	191	(150)	151	—	—	—	1,906
2025	9	—	2,868	145	(525)	575	—	—	—	3,072
2026-2030	12	—	7,953	417	(1,836)	1,898	—	—	—	8,444
Thereafter	—	—	9,877	379	(2,889)	2,949	—	—	—	10,316
Total	$ 2,780	$ 101	$ 27,415	$ 2,271	$ (6,580)	$ 6,767	$ 6	$ (454)	$ 475	$32,781
			Total			$ 29,873				

1 Cash outflows in respect of interest payments on our short-term borrowings, commercial paper and amounts drawn under our credit facilities (if any) have been calculated based upon the interest rates in effect as at December 31, 2020.

2 The amounts included in undiscounted non-derivative long-term debt in respect of U.S. dollar-denominated long-term debt, and the corresponding amounts in the long-term debt currency swap receive column, have been determined based upon the currency exchange rates in effect as at December 31, 2020. The hedged U.S. dollar-denominated long-term debt contractual amounts at maturity, in effect, are reflected in the long-term debt currency swap pay column as gross cash flows are exchanged pursuant to the currency swap agreements.

(d) Currency risk

Our functional currency is the Canadian dollar, but certain routine revenues and operating costs are denominated in U.S. dollars and some inventory purchases and capital asset acquisitions are sourced internationally. The U.S. dollar is the only foreign currency to which we have a significant exposure as at the balance sheet date.

Our foreign exchange risk management includes the use of foreign currency forward contracts and currency options to fix the exchange rates on a varying percentage, typically in the range of 50% to 75%, of our domestic short-term U.S. dollar-denominated transactions and commitments and all U.S. dollar-denominated commercial paper. Other than in respect of U.S. dollar-denominated commercial paper, we designate only the spot element of these instruments as the hedging item, as the forward element is wholly immaterial; in respect of U.S. dollar-denominated commercial paper, we designate the forward rate.

As discussed further in *Note 26(b)* and *Note 26(f)*, we are also exposed to currency risk in that the fair value or future cash flows of our U.S. Dollar Notes and our TELUS International (Cda) Inc. credit facility U.S. dollar borrowings could fluctuate because of changes in foreign exchange rates. Currency hedging relationships have been established for the related semi-annual interest payments and the principal payment at maturity in respect of the U.S. Dollar Notes; we designate only the spot element of these instruments as the hedging item, as the forward element is wholly immaterial. As the functional currency of our TELUS International (Cda) Inc. subsidiary is the U.S. dollar, fluctuations in foreign exchange rates affecting its borrowings are reflected as a foreign currency translation adjustment within other comprehensive income.

(e) Interest rate risk

Changes in market interest rates will cause fluctuations in the fair values or future cash flows of temporary investments, construction credit facility advances made to the real estate joint venture, short-term obligations, long-term debt and interest rate swap derivatives.

When we have temporary investments, they have short maturities and fixed interest rates and, as a result, their fair values will fluctuate with changes in market interest rates; absent monetization prior to maturity, the related future cash flows will not change due to changes in market interest rates.

If the balance of short-term investments includes dividend-paying equity instruments, we could be exposed to interest rate risk.

Due to the short-term nature of the applicable rates of interest charged, the fair value of the construction credit facility advances made to the real estate joint venture is not materially affected by changes in market interest rates; the associated cash flows representing interest payments will be affected until such advances are repaid.

As short-term obligations arising from bilateral bank facilities, which typically have variable interest rates, are rarely outstanding for periods that exceed one calendar week, interest rate risk associated with this item is not material.

Short-term borrowings arising from the sales of trade receivables to an arm's-length securitization trust are fixed-rate debts. Due to the short maturities of these borrowings, interest rate risk associated with this item is not material.

All of our currently outstanding long-term debt, other than commercial paper and amounts drawn on our credit facilities (*Note 26(c), (f)*), is fixed-rate debt. The fair value of fixed-rate debt fluctuates with changes in market interest rates; absent early redemption, the related future cash flows will not change. Due to the short maturities of commercial paper, its fair value is not materially affected by changes in market interest rates, but the associated cash flows representing interest payments may be affected if the commercial paper is rolled over.

Amounts drawn on our short-term and long-term credit facilities will be affected by changes in market interest rates in a manner similar to commercial paper.

(f) Other price risk

Long-term investments

We are exposed to equity price risk arising from investments classified as fair value through other comprehensive income. Such investments are held for strategic rather than trading purposes.

(g) Market risks

Net income and other comprehensive income for the years ended December 31, 2021 and 2020, could have varied if the Canadian dollar: U.S. dollar exchange rate, the U.S. dollar: European euro exchange rate and market interest rates varied by reasonably possible amounts from their actual statement of financial position date amounts.

The sensitivity analysis of our exposure to currency risk at the reporting date has been determined based upon a hypothetical change taking place at the relevant statement of financial position date. The U.S. dollar-denominated and European euro-denominated balances and derivative financial instrument notional amounts as at the statement of financial position dates have been used in the calculations.

The sensitivity analysis of our exposure to interest rate risk at the reporting date has been determined based upon a hypothetical change taking place at the beginning of the relevant fiscal year and being held constant through to the statement of financial position date. The principal and notional amounts as at the relevant statement of financial position date have been used in the calculations.

Income tax expense, which is reflected net in the sensitivity analysis, reflects the applicable statutory income tax rates for the reporting periods.

Years ended December 31	Net income		Other comprehensive income		Comprehensive income	
(increase (decrease) in millions)	**2021**	2020	**2021**	2020	**2021**	2020
Reasonably possible changes in market risks [1]						
10% change in C$: US$ exchange rate						
Canadian dollar appreciates	**$ 1**	$ —	**$ (33)**	$ 14	**$ (32)**	$ 14
Canadian dollar depreciates	**$ (1)**	$ —	**$ 33**	$ (14)	**$ 32**	$ (14)
10% change in US$: € exchange rate						
U.S. dollar appreciates	**$ —**	$ —	**$ (56)**	$ (54)	**$ (56)**	$ (54)
U.S. dollar depreciates	**$ —**	$ —	**$ 56**	$ 54	**$ 56**	$ 54
25 basis point change in interest rates						
Interest rates increase						
Canadian interest rate	**$ (4)**	$ (1)	**$ 90**	$ 107	**$ 86**	$ 106
U.S. interest rate	**$ —**	$ —	**$ (93)**	$ (107)	**$ (93)**	$ (107)
Combined	**$ (4)**	$ (1)	**$ (3)**	$ —	**$ (7)**	$ (1)
Interest rates decrease						
Canadian interest rate	**$ 4**	$ 1	**$ (94)**	$ (112)	**$ (90)**	$ (111)
U.S. interest rate	**$ —**	$ —	**$ 98**	$ 113	**$ 98**	$ 113
Combined	**$ 4**	$ 1	**$ 4**	$ 1	**$ 8**	$ 2

1 These sensitivities are hypothetical and should be used with caution. Changes in net income and/or other comprehensive income generally cannot be extrapolated because the relationship of the change in assumption to the change in net income and/or other comprehensive income may not be linear. In this table, the effect of a variation in a particular assumption on the amount of net income and/or other comprehensive income is calculated without changing any other factors; in reality, changes in one factor may result in changes in another, which might magnify or counteract the sensitivities.

The sensitivity analysis assumes that we would realize the changes in exchange rates and market interest rates; in reality, the competitive marketplace in which we operate would have an effect on this assumption.

(h) Fair values

General

The carrying values of cash and temporary investments, accounts receivable, short-term obligations, short-term borrowings, accounts payable and certain provisions (including restructuring provisions) approximate their fair values due to the immediate or short-term maturity of these financial instruments. The fair values are determined directly by reference to quoted market prices in active markets.

The fair values of our investment financial assets are based on quoted market prices in active markets or other clear and objective evidence of fair value.

The fair value of our long-term debt, excluding leases, is based on quoted market prices in active markets.

The fair values of the derivative financial instruments we use to manage our exposure to currency risk are estimated based on quoted market prices in active markets for the same or similar financial instruments or on the current rates offered to us for financial instruments of the same maturity, as well as on discounted future cash flows determined using current rates for similar financial instruments of similar maturities subject to similar risks (such fair value estimates being largely based on the Canadian dollar: U.S. dollar forward exchange rate as at the statements of financial position dates).

Derivative

The derivative financial instruments that we measure at fair value on a recurring basis subsequent to initial recognition are set out in the following table.

As at December 31 (millions)		2021				2020			
	Designation	Maximum maturity date	Notional amount	Fair value [1] and carrying value	Price or rate	Maximum maturity date	Notional amount	Fair value [1] and carrying value	Price or rate
Current Assets [2]									
Derivatives used to manage									
Currency risk arising from U.S. dollar revenues	HFT [4]	—	**$ —**	**$ —**	—	2021	$ 87	$ 2	US$1.00: C$1.27
Currency risk arising from U.S. dollar-denominated purchases	HFH [3]	2022	**$ 301**	**6**	US$1.00: C$1.25	—	$ —	—	—
Currency risk arising from Indian rupee-denominated purchases	HFT [4]	2022	**$ 12**	**—**	US$1.00: ₹ 76	—	$ —	—	—
Currency risk arising from U.S. dollar-denominated long-term debt (*Note 26(b)-(c)*)	HFH [3]	2022	**$ 664**	**2**	US$1.00: C$1.26	2021	$ 95	—	US$1.00: C$1.27
Currency risk arising from European euro functional currency operations purchased with U.S. dollar-denominated long-term debt [7] (*Note 26(f)*)	HFH [5]	2025	**$ 31**	**3**	€1.00: US$ 1.09	2025	$ 34	—	€1.00: US$ 1.09
Interest rate risk associated with refinancing of debt maturing	HFH [3]	2022	**$ 250**	**2**	1.35 %	—	$ —	—	—
				$ 13				$ 2	
Other Long-Term Assets [2]									
Derivatives used to manage									
Currency risk arising from U.S. dollar-denominated long-term debt [6] (*Note 26(b)-(c)*)	HFH [3]	2048	**$ 2,133**	**$ 76**	US$1.00: C$1.27	2048	$ 2,176	$ 40	US$1.00: C$1.27
Current Liabilities [2]									
Derivatives used to manage									
Currency risk arising from U.S. dollar revenues	HFT [4]	2022	**$ 116**	**$ 3**	US$1.00: C$1.27	—	$ —	$ —	—
Currency risk arising from U.S. dollar-denominated purchases	HFH [3]	2022	**$ 108**	**1**	US$1.00: C$1.28	2021	$ 388	21	US$1.00: C$1.34
Currency risk arising from Indian rupee-denominated purchases	HFT [4]	2022	**$ 2**	**—**	US$1.00: ₹ 75	—	$ —	—	—
Currency risk arising from U.S. dollar-denominated long-term debt (*Note 26(b)-(c)*)	HFH [3]	2022	**$ 1,248**	**12**	US$1.00: C$1.28	2021	$ 647	11	US$1.00: C$1.29
Interest rate risk associated with non-fixed rate credit facility amounts drawn (*Note 26(f)*)	HFH [3]	2022	**$ 120**	**3**	2.64 %	2022	$ 8	—	2.64 %
Interest rate risk associated with refinancing of debt maturing	HFH [3]	2022	**$ 500**	**5**	1.59 %	—	$ —	—	—
				$ 24				$ 32	
Other Long-Term Liabilities [2]									
Derivatives used to manage									
Currency risk arising from U.S. dollar-denominated long-term debt [6] (*Note 26(b)-(c)*)	HFH [3]	2049	**$ 3,185**	**$ 52**	US$1.00: C$1.33	2049	$ 3,260	$ 82	US$1.00: C$1.33
Currency risk arising from European euro functional currency operations purchased with U.S. dollar-denominated long-term debt [7] (*Note 26(f)*)	HFH [5]	2025	**$ 483**	**21**	€1.00: US$ 1.09	2025	$ 557	67	€1.00: US$ 1.09
Interest rate risk associated with non-fixed rate credit facility amounts drawn (*Note 26(f)*)	HFH [3]	—	**$ —**	**—**	—	2022	$ 120	6	2.64 %
				$ 73				$ 155	

1 Fair value measured at reporting date using significant other observable inputs (Level 2).
2 Derivative financial assets and liabilities are not set off.



3 Designated as held for hedging (HFH) upon initial recognition (cash flow hedging item); hedge accounting is applied. Unless otherwise noted, hedge ratio is 1:1 and is established by assessing the degree of matching between the notional amounts of hedging items and the notional amounts of the associated hedged items.
4 Designated as held for trading (HFT) and classified as fair value through net income upon initial recognition; hedge accounting is not applied.
5 Designated as a hedge of a net investment in a foreign operation; hedge accounting is applied. Hedge ratio is 1:1 and is established by assessing the degree of matching between the notional amounts of hedging items and the notional amounts of the associated hedged items.
6 We designate only the spot element as the hedging item. As at December 31, 2021, the foreign currency basis spread included in the fair value of the derivative instruments, which is used for purposes of assessing hedge ineffectiveness, was $53 (2020 – $101).
7 We designate only the spot element as the hedging item. As at December 31, 2021, the foreign currency basis spread included in the fair value of the derivative instruments, which is used for purposes of assessing hedge ineffectiveness, was $1 (2020 – $(1)).

Non-derivative

Our long-term debt, which is measured at amortized cost, and the fair value thereof, are set out in the following table.

As at December 31 (millions)	**2021**		2020	
	Carrying value	Fair value	Carrying value	Fair value
Long-term debt, excluding leases (*Note 26*)	**$ 18,976**	**$ 20,383**	$ 18,451	$ 20,313

(i) Recognition of derivative gains and losses

The following table sets out the gains and losses, excluding income tax effects, arising from derivative instruments that are classified as cash flow hedging items and their location within the Consolidated statements of income and other comprehensive income.

Credit risk associated with such derivative instruments, as discussed further in *(a)*, would be the primary source of hedge ineffectiveness. There was no ineffective portion of the derivative instruments classified as cash flow hedging items for the periods presented.

		Amount of gain (loss) recognized in other comprehensive income (effective portion) (*Note 11*)		Gain (loss) reclassified from other comprehensive income to income (effective portion) (*Note 11*)		
					Amount	
Years ended December 31 (millions)	*Note*	**2021**	2020	Location	**2021**	2020
Derivatives used to manage currency risk						
Arising from U.S. dollar-denominated purchases		**$ (1)**	$ (6)	Goods and services purchased	**$ (24)**	$ (9)
Arising from U.S. dollar-denominated long-term debt [1]	*26(b)-(c)*	**27**	(44)	Financing costs	**(50)**	12
Arising from net investment in a foreign operation [2]		**47**	(67)	Financing costs	**(1)**	—
		73	(117)		**(75)**	3
Derivatives used to manage other market risks						
Arising from changes in share-based compensation costs and other		**—**	(6)	Employee benefits expense and financing costs	**(4)**	1
		$ 73	$ (123)		**$ (79)**	$ 4

1 Amounts recognized in other comprehensive income are net of the change in the foreign currency basis spread (which is used for purposes of assessing hedge ineffectiveness) included in the fair value of the derivative instruments; such amounts for the year ended December 31, 2021, were $(48) (2020 – $63).
2 Amounts recognized in other comprehensive income are net of the change in the foreign currency basis spread (which is used for purposes of assessing hedge ineffectiveness) included in the fair value of the derivative instruments; such amounts for the year ended December 31, 2021, were $2 (2020 – $(1)).

The following table sets out the gains and losses arising from derivative instruments that are classified as held for trading and that are not designated as being in a hedging relationship, as well as their location within the Consolidated statements of income and other comprehensive income.

		Gain (loss) recognized in income on derivatives	
Years ended December 31 (millions)	Location	**2021**	2020
Derivatives used to manage currency risk	Financing costs	**$ (2)**	$ 11

5 segment information

General

Operating segments are components of an entity that engage in business activities from which they earn revenues and incur expenses (including revenues and expenses related to transactions with the other component(s)), the operations of which can be clearly distinguished and for which the operating results are regularly reviewed by a chief operating decision-maker to make resource allocation decisions and to assess performance.

Effective January 1, 2020, we embarked upon the modification of our internal and external reporting processes, systems and internal controls to accommodate the technology convergence-driven cessation of the historical distinction between our wireless and wireline operations at the level of regularly reported discrete performance measures that are provided to our chief operating decision-maker. Prior to the World Health Organization characterizing COVID-19 as a pandemic, we had anticipated transitioning to a new segment reporting structure during 2020; commencing with the three-month period ended March 31, 2021, we have now transitioned to our new segment reporting structure and have recast comparative amounts on a comparable basis.

The TELUS technology solutions segment includes: network revenues and equipment sales arising from mobile technologies; data revenues (which include internet protocol; television; hosting, managed information technology and cloud-based services; software, data management and data analytics-driven smart-food chain technologies; and home and business security); certain healthcare software and technology solutions; voice and other telecommunications services revenues; and equipment sales.

The digitally-led customer experiences – TELUS International segment (DLCX), which has the U.S. dollar as its primary functional currency, is comprised of digital customer experience and digital-enablement transformation solutions, including artificial intelligence and content management solutions, provided by our TELUS International (Cda) Inc. subsidiary.

Intersegment sales are recorded at the exchange value, which is the amount agreed to by the parties.

The segment information regularly reported to our Chief Executive Officer (our chief operating decision-maker), and the reconciliations thereof to our products and services view of revenues, other revenues and income before income taxes, are set out in the following table.

Years ended December 31 (millions)	TELUS technology solutions – Mobile 2021	TELUS technology solutions – Mobile 2020	TELUS technology solutions – Fixed 2021	TELUS technology solutions – Fixed 2020	TELUS technology solutions – Segment total 2021	TELUS technology solutions – Segment total 2020	Digitally-led customer experiences - TELUS International [1] 2021	Digitally-led customer experiences - TELUS International [1] 2020	Eliminations 2021	Eliminations 2020	Total 2021	Total 2020
Operating revenues												
External revenues												
Service	**$ 6,297**	$ 6,096	**$ 5,928**	$ 5,444	**$12,225**	$11,540	**$ 2,310**	$ 1,737	**$ —**	$ —	**$14,535**	$13,277
Equipment	**2,042**	1,809	**261**	255	**2,303**	2,064	**—**	—	**—**	—	**2,303**	2,064
Revenues arising from contracts with customers	**$ 8,339**	$ 7,905	**$ 6,189**	$ 5,699	**14,528**	13,604	**2,310**	1,737	**—**	—	**16,838**	15,341
Other income (*Note 7*)					**420**	19	**—**	103	**—**	—	**420**	122
					14,948	13,623	**2,310**	1,840	**—**	—	**17,258**	15,463
Intersegment revenues					**18**	13	**444**	416	**(462)**	(429)	**—**	—
					$14,966	$13,636	**$ 2,754**	$ 2,256	**$ (462)**	$ (429)	**$17,258**	$15,463
EBITDA [2]					**$ 5,735**	$ 4,976	**$ 555**	$ 518	**$ —**	$ —	**$ 6,290**	$ 5,494
Restructuring and other costs included in EBITDA (*Note 16*)					**148**	182	**38**	77	**—**	—	**186**	259
Equity losses related to real estate joint venture					**3**	19	**—**	—	**—**	—	**3**	19
Gain on disposition of financial solutions business (*Note 7*)					**(410)**	—	**—**	—	**—**	—	**(410)**	—
Retirement of provision arising from business acquisition-related written put options within DLCX					**—**	—	**—**	(71)	**—**	—	**—**	(71)
Adjusted EBITDA [2]					**$ 5,476**	$ 5,177	**$ 593**	$ 524	**$ —**	$ —	**$ 6,069**	$ 5,701
CAPEX, excluding spectrum licences [3]					**$ 3,372**	$ 2,675	**$ 126**	$ 100	**$ —**	$ —	**$ 3,498**	$ 2,775

Operating revenues – external and other income (above)	**$17,258**	$15,463
Goods and services purchased	**6,699**	6,268
Employee benefits expense	**4,269**	3,701
EBITDA (above)	**6,290**	5,494
Depreciation	**2,126**	2,107
Amortization	**1,090**	905
Operating income	**3,074**	2,482
Financing costs	**796**	771
Income before income taxes	**$ 2,278**	$ 1,711

1 The digitally-led customer experiences – TELUS International segment is comprised of our consolidated TELUS International (Cda) Inc. subsidiary and a line of business retrospectively reorganized into, and accounted for using predecessor accounting prospectively applied by, TELUS International (Cda) Inc. (see *Note 28(c)*). All of our other international operations are included in the TELUS technology solutions segment.

2 Earnings before interest, income taxes, depreciation and amortization (EBITDA), both unadjusted and adjusted, are not standardized financial measures under IFRS-IASB and may not be comparable to similar measures disclosed by other issuers (including those disclosed by TELUS International (Cda) Inc.); we define EBITDA as operating revenues and other income less goods and services purchased and employee benefits expense. We calculate adjusted EBITDA to exclude items that do not reflect our ongoing operations and, in our opinion, should not be considered in a long-term valuation metric or included in an assessment of our ability to service or incur debt. We report EBITDA and adjusted EBITDA because they are key measures that management uses to evaluate the performance of our business, and EBITDA is also utilized in measuring compliance with certain debt covenants.

3 Total capital expenditures (CAPEX); see *Note 31(a)* for a reconciliation of capital expenditures, excluding spectrum licences, to cash payments for capital assets, excluding spectrum licences, reported in the Consolidated statements of cash flows.

Geographical information

We attribute revenues from external customers to individual countries on the basis of the location where the goods and/or services are provided; for the year ended December 31, 2021, we attributed approximately $2.6 billion (2020 – $1.9 billion) of our revenues to countries other than Canada (our country of domicile). We do not have significant amounts of property, plant and equipment located outside of Canada. As at December 31, 2021, on a historical cost basis, we had approximately $2.2 billion (2020 – $2.2 billion) and approximately $2.2 billion (2020 – $2.2 billion) of intangible assets and goodwill, respectively, located outside of Canada.

6 revenue from contracts with customers

(a) Revenues

In the determination of the minimum transaction prices in contracts with customers, amounts are allocated to fulfilling, or completion of fulfilling, future contracted performance obligations. These unfulfilled, or partially unfulfilled, future contracted performance obligations are largely in respect of services to be provided over the duration of the contract. The following table sets out our aggregate estimated minimum transaction prices allocated to remaining unfulfilled, or partially unfulfilled, future contracted performance obligations and the timing of when we might expect to recognize the associated revenues; actual amounts could differ from these estimates due to a variety of factors, including the unpredictable nature of: customer behaviour; industry regulation; the economic environments in which we operate; and competitor behaviour.

As at December 31 (millions)	2021	2020
Estimated minimum transaction price allocated to remaining unfulfilled, or partially unfulfilled, performance obligations to be recognized as revenue in a future period [1, 2]		
During the 12-month period ending one year hence	**$ 2,369**	$ 2,279
During the 12-month period ending two years hence	**915**	883
Thereafter	**56**	35
	$ 3,340	$ 3,197

1 Excludes constrained variable consideration amounts, amounts arising from contracts originally expected to have a duration of one year or less and, as a permitted practical expedient, amounts arising from contracts that are not affected by revenue recognition timing differences arising from transaction price allocation **or** from contracts under which we may recognize and bill revenue in an amount that corresponds directly with our completed performance obligations.

2 IFRS-IASB requires the explanation of when we expect to recognize as revenue the amounts disclosed as the estimated minimum transaction price allocated to remaining unfulfilled, or partially unfulfilled, performance obligations. The estimated amounts disclosed are based upon contractual terms and maturities. Actual minimum transaction price revenues recognized, and the timing thereof, will differ from these estimates primarily due to the frequency with which the actual durations of contracts with customers do not match their contractual maturities.

(b) Accounts receivable

As at December 31 (millions)	*Note*	2021	2020
Customer accounts receivable		**$ 2,194**	$ 1,986
Accrued receivables – customer		**313**	241
Allowance for doubtful accounts	*4(b)*	**(81)**	(119)
		2,426	2,108
Accrued receivables – other		**245**	247
Accounts receivable – current		**$ 2,671**	$ 2,355

(c) Contract assets

Years ended December 31 (millions)	*Note*	**2021**	2020
Balance, beginning of period		**$ 850**	$ 1,238
Net additions arising from operations		**1,324**	959
Amounts billed in the period and thus reclassified to accounts receivable [1]		**(1,343)**	(1,363)
Change in impairment allowance, net	*4(b)*	**6**	15
Other		**—**	1
Balance, end of period		**$ 837**	$ 850
To be billed and thus reclassified to accounts receivable during:			
The 12-month period ending one year hence		**$ 571**	$ 582
The 12-month period ending two years hence		**248**	253
Thereafter		**18**	15
Balance, end of period		**$ 837**	$ 850
Reconciliation of contract assets presented in the Consolidated statements of financial position – current			
Gross contract assets		**$ 571**	$ 582
Reclassification to contract liabilities of contracts with contract assets less than contract liabilities	*24*	**(13)**	(10)
Reclassification from contract liabilities of contracts with contract liabilities less than contract assets	*24*	**(115)**	(133)
		$ 443	$ 439

1 For the year ended December 31, 2021, amounts billed for our mobile products and services and reclassified to accounts receivable totalled $734 (2020 – $1,015).

7 other income

Years ended December 31 (millions)	*Note*	**2021**	2020
Government assistance		**$ 8**	$ 13
Other sublet revenue	*19*	**4**	4
Investment income (loss), gain (loss) [1] on disposal of assets and other		**404**	(12)
Interest income	*21(b)*	**4**	4
Changes in business combination-related provisions		**—**	113
		$ 420	$ 122

1 During the year ended December 31, 2021, we disposed of our financial solutions business, which was a part of our TELUS technology solutions segment, and realized a gain on disposition of $410 before income taxes.

We receive government assistance, as defined by IFRS-IASB, from a number of sources and, if not in respect of capital, generally include such amounts received in Other income, other than in respect of the Canada Emergency Wage Subsidy program amounts, as set out in *Note 8*. We recognize such amounts on an accrual basis as the subsidized services are provided or as the subsidized costs are incurred.

CRTC subsidy

Local exchange carriers' costs of providing the level of residential basic telephone services that the CRTC requires to be provided in high cost serving areas are greater than the amounts the CRTC allows the local exchange carriers to charge for the levels of service. To ameliorate the situation, the CRTC directs the collection of contribution payments, in a central fund, from all registered Canadian telecommunications service providers (including voice, data and mobile service providers) that are then disbursed to incumbent local exchange carriers as subsidy payments to partially offset the costs of providing residential basic telephone services in non-forborne high cost serving areas. The subsidy payment disbursements are based upon a total subsidy requirement calculated on a per network access line/per band subsidy rate. For the year ended December 31, 2021, our subsidy receipts were $5 million (2020 – $10 million).

Government of Quebec

Salaries for qualifying employment positions in the province of Quebec, mainly in the information technology sector, are eligible for tax credits. In respect of such tax credits, for the year ended December 31, 2021, we recorded $3 million (2020 – $3 million).

8 employee benefits expense

Years ended December 31 (millions)	*Note*	**2021**	2020
Employee benefits expense – gross			
Wages and salaries [1]		**$ 4,118**	$ 3,668
Share-based compensation [2]	*14*	**236**	173
Pensions – defined benefit	*15(a)*	**113**	102
Pensions – defined contribution	*15(f)*	**106**	94
Restructuring costs [2]	*16(a)*	**79**	49
Employee health and other benefits		**227**	190
		4,879	4,276
Capitalized internal labour costs, net			
Contract acquisition costs	*20*		
Capitalized		**(91)**	(74)
Amortized		**66**	55
Contract fulfilment costs	*20*		
Capitalized		**(2)**	(2)
Amortized		**5**	4
Property, plant and equipment		**(362)**	(350)
Intangible assets subject to amortization		**(226)**	(208)
		(610)	(575)
		$ 4,269	$ 3,701

1 For the years ended December 31, 2021 and 2020, wages and salaries are net of Canada Emergency Wage Subsidy program amounts.
2 For the year ended December 31, 2021, $8 of share-based compensation in the digitally-led customer experiences segment was included in restructuring costs.

9 financing costs

Years ended December 31 (millions)	*Note*	**2021**	2020
Interest expense			
Interest on long-term debt, excluding lease liabilities - gross		**$ 683**	$ 676
Interest on long-term debt, excluding lease liabilities - capitalized [1]		**(3)**	(37)
Interest on long-term debt, excluding lease liabilities		**680**	639
Interest on lease liabilities	*19*	**66**	70
Interest on short-term borrowings and other		**15**	5
Interest accretion on provisions	*25*	**18**	16
Long-term debt prepayment premium		**10**	18
		789	748
Employee defined benefit plans net interest	*15*	**26**	16
Foreign exchange		**(3)**	14
		812	778
Interest income		**(16)**	(7)
		$ 796	$ 771
Net interest cost	*3*	**$ 773**	$ 792
Interest on long-term debt, excluding lease liabilities - capitalized [1]		**(3)**	(37)
Employee defined benefit plans net interest		**26**	16
		$ 796	$ 771

1 Interest on long-term debt, excluding lease liabilities, at a composite rate of 3.10% (2020 – 4.33%) was capitalized to intangible assets with indefinite lives during the period.

10 income taxes

(a) Expense composition and rate reconciliation

Years ended December 31 (millions)	**2021**	2020
Current income tax expense		
For the current reporting period	**$ 563**	$ 474
Adjustments recognized in the current period for income taxes of prior periods	**(30)**	(99)
	533	375
Deferred income tax expense		
Arising from the origination and reversal of temporary differences	**25**	3
Revaluation of deferred income tax liability to reflect future income tax rates	**—**	(6)
Adjustments recognized in the current period for income taxes of prior periods	**22**	79
	47	76
	$ 580	$ 451

Our income tax expense and effective income tax rate differ from those computed by applying the applicable statutory rates for the following reasons:

Years ended December 31 ($ in millions)	2021		2020	
Income taxes computed at applicable statutory rates	**$ 589**	**25.8 %**	$ 446	26.1 %
Revaluation of deferred income tax liability to reflect future income tax rates	**—**	**—**	(6)	(0.4)
Adjustments recognized in the current period for income taxes of prior periods	**(8)**	**(0.3)**	(20)	(1.3)
Non-deductible amounts	**23**	**1.0**	20	1.2
Gain on disposition	**(46)**	**(2.0)**	—	—
Other	**22**	**1.0**	11	0.7
Income tax expense per Consolidated statements of income and other comprehensive income	**$ 580**	**25.5 %**	$ 451	26.3 %

(b) Temporary differences

We must make significant estimates in respect of the composition of our deferred income tax liability. Our operations are complex and the related income tax interpretations, regulations, legislation and jurisprudence are continually changing. As a result, there are usually some income tax matters in question.

Temporary differences comprising the net deferred income tax liability and the amounts of deferred income taxes recognized in the Consolidated statements of income and other comprehensive income and the Consolidated statements of changes in owners' equity are estimated as follows:

(millions)	Property, plant and equipment (owned) and intangible assets subject to amortization	Intangible assets with indefinite lives	Property, plant and equipment (leased), net of lease liabilities	Contract assets and liabilities	Net pension and share-based compensation amounts	Provisions not currently deductible	Losses available to be carried forward [1]	Other	Net deferred income tax liability
As at January 1, 2020 [2]	$ 1,616	$ 1,608	$ (77)	$ 418	$ (140)	$ (212)	$ (11)	$ 6	$ 3,208
Deferred income tax expense recognized in Net income	85	82	37	(111)	(31)	8	(33)	39	76
Other comprehensive income	—	—	—	—	(109)	—	—	(13)	(122)
Deferred income taxes charged directly to owners' equity and other (*Note 18(c)*)	591	2	—	—	—	(11)	(23)	(14)	545
As at December 31, 2020 [3]	2,292	1,692	(40)	307	(280)	(215)	(67)	18	3,707
Deferred income tax expense recognized in Net income	**75**	**59**	**7**	**(112)**	**(28)**	**41**	**(23)**	**28**	**47**
Other comprehensive income	**—**	**—**	**—**	**—**	**209**	**—**	**—**	**37**	**246**
Deferred income taxes charged directly to owners' equity and other (*Note 18(b)*)	**79**	**—**	**—**	**—**	**—**	**—**	**(6)**	**(52)**	**21**
As at December 31, 2021 [4]	**$ 2,446**	**$ 1,751**	**$ (33)**	**$ 195**	**$ (99)**	**$ (174)**	**$ (96)**	**$ 31**	**$ 4,021**

1 We expect to be able to utilize our non-capital losses prior to expiry.
2 Deferred tax liability of $3,214, net of deferred tax asset of $6 (included in Other long-term assets).
3 Deferred tax liability of $3,718, net of deferred tax asset of $11 (included in Other long-term assets).
4 Deferred tax liability of $4,056, net of deferred tax asset of $35 (included in Other long-term assets).

Temporary differences arise from the carrying value of investments in subsidiaries and partnerships exceeding their tax base, for which no deferred income tax liabilities have been recognized because the parent is able to control the timing of the reversal of the difference and it is probable that it will not reverse in the foreseeable future. In our specific instance, this is relevant to our investments in Canadian subsidiaries and Canadian partnerships. We are not required to recognize such deferred income tax liabilities, as we are in a position to control the timing and manner of the reversal of the temporary differences, which would not be expected to be exigible to income tax, and it is probable that such differences will not reverse in the foreseeable future. We are in a position to control the timing and manner of the reversal of the temporary differences in respect of our non-Canadian subsidiaries, and it is probable that such differences will not reverse in the foreseeable future.

(c) Other

We conduct research and development activities, which may be eligible to earn Investment Tax Credits. During the year ended December 31, 2021, we recorded Investment Tax Credits of $21 million (2020 – $12 million). Of this amount, $14 million (2020 – $6 million) was recorded as a reduction of property, plant and equipment and/or intangible assets and the balance was recorded as a reduction of goods and services purchased.

11 other comprehensive income

Years ended December 31 (millions)	Items that may subsequently be reclassified to income: Change in unrealized fair value of derivatives designated as cash flow hedges in current period (*Note 4(i)*): Derivatives used to manage currency risk: Gains (losses) arising	Derivatives used to manage currency risk: Prior period (gains) losses transferred to net income	Derivatives used to manage currency risk: Total	Derivatives used to manage other market risks: Gains (losses) arising	Derivatives used to manage other market risks: Prior period (gains) losses transferred to net income	Derivatives used to manage other market risks: Total	Total	Cumulative foreign currency translation adjustment	Item never reclassified to income: Change in measurement of investment financial assets	Accumulated other comp. income	Item never reclassified to income: Employee defined benefit plan re-measure-ments	Other comp. income
Accumulated balance as at January 1, 2020			$ 66			$ (1)	$ 65	$ 42	$ 12	$ 119		
Other comprehensive income (loss)												
Amount arising	$ (117)	$ (3)	(120)	$ (6)	$ (1)	(7)	(127)	113	17	3	$ (421)	$ (418)
Income taxes	$ (5)	$ (9)	(14)	$ (2)	$ —	(2)	(16)	—	3	(13)	(109)	(122)
Net			(106)			(5)	(111)	113	14	16	$ (312)	$ (296)
Accumulated balance as at December 31, 2020			(40)			(6)	(46)	155	26	135		
Other comprehensive income (loss)												
Amount arising	**$ 73**	**$ 75**	**148**	**$ —**	**$ 4**	**4**	**152**	**(130)**	**66**	**88**	**$ 809**	**$ 897**
Income taxes	**$ 9**	**$ 18**	**27**	**$ —**	**$ 1**	**1**	**28**	**—**	**9**	**37**	**209**	**246**
Net			**121**			**3**	**124**	**(130)**	**57**	**51**	**$ 600**	**$ 651**
Accumulated balance as at December 31, 2021			**$ 81**			**$ (3)**	**$ 78**	**$ 25**	**$ 83**	**$ 186**		
Attributable to:												
Common Shares										**$ 203**		
Non-controlling interests										**(17)**		
										$ 186		



12 per share amounts

Basic net income per Common Share is calculated by dividing net income attributable to Common Shares by the total weighted average number of Common Shares outstanding during the period. Diluted net income per Common Share is calculated to give effect to share option awards and restricted share unit awards.

The following table presents reconciliations of the denominators of the basic and diluted per share computations. Net income was equal to diluted net income for all periods presented.

Years ended December 31 (millions)	**2021**	2020
Basic total weighted average number of Common Shares outstanding	**1,346**	1,275
Effect of dilutive securities – Restricted share units	**5**	3
Diluted total weighted average number of Common Shares outstanding	**1,351**	1,278

For the years ended December 31, 2021 and 2020, no outstanding equity-settled restricted share unit awards were excluded in the calculation of diluted income per Common Share. For the year ended December 31, 2021, less than 1 million (2020 — 1 million) outstanding TELUS Corporation share option awards were excluded in the calculation of diluted net income per Common Share.

13 dividends per share

(a) TELUS Corporation Common Share dividends declared

Years ended December 31 (millions except per share amounts)	**2021**				2020			
TELUS Corporation Common Share dividends	Declared Effective	Per share	Paid to shareholders	Total	Declared Effective	Per share	Paid to shareholders	Total
Quarter 1 dividend	**Mar. 11, 2021**	**$ 0.3112**	**Apr. 1, 2021**	**$ 404**	Mar. 11, 2020	$ 0.29125	Apr. 1, 2020	$ 371
Quarter 2 dividend	**Jun. 10, 2021**	**0.3162**	**Jul. 2, 2021**	**428**	Jun. 10, 2020	0.29125	Jul. 2, 2020	372
Quarter 3 dividend	**Sep. 10, 2021**	**0.3162**	**Oct. 1, 2021**	**430**	Sep. 10, 2020	0.29125	Oct. 1, 2020	374
Quarter 4 dividend	**Dec. 10, 2021**	**0.3274**	**Jan. 4, 2022**	**449**	Dec. 11, 2020	0.31120	Jan. 4, 2021	403
		$ 1.2710		**$1,711**		$ 1.18495		$ 1,520

On February 9, 2022, the Board of Directors declared a quarterly dividend of $ 0.3274 per share on our issued and outstanding TELUS Corporation Common Shares payable on April 1, 2022, to holders of record at the close of business on March 11, 2022. The final amount of the dividend payment depends upon the number of TELUS Corporation Common Shares issued and outstanding at the close of business on March 11, 2022.

(b) Dividend Reinvestment and Share Purchase Plan

We have a Dividend Reinvestment and Share Purchase Plan under which eligible holders of TELUS Corporation Common Shares may acquire additional TELUS Corporation Common Shares by reinvesting dividends and by making additional optional cash payments to the trustee. Under this plan, we have the option of offering TELUS Corporation Common Shares from Treasury or having the trustee acquire TELUS Corporation Common Shares in the stock market. We may, at our discretion, offer TELUS Corporation Common Shares at a discount of up to 5% from the market price under the plan. Effective with our dividends paid October 1, 2019, we offered TELUS Corporation Common Shares from Treasury at a discount of 2%. In respect of TELUS Corporation Common Shares held by eligible shareholders who have elected to participate in the plan, dividends declared during the year ended December 31, 2021, of $582 million (2020 – $524 million) were to be reinvested in TELUS Corporation Common Shares.

14 share-based compensation

(a) Details of share-based compensation expense

Reflected in the Consolidated statements of income and other comprehensive income as Employee benefits expense and in the Consolidated statements of cash flows are the following share-based compensation amounts:

Years ended December 31 (millions)	Note	2021 Employee benefits expense [1]	2021 Associated operating cash outflows	2021 Statement of cash flows adjustment	2020 Employee benefits expense	2020 Associated operating cash outflows	2020 Statement of cash flows adjustment
Restricted share units	*(b)*	**$ 185**	**$ (35)**	**$ 150**	$ 131	$ (109)	$ 22
Employee share purchase plan	*(c)*	**41**	**(41)**	**—**	33	(33)	—
Share option awards	*(d)*	**18**	**(29)**	**(11)**	9	(4)	5
		$ 244	**$ (105)**	**$ 139**	$ 173	$ (146)	$ 27
TELUS technology solutions		**$ 150**	**$ (44)**	**$ 106**	$ 135	$ (123)	$ 12
Digitally-led customer experiences		**94**	**(61)**	**33**	38	(23)	15
		$ 244	**$ (105)**	**$ 139**	$ 173	$ (146)	$ 27

1 Within employee benefits expense (see *Note 8*), for the year ended December 31, 2021, restricted share units expense of $178 and share option awards expense of $17 are presented as share-based compensation expense and the balance is included in restructuring costs (see *Note 16*) of the digitally-led customer experiences segment.

(b) Restricted share units

General

We use restricted share units as a form of retention and incentive compensation. Each restricted share unit is nominally equal in value to one equity share and is nominally entitled to the dividends that would arise thereon if it were an issued and outstanding equity share. The notional dividends are recorded as additional issuances of restricted share units during the life of the restricted share unit. Due to the notional dividend mechanism, the grant-date fair value of restricted share units equals the fair market value of the corresponding equity shares at the grant date, other than for the notional subset of our restricted share units affected by the relative total shareholder return performance condition (which have their grant-date fair value determined using a Monte Carlo simulation). The restricted share units generally become payable when vesting is complete; TELUS Corporation restricted share units typically vest over a period of 33 months (the requisite service period) and TELUS International (Cda) Inc. restricted share units typically vest over a period of 48 months (the requisite service period). The vesting method of restricted share units, which is determined on or before the date of grant, may be either cliff or graded; the majority of TELUS Corporation restricted share units outstanding are cliff-vesting and the majority of TELUS International (Cda) Inc. restricted share units are graded-vesting. Accounting for restricted share units, as either equity instruments or liability instruments, is based upon the expected manner of their settlement when they are granted. Grants of restricted share units prior to fiscal 2019 were accounted for as liability instruments, as the associated obligation was normally cash-settled.

TELUS Corporation restricted share units

We also award restricted share units that largely have the same features as our general restricted share units, but have a variable payout (0% – 200%) that depends upon the achievement of our total customer connections performance condition (with a weighting of 25%) and the total shareholder return on TELUS Corporation Common Shares relative to an international peer group of telecommunications companies (with a weighting of 75%). The grant-date fair value of the notional subset of our restricted share units affected by the total customer connections performance condition equals the fair market value of the corresponding TELUS Corporation Common Shares at the grant date, and thus the notional subset has been included in the presentation of our restricted share units with only service conditions. The estimate, which reflects a variable payout, of the fair value of the notional subset of our restricted share units affected by the relative total shareholder return performance condition is determined using a Monte Carlo simulation. Grants of restricted share units in 2021 and 2020 are accounted for as equity-settled, as that was their expected manner of settlement when granted.

The following table presents a summary of outstanding TELUS Corporation non-vested restricted share units.

Number of non-vested restricted share units as at December 31	**2021**	2020
Restricted share units without market performance conditions		
Restricted share units with only service conditions	**5,481,486**	5,718,328
Notional subset affected by total customer connections performance condition	**366,983**	298,957
	5,848,469	6,017,285
Restricted share units with market performance conditions		
Notional subset affected by relative total shareholder return performance condition	**1,100,949**	896,870
	6,949,418	6,914,155

The following table presents a summary of the activity related to TELUS Corporation restricted share units without market performance conditions.

Years ended December 31	**2021**			2020		
	Number of restricted share units [1]		Weighted average	Number of restricted share units [1]		Weighted average
	Non-vested	Vested	grant-date fair value	Non-vested	Vested	grant-date fair value
Outstanding, beginning of period						
Non-vested	**6,017,285**	**—**	**$ 24.55**	6,468,954	—	$ 23.37
Vested	**—**	**29,870**	**$ 24.58**	—	30,800	$ 22.02
Granted						
Initial award	**3,131,508**	**—**	**$ 25.98**	3,199,809	—	$ 25.36
In lieu of dividends	**385,783**	**1,394**	**$ 26.74**	428,750	624	$ 23.08
Variable payout related	**16,886**	**—**	**$ 25.53**	—	—	—
Vested	**(3,354,451)**	**3,354,451**	**$ 24.10**	(3,696,539)	3,696,539	$ 23.14
Settled						
In cash	**—**	**(58,704)**	**$ 24.67**	—	(3,053,349)	$ 22.82
In equity	**—**	**(3,277,873)**	**$ 24.07**	—	(644,744)	$ 24.17
Forfeited	**(348,542)**	**—**	**$ 21.59**	(383,689)	—	$ 23.82
Outstanding, end of period						
Non-vested	**5,848,469**	**—**	**$ 25.67**	6,017,285	—	$ 24.55
Vested	**—**	**49,138**	**$ 25.63**	—	29,870	$ 24.58

1 Excluding the notional subset of restricted share units affected by the relative total shareholder return performance condition.

TELUS International (Cda) Inc. restricted share units

We also award restricted share units that largely have the same features as the TELUS Corporation restricted share units, but have a variable payout (0% – 150%) that depends upon the achievement of TELUS International (Cda) Inc. financial performance and non-market quality-of-service performance conditions. Grants of restricted share units in 2021 are accounted for as equity-settled, as that was their expected manner of settlement when granted.

The following table presents a summary of the activity related to TELUS International (Cda) Inc. restricted share units.

Years ended December 31	**2021**			2020		
	Number of restricted share units		Weighted average grant-date fair value	Number of restricted share units		Weighted average grant-date fair value
	Non-vested	Vested		Non-vested	Vested	
Outstanding, beginning of period	**1,383,642**	**—**	**US$ 7.94**	2,093,603	—	US$ 6.11
Granted – initial award	**1,383,983**	**—**	**US$ 27.26**	357,966	—	US$ 11.11
Vested	**(805,429)**	**805,429**	**US$ 7.29**	(982,395)	982,395	US$ 5.95
Settled						
In cash	**—**	**(773,185)**	**US$ 6.31**	—	(982,395)	US$ 5.95
In equity	**—**	**(32,244)**	**US$ 31.01**	—	—	US$ —
Forfeited	**(111,389)**	**—**	**US$ 20.16**	(85,532)	—	US$ 7.00
Outstanding, end of period	**1,850,807**	**—**	**US$ 21.94**	1,383,642	—	US$ 7.94

(c) TELUS Corporation employee share purchase plan

We have an employee share purchase plan under which eligible employees up to a certain job classification can purchase TELUS Corporation Common Shares through regular payroll deductions. In respect of TELUS Corporation Common Shares held within the employee share purchase plan, TELUS Corporation Common Share dividends declared during the year ended December 31, 2021, of $42 million (2020 – $37 million) were to be reinvested in TELUS Corporation Common Shares acquired by the trustee from Treasury, with a discount applicable, as set out in *Note 13(b).*

(d) Share option awards

General

We use share option awards as a form of retention and incentive compensation. We apply the fair value method of accounting for share-based compensation awards granted to officers and other employees. Share option awards typically have a three-year vesting period (the requisite service period). The vesting method of share option awards, which is determined on or before the date of grant, may be either cliff or graded; all share option awards granted subsequent to 2004 have been cliff-vesting.

The weighted average fair value of share option awards granted is calculated by using the Black-Scholes model (a closed-form option pricing model). The risk-free interest rate used in determining the fair value of the share option awards is based on a Government of Canada yield curve that is current at the time of grant. The expected lives of the share option awards are based on our historical share option award exercise data. Similarly, expected volatility considers the historical volatility in the price of our Common Shares in respect of TELUS Corporation share options and the average historical volatility in the prices of a peer group's shares, and TELUS International (Cda) Inc.'s own shares, in respect of TELUS International (Cda) Inc. share options. The dividend yield is the annualized dividend current at the time of grant divided by the share option award exercise price. Dividends are not paid on unexercised share option awards and are not subject to vesting.

TELUS Corporation share options

Employees may be granted share option awards to purchase TELUS Corporation Common Shares at an exercise price equal to the fair market value at the time of grant. Share option awards granted under the plan may be exercised over specific periods not to exceed seven years from the time of grant. Share option awards granted in fiscal 2021 and 2020 were for front-line employees.

These share option awards have a net-equity settlement feature. The optionee does not have the choice of exercising the net-equity settlement feature; it is at our option whether the exercise of a share option award is settled as a share option or settled using the net-equity settlement feature.

The following table presents a summary of the activity related to the TELUS Corporation share option plan.

Years ended December 31	**2021**		2020	
	Number of share options	Weighted average share option price [1]	Number of share options	Weighted average share option price
Outstanding, beginning of period	**3,014,700**	**$ 21.59**	—	$ —
Granted	**324,900**	**$ 25.96**	3,171,600	$ 21.57
Forfeited	**(289,300)**	**$ 21.75**	(156,900)	$ 21.29
Outstanding, end of period	**3,050,300**	**$ 22.04**	3,014,700	$ 21.59

1 The weighted average remaining contractual life is 5.4 years. No options were exercisable as at the balance sheet date.

The weighted average fair value of share option awards granted, and the weighted average assumptions used in the fair value estimation at the time of grant, calculated by using the Black-Scholes model (a closed-form option pricing model), are as follows:

Years ended December 31	**2021**	2020
Share option award fair value (per share option)	**$ 0.93**	$ 0.65
Risk-free interest rate	**0.79 %**	0.95 %
Expected lives [1] (years)	**4.25**	4.25
Expected volatility	**12.5 %**	12.3 %
Dividend yield	**4.8 %**	5.4 %

1 The maximum contractual term of the share option awards granted in 2021 and 2020 was seven years.

TELUS International (Cda) Inc. share options

Employees may be granted equity share options (equity-settled) to purchase TELUS International (Cda) Inc. subordinate voting shares at a price equal to, or a multiple of, the fair market value at the time of grant and/or phantom share options (cash-settled) that provide them with exposure to TELUS International (Cda) Inc. subordinate voting share price appreciation. Share option awards granted under the plan may be exercised over specific periods not to exceed ten years from the time of grant. All equity share option awards and most phantom share option awards have a variable payout (0% – 100%) that depends upon the achievement of TELUS International (Cda) Inc. financial performance and non-market quality-of-service performance conditions.

The following table presents a summary of the activity related to the TELUS International (Cda) Inc. share option plan.

Years ended December 31	2021				2020			
	US$ denominated		C$ denominated		US$ denominated		C$ denominated	
	Number of share options	Weighted average share option price[1]	Number of share options	Share option price	Number of share options	Weighted average share option price	Number of share options	Share option price
Outstanding, beginning of period	**3,922,056**	**US$ 6.94**	**242,244**	**$ 4.75**	4,484,790	US$ 6.91	242,244	$ 4.75
Granted	**579,949**	**US$ 25.00**	**—**	**$ —**	—	US$ —	—	$ —
Exercised	**(1,321,238)**	**US$ 5.74**	**(242,244)**	**$ 4.75**	(562,734)	US$ 6.21	—	$ —
Outstanding, end of period	**3,180,767**	**US$ 10.74**	**—**	**$ —**	3,922,056	US$ 6.94	242,244	$ 4.75
Exercisable, end of period	**2,096,582**	**US$ 7.45**	**—**	**$ —**	3,267,423	US$ 6.58	242,244	$ 4.75

1 For 2,600,818 share options, the range of share option prices is US $4.87 – US$8.95 per TELUS International (Cda) Inc. subordinated voting share and the weighted average remaining contractual life is 5.6 years; for the balance of share options, the price is US$25.00 and the weighted average remaining contractual life is 9.2 years.

The weighted average fair value of share option awards granted, and the weighted average assumptions used in the fair value estimation at the time of grant, calculated by using the Black-Scholes model (a closed-form option pricing model), are as follows:

Year ended December 31	2021
Share option award fair value (per share option)	US$ 5.34
Risk-free interest rate	0.73 %
Expected lives [1] (years)	6.5
Expected volatility	19.3 %
Dividend yield	NIL %

1 The maximum contractual term of the share option awards granted in 2021 was ten years.



15 employee future benefits

(a) Defined benefit pension plans – summary

Amounts in the primary financial statements relating to defined benefit pension plans

Years ended December 31 (millions)		2021			2020		
	Note	Plan assets	Defined benefit obligations accrued [1]	Net	Plan assets	Defined benefit obligations accrued [1]	Net
Employee benefits expense	*8*						
Benefits earned for current service		**$ —**	**$ (120)**		$ —	$ (111)	
Benefits earned for past service		**—**	**(6)**		—	(3)	
Employees' contributions		**18**	**—**		19	—	
Administrative fees		**(5)**	**—**		(7)	—	
		13	**(126)**	**$ (113)**	12	(114)	$(102)
Financing costs	*9*						
Notional income on plan assets [2] and interest on defined benefit obligations accrued		**238**	**(261)**		285	(297)	
Interest effect on asset ceiling limit	*(c)*	**(3)**	**—**		(4)	—	
		235	**(261)**	**(26)**	281	(297)	(16)
DEFINED BENEFIT (COST) INCLUDED IN NET INCOME [3]				**(139)**			(118)
Other comprehensive income	*11*						
Difference between actual results and estimated plan assumptions [4]		**661**	**(456)**		480	(67)	
Changes in plan financial assumptions	*(d)*	**—**	**657**		—	(836)	
Changes in the effect of limiting net defined benefit assets to the asset ceilings	*(c)*	**(53)**	**—**		2	—	
		608	**201**	**809**	482	(903)	(421)
DEFINED BENEFIT (COST) INCLUDED IN COMPREHENSIVE INCOME [3]				**670**			(539)
AMOUNTS INCLUDED IN OPERATING ACTIVITIES CASH FLOWS							
Employer contributions	*(e)*	**53**	**—**	**53**	51	—	51
BENEFITS PAID BY PLANS		**(474)**	**474**	**—**	(477)	477	—
PLAN ACCOUNT BALANCES [5]							
Change in year		**435**	**288**	**723**	349	(837)	(488)
Balance, beginning of year		**9,608**	**(10,521)**	**(913)**	9,259	(9,684)	(425)
Balance, end of year		**$ 10,043**	**$ (10,233)**	**$ (190)**	$ 9,608	$ (10,521)	$(913)
FUNDED STATUS – PLAN SURPLUS (DEFICIT)							
Pension plans that have plan assets in excess of defined benefit obligations accrued	*20*	**$ 9,141**	**$ (8,688)**	**$ 453**	$ 721	$ (708)	$ 13
Pension plans that have defined benefit obligations accrued in excess of plan assets							
Funded		**902**	**(1,286)**	**(384)**	8,887	(9,550)	(663)
Unfunded		**—**	**(259)**	**(259)**	—	(263)	(263)
	27	**902**	**(1,545)**	**(643)**	8,887	(9,813)	(926)
		$ 10,043	**$ (10,233)**	**$ (190)**	$ 9,608	$ (10,521)	$(913)
PBSR SOLVENCY POSITION [6]							
Pension plans that have plan assets in excess of defined benefit obligations accrued				**$1,366**			$ 516
Funded pension plans that have defined benefit obligations accrued in excess of plan assets				**—**			(153)
				$1,366			$ 363
DEFINED BENEFIT OBLIGATIONS ACCRUED OWED TO:							
Active members			**$ (2,343)**			$ (2,461)	
Deferred members			**(528)**			(561)	
Pensioners			**(7,362)**			(7,499)	
			$ (10,233)			$ (10,521)	

1 Defined benefit obligations accrued are the actuarial present values of benefits attributed to employee services rendered to a particular date.

2 The interest income on the plan assets portion of the employee defined benefit plans net interest amount included in Financing costs reflects a rate of return on plan assets equal to the discount rate used in determining the defined benefit obligations accrued.
3 Excluding income taxes.
4 Financial assumptions in respect of plan assets (interest income on plan assets included in Financing costs reflects a rate of return on plan assets equal to the discount rate used in determining the defined benefit obligations accrued) and demographic assumptions in respect of the actuarial present values of the defined benefit obligations accrued (see *(d)*). For the year ended December 31, 2021, the difference between actual results and estimated plan assumptions for defined benefit obligations includes $375 in respect of changes in mortality-related assumptions (see *(d)*).
5 The measurement date used to determine the plan assets and defined benefit obligations accrued was December 31.
6 The Office of the Superintendent of Financial Institutions, by way of the *Pension Benefits Standards Regulations, 1985* (PBSR) (see *(e)*), requires that a solvency valuation be performed on a periodic basis. The actual PBSR solvency positions are determined in conjunction with mid-year annual funding reports prepared by actuaries (see *(e)*); as a result, the PBSR solvency positions in this table as at December 31, 2021 and 2020, are interim estimates and updated estimates, respectively. The interim estimate as at December 31, 2020, was a net surplus of $375.

Interim estimated solvency ratios as at December 31, 2021, ranged from 106% to 122% (2020 – updated estimate is 94% to 108%; interim estimate was 95% to 109%) and the estimated three-year average solvency ratios, adjusted as required by the PBSR, ranged from 99% to 113% (2020 – updated estimate is 96% to 108%; interim estimate was 97% to 109%).

The solvency valuation effectively uses the fair value (excluding any asset ceiling limit effects) of the funded defined benefit pension plan assets (adjusted for theoretical wind-up expenses) to measure the solvency valuation assets. Although the defined benefit obligations accrued and the solvency valuation liabilities are calculated similarly, the assumptions used for each differ, primarily in respect of retirement ages and discount rates, and the solvency valuation liabilities, due to the required assumption that each plan is terminated on the valuation date, do not reflect assumptions about future compensation levels. Relative to the experience-based estimates of retirement ages used for purposes of determining the defined benefit obligations accrued, the minimum no-consent retirement age used for solvency valuation purposes may result in either a greater or lesser pension liability, depending upon the provisions of each plan. The solvency positions in this table reflect composite weighted average discount rates of 2.9% (2020 – 2.5%). A hypothetical decrease of 25 basis points in the composite weighted average discount rate would result in a $297 decrease in the PBSR solvency position as at December 31, 2021 (2020 – $ 330); these sensitivities are hypothetical, should be used with caution, are calculated without changing any other assumption and generally cannot be extrapolated because changes in amounts may not be linear.

(b) Pension plans and other defined benefit plans – overview

We have a number of defined benefit and defined contribution plans that provide pension and other retirement and post-employment benefits to most of our employees. As at December 31, 2021 and 2020, all registered defined benefit pension plans were closed to substantially all new participants and substantially all benefits had vested. The benefit plans in which our employees are participants reflect developments in our corporate history.

TELUS Corporation Pension Plan

Management and professional employees in Alberta who joined us prior to January 1, 2001, and certain unionized employees who joined us prior to June 9, 2011, are covered by this contributory defined benefit pension plan, which comprises slightly more than one-half of our total defined benefit obligation accrued. The plan contains a supplemental benefit account that may provide indexation of up to 70% of the annual increase in a specified cost-of-living index. Pensionable remuneration is determined by the average of the best five years of remuneration in the last ten years preceding retirement.

Pension Plan for Management and Professional Employees of TELUS Corporation

This defined benefit pension plan, which with certain limited exceptions ceased accepting new participants on January 1, 2006, and which comprises approximately one-quarter of our total defined benefit obligation accrued, provides a non-contributory base level of pension benefits. Additionally, on a contributory basis, employees annually can choose increased and/or enhanced levels of pension benefits above the base level. At an enhanced level of pension benefits, the plan has indexation of 100% of the annual increase in a specified cost-of-living index, to an annual maximum of 2%. Pensionable remuneration is determined by the annualized average of the best 60 consecutive months of remuneration.

TELUS Québec Defined Benefit Pension Plan

This contributory defined benefit pension plan, which ceased accepting new participants on April 14, 2009, covers any employee not governed by a collective agreement in Quebec who joined us prior to April 1, 2006, any non-supervisory employee governed by a collective agreement who joined us prior to September 6, 2006, and certain other unionized employees. The plan comprises approximately one-tenth of our total defined benefit obligation accrued. The plan has no indexation and pensionable remuneration is determined by the average of the best four years of remuneration.

TELUS Edmonton Pension Plan

This contributory defined benefit pension plan ceased accepting new participants on January 1, 1998. Indexation is 60% of the annual increase in a specified cost-of-living index and pensionable remuneration is determined by the annualized average of the best 60 consecutive months of remuneration. The plan comprises less than one-tenth of our total defined benefit obligation accrued.

Other defined benefit pension plans

In addition to the foregoing plans, we have non-registered, non-contributory supplementary defined benefit pension plans, which have the effect of maintaining the pension benefit earned once the allowable maximums in the registered plans are attained. As is common with non-registered plans of this nature, these plans are typically funded only as benefits are paid. These plans comprise less than 5% of our total defined benefit obligation accrued.

Telecommunication Workers Pension Plan

Certain employees in British Columbia are covered by a negotiated-cost, target-benefit union pension plan. Our contributions are determined in accordance with provisions of negotiated labour contracts (the current contract expired on December 31, 2021 - see *Note 29(c)*), and are generally based on employee gross earnings. We are not required to guarantee the benefits or assure the solvency of the plan, and we are not liable to the plan for other participating employers' obligations. For the years ended December 31, 2021 and 2020, our contributions comprised a significant proportion of the employer contributions to the union pension plan; similarly, a significant proportion of the plan participants were our active and retired employees.

British Columbia Public Service Pension Plan

Certain employees in British Columbia are covered by a public service pension plan. Contributions are determined in accordance with provisions of labour contracts negotiated by the Province of British Columbia and are generally based on employee gross earnings.

Defined contribution pension plans

We primarily offer three defined contribution pension plans, which are contributory, and these are the primary pension plans we sponsor that are available to our non-unionized and certain of our unionized employees. For the years ended December 31, 2021 and 2020, employees could generally choose to contribute to the plans at a rate of between 3% and 10% of their pensionable earnings; generally, we match 100% of contributions of employees up to 5% of their pensionable earnings and 80% of contributions of employees between 5% and 6% of their pensionable earnings. Membership in a defined contribution pension plan is generally

voluntary until an employee's third-year service anniversary. In the event that annual contributions exceed allowable maximums, excess amounts are in certain cases contributed to a non-registered supplementary defined contribution savings plan.

Other defined benefit plans

Other defined benefit plans, which are all non-contributory and, as at December 31, 2021 and 2020, non-funded, included a healthcare plan for retired employees and a life insurance plan, both of which ceased accepting new participants on January 1, 1997.

(c) Plan investment strategies and policies

Our primary goal for the defined benefit pension plans is to ensure the security of the retirement income and other benefits of the plan members and their beneficiaries. A secondary goal is to maximize the long-term rate of return on the defined benefit plans' assets within a level of risk acceptable to us.

Risk management

We consider absolute risk (the risk of contribution increases, inadequate plan surplus and unfunded obligations) to be more important than relative return risk. Accordingly, the defined benefit plans' designs, the nature and maturity of defined benefit obligations and the characteristics of the plans' memberships significantly influence investment strategies and policies. We manage risk by specifying allowable and prohibited investment types, setting diversification strategies and determining target asset allocations.

Allowable and prohibited investment types

Allowable and prohibited investment types, along with associated guidelines and limits, are set out in each plan's required Statement of Investment Policies and Procedures (SIPP), which is reviewed and approved annually by the designated governing body. The SIPP guidelines and limits are further governed by the permitted investments and lending limits set out in the *Pension Benefits Standards Regulations, 1985*. As well as conventional investments, each fund's SIPP may provide for the use of derivative products to facilitate investment operations and to manage risk, provided that no short position is taken and no guidelines and limits established in the SIPP are violated. Internally and externally managed funds are not permitted to invest directly in our securities, or those of our subsidiaries, and are prohibited from increasing grandfathered investments in our securities; any such grandfathered investments were made prior to the merger of BC TELECOM Inc. and TELUS Corporation, our predecessors.

Diversification

Our strategy for investments in equity securities is to be broadly diversified across individual securities, industry sectors and geographical regions. A meaningful portion (20% – 30% of total plan assets) of the plans' investment in equity securities is allocated to foreign equity securities with the intent of further diversifying plan assets. Debt securities may include a meaningful allocation to mortgages, with the objective of enhancing cash flow and providing greater scope for the management of the bond component of the plan assets. Debt securities may also include real return bonds to provide inflation protection, consistent with the indexed nature of some defined benefit obligations. Real estate investments are used to provide diversification of plan assets, hedging of potential long-term inflation and comparatively stable investment income.

Relationship between plan assets and benefit obligations

With the objective of lowering the long-term costs of our defined benefit pension plans, we purposely mismatch plan assets and benefit obligations. This mismatching is effected by including equity investments in the long-term asset mix, as well as fixed income securities and mortgages with durations that differ from those of the benefit obligations.

As at December 31, 2021, the present value-weighted average timing of estimated cash flows for the obligations (duration) of the defined benefit pension plans was 14.0 years (2020 – 14.1 years) and of the other defined benefit plans was 6.1 years (2020 – 5.8 years).

Compensation for liquidity issues that may otherwise have arisen from the mismatching of plan assets and benefit obligations is provided by broadly diversified investment holdings (including cash and short-term investments) and cash flows from dividends, interest and rents from those diversified investment holdings.

Fair value measurements

Information about the fair value measurements of our defined benefit pension plan assets, in aggregate, is as follows:

			Fair value measurements at reporting date using			
	Total		Quoted prices in active markets for identical items		Other	
As at December 31 (millions)	**2021**	2020	**2021**	2020	**2021**	2020
Asset class						
Equity securities						
Canadian	**$ 1,104**	$ 1,044	**$ 945**	$ 849	**$ 159**	$ 195
Foreign	**2,861**	2,699	**826**	685	**2,035**	2,014
Debt securities						
Issued by national, provincial or local governments	**1,290**	1,453	**1,120**	1,225	**170**	228
Corporate debt securities	**2,436**	2,087	**—**	—	**2,436**	2,087
Asset-backed securities	**6**	32	**—**	—	**6**	32
Commercial mortgages	**680**	803	**—**	—	**680**	803
Cash, cash equivalents and other	**820**	528	**37**	20	**783**	508
Real estate	**1,025**	1,085	**—**	—	**1,025**	1,085
	10,222	9,731	**$ 2,928**	$ 2,779	**$ 7,294**	$ 6,952
Effect of asset ceiling limit						
Beginning of year	**(123)**	(121)				
Interest effect on asset ceiling limit	**(3)**	(4)				
Change in the effect of limiting net defined benefit assets to the asset ceiling	**(53)**	2				
End of year	**(179)**	(123)				
	$ 10,043	$ 9,608				

As at December 31, 2021, pension benefit trusts that we administered held no TELUS Corporation Common Shares and no TELUS International (Cda) Inc. subordinate voting shares, and held debt of TELUS Corporation with a fair value of approximately $2 million (2020 – $2 million) (see *(c) – Allowable and prohibited investment types*). As at December 31, 2021 and 2020, pension benefit trusts that we administered did not lease real estate to us.

Asset allocations

Our defined benefit pension plans' target asset allocations and actual asset allocations are as follows:

	Target allocation	Percentage of plan assets at end of year	
Years ended December 31	2022	**2021**	2020
Equity securities	25-55 %	**38 %**	38 %
Debt securities	40-75 %	**51 %**	51 %
Real estate	10-30 %	**11 %**	11 %
Other	0-15 %	**—**	—
		100 %	100 %

(d) Assumptions

As referred to in *Note 1(b)*, management is required to make significant estimates related to certain actuarial and economic assumptions that are used in determining defined benefit pension costs, defined benefit obligations accrued and pension plan assets. These significant estimates are of a long-term nature, consistent with the nature of employee future benefits.

Demographic assumptions

In determining the defined benefit pension expense recognized in net income for the years ended December 31, 2021 and 2020, we utilized the Canadian Institute of Actuaries CPM 2014 mortality tables.

Financial assumptions

The discount rate, which is used to determine a plan's defined benefit obligations accrued, is based upon the yield on long-term, high-quality, fixed-term investments, and is set annually. The rate of future increases in compensation is based upon current benefits policies and economic forecasts.

The significant weighted average actuarial assumptions arising from these estimates and used in measuring our defined benefit obligations accrued are as follows:

	2021	2020
Mortality assumptions used to determine defined benefit obligations accrued at December 31		
Life expectancy at 65 for a member currently at age 65 (years)	**24.2**	22.7
Discount rate [1] used to determine:		
Net benefit costs for the year ended December 31	**2.50 %**	3.10 %
Defined benefit obligations accrued as at December 31	**2.95 %**	2.50 %
Current service cost in subsequent fiscal year	**3.10 %**	2.70 %
Rate of future increases in compensation used to determine:		
Net benefit costs for the year ended December 31	**2.90 %**	2.90 %
Defined benefit obligations accrued as at December 31	**3.00 %**	2.90 %

1 The discount rate disclosed in this table reflects the computation of an average discount rate that replicates the estimated timing of the obligation cash flows.

Sensitivity of key assumptions

The sensitivity of our key assumptions for our defined benefit pension plans was as follows:

Years ended, or as at, December 31 Increase (decrease) (millions)	**2021**		2020	
	Change in obligations	Change in expenses	Change in obligations	Change in expenses
Sensitivity of key demographic assumptions to an increase of one year [1] in life expectancy	**$ 323**	**$ 11**	$ 349	$ 11
Sensitivity of key financial assumptions to a hypothetical decrease of 25 basis points [1] in:				
Discount rate	**$ 366**	**$ 13**	$ 386	$ 15
Rate of future increases in compensation	**$ (34)**	**$ (3)**	$ (36)	$ (3)

1 These sensitivities are hypothetical and should be used with caution. Favourable hypothetical changes in the assumptions result in decreased amounts, and unfavourable hypothetical changes in the assumptions result in increased amounts, of the obligations and

expenses. Changes in amounts based on a variation in assumptions of one year or 25 basis points generally cannot be extrapolated because the relationship of the change in an assumption to the change in amounts may not be linear. Also, in this table, the effect of a variation in a particular assumption on the change in obligations or change in expenses is calculated without changing any other assumption; in reality, changes in one factor may result in changes in another (for example, an increase in the discount rate may result in changes in expectations about the rate of future increases in compensation), which might magnify or counteract the sensitivities.

(e) Employer contributions

The determination of the minimum funding amounts necessary for substantially all of our registered defined benefit pension plans is governed by the *Pension Benefits Standards Act, 1985*, which requires that current service costs be funded, and that both going-concern and solvency valuations be performed on a specified periodic basis.

- Any excess of plan assets over plan liabilities determined in the going-concern valuation reduces our minimum funding requirement for current service costs, but may not reduce the requirement to an amount less than the employees' contributions. The going-concern valuation generally determines the excess (if any) of a plan's assets over its liabilities on a projected benefit basis.
- As of the date of these consolidated financial statements, the solvency valuation generally requires that a plan's average solvency valuation liabilities, determined on the basis that the plan is terminated on the valuation date, in excess of its assets (if any) be funded, at a minimum, in equal annual amounts over a period not exceeding five years. So as to manage the risk of overfunding the plans, which results from the solvency valuation for funding purposes utilizing average solvency ratios, our funding may include the provision of letters of credit. As at December 31, 2021, undrawn letters of credit in the amount of $115 million (2020 – $108 million) secured certain obligations of the defined benefit pension plans, including non-registered unfunded plans.

Our best estimate of fiscal 2022 employer contributions to our defined benefit plans is approximately $ 32 million for defined benefit pension plans. This estimate is based upon the mid-year 2021 annual funding valuations that were prepared by actuaries using December 31, 2020, actuarial valuations. The funding reports are based on the pension plans' fiscal years, which are calendar years. The next annual funding valuations are expected to be prepared mid-year 2022.

Future benefit payments

Estimated future benefit payments from our funded and unfunded defined benefit pension plans, calculated as at December 31, 2021, are as follows:

Years ending December 31 (millions)	Funded	Unfunded	Total
2022	**$ 457**	**$ 11**	**$ 468**
2023	**467**	**11**	**478**
2024	**473**	**11**	**484**
2025	**478**	**12**	**490**
2026	**485**	**12**	**497**
2027-2031	**2,492**	**69**	**2,561**

(f) Defined contribution plans – expense

Our total defined contribution pension plan costs recognized were as follows:

Years ended December 31 (millions)	**2021**	2020
Union pension plan and public service pension plan contributions	**$ 20**	$ 21
Other defined contribution pension plans	**86**	73
	$ 106	$ 94

We expect that our 2022 union pension plan and public service pension plan contributions will be approximately $ 22 million.

(g) Other defined benefit plans

For the year ended December 31, 2021, other defined benefit plan current service cost was $ 2 million (2020 – $3 million). Estimated future benefit payments from our other defined benefit plans, calculated as at December 31, 2021, are $1 million annually for the five-year period from 2022 to 2026 and $5 million for the five-year period from 2027 to 2031.

16 restructuring and other costs

(a) Details of restructuring and other costs

With the objective of reducing ongoing costs, we incur associated incremental non-recurring restructuring costs, as discussed further in *(b)* following. We may also incur atypical charges when undertaking major or transformational changes to our business or operating models or post-acquisition business integration. In other costs, we include incremental atypical external costs incurred in connection with business acquisition or disposition activity; significant litigation costs in respect of losses or settlements; adverse retrospective regulatory decisions; and certain incremental atypical costs incurred in connection with the COVID-19 pandemic.

Restructuring and other costs are presented in the Consolidated statements of income and other comprehensive income, as set out in the following table:

	Restructuring *(b)*		Other *(c)*		Total	
Years ended December 31 (millions)	**2021**	2020	**2021**	2020	**2021**	2020
Goods and services purchased	**$ 62**	$ 160	**$ 45**	$ 49	**$ 107**	$ 209
Employee benefits expense	**79**	49	**—**	1	**79**	50
	$ 141	$ 209	**$ 45**	$ 50	**$ 186**	$ 259

(b) Restructuring provisions

Employee-related provisions and other provisions, as presented in *Note 25,* include amounts in respect of restructuring activities. In 2021, restructuring activities included ongoing and incremental efficiency initiatives, some of which involved personnel-related costs and rationalization of real estate. These initiatives were intended to improve our long-term operating productivity and competitiveness.

(c) Other

During the year ended December 31, 2021, incremental external costs were incurred in connection with business acquisition activity. In connection with business acquisitions, non-recurring atypical business integration expenditures that would be considered neither restructuring costs nor part of the fair value of the net assets acquired have been included in other costs.

Also during the year ended December 31, 2021, other costs were incurred in connection with the COVID-19 pandemic. Incremental costs were incurred due to proactive steps we elected to take in order to keep our customers and employees safe, including adjustments to the frequency of real estate cleaning and maintenance, among other items. As well, costs that have been incurred in the normal course but which are unable to contribute normally to the earning of revenues have been deemed atypical.

17 property, plant and equipment

		Owned assets						Right-of-use lease assets (*Note 19*)				
(millions)	*Note*	Network assets	Buildings and leasehold improvements	Computer hardware and other	Land	Assets under construction	Total	Network assets	Real estate	Other	Total	Total
AT COST												
As at January 1, 2020		$31,713	$ 3,314	$ 1,373	$ 48	$ 421	$36,869	$ 219	$1,267	$ 60	$ 1,546	$ 38,415
Additions [1]		998	43	62	5	1,191	2,299	282	224	24	530	2,829
Additions arising from business acquisitions		4	22	12	—	—	38	—	74	6	80	118
Dispositions, retirements and other		(497)	(70)	(142)	—	—	(709)	(2)	(64)	(8)	(74)	(783)
Assets under construction put into service		752	119	100	1	(972)	—	—	—	—	—	—
Net foreign exchange differences		2	—	(2)	—	—	—	—	5	—	5	5
As at December 31, 2020		32,972	3,428	1,403	54	640	38,497	499	1,506	82	2,087	40,584
Additions [1]		**730**	**53**	**82**	**5**	**1,593**	**2,463**	**300**	**220**	**34**	**554**	**3,017**
Additions arising from business acquisitions	*18(b)*	**—**	**1**	**2**	**—**	**—**	**3**	**—**	**4**	**—**	**4**	**7**
Dispositions, retirements and other		**(455)**	**(36)**	**(47)**	**—**	**—**	**(538)**	**(205)**	**(32)**	**(17)**	**(254)**	**(792)**
Assets under construction put into service		**1,266**	**92**	**88**	**16**	**(1,462)**	**—**	**—**	**—**	**—**	**—**	**—**
Net foreign exchange differences		**(3)**	**(1)**	**(3)**	**—**	**—**	**(7)**	**—**	**(4)**	**—**	**(4)**	**(11)**
As at December 31, 2021		**$34,510**	**$ 3,537**	**$ 1,525**	**$ 75**	**$ 771**	**$40,418**	**$ 594**	**$1,694**	**$ 99**	**$ 2,387**	**$ 42,805**
ACCUMULATED DEPRECIATION												
As at January 1, 2020		$21,060	$ 2,052	$ 875	$ —	$ —	$23,987	$ 6	$ 174	$ 16	$ 196	$ 24,183
Depreciation [2]		1,547	127	158	—	—	1,832	37	221	17	275	2,107
Dispositions, retirements and other		(489)	(70)	(142)	—	—	(701)	—	(16)	(6)	(22)	(723)
Net foreign exchange differences		2	—	(2)	—	—	—	—	3	—	3	3
As at December 31, 2020		22,120	2,109	889	—	—	25,118	43	382	27	452	25,570
Depreciation [2]		**1,526**	**135**	**167**	**—**	**—**	**1,828**	**77**	**204**	**17**	**298**	**2,126**
Dispositions, retirements and other		**(573)**	**(38)**	**(116)**	**—**	**—**	**(727)**	**(56)**	**(15)**	**(10)**	**(81)**	**(808)**
Net foreign exchange differences		**(3)**	**1**	**(2)**	**—**	**—**	**(4)**	**—**	**(5)**	**—**	**(5)**	**(9)**
As at December 31, 2021		**$23,070**	**$ 2,207**	**$ 938**	**$ —**	**$ —**	**$26,215**	**$ 64**	**$ 566**	**$ 34**	**$ 664**	**$ 26,879**
NET BOOK VALUE												
As at December 31, 2020		$10,852	$ 1,319	$ 514	$ 54	$ 640	$13,379	$ 456	$1,124	$ 55	$ 1,635	$ 15,014
As at December 31, 2021		**$11,440**	**$ 1,330**	**$ 587**	**$ 75**	**$ 771**	**$14,203**	**$ 530**	**$1,128**	**$ 65**	**$ 1,723**	**$ 15,926**

1 For the year ended December 31, 2021, additions include $(171) (2020 – $157) in respect of asset retirement obligations (see *Note 25*).

2 For the year ended December 31, 2021, depreciation includes $7 (2020 - $23) in respect of impairment of real estate right-of-use lease assets.

As at December 31, 2021, our contractual commitments for the acquisition of property, plant and equipment totalled $ 574 million over a period ending December 31, 2023 (2020 – $235 million over a period ending December 31, 2022).

18 intangible assets and goodwill

(a) Intangible assets and goodwill, net

(millions)	Note	Intangible assets subject to amortization: Customer contracts, related customer relationships and subscriber base	Software	Access to rights-of-way, crowdsource assets and other	Assets under construction	Total	Intangible assets with indefinite lives: Spectrum licences	Total intangible assets	Goodwill [1, 2]	Total intangible assets and goodwill
AT COST										
As at January 1, 2020		$ 1,032	$ 5,870	$ 137	$ 254	$ 7,293	$ 9,937	$ 17,230	$ 5,671	$ 22,901
Additions		—	88	4	548	640	—	640	—	640
Additions arising from business acquisitions		1,766	357	263	—	2,386	9	2,395	1,812	4,207
Dispositions, retirements and other (including capitalized interest)	9	100	(421)	(41)	—	(362)	(36)	(398)	—	(398)
Assets under construction put into service		—	586	—	(586)	—	—	—	—	—
Net foreign exchange differences		47	(1)	—	—	46	—	46	41	87
As at December 31, 2020		2,945	6,479	363	216	10,003	9,910	19,913	7,524	27,437
Additions		**—**	**139**	**5**	**720**	**864**	**2,272**	**3,136**	**—**	**3,136**
Additions arising from business acquisitions	*(b)*	**161**	**187**	**18**	**—**	**366**	**—**	**366**	**255**	**621**
Dispositions, retirements and other (including capitalized interest)	9	**(15)**	**(740)**	**52**	**—**	**(703)**	**3**	**(700)**	**(60)**	**(760)**
Assets under construction put into service		**—**	**657**	**4**	**(661)**	**—**	**—**	**—**	**—**	**—**
Net foreign exchange differences		**(63)**	**1**	**(5)**	**—**	**(67)**	**—**	**(67)**	**(74)**	**(141)**
As at December 31, 2021		**$ 3,028**	**$ 6,723**	**$ 437**	**$ 275**	**$ 10,463**	**$ 12,185**	**$ 22,648**	**$ 7,645**	**$ 30,293**
ACCUMULATED AMORTIZATION										
As at January 1, 2020		$ 285	$ 4,028	$ 71	$ —	$ 4,384	$ —	$ 4,384	$ 364	$ 4,748
Amortization		215	671	19	—	905	—	905	—	905
Dispositions, retirements and other		(10)	(424)	6	—	(428)	—	(428)	—	(428)
Net foreign exchange differences		5	(1)	—	—	4	—	4	—	4
As at December 31, 2020		495	4,274	96	—	4,865	—	4,865	364	5,229
Amortization		**288**	**750**	**52**	**—**	**1,090**	**—**	**1,090**	**—**	**1,090**
Dispositions, retirements and other		**(62)**	**(747)**	**24**	**—**	**(785)**	**—**	**(785)**	**—**	**(785)**
Net foreign exchange differences		**(9)**	**2**	**—**	**—**	**(7)**	**—**	**(7)**	**—**	**(7)**
As at December 31, 2021		**$ 712**	**$ 4,279**	**$ 172**	**$ —**	**$ 5,163**	**$ —**	**$ 5,163**	**$ 364**	**$ 5,527**
NET BOOK VALUE										
As at December 31, 2020		$ 2,450	$ 2,205	$ 267	$ 216	$ 5,138	$ 9,910	$ 15,048	$ 7,160	$ 22,208
As at December 31, 2021		**$ 2,316**	**$ 2,444**	**$ 265**	**$ 275**	**$ 5,300**	**$ 12,185**	**$ 17,485**	**$ 7,281**	**$ 24,766**

1 The amount for goodwill arising from business acquisitions for the year ended December 31, 2020, has been adjusted as set out in *(c)*.

2 Accumulated amortization of goodwill is amortization recorded prior to 2002; there are no accumulated impairment losses in the accumulated amortization of goodwill.

As at December 31, 2021, our contractual commitments for the acquisition of intangible assets totalled $ 26 million over a period ending December 31, 2023 (2020 – $56 million over a period ending December 31, 2024). During 2021, we acquired 3500 MHz spectrum licences from the previous licensee for $249 million; such transfer of licences has been approved by Innovation, Science and Economic Development Canada.

During 2021, we obtained the use of AWS-4 and 2500 MHz spectrum licences from the original licensees and have accounted for them as intangible assets with indefinite lives; such subordination of licences has been approved by Innovation, Science and Economic Development Canada. The terms of payment for the obtained AWS-4 spectrum licences are such that the amounts owed to the original licensee are accounted for as a long-term financial liability, as set out in *Note 26(g)*; we paid $ 21 million for the obtained 2500 MHz spectrum licenses.

Innovation, Science and Economic Development Canada held its 3500 MHz band spectrum auction during the period from June 15, 2021, through July 23, 2021. We were the successful auction participant for 142 spectrum licences, with a total purchase price of approximately $1.95 billion.

(b) Business acquisitions

Blacksmith Applications Holdings Inc.

On September 22, 2021, we acquired 100% ownership of Blacksmith Applications Holdings Inc., a provider of management, optimization and analytics to food, beverage and consumer goods providers. The acquisition is complementary to, and was made with a view to growing, our existing smart data solutions business.

The primary factor that contributed to the recognition of goodwill was the earnings capacity of the acquired business in excess of the net tangible and intangible assets acquired (such excess arising from the acquired workforce and the benefits of acquiring an established business). The amount assigned to goodwill may be deductible for income tax purposes.

Individually immaterial transactions

During the year ended December 31, 2021, we acquired 100% ownership of businesses complementary to our existing lines of business. The primary factor that gave rise to the recognition of goodwill was the earnings capacity of the acquired businesses in excess of the net tangible and intangible assets acquired (such excess arising from the low level of tangible assets relative to the earnings capacities of the businesses). A portion of the amounts assigned to goodwill may be deductible for income tax purposes. Any differences between the results of operations currently presented and pro forma operating revenues, net income and basic and diluted net income per Common Share amounts reflecting the results of operations as if the business acquisitions had been completed at the beginning of the current fiscal year are immaterial (as are the post-acquisition operating revenues and net income of the acquired businesses for the year ended December 31, 2021).

Acquisition-date fair values

Acquisition-date fair values assigned to the assets acquired and liabilities assumed are set out in the following table:

(millions)	Blacksmith Applications Holdings Inc. [1]	Total of individually immaterial transactions [1]	Total
Assets			
Current assets			
Cash	$ 26	$ 4	$ 30
Accounts receivable [2]	14	3	17
Other	1	5	6
	41	12	53
Non-current assets			
Property, plant and equipment			
Owned assets	—	3	3
Right-of-use lease assets	3	1	4
Intangible assets subject to amortization [3]	262	104	366
Other	—	19	19
	265	127	392
Total identifiable assets acquired	306	139	445
Liabilities			
Current liabilities			
Short-term borrowings	—	4	4
Accounts payable and accrued liabilities	31	5	36
Income and other taxes payable	—	1	1
Advance billings and customer deposits	18	2	20
Current maturities of long-term debt	2	1	3
	51	13	64
Non-current liabilities			
Long-term debt	73	1	74
Other long-term liabilities	5	—	5
Deferred income taxes	66	5	71
	144	6	150
Total liabilities assumed	195	19	214
Net identifiable assets acquired	111	120	231
Goodwill	161	94	255
Net assets acquired	$ 272	$ 214	$ 486
Acquisition effected by way of:			
Cash consideration	$ 272	$ 214	$ 486

1 The purchase price allocation, primarily in respect of customer contracts, related customer relationships and leasehold interests and deferred income taxes, had not been finalized as of the date of issuance of these consolidated financial statements. As is customary in a business acquisition transaction, until the time of acquisition of control, we did not have full access to the books and records of the acquired businesses. Upon having sufficient time to review the books and records of the acquired businesses, we expect to finalize our purchase price allocations.

2 The fair value of accounts receivable is equal to the gross contractual amounts receivable and reflects the best estimate at the acquisition date of the contractual cash flows expected to be collected.

3 Customer contracts and customer relationships (including those related to customer contracts) are generally expected to be amortized over a period of 8 years; software is expected to be amortized over periods of 5-10 years; and other intangible assets are expected to be amortized over periods of 2-4 years.

(c) Business acquisitions – prior period

In 2020, we acquired businesses that were complementary to our existing lines of business. As at December 31, 2020, purchase price allocations had not been finalized. During the year ended December 31, 2021, the preliminary acquisition-date fair values for other current assets, intangible assets subject to amortization, goodwill, accounts payable, income and other taxes payable, provisions, deferred income tax liabilities and retained earnings were increased (decreased) by $(6 million), $22 million, $(75 million), $9 million, $(13 million), $37 million, $(58 million), and $(34 million), respectively; as required by IFRS-IASB, comparative amounts have been adjusted so as to reflect those increases (decreases) effective the dates of acquisition.

(d) Business acquisition – subsequent to reporting period

Fully Managed Inc.

On January 1, 2022, we acquired 100% ownership of Fully Managed Inc. for cash and contingent consideration of approximately $137 million. Fully Managed Inc. provides managed information technology support, technology strategy and network management. The investment was made with a view to growing our end-to-end capabilities to support small and medium-sized business customers.

As at February 10, 2022, our initial provision for the net identifiable assets acquired is in the range of $ 50 million - $60 million; as is customary in a business acquisition transaction, until the time of acquisition of control, we did not have full access to the books and records of the acquired business. Upon having sufficient time to review the books and records of the acquired business, as well as obtaining new and additional information about the related facts and circumstances as of the acquisition date, we will adjust provisional amounts for identifiable assets acquired and liabilities assumed and thus finalize our purchase price allocation.

(e) Intangible assets with indefinite lives – spectrum licences

Our intangible assets with indefinite lives include spectrum licences granted by Innovation, Science and Economic Development Canada, which are used for the provision of both mobile and fixed wireless services. The spectrum licence policy terms indicate that the spectrum licences will likely be renewed. We expect our spectrum licences to be renewed every 20 years following a review of our compliance with licence terms. In addition to current usage, our licensed spectrum can be used for planned and new technologies. As a result of our assessment of the combination of these significant factors, we currently consider our spectrum licences to have indefinite lives and, as referred to in *Note 1(b)*, this represents a significant judgment for us.

(f) Impairment testing of intangible assets with indefinite lives and goodwill

General

As referred to in *Note 1(f)*, the carrying values of intangible assets with indefinite lives and goodwill are periodically tested for impairment and, as referred to in *Note 1(b)*, this test represents a significant estimate for us, while also requiring significant judgments to be made. Also as referred to in *Note 1(b)*, effective January 1, 2020, we embarked upon the modification of our internal and external reporting processes, systems and internal controls to accommodate the technology convergence-driven cessation of the historical distinction between our wireless and wireline operations and, with effect from January 1, 2021, transitioned to a new segment reporting structure, as referred to in *Note 5*; concurrent with the transition to a new segment reporting structure, there was necessarily a redetermination of our cash-generating units and such redetermination, reflected in the disclosed December 2021 annual test cash-generating units used for intangible assets with indefinite lives and goodwill for impairment testing, aligned with the new segment reporting structure. The December 2020 annual test reflected the historical cash-generating unit distinction.

The carrying values allocated to intangible assets with indefinite lives and goodwill are set out in the following table.

As at December 31 (millions)	Intangible assets with indefinite lives		Goodwill		Total	
	2021	2020	**2021**	2020 [1]	**2021**	2020
TELUS technology solutions	**$ 12,185**	$ —	**$ 5,367**	$ —	**$ 17,552**	$ —
Digitally-led customer experiences - TELUS International	**—**	—	**1,914**	—	**1,914**	—
Wireless	**—**	9,910	**—**	2,890	**—**	12,800
Wireline	**—**	—	**—**	4,270	**—**	4,270
	$ 12,185	$ 9,910	**$ 7,281**	$ 7,160	**$ 19,466**	$ 17,070

1 The goodwill balance for wireline as at December 31, 2020, has been adjusted, as set out in *(c)*.

The recoverable amounts of the cash-generating units' assets have been determined based on a fair value less costs of disposal calculation. There is a material degree of uncertainty with respect to the estimates of the recoverable amounts of the cash-generating units' assets, given the necessity of making key economic assumptions about the future. Recoverable amounts based on fair value less costs of disposal calculations are categorized as Level 3 fair value measures.

We validate the results of our recoverable amounts calculations through a market-comparable approach and an analytical review of industry facts and facts that are specific to us. The market-comparable approach uses current (at time of test) market consensus estimates and equity trading prices for U.S. and Canadian firms in the same industry. In addition, we ensure that the combination of the valuations of the cash-generating units is reasonable based on our current (at time of test) market value.

Key assumptions

The fair value less costs of disposal calculation uses discounted cash flow projections that employ the following key assumptions: future cash flows and growth projections (including judgments about the allocation of future capital expenditures to support both mobile and fixed operations); associated economic risk assumptions and estimates of the likelihood of achieving key operating metrics and drivers; estimates of future generational infrastructure capital expenditures; and the future weighted average cost of capital. We consider a range of reasonably possible amounts to use for key assumptions and decide upon amounts that represent management's best estimates of market amounts. In the normal course, we make changes to key assumptions so that they reflect current (at time of test) economic conditions, updates of historical information used to develop the key assumptions and changes (if any) in our debt ratings.

The key assumptions for cash flow projections are based upon our approved financial forecasts, which span a period of three years and are discounted, for December 2021 annual impairment test purposes, at a consolidated post-tax notional rate of 6.6% and 9.0% for each of the TELUS technology solutions and the digitally-led customer experiences – TELUS International cash-generating units, respectively (2020 – 7.0% for each of the wireless cash-generating unit and the wireline cash-generating unit). For impairment testing valuations, cash flows subsequent to the three-year projection period are extrapolated, for December 2021 annual impairment test purposes, generally using perpetual growth rates of 1.95% and 3.0% for each of the TELUS technology solutions cash-generating unit and the digitally-led customer experiences – TELUS International cash-generating unit, respectively (2020 – 2.00% for each of the wireless cash-generating unit and the wireline cash-generating unit); these growth rates do not exceed the long-term average growth rates observed in the markets in which we operate.

We believe that any *reasonably possible* change in the key assumptions on which the calculation of the recoverable amounts of our cash-generating units is based would not cause the cash-generating units' carrying values (including the intangible assets with indefinite lives and the goodwill allocated to each cash-generating unit) to exceed their recoverable amounts. If the future were to *adversely* differ from management's best estimates for the key assumptions and associated cash flows were to be materially adversely affected, we could potentially experience future material impairment charges in respect of our intangible assets with indefinite lives and goodwill.

19 leases

We have the right of use of land, buildings and equipment under leases. Most of our leases for real estate that we use for office, retail or network (including mobile site) purposes typically have options to extend the lease terms, which we use to protect our investment in leasehold improvements (including mobile site equipment) and to mitigate relocation risk, and/or which reflect the importance of the underlying real estate right-of-use lease assets to our operations. Judgments about lease terms are determinative of the measurement of right-of-use lease assets and the associated lease liabilities. Our judgment in respect of lease terms for leased real estate utilized in connection with our telecommunications infrastructure, more so than for any other right-of-use lease assets, routinely includes periods covered by options to extend the lease terms, as we are reasonably certain that we will extend such leases.

In the normal course of operations, there are future non-executory cash outflows in respect of leases to which we are potentially exposed and which are not included in our lease liabilities as at the reporting date. A significant portion (approximately one-third) of our mobile site lease payments have consumer price index-based price adjustments and such adjustments result in future periodic re-measurements of the lease liabilities with commensurate adjustments to the associated real estate right-of-use lease assets (and associated future depreciation amounts); these adjustments would represent our current variable lease payments. As well, we routinely and necessarily commit to leases that have not yet commenced.

As mandated by Innovation, Science and Economic Development Canada, telecommunications companies are obligated to allow, on their real estate assets owned, on their real estate right-of-use lease assets and/or on their owned-equipment situated on real estate right-of-use lease assets, competitors to co-locate telecommunications infrastructure equipment. Of our real estate right-of-use lease assets used for purposes of situating telecommunications infrastructure equipment, less than one-fifth have co-location subleases that we, as lessor, account for as operating leases.

Maturity analyses of lease liabilities are set out in *Note 4(c)* and *Note 26(i)*; the period interest expense in respect thereof is set out in *Note 9*. The additions to, the depreciation charges for, and the carrying amounts of, right-of-use lease assets are set out in *Note 17*. We have not currently elected to exclude low-value and short-term leases from lease accounting.

Years ended December 31 (millions)	*Note*	**2021**	2020
Income from subleasing right-of-use lease assets			
Co-location sublet revenue included in operating service revenues		**$ 22**	$ 17
Other sublet revenue included in other income	*7*	**$ 4**	$ 4
Lease payments		**$ 568**	$ 434

20 other long-term assets

As at December 31 (millions)	*Note*	**2021**	2020
Pension assets	*15*	**$ 453**	$ 13
Unbilled customer finance receivables	*4(b)*	**545**	361
Derivative assets	*4(h)*	**76**	40
Deferred income taxes		**35**	11
Costs incurred to obtain or fulfill contracts with customers		**109**	103
Real estate joint venture advances	*21(b)*	**114**	114
Investment in real estate joint venture	*21(b)*	**1**	1
Investment in associates	*21*	**100**	69
Portfolio investments [1]			
At fair value through net income		**26**	13
At fair value through other comprehensive income		**370**	223
Prepaid maintenance		**62**	50
Refundable security deposits and other		**113**	108
		$ 2,004	$ 1,106

1 Fair value measured at reporting date using significant other observable inputs (Level 2).

The costs incurred to obtain and fulfill contracts with customers are set out in the following table:

Years ended December 31 (millions)	2021			2020		
	Costs incurred to			Costs incurred to		
	Obtain contracts with customers	Fulfill contracts with customers	Total	Obtain contracts with customers	Fulfill contracts with customers	Total
Balance, beginning of period	**$ 323**	**$ 11**	**$ 334**	$ 344	$ 14	$ 358
Additions	**282**	**2**	**284**	261	4	265
Amortization	**(269)**	**(7)**	**(276)**	(282)	(7)	(289)
Balance, end of period	**$ 336**	**$ 6**	**$ 342**	$ 323	$ 11	$ 334
Current [1]	**$ 230**	**$ 3**	**$ 233**	$ 225	$ 6	$ 231
Non-current	**106**	**3**	**109**	98	5	103
	$ 336	**$ 6**	**$ 342**	$ 323	$ 11	$ 334

1 Presented in the Consolidated statements of financial position in prepaid expenses.

21 real estate joint ventures and investment in associate

(a) General

Real estate joint ventures

In 2013, we partnered, as equals, with two arm's-length parties in a residential, retail and commercial real estate redevelopment project, TELUS Sky, in Calgary, Alberta. The new-build tower, completed in 2020, was to be built to the LEED Platinum standard.

Associate

We have acquired a 35% (2020 - 28%) basic equity interest in Miovision Technologies Incorporated, an associate that is complementary to, and is viewed to grow, our existing Internet of Things business; our judgment is that we obtained significant influence over the associate concurrent with acquiring our equity interest.

(b) Real estate joint ventures

Summarized financial information

As at December 31 (millions)	2021	2020
ASSETS		
Current assets		
Cash and temporary investments, net	**$ 11**	$ 11
Other	**28**	18
	39	29
Non-current assets		
Investment property	**328**	332
Other	**10**	13
	338	345
	$ 377	$ 374
LIABILITIES AND OWNERS' EQUITY		
Current liabilities		
Accounts payable and accrued liabilities	**$ 10**	$ 21
Construction credit facilities	**—**	342
	10	363
Non-current liabilities		
Construction credit facilities	**342**	—
	342	—
	352	363
Owners' equity		
TELUS [1]	**9**	5
Other partners	**16**	6
	25	11
	$ 377	$ 374

1 The equity amounts recorded by the real estate joint venture differ from those recorded by us by the amount of the deferred gains on our real estate contributed and the valuation provision we have recorded in excess of that recorded by the real estate joint venture.

Years ended December 31 (millions)	2021	2020
Revenue	**$ 13**	$ 2
Depreciation and amortization	**$ 7**	$ 3
Interest expense [1]	**$ 3**	$ 1
Net income (loss) and comprehensive income (loss) [2]	**$ (18)**	$ (42)

1 During the year ended December 31, 2020, the real estate joint venture capitalized $4 of financing costs.
2 As the real estate joint ventures are partnerships, no provision for income taxes of the partners is made in determining the real estate joint ventures' net income and comprehensive income.

Our real estate joint ventures activity

Our real estate joint ventures investment activity is set out in the following table.

Years ended December 31 (millions)	2021			2020		
	Loans and receivables [1]	Equity [2]	Total	Loans and receivables [1]	Equity [2]	Total
Related to real estate joint ventures' statements of income and other comprehensive income						
Comprehensive income (loss) attributable to us [3]	**$ —**	**$ (3)**	**$ (3)**	$ —	$ (14)	$ (14)
Related to real estate joint ventures' statements of financial position						
Items not affecting currently reported cash flows						
Construction credit facilities financing costs charged by us *(Note 7)*	**4**	**—**	**4**	4	—	4
Cash flows in the current reporting period						
Construction credit facilities						
Amounts advanced	**—**	**—**	**—**	10	—	10
Financing costs paid to us	**(4)**	**—**	**(4)**	(4)	—	(4)
Funds we advanced or contributed, excluding construction credit facilities	**—**	**10**	**10**	—	17	17
Funds repaid to us and earnings distributed	**—**	**—**	**—**	—	(1)	(1)
Net increase (decrease)	**—**	**7**	**7**	10	2	12
Real estate joint ventures carrying amounts						
Balance, beginning of period	**114**	**(11)**	**103**	104	(2)	102
Valuation provision	**—**	**(4)**	**(4)**	—	(11)	(11)
Balance, end of period	**$ 114**	**$ (8)**	**$ 106**	$ 114	$ (11)	$ 103

1 Loans and receivables are included in our consolidated statements of financial position as Real estate joint venture advances and are comprised of advances under construction credit facilities.
2 We account for our interests in the real estate joint ventures using the equity method of accounting. As at December 31, 2021 and 2020, we had recorded equity losses in excess of our recorded equity investment in respect of one of the real estate joint ventures; such resulting balance has been included in long-term liabilities (*Note 27*).
3 As the real estate joint ventures are partnerships, no provision for income taxes of the partners is made in determining the real estate joint ventures' net income and comprehensive income.

We have entered into lease agreements with the TELUS Sky real estate joint venture; for lease accounting purposes, the first lease commenced during the three-month period ended June 30, 2019. During the year ended December 31, 2021, the TELUS Sky real estate joint venture recognized $8 million (2020 – $NIL) of revenue from our office tenancy; of this amount, one-third was due to our economic interest in the real estate joint venture and two-thirds was due to our partners' economic interests in the real estate joint venture.

Construction credit facilities

The TELUS Sky real estate joint venture has a credit agreement, maturing August 31, 2023, with Canadian financial institutions (as 66-2/3% lender) and TELUS Corporation (as 33-1/3% lender) to provide $342 million of construction financing for the project. The construction credit facilities contain customary real estate construction financing representations, warranties and covenants and are secured by demand debentures constituting first fixed and floating charge mortgages over the underlying real estate assets. The construction credit facilities are available by way of bankers' acceptance or prime loan and bear interest at rates in line with similar construction financing facilities.

22 short-term borrowings

On July 26, 2002, one of our subsidiaries, TELUS Communications Inc., entered into an agreement with an arm's-length securitization trust associated with a major Schedule I bank under which it is currently able to sell an interest in certain trade receivables up to a maximum of $600 million (2020 – $500 million). The term of this revolving-period securitization agreement ends December 31, 2024 (2020 – December 31, 2021), and it requires minimum cash proceeds of $100 million from monthly sales of interests in certain trade receivables. TELUS Communications Inc. is required to maintain a credit rating of at least BB (2020 – BB) from DBRS Limited or the securitization trust may require the sale program to be wound down prior to the end of the term.

Sales of trade receivables in securitization transactions are recognized as collateralized short-term borrowings and thus do not result in our de-recognition of the trade receivables sold. When we sell our trade receivables, we retain reserve accounts, which are retained interests in the securitized trade receivables, and servicing rights. As at December 31, 2021, we had sold to the trust (but continued to recognize) trade receivables of $118 million (2020 - $123 million). Short-term borrowings of $100 million (2020 – $100 million) are comprised of amounts advanced to us by the arm's-length securitization trust pursuant to the sale of trade receivables.

The balance of short-term borrowings (if any) is comprised of amounts drawn on bank facilities and/or other.

23 accounts payable and accrued liabilities

As at December 31 (millions)	2021	2020
Accrued liabilities	**$ 1,539**	$ 1,251
Payroll and other employee-related liabilities	**633**	545
Restricted share units liability	**28**	18
	2,200	1,814
Trade accounts payable	**1,213**	855
Interest payable	**173**	173
Indirect taxes payable and other [1]	**119**	129
	$ 3,705	$ 2,971

1 The December 31, 2020, balance of indirect taxes payable and other has been adjusted, as set out in *Note 18(c)*.

24 advance billings and customer deposits

As at December 31 (millions)	2021	2020
Advance billings	**$ 636**	$ 551
Deferred customer activation and connection fees	**6**	7
Customer deposits	**10**	34
Contract liabilities	**652**	592
Other	**202**	180
	$ 854	$ 772

Contract liabilities represent our future performance obligations to customers in respect of services and/or equipment for which we have received consideration from the customer or for which an amount is due from the customer. Our contract liability balances, and the changes in those balances, are set out in the following table:

Years ended December 31 (millions)	*Note*	**2021**	2020
Balance, beginning of period		**$ 806**	$ 801
Revenue deferred in previous period and recognized in current period		**(593)**	(577)
Net additions arising from operations		**637**	539
Additions arising from business acquisitions		**20**	43
Balance, end of period		**$ 870**	$ 806
Current		**$ 780**	$ 735
Non-current	*27*		
Deferred revenues		**82**	61
Deferred customer activation and connection fees		**8**	10
		$ 870	$ 806
Reconciliation of contract liabilities presented in the Consolidated statements of financial position – current			
Gross contract liabilities		**$ 780**	$ 735
Reclassification to contract assets of contracts with contract liabilities less than contract assets	*6(c)*	**(115)**	(133)
Reclassification from contract assets of contracts with contract assets less than contract liabilities	*6(c)*	**(13)**	(10)
		$ 652	$ 592

25 provisions

(millions)	Asset retirement obligation	Employee-related	Written put options and contingent consideration [1]	Other	Total
As at January 1, 2020	$ 495	$ 64	$ 227	$ 92	$ 878
Additions	—	48	186	200	434
Reversals	(5)	(1)	(114)	(20)	(140)
Uses	(3)	(69)	(112)	(143)	(327)
Interest effects [2]	174	—	2	—	176
Effects of foreign exchange, net	—	—	13	—	13
As at December 31, 2020	661	42	202	129	1,034
Additions	**23**	**84**	**8**	**70**	**185**
Reversals	**(8)**	**(2)**	**(2)**	**(11)**	**(23)**
Uses	**(4)**	**(58)**	**(9)**	**(88)**	**(159)**
Interest effects [2]	**(171)**	**—**	**4**	**—**	**(167)**
As at December 31, 2021	**$ 501**	**$ 66**	**$ 203**	**$ 100**	**$ 870**
Current	**$ 4**	**$ 55**	**$ 7**	**$ 30**	**$ 96**
Non-current	**497**	**11**	**196**	**70**	**774**
As at December 31, 2021	**$ 501**	**$ 66**	**$ 203**	**$ 100**	**$ 870**

1 The December 31, 2020, balance of written put options and contingent consideration has been adjusted, as set out in *Note 18(c)*.

2 The difference of $(186) (2020 – $160) between the asset retirement obligation interest effects in this table and the amount included in the amount disclosed in *Note 9* is in respect of the change in the discount rates applicable to the provision, with such difference included in the cost of the associated asset(s) by way of being included with (netted against) the additions detailed in *Note 17*.

Asset retirement obligation

We establish provisions for liabilities associated with the retirement of property, plant and equipment when those obligations result from the acquisition, construction, development and/or normal operation of the assets. We expect that the associated cash outflows in respect of the balance accrued as at the financial statement date will occur proximate to the dates these assets are retired.

Employee-related

The employee-related provisions are largely in respect of restructuring activities (as discussed further in *Note 16(b)*). The timing of the associated cash outflows in respect of the balance accrued as at the financial statement date is substantially short-term in nature.

Written put options and contingent consideration

In connection with certain business acquisitions, we have established provisions for written put options in respect of non-controlling interests. Provisions for some written put options are determined based on the net present value of estimated future earnings results, and such provisions require us to make key economic assumptions about the future. Similarly, we have established provisions for contingent consideration. No cash outflows in respect of the written put options are expected prior to their initial exercisability, and no cash outflows in respect of contingent consideration are expected prior to completion of the periods during which the contingent consideration can be earned.

Other

The provisions for other include: legal claims; non-employee-related restructuring activities; contract termination costs and onerous contracts related to business acquisitions; and costs incurred in connection with the COVID-19 pandemic. Other than as set out following, we expect that the associated cash outflows in respect of the balance accrued as at the financial statement date will occur over an indeterminate multi-year period.

As discussed further in *Note 29*, we are involved in a number of legal claims and we are aware of certain other possible legal claims. In respect of legal claims, we establish provisions, when warranted, after taking into account legal assessments, information presently available, and the expected availability of recourse. The timing of cash outflows associated with legal claims cannot be reasonably determined.

In connection with business acquisitions, we have established provisions for contract termination costs and onerous contracts acquired.

26 long-term debt

(a) Details of long-term debt

As at December 31 (millions)	*Note*	**2021**	2020
Senior unsecured			
TELUS Corporation senior notes	*(b)*	**$ 15,258**	$ 15,021
TELUS Corporation commercial paper	*(c)*	**1,900**	731
TELUS Communications Inc. debentures	*(e)*	**448**	622
Secured			
TELUS International (Cda) Inc. credit facility	*(f)*	**1,062**	1,804
Other	*(g)*	**308**	273
		18,976	18,451
Lease liabilities	*(h)*	**1,876**	1,837
Long-term debt		**$ 20,852**	$ 20,288
Current		**$ 2,927**	$ 1,432
Non-current		**17,925**	18,856
Long-term debt		**$ 20,852**	$ 20,288

(b) TELUS Corporation senior notes

The notes are senior unsecured and unsubordinated obligations and rank equally in right of payment with all of our existing and future unsecured unsubordinated obligations, are senior in right of payment to all of our existing and future subordinated indebtedness, and are effectively subordinated to all existing and future obligations of, or guaranteed by, our subsidiaries. The indentures governing the notes contain certain covenants that, among other things, place limitations on our ability, and the ability of certain of our subsidiaries, to: grant security in respect of indebtedness; enter into sale-leaseback transactions; and incur new indebtedness.

Interest is payable semi-annually. The notes require us to make an offer to repurchase them at a price equal to 101% of their principal amount plus accrued and unpaid interest to the date of repurchase upon the occurrence of a change in control triggering event, as defined in the supplemental trust indenture.

At any time prior to the respective maturity dates set out in the table below, the notes are redeemable at our option, in whole at any time, or in part from time to time, on not fewer than 30 days' and not more than 60 days' prior notice. On or after the respective redemption present value spread cessation dates set out in the table below, the notes are redeemable at our option, in whole but not in part, on not fewer than 30 days' and not more than 60 days' prior notice, at redemption prices equal to 100% of the principal amounts thereof. In addition, accrued and unpaid interest, if any, will be paid to the date fixed for redemption.

						Principal face amount		Redemption present value spread	
Series	Issued	Maturity	Issue price	Effective interest rate [1]	Originally issued	Outstanding at financial statement date		Basis points [2]	Cessation date
2.35% Notes, Series CT	March 2015	March 2022 [3]	$ 997.31	2.39 %	$ 1.0 billion	$ NIL		35.5	Feb. 28, 2022
3.35% Notes, Series CJ	December 2012	March 2023	$ 998.83	3.36 %	$ 500 million	$ 500 million		40	Dec. 15, 2022
3.35% Notes, Series CK	April 2013	April 2024	$ 994.35	3.41 %	$ 1.1 billion	$ 1.1 billion		36	Jan. 2, 2024
3.75% Notes, Series CQ	September 2014	January 2025	$ 997.75	3.78 %	$ 800 million	$ 800 million		38.5	Oct. 17, 2024
3.75% Notes, Series CV	December 2015	March 2026	$ 992.14	3.84 %	$ 600 million	$ 600 million		53.5	Dec. 10, 2025
2.75% Notes, Series CZ	July 2019	July 2026	$ 998.73	2.77 %	$ 800 million	$ 800 million		33	May 8, 2026
2.80% U.S. Dollar Notes [4]	September 2016	February 2027	US$ 991.89	2.89 %	US$ 600 million	US$ 600 million		20	Nov. 16, 2026
3.70% U.S. Dollar Notes [4]	March 2017	September 2027	US$ 998.95	3.71 %	US$ 500 million	US$ 500 million		20	June 15, 2027
2.35% Notes, Series CAC	May 2020	January 2028	$ 997.25	2.39 %	$ 600 million	$ 600 million		48	Nov. 27, 2027
3.625% Notes, Series CX	March 2018	March 2028	$ 989.49	3.75 %	$ 600 million	$ 600 million		37	Dec. 1, 2027
3.30% Notes, Series CY	April 2019	May 2029	$ 991.75	3.40 %	$ 1.0 billion	$ 1.0 billion		43.5	Feb. 2, 2029
3.15% Notes, Series CAA	December 2019	February 2030	$ 996.49	3.19 %	$ 600 million	$ 600 million		39.5	Nov. 19, 2029
2.05% Notes, Series CAD	October 2020	October 2030	$ 997.93	2.07 %	$ 500 million	$ 500 million		38	July 7, 2030
2.85% Sustainability-Linked Notes, Series CAF	June 2021	November 2031	$ 997.52	2.88 % [5]	$ 750 million	$ 750 million		34	Aug. 13, 2031
4.40% Notes, Series CL	April 2013	April 2043	$ 997.68	4.41 %	$ 600 million	$ 600 million		47	Oct. 1, 2042
5.15% Notes, Series CN	November 2013	November 2043	$ 995.00	5.18 %	$ 400 million	$ 400 million		50	May 26, 2043
4.85% Notes, Series CP	Multiple [6]	April 2044	$ 987.91 [6]	4.93 % [6]	$ 500 million [6]	$ 900 million [6]		46	Oct. 5, 2043
4.75% Notes, Series CR	September 2014	January 2045	$ 992.91	4.80 %	$ 400 million	$ 400 million		51.5	July 17, 2044
4.40% Notes, Series CU	March 2015	January 2046	$ 999.72	4.40 %	$ 500 million	$ 500 million		60.5	July 29, 2045
4.70% Notes, Series CW	Multiple [7]	March 2048	$ 998.06 [7]	4.71 % [7]	$ 325 million [7]	$ 475 million [7]		58.5	Sept. 6, 2047
4.60% U.S. Dollar Notes [4]	June 2018	November 2048	US$ 987.60	4.68 %	US$ 750 million	US$ 750 million		25	May 16, 2048
4.30% U.S. Dollar Notes [4]	May 2019	June 2049	US$ 990.48	4.36 %	US$ 500 million	US$ 500 million		25	Dec. 15, 2048
3.95% Notes, Series CAB	Multiple [8]	February 2050	$ 997.54 [8]	3.97 % [8]	$ 400 million [8]	$ 800 million [8]		57.5	Aug. 16, 2049
4.10% Notes, Series CAE	April 2021	April 2051	$ 994.70	4.13 %	$ 500 million	$ 500 million		53	Oct. 5, 2050

1 The effective interest rate is that which the notes would yield to an initial debt holder if held to maturity.

2 For Canadian dollar-denominated notes, the redemption price is equal to the greater of (i) the present value of the notes discounted at the Government of Canada yield plus the redemption present value spread calculated over the period to the redemption present value spread cessation date, or (ii) 100% of the principal amount thereof.

For U.S. dollar-denominated notes, the redemption price is equal to the greater of (i) the present value of the notes discounted at the U.S. Adjusted Treasury Rate plus the redemption present value spread calculated over the period to the redemption present value spread cessation date, or (ii) 100% of the principal amount thereof.

3 On July 16, 2021, we exercised our right to early redeem, on August 17, 2021, all of our 2.35% Notes, Series CT. The long-term debt prepayment premium recorded was $10 million before income taxes (see *Note 9*).

4 We have entered into foreign exchange derivatives (cross currency interest rate exchange agreements) that effectively converted the principal payments and interest obligations to Canadian dollar obligations as follows:

Series	Interest rate fixed at	Canadian dollar equivalent principal	Exchange rate
2.80% U.S. Dollar Notes	2.95 %	$ 792 million	$ 1.3205
3.70% U.S. Dollar Notes	3.41 %	$ 667 million	$ 1.3348
4.60% U.S. Dollar Notes	4.41 %	$ 974 million	$ 1.2985
4.30% U.S. Dollar Notes	4.27 %	$ 672 million	$ 1.3435

5 If we have not obtained a sustainability performance target verification assurance certificate for the fiscal year ended December 31, 2030, the note will bear interest at a rate of 3.85% for the period from November 14, 2030, through November 13, 2031. Similarly, if we redeem the notes and we have not obtained a sustainability performance target verification assurance certificate at the end of the fiscal year immediately preceding the date fixed for redemption, the interest accrued (if any) will be determined using a rate of 3.85%.
6 $500 million of 4.85% Notes, Series CP were issued in April 2014 at an issue price of $998.74 and an effective interest rate of 4.86%. This series of notes was reopened in December 2015 and a further $400 million of notes were issued at an issue price of $974.38 and an effective interest rate of 5.02%.
7 $325 million of 4.70% Notes, Series CW were issued in March 2017 at an issue price of $990.65 and an effective interest rate of 4.76%. This series of notes was reopened in February 2018 and a further $150 million of notes were issued at an issue price of $1,014.11 and an effective interest rate of 4.61% in March 2018.
8 $400 million of 3.95% Notes, Series CAB were issued in December 2019 at an issue price of $991.54 and an effective interest rate of 4.00%. This series of notes was reopened in May 2020 and a further $400 million of notes were issued at an issue price of $1,003.53 and an effective interest rate of 3.93%.

(c) TELUS Corporation commercial paper

TELUS Corporation has an unsecured commercial paper program, which is backstopped by our $ 2.75 billion syndicated credit facility (see *(d)*) and is to be used for general corporate purposes, including capital expenditures and investments. This program enables us to issue commercial paper, subject to conditions related to debt ratings, up to a maximum aggregate amount at any one time of $1.9 billion equivalent (US$1.5 billion maximum) (2020 – $1.4 billion maximum). Foreign currency forward contracts are used to manage currency risk arising from issuing commercial paper denominated in U.S. dollars. Commercial paper debt is due within one year and is classified as a current portion of long-term debt, as the amounts are fully supported, and we expect that they will continue to be supported, by the revolving credit facility, which has no repayment requirements within the next year. As at December 31, 2021, we had $1.9 billion (2020 – $731 million) of commercial paper outstanding, all of which was denominated in U.S. dollars (US$ 1.5 billion; 2020 – US$574 million), with an effective average interest rate of 0.35%, maturing through May 2022.

(d) TELUS Corporation credit facility

As at December 31, 2021, TELUS Corporation had an unsecured revolving $ 2.75 billion bank credit facility, expiring on April 6, 2026 (2020 - $2.25 billion bank credit facility, expiring on May 31, 2023), with a syndicate of financial institutions, which is to be used for general corporate purposes, including the backstopping of commercial paper.

The TELUS Corporation credit facility bears interest at prime rate, U.S. Dollar Base Rate, a bankers' acceptance rate or London interbank offered rate (LIBOR) (as such terms are used or defined in the credit facility), plus applicable margins. The credit facility contains customary representations, warranties and covenants, including two financial quarter-end ratio tests. These tests are that our leverage ratio must not exceed 4.25:1.00 and our operating cash flow to interest expense ratio must not be less than 2.00:1.00, all as defined in the credit facility.

Continued access to the TELUS Corporation credit facility is not contingent upon TELUS Corporation maintaining a specific credit rating.

As at December 31 (millions)	**2021**	2020
Net available	**$ 850**	$ 1,519
Backstop of commercial paper	**1,900**	731
Gross available	**$ 2,750**	$ 2,250

We had $193 million of letters of credit outstanding as at December 31, 2021 (2020 – $ 190 million), issued under various uncommitted facilities; such letter of credit facilities are in addition to the ability to provide letters of credit pursuant to our committed bank credit facility. Further, we had arranged $359 million of incremental letters of credit to allow us to participate in Innovation, Science and Economic Development Canada's 3500 MHz band spectrum auction that was held in June-July 2021, as further described in *Note 18(a)*. Concurrent with funding the purchase of the spectrum licences, these incremental letters of credit were extinguished.

(e) TELUS Communications Inc. debentures

The Series 3 and 5 Debentures were issued by a predecessor corporation of TELUS Communications Inc., BC TEL, under a Trust Indenture dated May 31, 1990. The Series B Debentures were issued by a predecessor corporation of TELUS Communications Inc., AGT Limited, under a Trust Indenture dated August 24, 1994, and a supplemental trust indenture dated September 22, 1995.

				Principal face amount		Redemption present value spread
Series [1]	Issued	Maturity	Issue price	Originally issued	Outstanding at financial statement date	Basis points
10.65% Debentures, Series 3	June 1991	June 2021	$998.00	$ 175 million	$ NIL	N/A (non-redeemable)
9.65% Debentures, Series 5 [2]	April 1992	April 2022	$972.00	$ 150 million	$ 249 million	N/A (non-redeemable)
8.80% Debentures, Series B	September 1995	September 2025	$995.10	$ 200 million	$ 200 million	15 [3]

1 Interest is payable semi-annually.
2 Series 4 Debentures were exchangeable, at the holder's option, effective on April 8 of any year during the four-year period from 1996 to 1999, for Series 5 Debentures; $99 million of Series 4 Debentures were exchanged for Series 5 Debentures.
3 At any time prior to the maturity date set out in the table, the debentures are redeemable at our option, in whole at any time, or in part from time to time, on not fewer than 30 days' prior notice. The redemption price is equal to the greater of (i) the present value of the debentures discounted at the Government of Canada yield plus the redemption present value spread, or (ii) 100% of the principal amount thereof. In addition, accrued and unpaid interest, if any, will be paid to the date fixed for redemption.

The debentures became obligations of TELUS Communications Inc. pursuant to an amalgamation on January 1, 2001, are not secured by any mortgage, pledge or other charge, and are governed by certain covenants, including a negative pledge and a limitation on issues of additional debt, subject to a debt to capitalization ratio and an interest coverage test. Effective June 12, 2009, TELUS Corporation guaranteed the payment of the debentures' principal and interest.

(f) TELUS International (Cda) Inc. credit facility

As at December 31, 2021, TELUS International (Cda) Inc. had a credit facility, secured by its assets, expiring on January 28, 2025, with a syndicate of financial institutions, joined in 2020 by TELUS Corporation. The credit facility is comprised of US$620 million (TELUS Corporation as a lender of approximately 7.5%) and US$230 million (TELUS Corporation as a lender of 12.5%) revolving components and amortizing US$600 million (TELUS Corporation as 12.5% lender) and US$250 million term loan components. The credit facility is non-recourse to TELUS Corporation. The outstanding revolving components and term loan components had a weighted average interest rate of 1.88% as at December 31, 2021.

As at December 31 (millions)	**2021**			2020		
	Revolving components [1]	Term loan components [2]	Total	Revolving components	Term loan components	Total
Available	**US$ 725**	**US$ N/A**	**US$ 725**	US$ 132	US$ N/A	US$ 132
Outstanding						
Due to other	**109**	**737**	**846**	653	775	1,428
Due to TELUS Corporation	**16**	**71**	**87**	65	75	140
	US$ 850	**US$ 808**	**US$ 1,658**	US$ 850	US$ 850	US$ 1,700

1 Revolving component available is gross of swingline draw of US$ 8.
2 We have entered into a receive-floating interest rate, pay-fixed interest rate exchange agreement that effectively converts our interest obligations on US$95 of the debt to a fixed rate of 2.64%.

Relative to amounts owed to the syndicate of financial institutions, excluding TELUS Corporation, we have entered into foreign exchange derivatives (cross currency interest rate exchange agreements) that effectively convert an amortizing amount of US$394 of the principal payments, and associated interest obligations, to European euro obligations with an effective fixed interest rate of 0.65% and an effective fixed economic exchange rate of US$ 1.0932:€1.00. These have been accounted for as a net investment hedge in a foreign operation (see *Note 4*).

The TELUS International (Cda) Inc. credit facility bears interest at prime rate, U.S. Dollar Base Rate, a bankers' acceptance rate or London interbank offered rate (LIBOR) (all such terms as used or defined in the credit facility), plus applicable margins. The credit facility contains customary representations, warranties and covenants, including two financial quarter-end ratio tests; the TELUS International (Cda) Inc. quarter-end net debt to operating cash flow ratio must not exceed: 5.25:1.00 through fiscal 2021, 4.50:1.00 during fiscal 2022 and 3.75:1.00 subsequently; the quarter-end operating cash flow to debt service (interest and scheduled principal repayment) ratio must not be less than 1.50:1.00; all as defined in the credit facility.

The term loan components are subject to an amortization schedule which requires that 5% of the principal advanced be repaid each year of the term of the agreement, with the balance due at maturity and December 22, 2022, for the US$250 million component, respectively.

(g) Other

Other liabilities bear interest at 3.19%, are secured by the AWS-4 spectrum licences associated with these other liabilities and a real estate holding, and are subject to amortization schedules, so that the principal is repaid over the periods to maturity, the last period ending March 31, 2035.

(h) Lease liabilities

Lease liabilities are subject to amortization schedules, so that the principal is repaid over various periods, including reasonably expected renewals. The weighted average interest rate on lease liabilities was approximately 4.05% as at December 31, 2021.

(i) Long-term debt maturities

Anticipated requirements to meet long-term debt repayments, calculated for long-term debt owing as at December 31, 2021, are as follows:

Composite long-term debt denominated in	Canadian dollars			U.S. dollars					Other currencies	
	Long-term debt, excluding leases	Leases *(Note 19)*	Total	Long-term debt, excluding leases	Leases *(Note 19)*	Currency swap agreement amounts to be exchanged (Receive) [1]	Currency swap agreement amounts to be exchanged Pay	Total	Leases *(Note 19)*	Total
Years ending December 31 (millions)										
2022	$ 266	$ 370	$ 636	$ 2,234	$ 30	$ (1,929)	$ 1,940	$ 2,275	$ 37	$ 2,948
2023	533	250	783	33	28	(28)	28	61	33	877
2024	1,119	219	1,338	33	15	(28)	28	48	27	1,413
2025	1,019	110	1,129	672	12	(406)	422	700	18	1,847
2026	1,420	86	1,506	—	13	—	—	13	16	1,535
2027-2031	4,163	264	4,427	1,395	8	(1,395)	1,459	1,467	40	5,934
Thereafter	4,663	279	4,942	1,585	—	(1,585)	1,646	1,646	—	6,588
Future cash outflows in respect of composite long-term debt principal repayments	13,183	1,578	14,761	5,952	106	(5,371)	5,523	6,210	171	21,142
Future cash outflows in respect of associated interest and like carrying costs [2]	6,616	329	6,945	2,238	19	(2,204)	2,219	2,272	32	9,249
Undiscounted contractual maturities (*Note 4(c)*)	$ 19,799	$ 1,907	$ 21,706	$ 8,190	$ 125	$ (7,575)	$ 7,742	$ 8,482	$ 203	$ 30,391

1 Where applicable, cash flows reflect foreign exchange rates as at December 31, 2021.
2 Future cash outflows in respect of associated interest and like carrying costs for commercial paper and amounts drawn under our credit facilities (if any) have been calculated based upon the rates in effect as at December 31, 2021.

27 other long-term liabilities

As at December 31 (millions)	Note	2021	2020
Contract liabilities	24	**$ 82**	$ 61
Other		**3**	5
Deferred revenues		**85**	66
Pension benefit liabilities	15	**643**	926
Other post-employment benefit liabilities		**66**	64
Restricted share unit liabilities		**—**	17
Derivative liabilities	4(h)	**73**	155
Investment in real estate joint ventures	21(b)	**9**	12
Other		**23**	15
		899	1,255
Deferred customer activation and connection fees	24	**8**	10
		$ 907	$ 1,265

28 owners' equity

(a) TELUS Corporation Common Share capital - general

Our authorized share capital is as follows:

As at December 31	2021	2020
First Preferred Shares	**1 billion**	1 billion
Second Preferred Shares	**1 billion**	1 billion
Common Shares	**4 billion**	4 billion

Only holders of Common Shares may vote at our general meetings, with each holder of Common Shares entitled to one vote per Common Share held at all such meetings so long as not less than 66-2/3% of the issued and outstanding Common Shares are owned by Canadians. With respect to priority in the payment of dividends and in the distribution of assets in the event of our liquidation, dissolution or winding-up, whether voluntary or involuntary, or any other distribution of our assets among our shareholders for the purpose of winding up our affairs, preferences are as follows: First Preferred Shares; Second Preferred Shares; and finally Common Shares.

During the three-month period ended March 31, 2021, we issued approximately 51 million Common Shares for gross proceeds of $1.3 billion.

As at December 31, 2021, approximately 62 million Common Shares were reserved for issuance from Treasury under a dividend reinvestment and share purchase plan (see *Note 13(b)*); approximately 20 million Common Shares were reserved for issuance from Treasury under a restricted share unit plan (see *Note 14(b)*); and approximately 90 million Common Shares were reserved for issuance from Treasury under a share option plan (see *Note 14(d)*).

(b) Purchase of TELUS Corporation Common Shares for cancellation pursuant to normal course issuer bid

As referred to in *Note 3*, we may purchase a portion of our Common Shares for cancellation pursuant to normal course issuer bids in order to maintain or adjust our capital structure. In June 2021, we received approval for a normal course issuer bid to purchase and cancel up to 16 million of our Common Shares (up to a maximum amount of $ 250 million) from June 4, 2021, to June 3, 2022.

(c) Subsidiary with significant non-controlling interest

Our TELUS International (Cda) Inc. subsidiary is incorporated under the *Business Corporations Act* (British Columbia) and has geographically dispersed operations with principal places of business in Asia, Central America, Europe and North America.

In February 2021, TELUS International (Cda) Inc. made an initial public offering of subordinate voting shares; both TELUS Corporation and a non-controlling shareholder of TELUS International (Cda) Inc. individually also offered subordinate voting shares in conjunction with the initial public offering. In September 2021, non-controlling shareholders of TELUS International (Cda) Inc. individually offered subordinate voting shares in a secondary offering. Due to the voting rights associated with the remaining multiple voting shares held by TELUS Corporation, as at December 31, 2021, we retained a 70.9% voting and controlling interest and a 55.1% economic interest in TELUS International (Cda) Inc. subsequent to the public purchase of subordinate voting shares; as at December 31, 2020, TELUS Corporation held a 62.6% voting, controlling and economic interest. Changes in the ownership interests of our TELUS International (Cda) Inc. subsidiary during the year ended December 31, 2021, are set out in the following table.

	Effects of initial public offering and secondary offering on recorded amounts of owners' equity				
Year ended December 31, 2021 (millions)	Net cash proceeds	Income taxes	Net	Other	Total
Initial public offering of subordinate voting shares by TELUS International (Cda) Inc.	$ 630	$ (10)	$ 640		
Secondary offering of TELUS International (Cda) Inc. subordinate voting shares by TELUS Corporation	197	4	193		
	$ 827	$ (6)	$ 833		
Contributed surplus			$ 440	$ (10)	$ 430
Non-controlling interests			393	1	394
			$ 833	$ (9)	$ 824

Summarized financial information

Summarized financial information of our TELUS International (Cda) Inc. subsidiary is set out in the following table.

As at, or for the years ended, December 31 (millions) [1]	**2021**	2020
Statement of financial position [2]		
Current assets	**$ 874**	$ 740
Non-current assets	**$ 3,804**	$ 4,016
Current liabilities	**$ 1,098**	$ 679
Non-current liabilities	**$ 1,475**	$ 2,660
Statement of income and other comprehensive income		
Revenue and other income	**$ 2,754**	$ 2,222
Net income	**$ 99**	$ 141
Comprehensive income	**$ 22**	$ 189
Statement of cash flows		
Cash provided by operating activities	**$ 347**	$ 353
Cash used by investing activities	**$ (138)**	$ (2,511)
Cash provided by financing activities	**$ (252)**	$ 2,268

1 As required by IFRS-IASB, this summarized financial information excludes inter-company eliminations.
2 The December 31, 2020, balances have been adjusted to reflect finalization of purchase price allocations for the acquisition of Lionbridge AI in fiscal 2020, as explained further in *Note 18(c)*.

29 contingent liabilities

(a) Claims and lawsuits

General

A number of claims and lawsuits (including class actions and intellectual property infringement claims) seeking damages and other relief are pending against us and, in some cases, other mobile carriers and telecommunications service providers. As well, we have received notice of, or are aware of, certain possible claims (including intellectual property infringement claims) against us and, in some cases, other mobile carriers and telecommunications service providers.

It is not currently possible for us to predict the outcome of such claims, possible claims and lawsuits due to various factors, including: the preliminary nature of some claims; uncertain damage theories and demands; an incomplete factual record; uncertainty concerning legal theories and procedures and their resolution by the courts, at both the trial and the appeal levels; and the unpredictable nature of opposing parties and their demands.

However, subject to the foregoing limitations, management is of the opinion, based upon legal assessments and information presently available, that it is unlikely that any liability, to the extent not provided for through insurance or otherwise, would have a material effect on our financial position and the results of our operations, including cash flows, with the exception of the items enumerated following.

Certified class actions

Certified class actions against us include the following:

Per minute billing class action

In 2008, a class action was brought in Ontario against us alleging breach of contract, breach of the Ontario *Consumer Protection Act*, breach of the *Competition Act* and unjust enrichment, in connection with our practice of “rounding up” mobile airtime to the nearest minute and charging for the full minute. The action sought certification of a national class. In November 2014, an Ontario class only was certified by the Ontario Superior Court of Justice in relation to the breach of contract, breach of *Consumer Protection Act*, and unjust enrichment claims; all appeals of the certification decision have now been exhausted. At the same time, the Ontario Superior Court of Justice declined to stay the claims of our business customers, notwithstanding an arbitration clause in our customer service agreements with those customers. This latter decision was appealed and on May 31, 2017, the Ontario Court of Appeal dismissed our appeal. The Supreme Court of Canada granted us leave to appeal this decision and on April 4, 2019, granted our appeal and stayed the claims of business customers.

Call set-up time class actions

In 2005, a class action was brought against us in British Columbia alleging that we have engaged in deceptive trade practices in charging for incoming calls from the moment the caller connects to the network, and not from the moment the incoming call is connected to the recipient. In 2011, the Supreme Court of Canada upheld a stay of all of the causes of action advanced by the plaintiff in this class action, with one exception, based on the arbitration clause that was included in our customer service agreements. The sole exception was the cause of action based on deceptive or unconscionable practices under the British Columbia *Business Practices and Consumer Protection Act*, which the Supreme Court of Canada declined to stay. In January 2016, the British Columbia Supreme Court certified this class action in relation to the claim under the *Business Practices and Consumer Protection Act*. The class is limited to residents of British Columbia who contracted mobile services with us in the period from January 21, 1999, to April 2010. We have appealed the certification decision. A companion class action was brought against us in Alberta at the same time as the British Columbia class action. The Alberta class action duplicates the allegations in the British Columbia action, but has not proceeded to date and is not certified. Subject to a number of conditions, including court approval, we have now settled both the British Columbia and the Alberta class actions.

Uncertified class actions

Uncertified class actions against us include:

9-1-1 class actions

In 2008, a class action was brought in Saskatchewan against us and other Canadian telecommunications carriers alleging that, among other matters, we failed to provide proper notice of 9-1-1 charges to the public, have been deceitfully passing them off as government charges, and have charged 9-1-1 fees to customers who reside in areas where 9-1-1 service is not available. The plaintiffs advance causes of action in breach of contract, misrepresentation and false advertising and seek certification of a national class. A virtually identical class action was filed in Alberta at the same time, but the Alberta Court of Queen's Bench declared that class action expired against us as of 2009. No steps have been taken in this proceeding since 2016.

Public Mobile class actions

In 2014, class actions were brought against us in Quebec and Ontario on behalf of Public Mobile's customers, alleging that changes to the technology, services and rate plans made by us contravene our statutory and common law obligations. In particular, the Quebec action alleges that our actions constitute a breach of the Quebec *Consumer Protection Act*, the Quebec *Civil Code*, and the Ontario *Consumer Protection Act*. On June 28, 2021, the Quebec Superior Court approved the discontinuance of this claim against TELUS. The Ontario class action alleges negligence, breach of express and implied warranty, breach of the *Competition Act*, unjust enrichment, and waiver of tort. No steps have been taken in this proceeding since it was filed and served.

Handset subsidy class action

In 2016, a class action was brought in Quebec against us and other telecommunications carriers alleging that we breached the Quebec *Consumer Protection Act* and the *Civil Code of Quebec* by making false or misleading representations relating to the handset subsidy provided to our mobile customers, and by charging our mobile customers inflated rate plan prices and termination fees higher than those permitted under the *Act*. The claim was later amended to also seek compensation for amounts paid by class members to unlock their mobile devices. The authorization hearing was held on April 30 and May 1, 2019, and on July 15, 2019, the Quebec Superior Court dismissed the authorization application. The Plaintiff's appeal of this decision was dismissed by the Quebec Court of Appeal on July 23, 2021. The Plaintiff has not sought leave to appeal to the Supreme Court of Canada and the time for doing so has now expired. The action is therefore at an end.

Summary

We believe that we have good defences to the above matters. Should the ultimate resolution of these matters differ from management's assessments and assumptions, a material adjustment to our financial position and the results of our operations, including cash flows, could result. Management's assessments and assumptions include that reliable estimates of any such exposure cannot be made considering the continued uncertainty about: the nature of the damages that may be sought by the plaintiffs; the causes of action that are being, or may ultimately be, pursued; and, in the case of the uncertified class actions, the causes of action that may ultimately be certified.

(b) Indemnification obligations

In the normal course of operations, we provide indemnification in conjunction with certain transactions. The terms of these indemnification obligations range in duration. These indemnifications would require us to compensate the indemnified parties for costs incurred as a result of failure to comply with contractual obligations, or litigation claims or statutory sanctions, or damages that may be suffered by an indemnified party. In some cases, there is no maximum limit on these indemnification obligations. The overall maximum amount of an indemnification obligation will depend on future events and conditions and therefore cannot be reasonably estimated. Where appropriate, an indemnification obligation is recorded as a liability. Other than obligations recorded as liabilities at the time of the related transactions, historically we have not made significant payments under these indemnifications. As at December 31, 2021, we had no liability recorded in respect of our indemnification obligations.

See *Note 21(b)* for details regarding our guarantees to the real estate joint ventures.

(c) Concentration of labour

In 2021, we commenced collective bargaining with the Telecommunications Workers Union, United Steelworkers Local 1944, to renew a collective agreement that expired on December 31, 2021; the contract covered approximately 23% of our Canadian workforce as at December 31, 2021. The expired contract remains in effect while the parties are bargaining, until a new agreement is reached.

30 related party transactions

(a) Transactions with key management personnel

Our key management personnel have authority and responsibility for overseeing, planning, directing and controlling our activities and consist of our Board of Directors and our Executive Team.

Total compensation expense for key management personnel, and the composition thereof, is as follows:

Years ended December 31 (millions)	**2021**	2020 [1]
Short-term benefits	**$ 16**	$ 14
Post-employment pension [2] and other benefits	**13**	8
Share-based compensation [3]	**70**	42
	$ 99	$ 64

1 To reflect the expanded roles and responsibilities of Executive Team members who are not also Executive Leadership Team members, in fiscal 2021 we expanded our definition of key management personnel to include all Executive Team members, and we have applied such definition retrospectively.

2 Our Executive Team members are members of our *Pension Plan for Management and Professional Employees of TELUS Corporation* and certain other non-registered, non-contributory supplementary defined benefit and defined contribution pension plans.

3 We accrue an expense for the notional subset of our restricted share units with market performance conditions using a fair value determined by a Monte Carlo simulation. Restricted share units with an equity settlement feature are accounted for as equity instruments. The expense for restricted share units that do not ultimately vest is reversed against the expense that was previously recorded in their respect.

As disclosed in *Note 14*, we made initial awards of share-based compensation in 2021 and 2020, including, as set out in the following table, to our key management personnel. As most of these awards are cliff-vesting or graded-vesting and have multi-year requisite service periods, the related expense is being recognized rateably over a period of years and thus only a portion of the 2021 and 2020 initial awards are included in the amounts in the table above.

Years ended December 31 ($ in millions)	**2021**			2020		
	Number of units	Notional value [1]	Grant-date fair value [1]	Number of units	Notional value [1]	Grant-date fair value [1]
TELUS Corporation						
Restricted share units	**1,273,308**	**$ 33**	**$ 36**	981,088	$ 25	$ 33
TELUS International (Cda) Inc.						
Restricted share units	**437,857**	**15**	**15**	—	—	—
Share options	**167,693**	**1**	**1**	—	—	—
		16	**16**		—	—
		$ 49	**$ 52**		$ 25	$ 33

1 The notional value of restricted share units is determined by multiplying the equity share price at the time of award by the number of units awarded; the grant-date fair value differs from the notional value because the fair values of some awards have been determined using a Monte Carlo simulation (see *Note 14(b)*). The notional value of share options has been determined using an option pricing model. No share options were awarded to our key management personnel in fiscal 2020.

The amount recorded for liability-accounted restricted share units and share options awards outstanding as at December 31, 2021 was $7 million (2020 - $10 million).

Our *Directors' Deferred Share Unit Plan* provides that, in addition to his or her annual equity grant of deferred share units, a director may elect to receive his or her annual retainer and meeting fees in deferred share units, TELUS Corporation Common Shares or cash. Deferred share units entitle directors to a specified number of TELUS Corporation Common Shares. Deferred share units accounted for as liabilities have been paid out when a director ceased to be a director, for any reason, at a time elected by the director in accordance with the *Directors' Deferred Share Unit Plan*; during the year ended December 31, 2021, no amount was paid out (2020 – $3 million). As at December 31, 2021 and 2020, no liability-accounted awards were outstanding.

During the year ended December 31, 2021, key management personnel exercised 215,973 TELUS International (Cda) Inc. share options (2020 - NIL), which had an intrinsic value of $7 million (2020 - NIL) at the time of exercise, reflecting a weighted average price at the date of exercise of $39.58 (2020 - N/A).

Employment agreements with members of the Executive Team typically provide for severance payments if an executive's employment is terminated without cause: generally 18–24 months of base salary, benefits and accrual of pension service in lieu of notice, and 50% of base salary in lieu of an annual cash bonus. In the event of a change in control, Executive Team members are not entitled to treatment any different than that given to our other employees with respect to non-vested share-based compensation.

(b) Transactions with defined benefit pension plans

During the year ended December 31, 2021, we provided management and administrative services to our defined benefit pension plans; the charges for these services were on a cost recovery basis and amounted to $7 million (2020 – $7 million).

(c) Transactions with real estate joint venture

During the years ended December 31, 2021 and 2020, we had transactions with the TELUS Sky real estate joint venture, which is a related party, as set out in *Note 21.* As at December 31, 2021, we had recorded lease liabilities of $ 95 million (2020 - $76 million) in respect of our TELUS Sky lease, and monthly cash payments are made in accordance with the lease agreement; one-third of those amounts is due to our economic interest in the real estate joint venture.

31 additional statement of cash flow information

(a) Statements of cash flows – operating activities and investing activities

Years ended December 31 (millions)	*Note*	**2021**	2020
OPERATING ACTIVITIES			
Net change in non-cash operating working capital			
Accounts receivable		**$ (290)**	$ (231)
Inventories		**(41)**	30
Contract assets		**(4)**	298
Prepaid expenses		**(44)**	79
Accounts payable and accrued liabilities		**289**	189
Income and other taxes receivable and payable, net		**(77)**	(49)
Advance billings and customer deposits		**62**	54
Provisions		**23**	(100)
		$ (82)	$ 270
INVESTING ACTIVITIES			
Cash payments for capital assets, excluding spectrum licences			
Capital asset additions			
Gross capital expenditures			
Property, plant and equipment	*17*	**$ (3,188)**	$ (2,672)
Intangible assets subject to amortization	*18*	**(864)**	(640)
		(4,052)	(3,312)
Additions arising from leases	*17*	**554**	530
Additions arising from non-monetary transactions		**—**	7
Capital expenditures	*5*	**(3,498)**	(2,775)
Effect of asset retirement obligations		**171**	(157)
		(3,327)	(2,932)
Other non-cash items included above			
Change in associated non-cash investing working capital		**401**	(50)
Non-cash change in asset retirement obligation		**(171)**	160
		230	110
		$ (3,097)	$ (2,822)

(b) Changes in liabilities arising from financing activities

(millions)	Beginning of period	Statement of cash flows: Issued or received	Statement of cash flows: Redemptions, repayments or payments	Non-cash changes: Foreign exchange movement (*Note 4(i)*)	Non-cash changes: Other	End of period
YEAR ENDED DECEMBER 31, 2020						
Dividends payable to holders of Common Shares	$ 352	$ —	$ (1,469)	$ —	$ 1,520	$ 403
Dividends reinvested in shares from Treasury	—	—	539	—	(539)	—
	$ 352	$ —	$ (930)	$ —	$ 981	$ 403
Short-term borrowings	$ 100	$ 215	$ (223)	$ —	$ 8	$ 100
Long-term debt						
TELUS Corporation senior notes	$ 14,479	$ 1,500	$ (900)	$ (60)	$ 2	$ 15,021
TELUS Corporation commercial paper	1,015	1,782	(2,116)	50	—	731
TELUS Communications Inc. debentures	621	—	—	—	1	622
TELUS International (Cda) Inc. credit facility	431	1,600	(191)	(27)	(9)	1,804
Other	267	—	(319)	—	325	273
Lease liabilities	1,661	—	(365)	7	534	1,837
Derivatives used to manage currency risk arising from U.S. dollar-denominated long-term debt – liability (asset)	(37)	2,137	(2,109)	94	35	120
	18,437	7,019	(6,000)	64	888	20,408
To eliminate effect of gross settlement of derivatives used to manage currency risk arising from U.S. dollar-denominated long-term debt	—	(2,137)	2,137	—	—	—
	$ 18,437	$ 4,882	$ (3,863)	$ 64	$ 888	$ 20,408
YEAR ENDED DECEMBER 31, 2021						
Dividends payable to holders of Common Shares	$ 403	**$ —**	**$ (1,665)**	**$ —**	**$ 1,711**	**$ 449**
Dividends reinvested in shares from Treasury	—	**—**	**620**	**—**	**(620)**	**—**
	$ 403	**$ —**	**$ (1,045)**	**$ —**	**$ 1,091**	**$ 449**
Short-term borrowings	$ 100	**$ 12**	**$ (2)**	**$ —**	**$ 4**	**$ 114**
Long-term debt						
TELUS Corporation senior notes	$ 15,021	**$ 1,250**	**$ (1,000)**	**$ (13)**	**$ —**	**$ 15,258**
TELUS Corporation commercial paper	731	**3,585**	**(2,378)**	**(38)**	**—**	**1,900**
TELUS Communications Inc. debentures	622	**—**	**(175)**	**—**	**1**	**448**
TELUS International (Cda) Inc. credit facility	1,804	**56**	**(797)**	**(4)**	**3**	**1,062**
Other	273	**—**	**(89)**	**—**	**124**	**308**
Lease liabilities	1,837	**—**	**(502)**	**1**	**540**	**1,876**
Derivatives used to manage currency risk arising from U.S. dollar- denominated long-term debt – liability (asset)	120	**2,406**	**(2,437)**	**10**	**(95)**	**4**
	20,408	**7,297**	**(7,378)**	**(44)**	**573**	**20,856**
To eliminate effect of gross settlement of derivatives used to manage currency risk arising from U.S. dollar-denominated long-term debt	—	**(2,406)**	**2,406**	**—**	**—**	**—**
	$ 20,408	**$ 4,891**	**$ (4,972)**	**$ (44)**	**$ 573**	**$ 20,856**

TELUS CORPORATION

Management's discussion and analysis

2021



Caution regarding forward-looking statements

The terms *TELUS, the Company, we, us* and *our* refer to TELUS Corporation and, where the context of the narrative permits or requires, its subsidiaries.

This document contains forward-looking statements about expected events and our financial and operating performance. Forward-looking statements include any statements that do not refer to historical facts. They include, but are not limited to, statements relating to our objectives and our strategies to achieve those objectives, our plans and expectations regarding the impact of the COVID-19 pandemic and responses to it, our expectations regarding trends in the telecommunications industry including demand for mobile data and ongoing internet subscriber base growth, and our financing plans including our multi-year dividend growth program. Forward-looking statements are typically identified by the words assumption, goal, guidance, objective, outlook, strategy, target and other similar expressions, or future or conditional verbs such as *aim*, *anticipate*, *believe*, *could*, *expect*, *intend*, *may*, *plan*, *predict*, *seek*, *should*, *strive* and *will*. These statements are made pursuant to the "safe harbour" provisions of applicable securities laws in Canada and the United States *Private Securities Litigation Reform Act of 1995* .

By their nature, forward-looking statements are subject to inherent risks and uncertainties and are based on assumptions, including assumptions about future economic conditions and courses of action. These assumptions may ultimately prove to have been inaccurate and, as a result, our actual results or events may differ materially from expectations expressed in or implied by the forward-looking statements. Our general outlook and assumptions for 2022 are presented in *Section 9 General trends, outlook and assumptions, and regulatory developments and proceedings* in this Management's discussion and analysis (MD&A).

Risks and uncertainties that could cause actual performance or events to differ materially from the forward-looking statements made herein and in other TELUS filings include, but are not limited to, the following:

- The COVID-19 pandemic including its impacts on our customers, suppliers and vendors, our team members and our communities, as well as changes resulting from the pandemic to our business and operations, including changes to the demand for and supply of the products and services that we offer and the channels through which we offer them.
- Regulatory decisions and developments including: changes to our regulatory regime (the timing of announcement or implementation of which are uncertain) or the outcomes of proceedings, cases or inquiries relating to its application, including but not limited to those set out in *Section 9.4 Communications industry regulatory developments and proceedings* in this MD&A, such as the potential for government to allow consolidation of competitors in our industry or conversely for government intervention intended to further increase competition, for example, through mandated wholesale access; the potential for additional government intervention on pricing, including the March 2020 announcement by the federal government targeting a 25% price reduction over a two-year period by the national mobile carriers in postpaid mobile bring-your-own-device plans using between 2 to 6 GB of data; federal and provincial consumer protection legislation and the possible re-introduction by the federal government of privacy legislation to give consumers new privacy rights and to impose new monetary penalties for non-compliance; amendments to existing federal legislation; potential threats to unitary federal regulatory authority over communications in Canada; potential threats to the CRTC's ability to enforce the *Wholesale Code*, which aims to ensure the fair treatment by vertically integrated firms of rival broadcasting distributors and programming services; regulatory action by the Competition Bureau or other regulatory agencies; spectrum and compliance with licences, including our compliance with licence conditions, changes to spectrum licence fees, spectrum policy determinations such as restrictions on the purchase, sale, subordination, use and transfer of spectrum licences, the cost and availability of spectrum and timing of spectrum allocation, and ongoing and future consultations and decisions on spectrum licensing and policy frameworks, auctions and allocation; the impact on us and other Canadian telecommunications carriers of government or regulatory actions with respect to certain countries or suppliers, including U.S. federal regulations pertaining to certain technology transactions deemed to constitute national security risks and the imposition of additional licence requirements on the export, re-export and transfer of goods, services and technology to Huawei Technologies Co. Ltd. and its non-U.S. affiliates, and decisions of other foreign governments, which could result in a general shortage of chipsets and other equipment; restrictions on non-Canadian ownership and control of the common shares of TELUS Corporation (Common Shares) and the ongoing monitoring of and compliance with such restrictions; unanticipated changes to the current copyright regime; and our ability to comply with complex and changing regulation of the healthcare and medical devices industry in the jurisdictions in which we operate, including as an operator of health clinics. The jurisdictions in which we operate, as well as the contracts that we enter into (particularly contracts entered into by TELUS International (Cda) Inc. (TELUS International or TI)), require us to comply with or facilitate our clients' compliance with numerous, complex and sometimes conflicting legal

regimes, both domestically and internationally. See *TELUS International's financial performance which impacts our financial performance* below.

- Competitive environment including: our ability to continue to retain customers through an enhanced customer service experience that is differentiated from our competitors, including through the deployment and operation of evolving network infrastructure; intense competition, including the ability of industry competitors to successfully combine a mix of new service offerings and, in some cases, under one bundled and/or discounted monthly rate, along with their existing services; the success of new products, services and supporting systems, such as home automation, security and Internet of Things (IoT) services for internet-connected devices; continued intense competition across all services among telecommunications companies, cable companies, other communications companies and over-the-top (OTT) services, which, among other things, places pressures on current and future average billing per subscriber per month (ABPU), average revenue per subscriber per month (ARPU), cost of acquisition, cost of retention and churn rates for all services, as do market conditions, government actions, customer usage patterns, increased data bucket sizes or flat-rate pricing trends for voice and data, inclusive rate plans for voice and data and availability of Wi-Fi networks for data; consolidation, mergers and acquisitions of industry competitors; subscriber additions, losses and retention volumes; our ability to obtain and offer content on a timely basis across multiple devices on mobile and TV platforms at a reasonable cost as content costs per unit continue to grow; vertical integration in the broadcasting industry resulting in competitors owning broadcast content services, and timely and effective enforcement of related regulatory safeguards; TI's ability to compete with professional services companies that offer consulting services, information technology companies with digital capabilities, and traditional contact centre and business process outsourcing companies that are expanding their capabilities to offer higher-margin and higher-growth digital services; in our TELUS Health business, our ability to compete with other providers of electronic medical records and pharmacy management products, claims adjudicators, systems integrators and health service providers including those that own a vertically integrated mix of health services delivery, IT solutions and related services, global providers that could achieve expanded Canadian footprints, and in the provision of virtual healthcare services, preventative health services and personal emergency response services; and in our TELUS Agriculture business, our ability to compete with focused software and IoT competitors.

- Technological substitution including: reduced utilization and increased commoditization of traditional fixed voice services (local and long distance) resulting from impacts of OTT applications and mobile substitution; a declining overall market for TV services, including as a result of content piracy and signal theft, a rise in OTT direct-to-consumer video offerings and virtual multichannel video programming distribution platforms; the increasing number of households that have only mobile and/or internet-based telephone services; potential declines in ABPU and ARPU as a result of, among other factors, substitution by messaging and OTT applications; substitution by increasingly available Wi-Fi services; and disruptive technologies, such as OTT IP services, including software-defined networks in the business market, that may displace or cause us to reprice our existing data services, and self-installed technology solutions.

- Challenges to our ability to deploy technology including: high subscriber demand for data that challenges wireless networks and spectrum capacity levels and may be accompanied by increases in delivery cost; our reliance on information technology and our ability to streamline our legacy systems; the roll-out, anticipated benefits and efficiencies, and the evolution of wireless broadband technologies and systems, including video distribution platforms and telecommunications network technologies (broadband initiatives, such as fibre-to-the-premises (FTTP), wireless small-cell deployment, 5G wireless and availability of resources and our ability to build out adequate broadband capacity); our reliance on wireless network access agreements, which have facilitated our deployment of mobile technologies; our choice of suppliers and those suppliers' ability to maintain and service their product lines, which could affect the success of upgrades to, and evolution of, technology that we offer; supplier limitations and concentration and market power for products such as network equipment, TELUS TV® and mobile handsets; our expected long-term need to acquire additional spectrum capacity through future spectrum auctions and from third parties to address increasing demand for data, and our ability to utilize spectrum we acquire; deployment and operation of new fixed broadband network technologies at a reasonable cost and the availability and success of new products and services to be rolled out using such network technologies; network reliability and change management; and our deployment of self-learning tools and automation, which may change the way we interact with customers.

- Capital expenditure levels and potential outlays for spectrum licences in auctions or purchases from third parties affect and are affected by: our broadband initiatives, including connecting more homes and businesses directly to fibre; our ongoing deployment of newer mobile technologies, including wireless small cells to improve coverage and capacity; investments in network resiliency and reliability, including to address changes in usage resulting from restrictions imposed in response to the COVID-19 pandemic; the allocation of resources to acquisitions and future spectrum auctions held by Innovation, Science and Economic Development Canada (ISED), including the announcement of a second consultation on the auctioning of the 3800 MHz spectrum, which the Minister of Innovation, Science and Industry stated is expected to take place in 2023, and the millimetre wave spectrum auction, which is expected to commence in 2024. Our capital expenditure levels could be impacted if we do not achieve our targeted operational and financial results or by changes to our regulatory environment.

- Operational performance and business combination risks including: our reliance on legacy systems and our ability to implement and support new products and services and business operations in a timely manner; our ability to manage the requirements of large enterprise deals; our ability to implement effective change management for system replacements and upgrades, process redesigns and business integrations (such as our ability in a timely manner to successfully complete and integrate acquisitions into our operations and culture, complete divestitures or establish partnerships and realize expected strategic benefits, including those following compliance with any regulatory orders); our ability to identify and manage new risks inherent in new service offerings that we may provide, including as a result of acquisitions, which could result in damage to our brand, our business in the relevant area or as a whole, and additional exposure to litigation or regulatory proceedings; and our ability to effectively manage the growth of our infrastructure and integrate new team members.

- Data protection including risks that malfunctions or unlawful acts could result in unauthorized access to, change, loss, or distribution of data, which may compromise the privacy of individuals and could result in financial loss and harm to our reputation and brand.

- Security threats including intentional damage, or unauthorized access or attempted access, to our physical assets or our IT systems and networks, or those of our customers or vendors, which could prevent us from providing reliable service or result in unauthorized access to our information or that of our customers.

- Ability to successfully implement cost reduction initiatives and realize planned savings, net of restructuring and other costs, without losing customer service focus or negatively affecting business operations. Examples of these initiatives are: our operating efficiency and effectiveness program to drive improvements in financial results; business integrations; business product simplification; business process automation and outsourcing; offshoring and reorganizations; procurement initiatives; and real estate rationalization.

- Foreign operations and our ability to successfully manage operations in foreign jurisdictions, including managing risks such as currency fluctuations and exposure to various economic, international trade, political and other risks of doing business globally. See also *TELUS International's financial performance which impacts our financial performance* .

- Business continuity events including: our ability to maintain customer service and operate our network in the event of human error or human-caused threats, such as cyberattacks and equipment failures that could cause various degrees of network outages; technical disruptions and infrastructure breakdowns; supply chain disruptions, delays and rising costs, including as a result of government restrictions or trade actions; natural disaster threats; extreme weather events; epidemics; pandemics (including the ongoing COVID-19 pandemic); political instability in certain international locations; information security and privacy breaches, including loss or theft of data; and the completeness and effectiveness of business continuity and disaster recovery plans and responses.

- TELUS International's financial performance which impacts our financial performance . Factors that may affect TI's financial performance are described in TI's public filings available on SEDAR and EDGAR and may include: intense competition from companies offering similar services; attracting and retaining qualified team members to support its operations; TI's ability to grow and maintain profitability if changes in technology or if client expectations outpace service offerings and internal tools and processes; TI maintaining its culture as it grows; effects of economic and geopolitical conditions on its clients' businesses and demand for its services; a significant portion of TI's revenue being dependent on a limited number of large clients; continued consolidation in many of the verticals in which TI offers services could result in the loss of a client; adverse impacts of the COVID-19 pandemic on TI's business and financial results; TI's business being adversely affected if certain independent contractors were classified as employees, and the costs associated with defending, settling or resolving any future lawsuits (including demands for arbitration) relating to the independent contractor classification; TI's ability to successfully identify, complete, integrate and realize the benefits of acquisitions and manage associated risks; cyberattacks or unauthorized disclosure resulting in access to sensitive or confidential information and data of its clients or their end customers, which could have a negative impact on its reputation and client confidence; TI's business not developing in ways it currently anticipates due to negative public reaction to offshore outsourcing, proposed legislation or otherwise; ability to meet client expectations regarding its content moderation services being adversely impacted due to factors beyond its control and its content moderation team members suffering adverse emotional or cognitive effects in the course of performing their work; and TI's short history operating as a separate, publicly traded company. TELUS International's primary functional and reporting currency is the U.S. dollar and the contribution to our consolidated results of positive results in our digitally-led customer experiences – TELUS International (DLCX) segment may be offset by any strengthening of the Canadian dollar (our reporting currency) compared to the U.S. dollar. The price of the subordinate voting shares of TI (TI Subordinate Voting Shares) may be volatile and is likely to fluctuate due to a number of factors beyond its control, including actual or anticipated changes in profitability; general economic, social or political developments; changes in industry conditions; changes in governance regulation; inflation; low trading volume; the general state of the securities markets; and other material events. TI may choose to publicize targets or provide other guidance regarding its business and it may not achieve such targets. Failure to do so could also result in a reduction in the trading price of the TI Subordinate Voting Shares. A reduction in the trading price of the TI Subordinate Voting Shares due to these or other factors could result in a reduction in the fair value of TI multiple voting shares held by TELUS.

- Human resource matters including: recruitment, retention and appropriate training in a highly competitive industry (including retention of team members leading recent acquisitions in emerging areas of our business), the level of our employee engagement and impact on engagement or other aspects of our business or any unresolved collective agreements, our ability to maintain our unique culture as we grow, the risk that certain independent contractors in our business could be classified as employees, unanticipated reaction to our COVID-19 vaccine policy or the reopening of our administrative offices and the health of our team.

- Financing and debt requirements including: our ability to carry out financing activities, refinance our maturing debt, lower our net debt to EBITDA ratio to our objective range given the cash demands of spectrum auctions, and/or our ability to maintain investment grade credit ratings in the range of BBB+ or the equivalent. Our business plans and growth could be negatively affected if existing financing is not sufficient to cover our funding requirements.

- Lower than planned free cash flow could constrain our ability to invest in operations, reduce leverage or return capital to shareholders, and could affect our ability to sustain our dividend growth program through 2022 and any further dividend growth programs. This program may be affected by factors such as the competitive environment, fluctuations in the Canadian economy or the global economy, our earnings and free cash flow, our levels of capital expenditures and spectrum licence purchases, acquisitions, the management of our capital structure, regulatory decisions and developments, and business continuity events. Quarterly dividend decisions are subject to assessment and determination by our Board of Directors based on our financial position and outlook. Common Shares may be purchased under our normal course issuer bid (NCIB) when and if we consider it opportunistic, based on our financial position and outlook, and the market price of our Common Shares. There can be no assurance that our dividend growth program or our NCIB will be maintained, unchanged and/or completed.

- Taxation matters including: interpretation of complex domestic and foreign tax laws by the relevant tax authorities that may differ from our interpretations; the timing and character of income and deductions, such as tax depreciation and operating expenses; tax credits or other attributes; changes in tax laws, including tax rates; tax expenses being materially different than anticipated, including the taxability of income and deductibility of tax attributes or retroactive application of new legislation;

elimination of income tax deferrals through the use of different tax year-ends for operating partnerships and corporate partners; and changes to the interpretation of tax laws, including those resulting from changes to applicable accounting standards or the adoption of more aggressive auditing practices by tax authorities, tax reassessments or adverse court decisions impacting the tax payable by us.

- Litigation and legal matters including: our ability to successfully respond to investigations and regulatory proceedings; our ability to defend against existing and potential claims and lawsuits (including intellectual property infringement claims and class actions based on consumer claims, data, privacy or security breaches and secondary market liability), or to negotiate and exercise indemnity rights or other protections in respect of such claims and lawsuits; and the complexity of legal compliance in domestic and foreign jurisdictions, including compliance with competition, anti-bribery and foreign corrupt practices laws.

- Health, safety and the environment including: lost employee work time resulting from illness or injury; public concerns related to radio frequency emissions; environmental issues affecting our business, including climate-related risk (such as extreme weather events and other natural hazards), waste and waste recycling, risks relating to fuel systems on our properties, changing government and public expectations regarding environmental matters and our responses; and challenges associated with epidemics or pandemics, including the COVID-19 pandemic and our response to it, which may add to or accentuate these factors.

- Economic growth and fluctuations including: the state of the economy in Canada, which may be influenced by economic and other developments outside of Canada, including potential outcomes of yet unknown policies and actions of foreign governments and the ongoing COVID-19 pandemic, as well as public and private sector responses to the pandemic; expectations regarding future interest rates; inflation; unemployment levels; effects of fluctuating oil prices; effects of low business spending (such as reducing investments and cost structure); pension investment returns and factors affecting pension benefit obligations, funding and solvency discount rates; fluctuations in exchange rates of the currencies in the regions in which we operate; sovereign credit ratings and effects on the cost of borrowing; the impact of tariffs on trade between Canada and the United States; and global implications of the dynamics of trade relationships among major world economies.

- Energy use including: our ability to identify and implement solutions to reduce energy consumption and adopt cleaner sources of energy; our ability to identify and make suitable investments in renewable energy, including in the form of power purchase agreements; our ability to continue to realize significant absolute reductions in energy use and the resulting greenhouse gas (GHG) emissions in our operations (including as a result of programs and initiatives focused on our buildings and network); and other risks associated with achieving our goals to achieve carbon neutrality and reduce our GHG emissions by 2030.

These risks are described in additional detail in *Section 9 General trends, outlook and assumptions, and regulatory developments and proceedings* and *Section 10 Risks and risk management* in this MD&A. Those descriptions are incorporated by reference in this cautionary statement but are not intended to be a complete list of the risks that could affect the Company.

Many of these factors are beyond our control or outside of our current expectations or knowledge. Additional risks and uncertainties that are not currently known to us or that we currently deem to be immaterial may also have a material adverse effect on our financial position, financial performance, cash flows, business or reputation. Except as otherwise indicated in this document, the forward-looking statements made herein do not reflect the potential impact of any non-recurring or special items or any mergers, acquisitions, dispositions or other business combinations or transactions that may be announced or that may occur after the date of this document.

Readers are cautioned not to place undue reliance on forward-looking statements. Forward-looking statements in this document describe our expectations, and are based on our assumptions, as at the date of this document and are subject to change after this date. Except as required by law, we disclaim any intention or obligation to update or revise any forward-looking statements.

This cautionary statement qualifies all of the forward-looking statements in this MD&A.

Management's discussion and analysis (MD&A)
February 10, 2022

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1. Introduction

The forward-looking statements in this section, including, for example, statements relating to the expected impact of the COVID-19 pandemic on our operations and financial condition, are qualified by the *Caution regarding forward-looking statements* at the beginning of this Management's discussion and analysis (MD&A).

1.1 Preparation of the MD&A

The following sections are a discussion of our consolidated financial position and financial performance for the year ended December 31, 2021, and should be read together with our December 31, 2021 audited consolidated statements of income and other comprehensive income, statements of financial position, statements of changes in owners' equity and statements of cash flows, and the related notes (collectively referred to as the Consolidated financial statements). The generally accepted accounting principles (GAAP) that we use are International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB) and Canadian GAAP. In this MD&A, the term IFRS refers to these standards. In our discussion, we also use certain non-GAAP and other specified financial measures to evaluate our performance, monitor compliance with debt covenants and manage our capital structure. These measures are defined, qualified and reconciled with their nearest GAAP measures, as required by National Instrument 52-112, *Non-GAAP and Other Financial Measures Disclosure*, in *Section 11.1*. All currency amounts are in Canadian dollars, unless otherwise specified.

Additional information relating to the Company, including our Annual Information Form and other filings with securities commissions or similar regulatory authorities in Canada, is available on SEDAR (**sedar.com**). Our filings with the Securities and Exchange Commission in the United States, including Form 40-F, are available on EDGAR (**sec.gov**). Additional information about our TELUS International (Cda) Inc. (TELUS International or TI) subsidiary, including discussion of its business and results, can be found in its public filings available on SEDAR and EDGAR.

Our disclosure controls and procedures are designed to provide reasonable assurance that all relevant information is gathered and reported to senior management on a timely basis, so that appropriate decisions can be made regarding public disclosure. This MD&A and the Consolidated financial statements were reviewed by our Audit Committee and authorized by our Board of Directors (Board) for issuance on February 10, 2022.

In this MD&A, unless otherwise indicated, results for the year ended December 31, 2021 are compared with results for the year ended December 31, 2020.

Effective January 1, 2021, our segmented reporting structure was retrospectively re-cast. This change arose from continually increasing technological convergence pushing the difference between mobile and fixed access further from the core network and closer to the customer point of access, the increasing significance of digitally-led customer experience services and the evolution of information regularly reported to our chief operating decision-maker for purposes of allocating capital resources and assessing performance. See *Section 5.1 General* for additional details.

1.2 The environment in which we operate

The success of our business and the challenges we face can best be understood with reference to the environment in which we operate, including broader economic factors that affect our customers and us, and the competitive nature of our operations.

2021 Canadian telecom industry growth Est. 3%	**TELUS 2021 revenues and other income** $17.3 billion	**TELUS subscriber connections** 16.9 million	**TELUS Corporation Common Share 2021 dividends declared and growth per share** $1.7 billion / 7.3%

COVID-19

The COVID-19 pandemic, which emerged in the first quarter of 2020, continued to have a pervasive global impact throughout 2021. Since the beginning of the pandemic, we have focused relentlessly on keeping Canadians connected and on the health, safety and well-being of our team members, customers and communities. Our Executive Team continues to be guided by advice from our Emergency Management Operating Committee (EMOC) and the TELUS Medical Advisory Council (MAC).

We expect the pandemic to continue to affect our operations until at least 2023. Whether this occurs will depend on both domestic and international factors, including rates of vaccination and the potential proliferation of COVID-19 variants of concern.

We are committed to prioritizing the health and safety of team members and customers and the significant majority of team members have continued to work remotely during the pandemic. During the third quarter of 2021, we announced our COVID-19 vaccination policy for all Canadian team members. We currently plan to reopen our Canadian administrative offices in April 2022 at the earliest, based on an assessment of the public health and safety guidance at that time. When our team members return to the office, they will have an opportunity to participate in the next evolution of our Work Styles® program. Originally launched in 2006, Work Styles provides team members with flexible work options to accommodate their work preferences and the ability to connect and collaborate seamlessly no matter where they are.

With respect to TELUS International's operations, the intent is for team members to return to traditional work environments in offices when it has been deemed safe to do so by local governments and healthcare officials. However, this varies significantly by geography and each region's vaccination progress.

Canadian telecommunications industry

After almost two years of operating within the COVID-19 environment, the pandemic continues to highlight the essential nature of connectivity in enabling Canadians to participate in the digital economy. The telecommunications industry remains a key lifeline for Canada's economic and social survival during the pandemic, and facilities-based operators continue to invest in building additional capacity and upgrading infrastructure. We estimate that Canadian telecommunications industry revenues (including TV revenue and excluding equipment and media revenue) grew by approximately 3% in 2021, with mobile network revenue growth of approximately 2.7%. Mobile revenues continued to account for the largest portion of telecommunications sector revenues and Canadians are using ever-increasing amounts of data through both fixed internet and mobile services. We estimate that the Canadian mobile phone industry added approximately 0.9 million net new subscribers in 2021 as compared to approximately 1.1 million in 2020. With respect to fixed products and services, we estimate the Canadian consumer high-speed internet penetration rate grew by approximately 2 percentage points to 90% in 2021, and subscriber growth is expected to continue. More Canadians are subscribing to internet services, and during the pandemic, Canadians relied on their internet service for remote work, education and entertainment, and for access to news and information, while the shift from the traditional television landscape to internet-based television continued. Competitive pressures continued in both the fixed products and services consumer and business markets, while declines in higher-margin legacy voice services were ongoing, mainly attributable to technological substitution. (See *Section 9 General trends, outlook and assumptions, and regulatory developments and proceedings, Section 10.4 Competitive environment* and *Section 10.16 The economy*.)

Digitally-led customer experiences – TELUS International (DLCX)

Technology is transforming the way businesses interact with their customers at an accelerating pace and scale and, across industries, customer experience has become a critically important competitive differentiator. DLCX clients and their customers have more information and more choices than ever before and their expectations surrounding brand experiences and the speed at which companies must process and respond to customer interactions are changing rapidly. The proliferation of mobile devices, social media platforms and other methods of digital interaction has enabled customers to access information 24/7 and engage with companies through multiple digital channels. The COVID-19 pandemic has further accelerated the use of digital channels as the first, and sometimes only, points of customer interaction. Customers value a consistent and personalized experience across channels when interacting with the companies that serve them. Businesses face pressure to engage with their customers across digital and human channels, and seek to do so by combining technology with authentic human experience that is capable of demonstrating a sincere commitment to customer satisfaction.

Economic estimates

Our estimates regarding our environment, including economic growth, unemployment and housing starts, form an important part of the assumptions on which our targets are based. The extent of the impact these estimates will have on us and the timing of that impact will depend upon the actual experience of specific sectors of the Canadian economy.

	Economic growth (Percentage points)			**Unemployment** (Percentage points)			**Housing starts** (000s of units)		
	Estimated gross domestic product (GDP) growth rates		Our estimated GDP growth rates[1]	Unemployment rates For the month of		Our estimated annual unemployment rates[1]	Seasonally adjusted annual rate of housing starts[2] For the month of		Our estimated annual rate of housing starts on an unadjusted basis[1]
	2022	2021	**2022**	**December 2021**[3]	December 2020[3]	**2022**	**December 2021**	December 2020	**2022**
Canada	**4.0**[4]	4.6[4]	**4.3**	**5.9**	8.6	**6.1**	**236**	230	**224**
B.C.	**4.0**[5]	6.0[5]	**4.2**	**5.3**	7.2	**5.2**	**55**	44	**39**
Alberta	**4.3**[5]	6.7[5]	**4.4**	**7.3**	11.0	**7.1**	**31**	31	**30**
Ontario	**4.5**[5]	4.3[5]	**4.5**	**6.0**	9.5	**6.1**	**70**	72	**83**
Quebec	**3.3**[5]	6.5[5]	**3.7**	**4.6**	6.7	**5.3**	**52**	57	**55**

1 Assumptions are as of September 20, 2021 and are based on a composite of estimates from Canadian banks and other sources.
2 Source: Statistics Canada. Table 34-10-0158-01 Canada Mortgage and Housing Corporation, housing starts, all areas, Canada and provinces, seasonally adjusted at annual rates, monthly (x 1,000).
3 Source: Statistics Canada Labour Force Survey, December 2021 and December 2020, respectively.
4 Source: Bank of Canada Monetary Policy Report, January 2022.
5 Source: British Columbia Ministry of Finance, First Quarterly Report, September 2021; Alberta Ministry of Treasury Board and Finance, 2021 – 22 First Quarter Fiscal Update and Economic Statement, August 2021; Ontario Ministry of Finance, 2021 Ontario Economic Outlook and Fiscal Review: Build Ontario, November 2021; and Ministère des Finances du Quebec, Update on Quebec's economic and financial situation – Fall 2021, November 2021, respectively.

1.3 Highlights of 2021

TELUS International IPO

On February 5, 2021, TELUS Corporation and TELUS International, our DLCX subsidiary, announced the closing of the upsized TI initial public offering (IPO) of 42.55 million TI subordinate voting shares at a price of US$25.00 per share, which included 5.55 million TI subordinate voting shares purchased upon the full exercise of the underwriters' over-allotment option to purchase additional TI subordinate voting shares from TELUS Corporation and Baring Private Equity Asia (Baring), the selling shareholders. The offering generated aggregate gross proceeds to TI, TELUS Corporation and Baring of approximately $1.4 billion (US$1.1 billion), including the exercise of the over-allotment option in full. The net proceeds to TI totalled approximately $0.6 billion (US$0.5 billion), which was used to repay outstanding borrowings under its revolving credit facilities. TI did not receive any proceeds from the TI subordinate voting shares sold by the selling shareholders. The TI subordinate voting shares began trading on the New York Stock Exchange (NYSE) and the Toronto Stock Exchange (TSX) on February 3, 2021 under the ticker "TIXT". The offering represented the largest tech IPO in TSX history and the fifth largest by proceeds raised at the time. TI's initial market capitalization of $8.5 billion at the time of its IPO surpassed TELUS' market capitalization in 2000. With its differentiated portfolio of integrated digital IT and customer experience (CX) solutions spanning the design, build and deliver lifecycle, TI has a strategic position in the digital transformation ecosystem and is poised to benefit from the acceleration of digital adoption across various sectors of the global economy.

Strategic alliance with Google

On February 9, 2021, we announced a strategic alliance with Google Cloud to co-innovate on new services and solutions that support digital transformation within key industries, including communications technology, healthcare, agriculture, security and connected home. The 10-year collaboration is intended to accelerate our IT and network modernization initiatives, enabling further operational agility and supporting improved customer experiences.

Equity offering

On March 25, 2021, we announced an equity offering pursuant to which a syndicate of underwriters agreed to purchase from TELUS, on a bought-deal basis, and sell to the public, 51 million common shares of TELUS Corporation (Common Shares) at a price of $25.35 per Common Share for gross proceeds of approximately $1.3 billion. On March 31, 2021, we announced the closing of the offering. Proceeds are being used to capitalize on a unique strategic opportunity to accelerate our broadband capital investment program through 2021 and 2022, including substantial advancement of the build-out of our TELUS PureFibre® infrastructure in Alberta, B.C. and Eastern Quebec, as well as an accelerated roll-out of our 5G network. These planned accelerated capital investments are over and above our previous capital expenditures target originally announced on February 11, 2021.

Long-term debt issue, inaugural sustainability-linked bond and early redemption of 2022 Notes

On April 5, 2021, we issued $500 million of senior unsecured 4.10% Notes, Series CAE, which will mature on April 5, 2051. The net proceeds from this offering were used to fund the repayment upon maturity of the Series 3, 10.65% debentures of TELUS Communications Inc. due June 2021, the repayment of commercial paper and for general corporate purposes

On June 28, 2021, we announced the successful closing of our inaugural sustainability-linked bond, the first of its kind in Canada. The $750 million of senior unsecured 2.85% Sustainability-Linked Notes, Series CAF, will mature on November 13, 2031, and were issued pursuant to our sustainability-linked bond framework announced on June 14, 2021 (see *Section 3* for additional details). As part of this framework, we have committed to reducing our absolute scope 1 and 2 greenhouse gas emissions by 46% from 2019 levels by 2030 (our sustainability performance target). If we fail to achieve this target by December 31, 2030, the interest payable on these notes will increase by 1.00% in the final year of maturity. We will report annually on our performance against the sustainability performance target and will also obtain an annual independent and external verification of our performance against the target.

On August 17, 2021, we early redeemed all of our $1 billion 2.35% Notes, Series CT, due March 28, 2022. The long-term debt prepayment premium recorded in the three-month period ended September 30, 2021 was $10 million before income taxes ($0.01 per share after income taxes). Subsequent to this early redemption, there are no TELUS Corporation notes maturing in 2022.

Our Board of Directors

At our 2021 annual general meeting held on May 7, 2021, the nominees listed in the TELUS 2021 information circular were elected as directors of TELUS, including two new nominees, Hazel Claxton and Sean Willy.

Hazel is a corporate director. She served as Executive Vice-President and Chief Human Resources Officer with LifeWorks Inc. (formerly Morneau Shepell Inc.) from 2013 to 2018. Prior to that, Hazel spent 29 years at PwC Canada where she held several leadership roles including Canadian Leadership Group member, Human Capital leader, and Partner within the Corporate Advisory and Restructuring Group, an area she practiced in for 20 years. Hazel holds a Bachelor of Commerce (Honours) from Queen's University and the ICD.D designation from the Institute of Corporate Directors. She is a Chartered Professional Accountant.

Sean is President and Chief Executive Officer of Des Nedhe Development, the economic development entity for English River First Nation, which includes a broad portfolio of businesses and investments that range from construction and mining to retail and communications, a role he has held since August 2017, and prior thereto he was a Vice-President of Des Nedhe Development since June 2016. Sean holds a Bachelor of Commerce from the Edwards School of Business of the University of Saskatchewan.

Our Board diversity policy includes separate diversity targets of having (i) at least two directors who represent a visible minority or are Indigenous and (ii) women and men each represent at least one-third of the independent directors. With the appointment of directors at our May 2021 annual meeting, we surpassed both targets.

3500 MHz spectrum auction developments

Innovation, Science and Economic Development Canada (ISED) held its 3500 MHz band spectrum auction from June 15, 2021, through July 23, 2021. We acquired 142 licences equating to 16.4 MHz of spectrum for a total purchase price of $1.95 billion. Combined with the spectrum we acquired privately ahead of the auction, we now hold 25 MHz of spectrum in the 3500 MHz spectrum band nationally and 40 MHz within key markets, at an average price of $2.53 per MHz-pop (where pop refers to the population in a licence area). In accordance with the terms of the auction, 20% ($389 million) was remitted to ISED on its due date, August 13, 2021. On September 22, 2021, ISED sought further consultation on the Standard Radio Systems Plan (SRSP)-520 affecting the deployment of 3500 MHz spectrum and advised that it would issue the 3500 MHz spectrum licences after determining whether amendments were needed to SRSP-520. ISED also notified prospective 3500 MHz licensees that the final auction payments and issuance of licences, originally scheduled for October 4, 2021, were delayed until December 17, 2021, at which time we made the final payment.

Blacksmith Applications acquisition

On September 22, 2021, we acquired 100% ownership of Blacksmith Applications Holdings Inc., a provider of management, optimization and analytics to food, beverage and consumer goods providers. The acquisition is complementary to, and was made with a view to growing, our existing smart data solutions business.

Sale of financial solutions business

On December 6, 2021, we announced the disposition of our financial solutions business for $500 million. Net proceeds from the transaction will be used to support strategic growth investments, including connecting more homes and businesses to our TELUS PureFibre network and advancing our 5G network build and investments to support enhancing new areas of growth, including our offerings to small and medium-sized businesses, as well as in TELUS Health and TELUS Agriculture. Proceeds will also support debt retirement.

Business acquisition – subsequent to 2021

On January 1, 2022, we acquired 100% ownership of Fully Managed Inc. for cash and contingent consideration of approximately $137 million. Fully Managed Inc., provides managed information technology support, technology strategy and network management. This investment was made with a view to growing our end-to-end capabilities to support small and medium-sized business customers.

Consolidated highlights

Years ended December 31 ($ millions, except footnotes and unless noted otherwise)	**2021**	2020	Change
Consolidated statements of income			
Operating revenues and other income	**17,258**	15,463	11.6 %
Operating income	**3,074**	2,482	23.9 %
Income before income taxes	**2,278**	1,711	33.1 %
Net income	**1,698**	1,260	34.8 %
Net income attributable to Common Shares	**1,655**	1,207	37.1 %
Adjusted Net income[1]	**1,430**	1,361	5.1 %
Earnings per share (EPS) ($)			
Basic EPS	**1.23**	0.95	29.5 %
Adjusted basic EPS[1]	**1.07**	1.06	0.9 %
Diluted EPS	**1.22**	0.94	29.8 %
Dividends declared per Common Share ($)	**1.2710**	1.18495	7.3 %
Basic weighted-average Common Shares outstanding (millions)	**1,346**	1,275	5.6 %
Consolidated statements of cash flows			
Cash provided by operating activities	**4,388**	4,574	(4.1)%
Cash used by investing activities	**(5,466)**	(6,165)	(11.3)%
Acquisitions	**(468)**	(3,205)	(85.4)%
Capital expenditures[2]	**(3,498)**	(2,775)	26.1 %
Cash provided by financing activities	**953**	1,904	(49.9)%
Other highlights			
Subscriber connections[3] (thousands)	**16,887**	15,943	5.9 %
Earnings before interest, income taxes, depreciation and amortization1 (EBITDA)	**6,290**	5,494	14.5 %
EBITDA margin[1] (%)	**36.4**	35.5	0.9 pts.
Restructuring and other costs	**186**	259	(28.2)%
Adjusted EBITDA[1]	**6,069**	5,701	6.4 %
Adjusted EBITDA margin[1] (%)	**36.0**	37.0	(1.0) pt.
Free cash flow[1]	**777**	1,435	(45.9)%
Net debt to EBITDA – excluding restructuring and other costs [1] (times)	**3.17**	3.45	(0.28)

Notations used in MD&A: n/m – not meaningful; pts. – percentage points.

1 These are non-GAAP and other specified financial measures. See *Section 11.1 Non-GAAP and other specified financial measures.*

2 Capital expenditures include assets purchased, excluding right-of-use lease assets, but not yet paid for, and consequently differ from Cash payments for capital assets, excluding spectrum licences, as reported in the Consolidated financial statements. Refer to *Note 31* of the Consolidated financial statements for further information.

3 The sum of active mobile phone subscribers, connected device subscribers, internet subscribers, residential voice subscribers, TV subscribers and security subscribers, measured at the end of the respective periods based on information in billing and other source systems. Effective January 1, 2021, with retrospective application to January 1, 2020, in alignment with our segment reporting changes, we made a retroactive adjustment to remove internal network service revenue and approximately 29,000 subscribers from our mobile phone subscriber base and associated operating statistics (average billing per subscriber per month (ABPU) / average revenue per subscriber per month (ARPU) and churn). Effective January 1, 2021, on a prospective basis, following an in-depth review of customer accounts within a legacy subscriber provisioning system to be decommissioned, we adjusted our internet subscriber base to remove 16,000 subscribers.

Operating highlights

- **Consolidated Operating revenues and Other income** increased by $1.8 billion in 2021.

  Service revenues increased by $1.3 billion in 2021. TTech service revenue growth of $685 million was driven by growth in internet and data service revenues, as well as smart food-chain technology and other fixed data services revenues; higher mobile network revenue; and growth in health services revenue. Increased DLCX revenues were due to business acquisitions, and organic growth from both new clients and expanded services for existing customers.

  Equipment revenues increased by $239 million in 2021, reflecting higher-value smartphones in the sales mix, higher handset upgrade volumes and greater collectability of mobile device balances.

  Other income increased by $298 million in 2021, largely due to a $410 million gain arising from the disposition of our financial solutions business in the fourth quarter of 2021, as described earlier in this section within *Highlights of 2021*.

  For additional details on Operating revenues and other income, see *Section 5.4 TELUS technology solutions segment* and *Section 5.5 Digitally-led customer experiences – TELUS International segment*.

- **Operating income** increased by $592 million in 2021. In addition to the gain on sale of our financial solutions business, this increase was driven by growth in network revenue; growth in mobile equipment margins; growth in internet and data service margins, as well as other fixed data service margins; an increased contribution from DLCX; and lower bad debt expense. This was partly offset by higher employee benefits expense and lower legacy fixed voice and legacy fixed data services. This growth also reflects lower non-labour restructuring and other costs related to the pandemic, partly offset by the dilutive lingering impacts of the pandemic, including reduced roaming margins related to travel restrictions. (See *Section 5.3 Consolidated operations* for additional details.)

  EBITDA, which includes restructuring and other costs, other equity losses related to real estate joint ventures, the gain on disposition of our financial solutions business and a gain on a retirement of a provision arising from business acquisition-related written put options within DLCX, increased by $796 million in 2021.

  Adjusted EBITDA, which excludes restructuring and other costs, other equity losses related to real estate joint ventures, the gain on disposition of our financial solutions business and a gain on a retirement of a provision arising from business acquisition-related written put options within DLCX, increased by $368 million in 2021, reflecting the factors mentioned in the Operating income discussion above. (See *Section 5.3 Consolidated operations* for additional details.)

- **Income before income taxes** increased by $567 million in 2021 as a result of higher Operating income, partly offset by increased Financing costs. The increase in Financing costs in 2021 largely resulted from the cessation of capitalized long-term debt interest costs in the first quarter of 2021 for 600 MHz spectrum licences that are now being deployed. (See *Financing costs* in *Section 5.3*.)

- **Income tax** expense increased by $129 million in 2021. The effective income tax rate decreased from 26.3 to 25.5% in 2021, largely due to the non-taxable portion of the gain on the disposition of our financial solutions business partially offset by lower adjustments to prior period income taxes.

- **Net income attributable to Common Shares** increased by $448 million in 2021, resulting from the after-tax impacts of higher Operating income offset by higher Financing costs.

  Adjusted Net income excludes the effects of restructuring and other costs, income tax-related adjustments, other equity losses related to real estate joint ventures, long-term debt prepayment premium, the gain on disposition of our financial solutions business, and a gain on a retirement of a provision arising from business acquisition-related written put options within DLCX. Adjusted Net income increased by $69 million or 5.1% in 2021.

- **Basic EPS** increased by $0.28 or 29.5% in 2021 as a result of the after-tax impacts of higher Operating income and higher Financing costs, which were partially offset by the effect of a higher number of Common Shares outstanding.

Adjusted basic EPS excludes the effects of restructuring and other costs, income tax-related adjustments, other equity losses related to real estate joint ventures, long-term debt prepayment premium, the gain on disposition of our financial solutions business, and a gain on a retirement of a provision arising from business acquisition-related written put options within DLCX. Adjusted basic EPS increased by $0.01 or 0.9% in 2021.

- **Dividends declared per Common Share** were $1.2710 in 2021, an increase of 7.3% from 2020. Consistent with our target of increasing dividends between 7 to 10% in the near term, the Board declared a first quarter dividend of $0.3274 per share on our issued and outstanding Common Shares, payable on April 1, 2022, to shareholders of record at the close of business on March 11, 2022. The first quarter dividend increased by $0.0162 per share or 5.2% from the $0.3112 per share dividend declared one year earlier, consistent with our multi-year dividend growth program described in *Section 4.3 Liquidity and capital resources*.

- **During 2021, our total subscriber connections** increased by 944,000. This reflected an increase of 4.1% in mobile phone subscribers, 18.8% in connected device subscribers, 6.2% in internet subscribers, 4.1% in TV subscribers and 13.7% in security subscribers, partly offset by a decline of 3.5% in residential voice subscribers. (See *Section 5.4 TELUS technology solutions segment* for additional details.)

Liquidity and capital resource highlights

- **Cash provided by operating activities** decreased by $186 million in 2021, largely attributable to other working capital changes, as well as higher income taxes paid related to the disposition of our financial solutions business. (See *Section 7.2 Cash provided by operating activities*.)

- **Cash used by investing activities** decreased by $699 million in 2021, largely attributable to a reduced number of business acquisitions and the proceeds received upon the disposition of our financial solutions business. This was partially offset by the cash payments for the 3500 MHz spectrum acquired for $1.95 billion in the most recent spectrum auction and higher cash payments for capital assets. Acquisitions decreased by $2.7 billion in 2021, as we made larger cash payments for business acquisitions in 2020, primarily Competence Call Center (CCC) (since rebranded as TELUS International Northern Europe or TINE and comprised substantially of CCC), Mobile Klinik®, AFS Technologies Inc., EQ Care and Lionbridge AI. Capital expenditures increased by $723 million in 2021, due to accelerated investments in our 5G network, our broadband build, enhanced product development and digitization to increase system capacity and reliability, in addition to strong security subscriber growth and the advanced purchase of customer equipment to mitigate supply chain risks and support subscriber growth. (See *Section 7.3 Cash used by investing activities*.)

- **Cash provided by financing activities** decreased by $951 million in 2021 as we had higher redemptions and repayment of long-term debt, including the application of net cash proceeds from the TELUS International initial public offering (IPO) in the first quarter of 2021 which were used to reduce TI credit facility indebtedness. The proceeds from equity issuance in the first quarter of 2021 were lower than the proceeds from equity issuance in the first quarter of 2020, as we issued approximately 6 million fewer Common Shares. As well, cash payments for dividends were also higher in 2021. (See *Section 7.4 Cash provided by financing activities*.)

- **Net debt to EBITDA – excluding restructuring and other costs** ratio was 3.17 times at December 31, 2021, an improvement from 3.45 times at December 31, 2020, as the effect of the increase in EBITDA – excluding restructuring and other costs exceeded the effect of the increase in net debt, notwithstanding the COVID-19 pandemic impacts that have reduced EBITDA. As at December 31, 2021, the acquisition of spectrum licences increased the ratio by approximately 0.49 and business acquisitions over the past 12 months increased the ratio by approximately 0.05, while business dispositions over the same period decreased the ratio by approximately 0.26. (See *Section 4.3 Liquidity and capital resources* and *Section 7.5 Liquidity and capital resource measures*.)

- **Free cash flow** decreased by $658 million in 2021, driven by: higher capital expenditures as previously noted; higher lease principal payments; higher income taxes paid; and the net impact of increased customer additions and the timing related to device subsidy repayments and associated revenue recognition and our TELUS Easy Payment® device financing program; partly offset by higher EBITDA. The increase in capital expenditures was announced on March 25, 2021 to advance our fibre build and 5G coverage which utilized proceeds from our first quarter 2021 equity offering. Our definition of free cash flow, for which there is no industry alignment, is unaffected by accounting changes that do not impact cash, such as IFRS 15 and IFRS 16.

1.4 Performance targets (key performance measures)

In 2021, we achieved all four of our consolidated financial targets. Our original targets were announced on February 11, 2021. On May 7, 2021, we updated the financial targets for free cash flow and capital expenditures based on our March 25, 2021 announcement that we intended to strategically bring forward transformational capital investments in broadband connectivity, including fibre and 5G, to enhance our industry-best customer experience, leading networks and competitive position.

We exceeded our consolidated revenue target and met the target when excluding the gain on disposition of our financial solutions business. Growth in our mobile phone and connected devices subscriber bases contributed to the revenue achievement, as well as higher-value smartphones in the sales mix and higher handset upgrade volumes. We also experienced increased fixed data service revenues resulting from increased internet and data services and smart food chain technology, as well as increased health services revenues, partly offset by the ongoing decline in legacy fixed voice revenue. Additionally, DLCX operating revenues increased, reflecting both business acquisitions and organic growth.

We achieved our Adjusted EBITDA target largely from growth in internet and data services margins. Fixed data services margins also improved, driven by a growing customer base and expanded services. Mobile network revenue and improved mobile equipment margins supported the achievement of the target, as well as increased contribution from DLCX. These factors were partly offset by declines in legacy fixed voice and legacy fixed data services and higher Employee benefits expense.

Our free cash flow target was met, attributable to EBITDA growth and strong cash flow management, including our disciplined focus on profitable loading and effective inventory management to drive strong customer net additions growth.

Our capital expenditures in 2021 met our consolidated target, as we advanced our investments in our broadband build, including connecting more homes and businesses directly to our fibre-optic infrastructure, enabling us to significantly expand our broadband footprint. In addition, investments in our 5G network build allowed us to expand coverage to 70% of the Canadian population at December 31, 2021. Other capital investments enabled us to support continuing subscriber growth, deliver on our digitization strategy, and enhance our systems reliability and operational efficiency.

Our capital structure financial policies and report on financing and capital structure management plans are included in *Section 4.3*.

The following scorecard compares TELUS' performance to our consolidated 2021 targets.

Scorecard

	2021 performance		
	Consolidated targets[1] and growth	**Actual results and growth**	Result
Revenues and other income	An increase of 8 to 10%	**$17.26 billion**[2] **11.6%**	ü
Net income[3]	n/a	**$1.70 billion 34.8%**	n/a
Adjusted EBITDA	An increase of 6 to 8%	**$6.07 billion 6.4%**	ü
Cash provided by operating activities[3]	n/a	**$4.39 billion (4.1)%**	n/a
Free cash flow	Approximately $750 million[1a]	**$777 million**	ü
Capital expenditures (excluding spectrum licences)	Approximately $3.5 billion[1b]	**$3.50 billion**	ü

ü – met target

n/a – not applicable

1 Reflects the 2021 revised targets that were announced on May 7, 2021 to reflect our capital acceleration program.
   a. The original target for free cash flow was approximately $1.5 billion.
   b. The original target for capital expenditures was approximately $2.75 billion.

2. Includes a $410 million gain on disposition of our financial solutions business. Excluding the gain, Revenues and other income increased by 9.0%.
3. As a result of applying National Instrument 52-112, these measures are presented as the most directly comparable and similar financial measures to Adjusted EBITDA and free cash flow, respectively, and were not part of our targets for 2021.

We made the following key assumptions when we announced the 2021 targets in February 2021.

Assumptions for 2021 targets and results

- Our economic assumptions are based on a composite of estimates from Canadian banks and other sources. Our original assumptions for 2021 economic growth in Canada, B.C., Alberta, Ontario and Quebec were 4.5%, 4.5%, 4.4%, 4.8% and 4.6%, respectively.

  In our first quarter 2021 MD&A, we revised our 2021 economic growth assumptions in Canada, B.C., Alberta, Ontario and Quebec to 5.9%, 5.7%, 5.6%, 5.7% and 5.8%, respectively. In our third quarter 2021 MD&A, we further revised our 2021 economic growth assumptions in Canada, B.C., Alberta, Ontario and Quebec to 5.4%, 5.6%, 6.0%, 5.1% and 6.1%, respectively.

- With respect to annual unemployment rates, our original assumptions for 2021 in Canada, B.C., Alberta, Ontario and Quebec were 7.8%, 6.9%, 9.9%, 8.0% and 6.9%, respectively.

  In our first quarter 2021 MD&A, we revised our 2021 annual unemployment rate assumptions in Canada, B.C., and Alberta to 7.7%, 6.7% and 9.6%, respectively. In our third quarter 2021 MD&A, we further revised our 2021 annual unemployment rate assumptions in Canada, B.C., Alberta and Quebec to 7.6%, 6.6%, 8.7% and 6.3%, respectively.

- With respect to the pace of housing starts, our original assumptions for 2021 on an unadjusted basis in Canada, B.C., Alberta, Ontario and Quebec were 202,000 units, 35,000 units, 24,000 units, 77,000 units and 48,000 units, respectively.

  In our first quarter 2021 MD&A, we revised our 2021 assumptions for the pace of housing starts on an unadjusted basis in Canada, B.C., Alberta, Ontario and Quebec to 232,000 units, 39,000 units, 28,000 units, 82,000 units and 60,000 units, respectively. In our third quarter 2021 MD&A, we further revised our 2021 assumptions for the pace of housing starts on an unadjusted basis in Canada, B.C., Alberta, Ontario and Quebec to 270,000 units, 47,000 units, 32,000 units, 96,000 units and 72,000 units, respectively.

- Our assumption for 2021 restructuring and other costs was approximately $150 million. Our actual 2021 restructuring and other costs were $186 million, as we incurred higher than expected costs for continuing operational effectiveness initiatives, with margin enhancement initiatives to mitigate pressures related to intense competition, technological substitution, repricing of our services, increasing subscriber growth and retention costs, and integration costs associated with business acquisitions.
- Our assumption for 2021 Depreciation and Amortization of intangible assets was approximately $3.25 billion to $3.35 billion. Actual Depreciation and Amortization of intangible assets was $3.22 billion.
- Our assumption for 2021 net Cash interest paid was approximately $755 million to $805 million. Actual net Cash interest paid was $727 million.
- Our assumption for 2021 income taxes was computed at an applicable statutory rate of 25.3 to 25.9%, and cash income tax payments of approximately $540 million to $620 million. In our third quarter 2021 MD&A, our cash income tax payments assumption was revised downward to a range of $480 million to $560 million, primarily due to a refund received upon conclusion of a prior year income tax audit. Our actual results were at a statutory income tax rate of 25.8% and cash income tax payments in respect of net income of $563 million, which includes $61 million for the gain on disposition of our financial solutions business.
- Our assumption was for continued stabilization in the average Canadian dollar: U.S. dollar exchange rate, which was $1.34 in 2020. The average Canadian dollar: U.S. dollar exchange rate was $1.25 in 2021 and closed at $1.27 on December 31, 2021, compared to $1.27 on December 31, 2020.

Confirmed:

- No material adverse regulatory rulings or government actions. See *Section 9.4* for further information.
- Continued intense mobile products and services competition and fixed products and services competition in both consumer and business markets.
- Continued increase in mobile phone penetration of the Canadian market.
- Ongoing subscriber adoption of, and upgrades to, data-intensive smartphones, as customers seek more mobile connectivity to the internet.

- Mobile products and services revenue growth resulting from improvements in subscriber loading, with continued competitive pressure on blended ARPU. Roaming revenue remained at levels similar to the latter half of 2020.
- Continued pressure on mobile products and services acquisition and retention expenses, dependent on gross loading and customer renewal volumes, competitive intensity and customer preferences, as well as continued connected devices growth.
- Continued growth in fixed products and services data revenue, reflecting an increase in internet, TV subscribers and security subscribers, speed upgrades, rate plans with larger data buckets or endless data usage, and expansion of our broadband infrastructure, healthcare solutions and home and business security offerings.
- Continued erosion of residential voice revenues, resulting from technological substitution and greater use of inclusive long distance.
- Continued growth of TI revenue and EBITDA generated by expanded services for existing and new clients and strategic business acquisitions.
- Continued focus on our customers first initiatives and maintaining our customers' likelihood-to-recommend.
- Employee defined benefit pension plans assumptions for 2021: current service costs of approximately $107 million recorded in Employee benefits expense and interest expense of approximately $25 million recorded in Financing costs; a rate of 2.50% for discounting the obligation and a rate of 2.70% for current service costs for employee defined benefit pension plan accounting purposes; and defined benefit pension plan funding of approximately $51 million.

  Actual results were: $107 million recorded in Employee benefits expense for current service costs, $6 million recorded in Employee benefits expense for past service costs and interest expense of $26 million recorded in Financing costs; a rate of 2.95% for discounting the obligation and a rate of 2.70% for current service costs for employee defined benefit pension plan accounting purposes; and defined benefit pension plan funding of $53 million.
- Participation in ISED's 3500 MHz band spectrum auction in June to July 2021. We acquired 142 licences in B.C., Alberta, Manitoba, Ontario and Quebec, which equate to a national average of 16.4 MHz.
- Continued deployment of access-agnostic technology in our network.
- Small and medium-sized businesses (SMB) continued to be negatively impacted by lockdown measures.
- Government funding programs to support consumers' ability to pay bills eased in the latter half of 2021.
- We operated our retail stores as effectively as we had in the second half of 2020, with additional safety measures in place but still allowed us to serve our customers in person, in addition to the digital capabilities that have enabled us to continue serving our customers throughout the pandemic.
- We experienced continued impacts on our TELUS Health Care Centres as a result of lockdown and stay-at-home measures resulting in cancellation of appointments, reduced capacity or closure of clinics. We experienced a recovery in the second half of 2021 through effective deployment of value-added services and optimizing efficiency within the clinics.
- Our international operations were impacted by the recoveries in other global economies based on vaccine availability, distribution and effectiveness on their respective populations and regional lockdown measures.

2. Core business and strategy

2.1 Core business

We provide a wide range of telecommunications technology solutions, including mobile and fixed voice and data telecommunications services and products, healthcare software and technology solutions, and digitally-led customer experiences, as well as related equipment. Data services include: internet protocol; television; hosting, managed information technology and cloud-based services; software, data management and data-analytics-driven smart-food chain technologies; and home and business security. Our TELUS International subsidiary provides digital customer experience and digital-enablement transformation opportunities, and designs, builds and delivers next-generation digital solutions, including artificial intelligence and content management solutions, to enhance the customer experience across targeted industry verticals. We currently earn the majority of our revenue from access to, and usage of, our telecommunications infrastructure, and from providing services and products that facilitate access to, and usage of, our infrastructure, in addition to equipment revenue.

2.2 Strategic imperatives

Since 2000, we have maintained a proven national growth strategy. Our strategic intent is to unleash the power of the internet to deliver the best solutions to Canadians at home, in the workplace and on the move.

We also developed six strategic imperatives in 2000 that remain relevant for future growth, despite changing regulatory, technological and competitive environments. We believe that a consistent focus on these imperatives guides our actions and contributes to the achievement of our financial goals. To advance these long-term strategic imperatives and address near-term opportunities and challenges, we confirm or set new corporate priorities each year, as further described in *Section 3*. Our six strategic imperatives are listed below.

- Focusing relentlessly on growth markets of data, IP and wireless
- Providing integrated solutions that differentiate TELUS from our competitors
- Building national capabilities across data, IP, voice and wireless
- Partnering, acquiring and divesting to accelerate the implementation of our strategy and focus our resources on core business
- Going to market as one team under a common brand, executing a single strategy
- Investing in internal capabilities to build a high-performance culture and efficient operation.

3. Corporate priorities

We confirm or set new corporate priorities each year to advance our long-term strategic imperatives (see *Section 2.2*) and address near-term opportunities and challenges. The following table provides a discussion of activities and initiatives that relate to our 2021 corporate priorities.

Elevating our customers, communities and social purpose by honouring our brand promise, *Let's make the future friendly*™

- In December 2021, the Commission for Complaints for Telecom-television Services (CCTS) issued its annual report for the 12-month period ended July 31, 2021, and TELUS again received the fewest customer complaints among national carriers, while Koodo® again received the fewest complaints among national flanker brands. Although total industry complaints accepted by the CCTS increased by 8.6% year-over-year, complaints involving TELUS increased at a lesser rate of 4.7%.
- Each year, we conduct a Pulsecheck engagement survey to gather confidential team member feedback about TELUS as a place to work in order to measure our progress in creating a high-performance culture. Following each survey, leaders share results with team members and use fair process to build and refine action plans focused on high-priority areas where improvement is required based on Pulsecheck results. In 2021, we achieved an engagement score of 84%, which is an encouraging accomplishment against the backdrop of the highly competitive and dynamic environment in which we work and reinforces the strength of the culture our team members have built together. TELUS is the most engaged organization globally compared to organizations of our size and composition according to our survey provider, Kincentric.
- As the global leader in social capitalism, we are evolving our brand promise to "let's make the future friendly." By placing an invitation at the heart of our new brand promise, we are inviting all Canadians to join us in partnership to shape and create remarkable human outcomes together. We will ensure every connection is a promise to help create a better future for Canadians.
- Throughout 2021, we continued to leverage our Connecting for Good ® programs to support marginalized individuals through the global pandemic and also expanded program eligibility to support those who need it most.
  - We welcomed close to 12,000 new households to our Internet for Good ® program this year, resulting in 106,000 low-income family members, persons with disabilities and youth leaving foster care all benefiting from low-cost internet since the launch of the program in 2016.

- Our Mobility for Good® program offers free or subsidized mobile phone rate plans and devices to all youth aging out of foster care and to low-income seniors across Canada receiving the guaranteed income supplement. We added 7,000 youth, seniors and other marginalized Canadians in 2021. Since we launched the program in 2017, more than 28,000 individuals have benefited.
    - In the fourth quarter of 2021, we launched Mobility for Good for Indigenous Women at Risk, a new program that provides free smartphones and data plans to Indigenous women who are at risk of or surviving violence, in partnership with Indigenous organizations in Alberta and B.C.
- We expanded our Tech for Good™ program nationally, in partnership with March of Dimes Canada, and continued to provide people with disabilities access to personalized one-on-one assessments, customized recommendations, training and support on mobile devices. Up to December 31, 2021, we have supported more than 4,600 Canadians with disabilities who require professional assistance to independently use or control their mobile device through the program and the TELUS Wireless Accessibility Discount.
- Our mobile health clinics, serving 14 communities across Canada, supported 35,000 patient visits in 2021, resulting in close to 95,000 cumulative primary care visits since the inception of our Health for Good® program in 2019. Most mobile clinics are also directly supporting the COVID-19 crisis response, providing COVID-19 assessments since the start of the pandemic, and vaccines in 2021. Up to December 31, 2021, our mobile health clinics have administered more than 9,000 vaccinations.

- We continued to expand our Health for Good program presence with the launch of new clinics throughout the year:
    - In January 2021, we launched a new mobile clinic in Toronto with the Parkdale Queen West Community Health Centre. This clinic provides primary healthcare services for marginalized populations in Toronto's midwest neighbourhoods.
    - In January 2021, we also announced a new partnership and mobile clinic with Kilala Lelum Health Centre. This specially equipped mobile van provides primary healthcare and Indigenous Elder-led cultural care to residents of Vancouver's Downtown Eastside.
    - In May 2021, we enhanced our presence in Victoria, B.C. with the signing of a new partnership agreement with Cool Aid Society, a well-established and highly regarded charity organization that provides primary and mental healthcare, affordable housing and other supports for the homeless in Victoria, Saanich and Langford.
    - In October 2021, we expanded further with the launch of a new mobile clinic in the Niagara Region of Ontario. In collaboration with our partner, REACH Niagara, we are bringing primary care to marginalized and underserved people in the area, including migrant agricultural workers, new immigrants and refugees, while supporting the training of the next generation of healthcare workers.
- We continued to help Canadians stay safe in our digital world through our TELUS Wise ® program in 2021. Over 105,000 Canadians participated in virtual TELUS Wise workshops and events in 2021, bringing our cumulative participation to over 450,000 Canadians since the program launched in 2013.
    - Approximately 47,000 youth attendees at our TELUS Be Brave #EndBullying online event. This event was held in support of Pink Shirt Day on February 24, 2021, a day in which citizens are encouraged to wear pink to take a stand against bullying, in partnership with the Calgary Hitmen.
    - In the third quarter of 2021, we hosted a Facebook Live streaming event on digital citizenship, with close to 20,000 Canadians participating in the event.
    - The launch of TELUS Wise online basics helped those who are new to using technology learn basic, everyday digital literacy skills.
- The TELUS Friendly Future Foundation® and TELUS Community Boards directed support in 2021 to charitable initiatives helping at-risk youth and other marginalized populations. The Foundation marked its third year in 2021, committing more than

$8.7 million in cash donations to 500 charitable organizations. The Foundation has contributed over $25 million in cash donations to our communities since its inception, supported by the work of our TELUS Community Boards. Since 2005, the TELUS Community Boards have invested $91 million in cash donations to 7,800 initiatives, providing resources and support for underserved citizens, especially young people, around the world.

- Throughout 2021, the TELUS Pollinator Fund for Good™ invested nearly $20 million in debt and equity securities of 10 socially responsible and innovative startups, of which 40% are women-led and 50% are led by Indigenous or racialized founders. The Fund was also recognized as a Clean50 Top Project for its contributions to clean capitalism in Canada. Canada's Clean50 offers recognition to Canada's leaders in sustainability for their contributions over the prior two years. The Fund has also been confirmed as a global finalist for the social impact award in Reuters Events Responsible Business Awards.

- In January 2021, we were named to the Corporate Knights 2021 Global 100 Most Sustainable Corporations in the World for the ninth time since inception of the recognition in 2005. In June 2021, we ranked 17th on the Corporate Knights Best 50 Corporate Citizens in Canada for 2021, up from 20th in 2020. This represents our ninth consecutive year and 15th time overall of being recognized, reflecting our commitment to creating a more sustainable future for the next generation

- In February 2021, we were named Canada's Most Respected Mobile Service Provider by Canadians in Canada's Most Respected Corporation Awards program, ranking first out of 22 mobile service providers. The award was based on our reputation across customer service excellence, team culture, contribution to communities, diversity and inclusion efforts, and overall brand trust.

- In February 2021, we introduced our newest TELUS Resource Group, Reach, to advance diverse representation in decision-making and to shine light on systemic issues that disproportionately and uniquely affect the Black community. Together with Reach, we will continue to amplify the voices of marginalized communities by providing resources, offering education, driving action, increasing communication and celebrating the heritage of Black team members, as we reach every team member, ensuring dialogue, partnership and growth.

- In March, May and November of 2021, we were named one of: Canada's Best Diversity Employers (2021), Canada's Greenest Employers 2021, and Canada's Top 100 Employers (2022), respectively, by Mediacorp Canada Inc.

- During the first quarter of 2021, we announced that we were inducted into the Business Continuity Institute (BCI) Hall of Fame, an honour awarded to organizations worldwide that are consistently the best in an award category, winning three or more awards in the same category. In recognition of our emergency response and going above and beyond to help our communities, we won three BCI awards in the Most Effective Recovery category for our work that helped thousands of displaced Albertans stay connected with their families and find safety after the 2013 Southern Alberta floods, the 2016 Fort McMurray wildfires and the 2019 Northern Alberta wildfires.

- In April 2021, Mobile Klinik launched on-site repair units, a van service that offers consumers and businesses nationwide the convenience of professional smartphone and tablet repair at the location of their choice.

- In April 2021, the BlackNorth Initiative recognized TELUS for being a Canadian leader in diversity and inclusion and one of a small number of Canadian publicly traded companies to adopt Board targets that include visible minority and Indigenous representation.

- In April 2021, we became the first national telecommunications company in Canada to set science-based greenhouse gas (GHG) emissions reduction targets approved by the Science Based Targets initiative (SBTi). The SBTi is a partnership between CDP, the United Nations Global Compact, the World Resources Institute and the World Wide Fund for Nature to mobilize companies to set science-based targets and boost their competitive advantage in the transition to a low-carbon economy.

- Throughout May 2021, we evolved our 16-year legacy global volunteer movement, TELUS Days of Giving, to TELUS #FriendlyFuture Days. More than 55,000 TELUS employees, retirees, family and friends participated, helping to volunteer 1.3 million hours of giving by our TELUS team during the year.

- In May 2021, we invested in the Black Innovation Fund, an early-stage venture fund focused on supporting Black-founded technology and technology-enabled businesses based in Canada. Building on our support of the Ryerson DMZ Black Innovation Program, the Black Innovation Fund will help raise the profile of minority entrepreneurs.
- As noted in *Section 1.3*, we surpassed our Board diversity targets.
- As described in *Section 1.3*, on June 14, 2021, we released our sustainability-linked bond framework, the first of its kind in Canada, that aligns our financing strategy with our ambitious goal of achieving operational net carbon neutrality across all of our global operations by 2030. The framework was developed in accordance with the International Capital Market Association's Sustainability-Linked Bond Principles 2020 (SLBP). Sustainalytics, a leading independent environmental, social and governance (ESG) research, ratings and analytics firm, reviewed the framework and is of the opinion that it aligns with the SLBP. Our 2.85% Sustainability-Linked Notes, Series CAF, which closed on June 28, 2021, were the first series of bonds in Canada offered under the framework.
- In June 2021, we renewed our commitment to champion Canadian small businesses through our #StandWithOwners initiative, recognizing that small business owners have needed to pivot and innovate throughout the COVID-19 pandemic. In this second year, we doubled our commitment by investing $1 million to support small businesses with funding, localized advertising and mentorship as they move forward.
- In July 2021, we invested in Radicle, a Calgary-based company that has developed a carbon credit platform for buyers and sellers of carbon credits. We are exploring potential partnership arrangements that would assist Radicle to expand into new business lines and geographies and support our goal of net zero emissions by 2030.
- In the fall, we donated 14,000 backpacks that were filled with essential school supplies to local schools across Canada to support students in need. Since 2006, our annual Kits for Kids program has donated 180,000 backpacks, creating a friendlier future as kids head back to school.
- In September 2021, we launched our Reconciliation Commitment, which was developed in partnership with and in support of Indigenous Peoples across the country. Central to our Reconciliation Commitment is the desire to support the diverse needs of Indigenous Peoples in ways they want to be supported by TELUS. In this regard, we are proud to stand in solidarity with residential school survivors and their families through our $8 million commitment toward reconciliation. This includes a $1 million gift to digitize, promote and distribute the Witness Blanket, as well as investments from the TELUS Pollinator Fund for Good, TELUS Community Boards and TELUS Friendly Future Foundation.
- In November 2021, we released our 2021 Indigenous Reconciliation and Connectivity Report, an evolution from the annual connectivity report that shares inspiring stories of the transformative benefits that connectivity brings to newly connected Indigenous communities. This year's report also includes our first-ever Indigenous reconciliation action plan, making us the first technology company in Canada to publicly commit to an Indigenous reconciliation action plan.
- In November 2021, TELUS was recognized as one of Strategy Magazine's 2021 Brands of the Year. The result is an award-winning brand – valued at almost $9 billion – that is driving real, meaningful change, from transforming healthcare to empowering Canadians with connectivity.
- In November 2021, we committed $1 million (including $500,000 of in-kind support in health, network and community services) to support British Columbia following the unprecedented weather events and flooding that sent the province into a state of emergency.
- In December 2021, we were recognized for corporate social responsibility by being named to the Dow Jones Sustainability North America Index for the 21st year in a row, ranking at the 90th percentile in the telecommunications industry for our leadership in sustainability. This ranking demonstrates our global leadership in key categories, including corporate citizenship and philanthropy, innovation management, and environmental and social reporting.
- In the fourth quarter of 2021, we won the 2021 COVID-19 Response and Recovery award from the Disaster Recovery Institute Canada. This recognition is awarded to an organization that has demonstrated a capability to meet the challenges presented by the COVID-19 pandemic, not only to the organization itself, but also to the community it serves. Such commitment would include maintaining operations and ensuring the viability of the organization, providing a safe

environment for its employees, relieving the financial pressure that employees face, aiding medical personnel, and providing support for the welfare of the community as a whole.

- Our renewable energy power purchase agreement (PPA) with the Brooks I Solar facility in Alberta has seen production of over 20.5 GWh in 2021, while three additional PPAs are pending commercial operations in the first half of 2022.
- We received the BEST Award for excellence in employee learning and development from the Association for Talent Development for the 16th consecutive year.
- Throughout 2021, we led our national peers in Consumer likelihood-to-recommend (L2R) for both the premium and flanker mobile tiers. Our L2R was also ahead of our largest Western Canadian cable competitor for home phone, TV and internet services. Additionally, our Business Solutions L2R continued to lead among the national telecom providers.
- In January 2022, we were named to the Corporate Knights 2021 Global 100 Most Sustainable Corporations in the World for the 10th time since inception of the recognition in 2005.

Leveraging TELUS' world-leading technology to drive superior growth across mobile, home and business services

- We continued to invest in our leading-edge broadband technology, which has enabled the success of our internet, Optik TV ® and Pik TV® offerings and business services, as well as our Mobility solutions, and helped us deploy our 5G technology in 2020.
    - Our 4G LTE infrastructure covered 99% of Canada's population at December 31, 2021.
    - Over 2.7 million households and businesses in B.C., Alberta and Eastern Quebec were connected with fibre-optic cable, which provides these premises with immediate access to our fibre-optic infrastructure. This is up from approximately 2.5 million households and businesses at December 31, 2020.
    - Our 5G network, launched in the second quarter of 2020, connected over 26.2 million Canadians, representing 70% of the population at December 31, 2021.
- We were recognized with various accolades from U.K.-based Opensignal throughout 2021.
    - In the *Mobile Network Experience Canada* report released in February 2021, we were recognized as being number one for Video Experience, Voice App Experience, Download Speed Experience and Upload Speed Experience, and we tied for number one in 4G Availability, 4G Coverage Experience and Games Experience. This achievement marked the ninth consecutive time an aspect of our mobile network, including download speed experience, has earned top spot from Opensignal.
    - In the *Canada 5G User Experience Report* released in April 2021, we tied for first in 5G Download Speed, 5G Video Experience, 5G Upload Speed, 5G Availability, 5G Voice App Experience and 5G Reach.
    - In *The State of Group Video Calling Experience – North and Latin America* report released in June 2021, we were the joint winner for Group Video Calling Experience in Canada. As well, Canada ranked third out of 19 countries and territories in North and Latin America.
    - In the *Mobile Network Experience: Canada Report* (August 2021), we earned the top spot in six of seven categories, won top spot in four awards (Video Experience, Voice App Experience, Download Speed Experience and Upload Speed Experience), and tied for first in two awards (Games Experience and 4G Coverage Experience). Our speed in the Download Speed Experience category was 73.9 Mbps, which was 5.8% faster than the second place finisher and 28.6% faster than the third place finisher.
    - In the *Canada 5G Experience Report* released in August 2021, we tied for first in 5G Video Experience, 5G Download Speed and 5G Upload Speed.
- We won two Speedtest Awards from U.S.-based Ookla for Canada's Fastest Mobile Network and Canada's Best Mobile Coverage. Also, according to Ookla's Speedtest Intelligence, we were the fastest mobile operator among top providers in Canada in the third quarter of 2021. Additionally, we won the award for Canada's Fastest Mobile Provider for Q3-Q4 2021, for the ninth consecutive time.
- In Canada-based Tutela's report entitled *Canada: State of Mobile Experience March 2021*, we were awarded two of the national awards for Excellent Consistent Quality and Core Consistent Quality, and tied for Download Throughput and Coverage, based on data from September 1, 2020 to February 28, 2021. Tutela also named us the best mobile experience provider in Canada.
- In U.S.-based PCMag's report *The Fastest ISPs of 2021: Canada*, released in June 2021, we were ranked as the fastest internet service provider (ISP) in Canada among major ISPs for the second consecutive year. The report also noted that we expanded the gap between our speeds and those of our peers by a wider margin.
- In January 2021, we expanded our relationship with RingCentral, Inc., a leading provider of global enterprise cloud communications, video meetings, collaboration and contact centre solutions. We are working together to enable Canadian

small businesses to easily transition their legacy phone systems to the cloud via TELUS Business Connect ®, an all-in-one communications solution for message, video and phone.

- In February 2021, we launched TELUS Global Connect, enabling our customers to customize and manage Internet of Things (IoT) device connectivity on cellular networks around the globe. The launch of TELUS Global Connect is part of a growing relationship between TELUS and Eseye, a pioneer of IoT connectivity management solutions, providing businesses with seamless cellular IoT connectivity to 700 mobile networks across 190 countries.
- In February 2021, we announced the completed deployment of TELUS 4G LTE technology in 14 isolated communities in Quebec's Lower North Shore region, nearly one year ahead of the targeted completion date. For the first time ever, the region's 2,000 households have access to high-speed internet and mobile phone service, and can browse the internet at speeds similar to those living in urban areas.
- In February 2021, we announced a relationship with Worldplay Communications, a global SaaS company and leader in video management, to offer Canadian businesses, non-profit organizations and consumers a new way to stay virtually connected. Consumers have the ability to stream live events online and through the Optik TV platform, including community events, cultural or faith-based services and local sporting events, while businesses can evolve the delivery of virtual conferences, connect through secure video solutions, and create branded content pages where they can engage with their partners and customers.
- In March 2021, we announced a five-year partnership with the University of Alberta (U of A) to establish a 5G Living Lab at the U of A campus to advance research and development of innovative technologies. The $15 million investment will enhance U of A's innovation and commercialization capacity in areas of strength, starting with precision agriculture and autonomous vehicle systems.
- In May 2021, we were recognized as one of the *Best B2B Brands* in Canada in 2021 by Report on Business, ranking eighth out of 74 companies in Canada. This recognition is a testament to our team's commitment to leverage our social purpose to create remarkable human outcomes while delivering exceptional experiences in the business-to-business (B2B) space.
- In June 2021, in partnership with the Kanata North Business Association and Canada's Centre of Excellence in Next Generation Networks, we announced the launch of the 5G Innovation Zone in Ottawa's Hub350. This innovation hub is designed to leverage emerging technology advancements, including edge computing, network slicing and IoT commercialization, to tackle real-world challenges. These technologies are foundational to unleash the potential of 5G and the TELUS innovation zone is expected to help realize both economic and societal value from these capabilities.
- In June 2021, we launched PureFibre X, with upload and download speeds of 2.5 Gbps. PureFibre X plans include the latest Wi-Fi 6, enabling better quality connectivity and connections throughout the home. By leveraging Wi-Fi 6 technology with our new PureFibre X, we can provide households with nearly limitless connectivity, enabling simultaneous 4K streaming, video conferencing, web surfing, gaming, smart home automation and smart home security.
- In July 2021, we invested in Car IQ, a payment technology for vehicle fleets to pay for goods and services without the need for a credit card. The California-based company leverages the car's telematics to identify the location and user in order to validate payment and significantly reduce fraud. The company is exploring working with our fleet and opportunities for potential resale.
- In July 2021, we announced the launch of the TELUS Managed Cloud Security service, which supports an integrated cybersecurity strategy with unified controls and complete visibility across the customers' infrastructure. Built in collaboration with cybersecurity leader Palo Alto Networks, TELUS Managed Cloud Security offers a comprehensive way to secure data wherever customers do business.
- In August 2021, we announced that customers can now control and monitor their TELUS SmartHome Security and entertainment system hands-free by using voice commands with the new TELUS Home Assistant skill for Amazon Alexa. Customers can now use hands-free voice commands to set TELUS SmartHome Security functions such as arming their panel, locking and unlocking doors, setting the thermostat and turning lights on and off.

- In August 2021, we made an investment in Australia-based Quintessence Labs, which has brought commercially ready, quantum-ready cryptography and true random number generation solutions to the cybersecurity market. We are making strategic investments in companies that will protect us and our customers against cybersecurity adversaries who are expected to be able to break current encryption technology within the next five to 10 years.
- In September 2021, we announced a multi-year agreement with General Motors Canada (GM) that will connect GM's next-generation vehicles to our 5G network. We are collaborating with GM to enable high-performance wireless network capabilities that will meet the unique needs of an all-electric and autonomous vehicle future. The first GM vehicles with built-in connectivity to our 4G-LTE and 5G network are expected to be introduced with the 2025 model year.
- In September 2021, we announced the expansion of our Smart Building footprint by leveraging our technology to simplify day-to-day operations, reduce costs and elevate the resident experience. Partnering with Arlington Street Investments, we are transforming a new boutique retail and residential rental development located on 17th Avenue in Calgary into a TELUS Smart Building, allowing residents and building operators the comfort of knowing that the property is safe, sustainable and connected.
- In September 2021, we invested in U.K.-based Unmanned Life, an autonomous ground and aerial drone platform. Initially focused on telecom infrastructure inspection, drones represent an opportunity to disrupt many industries, including ones that are routine, dangerous and surveillance-based. Leveraging our 5G network, we believe we are at an inflection point in drone adoption.
- Together with Hilo, the Hydro Quebec subsidiary that offers complete smart energy services for homes and businesses, in the third quarter of 2021, we launched a pilot project in Quebec City to bundle our home automation and security technologies with Hilo's smart home solutions to help make Quebec homes smarter and more eco-friendly while saving residents money.
- In December 2021, we expanded our strategic relationship with IBM by deploying a Canada-wide 5G edge computing platform to enable enterprises across multiple industries to accelerate innovative solutions that deliver new value to their clients and operations.

Scaling our innovative digital capabilities in TELUS Health and TELUS Agriculture to build assets of consequence

- During the ongoing COVID-19 pandemic, TELUS Health MyCare and TELUS Health Virtual Care have benefited from significant adoption. These solutions have helped Canadians stay safe at home and avoid higher-risk environments such as clinics and emergency rooms wherever possible and, in turn, freed up healthcare system capacity to respond to the pandemic. Our two virtual care offerings provide millions of Canadians with the opportunity to seek primary care and mental healthcare, virtually, across the country and also reach Canadians who do not have access to a family doctor or those who seek medical care after-hours.
- Our LivingWell Companion™ personal emergency response service (PERS) continues to support the health and well-being of seniors across Canada. With COVID-19 disproportionately impacting the elderly, LivingWell Companion helps seniors stay connected to emergency support and offers a remote caregiving solution to those who may be unable to physically support their elderly loved ones. In the second quarter of 2021, we launched TELUS Health Companion on Apple Watch, now available to English and French speakers across Canada, which is a 24/7 emergency monitoring service provided through TELUS Health's LivingWell Companion national response service combined with the Apple Watch Fall Detection application programming interface (API) and proactive monitoring functionalities.
- Throughout the pandemic, the TELUS Healthy Living Network ® has been providing Optik TV customers with informative and compelling content related to COVID-19 prevention and well-being, and helping them to stay active and healthy at home with over 1,300 leading fitness, yoga, nutrition and mental health titles available for free, for rent or to own. In the fourth quarter of 2020, we announced a global-first partnership with Calm to offer leading mental health content on the TELUS Healthy Living Network, providing support to Canadians as they deal with the stresses brought on by the pandemic. We offer free content for all Optik TV and Pik TV subscribers, as well as additional premium content via our Calm Optik TV theme pack, which includes guided meditations, breathing exercises and Calm's Sleep Stories (bedtime stories for adults). We are Calm's only Canadian telecom partner, and the first to bring Calm's content to a TV service and offer subscriptions through redemptions of TELUS Rewards® loyalty points.
- In the early part of the second quarter of 2020, TELUS Health began enabling Canadian clinicians to conduct virtual visits with their patients by integrating patient videoconferencing into its electronic medical records (EMR) across Canada. This feature allows clinicians to virtually support their own roster of patients, while maintaining continuity of care and fully up-to-date health records. As of December 31, 2021, over 557,000 consultations had been conducted through the TELUS EMR Virtual Visit solution since launch.
- TELUS Health Virtual Care launched LifeJourney™ in February 2021, an integrated virtual health and wellness platform for modern Canadian workplaces. LifeJourney evolves Employee Assistance Programs (EAPs) into a single convenient and collaborative access point. It also ensures dedicated Care Advocates are available to provide personalized, virtual care-centric care plans to Canadian employees.
- In February 2021, the province of Prince Edward Island announced it had selected TELUS Health as the provincial EMR provider.
- In March 2021, TELUS Health Virtual Care announced the next advancement in the digital integration of its employer-focused virtual care service with its own EMR solutions used by 34,000 clinicians across Canada, and with Ontario's Health Report Manager, the provincial report delivery system. This integration means that more informed primary care can be provided as critical patient health information is delivered seamlessly into one medical chart, so patients using this virtual care platform through their employee benefits program will effectively receive better continuity of care.
- In September 2021, we invested in RecoveryOne, which directly supports our virtual healthcare quality efforts, as it provides a comprehensive software solution to optimize a patient's unique recovery journey following musculoskeletal surgery. The California-based company will work with us as its preferred Canadian partner.
- In January 2022, we officially launched TELUS Health Virtual Pharmacy, a patient-focused service designed to improve medication management by ensuring timely delivery of prescriptions direct to a patient's home, providing unlimited access to virtual pharmacist consults, and providing tools to help manage dosing compliance. This virtual pharmacy service allows users to have unlimited one-on-one video and phone consultations with pharmacists from the comfort of their home, while also providing them with tools to keep track of their family's medications through the service's online dashboard.

- In March 2021, Olds College, located in Olds, Alberta, announced that TELUS Agriculture was selected as the Olds College 2021 Partner of the Year. The Olds College Smart Farm, a partnership between Olds College and TELUS Agriculture, has been testing innovations such as security solutions, weather stations, field sensors and rural connectivity solutions. In June 2021, we brought our 5G network to the Olds College Smart Farm. Having improved connectivity on the field will allow for easily accessible cloud computing and responsiveness to data that is gathered and used in precision agriculture, and will help unlock the potential of agriculture technology innovations to enhance productivity and sustainability. 5G will also improve connectivity for farm security and IoT solutions. To address the issue of a loss of cellular connectivity (i.e. dead zones) on farms, in the second quarter of 2021, we began testing a new repeater solution at the Olds College Smart Farm that is quick to install, easy to maintain and cost efficient. The repeater solution captures a signal from the nearest cellular tower and boosts it to extend coverage. This particular design is a trial for a solution that, once installed, is a do-it-yourself operation for farms and is non-intrusive, as it is solar-powered. If successful, the repeater will provide connectivity to mobile devices and agriculture technology like drones, autonomous equipment and field sensors in the area, and will enable the Smart Farm team to complete their day-to-day research such as monitoring crop nutrients and soil moisture.
- In May 2021, we made an investment in Rise Gardens, a direct-to-consumer gardening product that is servicing the emerging connected indoor gardening segment. By leveraging modern hydroponic techniques, consumers will be able to grow leafy greens and rooted vegetables, supported by a mobile app to track, manage and engage with the growing experience. This investment is the latest in our larger agriculture strategy, offering a natural complement to more traditional forms of production.
- In June 2021, Ignition® by TELUS, our supply chain software division, was a recipient of the Food Logistics 2021 Top Green Providers award, which recognizes companies that enhance sustainability within the cold food and beverage industry. Ignition by TELUS exists to combat food supply waste by producing a comprehensive suite of solutions designed to help distributors reduce waste, increase flexibility and agility, and increase visibility across the supply chain.
- In July 2021, TELUS Agriculture, together with Rabobank, a global food and agriculture bank, acquired Conservis, a company that integrates disparate farm technologies into one streamlined interface to manage the business of farming. Improving on-farm profitability and enabling the efficient sharing of farm data with trusted partners are foundational ingredients to ensure the sustainability and security of our food system. With Rabobank and with the technology available in the Conservis platform, we will be able to make the financial management of farms a more efficient process and unlock new opportunities for our customers across the food value chain.
- In September 2021, we acquired the assets of Herdtrax Inc., a leading integrated online cattle record management software that allows users to capture data at birth and with every subsequent event through the animal's life. Herdtrax will continue to work to bridge information gaps through an animal's life, providing the ability to track and share attributes to help with management decisions made across the beef industry. Herdtrax is already integrated with Feedlot Health Management Services by TELUS Agriculture, allowing farmers to share information with buyers, helping optimize production efficiency and overall animal health by supporting data-based decision-making for feedlot and calf grower clients.
- As noted in *Section 1.3*, in September 2021, we acquired Blacksmith Applications Holdings Inc., a SaaS-based trade promotion management, optimization and analytics (TPx) solutions provider, serving consumer goods manufacturers and retail customers. With Blacksmith Applications, TELUS Agriculture now has a complete set of TPx and analytics capabilities, which strengthens our position as a marketing leader in the space. Our complementary solutions have high cross-sell potential with Exceedra, Ignition and Muddy Boots customers. Combined, we aspire to offer a market-leading solution for retail and the food, beverage and consumer goods industries.
- In November 2021, we invested in Toronto-based Ukko Agro, which provides a predictive analytics platform aggregating weather, soil and crop data to guide farmers on when to apply crop inputs (such as water and pesticides) up to a week in advance. The company will be working with us on resale and integration opportunities.
- In December 2021, we made an investment in Full Harvest Technologies to help the company expand its ability to source and sell imperfect and surplus fruits and vegetables to customers across North America. This investment will support our goal to make food more available and decrease waste.

Scaling our innovative digital capabilities in TELUS International to build an asset of consequence

- As noted in *Section 1.3*, in February 2021, TELUS International successfully completed its initial public offering (IPO), further positioning it for continued growth.
- In February 2021, TI announced the expansion of its Google Cloud strategic partnership to drive enterprise digital transformation, due to growth and customer demand for Google Cloud solutions and technology, while deepening TI's successful 10-year relationship with Google.
- In March 2021, TI announced the final completion of the December 31, 2020 closing of the acquisition of a 100% interest in Lionbridge AI, following the clearance of the acquisition by the Committee on Foreign Investment in the United States (CFIUS). Lionbridge AI is one of only two globally scaled, managed AI training data and data annotation services and platform providers in the world.
- In July 2021, TELUS International Philippines opened its seventh delivery centre in the country in Iloilo City, which is the first location outside Metro Manila. This new centre of excellence is focused on digital customer care, IT and technical support.
- In July 2021, TI acquired Bangalore-based Playment, a leader in data annotation and computer vision tools and services specializing in 2D and 3D image, video and light detection and ranging (LiDAR). The acquisition followed TI's purchase of Lionbridge AI in December 2020 and further expanded the company's global leadership in scaled data annotation capabilities, enabling greater opportunities to enhance AI systems and provide more complex solutions to technology, large enterprise and existing hyperscaler clients. Today, TI operates this division as TELUS International AI Data Solutions, with a global AI community of over one million annotators and linguists and one of the largest data annotation platforms of its kind globally.
- In July 2021, TI announced the launch of Intelligent Insights, a vendor-agnostic platform to monitor and manage robotic process automation (RPA) solutions and bots. With Intelligent Insights, companies can track their digital operations on a single platform to monitor effectiveness, cost savings and opportunities for innovation, empowering clients to analyze how much automation and human interaction is best for their business.
- In August 2021, TI opened its third site in the U.S. with a new digital customer experience (CX) delivery centre in North Charleston, South Carolina, providing high-tech and high-touch customer experiences to leading global brands.
- In September 2021, TI successfully completed an upsized underwritten public secondary offering of 14,400,000 subordinate voting shares, at a price of US$34.00 per share, by certain shareholders, including Baring Private Equity Asia. TELUS Corporation did not participate in the offering. Additionally, driven by strong investor demand, the underwriters fully exercised the option to purchase up to an additional 2,160,000 subordinate voting shares from the selling shareholders. Following the offering, TELUS Corporation and Baring Private Equity Asia hold approximately 70.9% and 25.9%, respectively, of the combined voting power of TI and approximately 55.1% and 20.1%, respectively, of the economic interest.
- TI has furthered its leadership in digital solutions and customer experience with a range of industry recognition. In 2021, TI was:
  - Ranked a Leader in the NelsonHall Social Media CX Services NEAT vendor assessment for content moderation and trust and safety, online reputation management, and customer care and sales.
  - Named as the top Challenger on the customer service business process outsourcing (BPO) Magic Quadrant for the execution and delivery of digital capabilities and extensive domain knowledge to support customer experience by Gartner.
  - For the fifth year in a row, included on the International Association of Outsourcing Professionals' Global Outsourcing 100 list 2021, highlighting, among many other items, TI's programs for innovation and corporate social responsibility.
  - Awarded the 2021 AI Breakthrough Award in the Best Informational Bot Solution category for its Agent Assist Chatbot. These awards recognize the best companies, technologies, products and services in the field of AI.

- Named a Leader by global research firm Everest Group in its 2021 Customer Experience Management (CXM) – Service Provider Landscape with Services PEAK Matrix Assessment. This is the third consecutive year TI has achieved Leader status.
- Successful in claiming the number nine spot, climbing 18 positions from its 2020 ranking, on Everest Group's 2021 BPS Top 50 list – the firm's global list of the 50 largest third-party providers, based on revenue and year-on-year growth. In the third year of being included on the list, TI was the top riser, and also claimed the number one position with respect to revenue growth percentage year-over-year, increasing by 55% from fiscal 2019 to fiscal 2020.
- Recognized by Fast Company as one of the Best Workplaces for Innovators.
- Named on the Achievers 50 Most Engaged Workplaces.
- Recognized as one of Mogul's Top 100 Workplaces with The Best D&I initiatives for 2021, a list that celebrates the efforts of companies that have implemented practices, invested in resources, and developed strategies to create a more inclusive and diverse workplace.
- Named a 2021 Excellence in Customer Service Award winner in the Technology of the Year category in recognition of TI's Work Anywhere / Work From Home solution by Business Intelligence Group. This award recognizes brands, executives and products that are helping companies better communicate with their customers to provide a differentiated level of customer service.
- A recipient of a Stevie Award for Great Employers for its innovative work-from-home plan in the COVID-19 response category.
- Named a Leader by global research firm IDC in its 2021-2022 Worldwide Digital Customer Care Services MarketScape. The IDC study presents a worldwide vendor assessment of digital customer care services firms looking specifically at how they are transforming service delivery with AI, automation, cloud transformation and migration initiatives, omnichannel and self-service.
- Ranked third overall and in first place for both strategy and vision and for growth in the 2021 HFS Top 10: Digital Contact Center Services – The Best of the Best Service Providers report. HFS, a leading global research consultancy firm, assessed and rated the world's largest service providers across a series of capabilities, including execution, innovation and voice of the customer.
- The winner of the ICMI Global Contact Center Awards, in both the Best Digital Customer Experience and the Best New Technology Solution categories. These awards recognize leading companies and teams that are making significant impacts on the customer management industry.

Our 2022 corporate priorities are set out in the table below.

2022 corporate priorities

- Elevating our customers, communities and social purpose by honouring our brand promise, Let's make the future friendly
- Leveraging TELUS' world-leading technology to drive superior growth across mobile, home and business services
- Scaling our innovative digital capabilities in TELUS International, TELUS Health and TELUS Agriculture to build assets of consequence.

4. Capabilities

The forward-looking statements in this section, including statements regarding our dividend growth program and our financial objectives in *Section 4.3*, are qualified by the *Caution regarding forward-looking statements* at the beginning of this MD&A.

4.1 Principal markets addressed and competition

TELUS technology solutions (TTech): Mobile products and services for consumers and businesses across Canada. Fixed products and services, including residential services in British Columbia, Alberta and Eastern Quebec; business services across Canada; automation and security solutions across Canada; healthcare solutions across Canada; and global agriculture solutions

Our mobile products and services

- Data and voice – Fast internet access (via our 4G and 5G network available to over 99% and 70% of Canadians, respectively) for video, social networking, messaging and mobile applications, such as My TELUS, TELUS SmartHome, Optik TV, Pik TV and virtual care apps; mobile voice service with features such as Call Control; clear and reliable voice services, including TELUS Business Connect; and international roaming.
- Devices – The latest smartphones, tablets, mobile internet keys, mobile Wi-Fi devices, machine-to-machine (M2M) modems, digital life devices and wearable technology, such as smart watches and our LivingWell Companion.
- Suite of Internet of Things (IoT) solutions, including M2M connectivity, to support Canadian businesses locally and internationally, including asset tracking, fleet management, remote monitoring, digital signage, security, smart hospital solutions, intelligent traffic solutions, contact tracing and data analytics.

Our fixed products and services

- Internet - Comprehensive high-speed internet access with TELUS PureFibre; fixed high-speed internet access (HSIA) service, with email and a comprehensive suite of security solutions; and wireless HSIA, with reliable Wi-Fi and cloud storage. TELUS offers multiple plans, including plans with 2.5 Gbps symmetrical download and upload speeds.
- Television – High-definition entertainment service with Optik TV and Pik TV. Optik TV offers extensive content options, including 4K and 4K HDR live TV, On Demand content and streaming services such as Prime Video (included in the Amazon Prime membership), Netflix, YouTube and hayu. Optik TV also delivers innovative features, including a voice assistant that allows customers to control their TV, a wireless digital box, large PVR capacity and the ability to restart live TV in progress or from the past 30 hours. In addition, our Optik TV app allows customers to watch live TV, set recordings and access On Demand content from a smartphone, tablet or computer. Pik TV delivers a streamlined offer for customers through Apple TV or select Android TV devices. It is also accessible through an internet browser or our Android or iOS mobile applications. Pik TV embraces the changing environment, where content is increasingly available from over-the-top (OTT) services.
- Voice – Reliable fixed phone service with long distance and calling features such as Call Control; wireless home phone; and voice over IP (VoIP) supporting voice services into the future.
- Home and business security and automation – Real-time 24/7 central monitoring station, guard response service (where available), and wireless and hard-wired security technology, integrated with smart internet-connected devices. These services are enabling smart homes and smart businesses by allowing customers to remotely monitor and manage their premises via cameras, smoke detectors, lights, door locks, environmental controls, appliances and other systems for enhanced security, comfort, convenience and energy efficiency.
- IP connectivity for businesses – Converged voice, video and data services and internet access, offered on a high-performing network. Also includes software-defined wide area network (SD-WAN) offerings.

- Cloud and managed information technology (IT) services – Suite of hybrid IT solutions provides traditional and cloud technologies, network connectivity, security, managed IT and cloud advisory services.
- Security consulting and managed services – Cloud and on-premises solutions ensuring security for data, email, websites, networks and applications.
- Unified Communications conferencing and collaboration – Full range of equipment and application solutions, including Unified Communications as a Service (UCaaS), to support meetings and webcasts by means of phone, video and internet. Recent acquisitions are bolstering our capabilities in the small and mid-market business segments.
- Healthcare – A variety of healthcare solutions and services, including virtual care, virtual pharmacy, electronic medical records (EMR), pharmacy management systems, claims management solutions, personal health records, remote patient monitoring, personal emergency response services, mental health support, comprehensive primary care and employee wellness, and curation of health content for Canadians.
- Agriculture – Farm management, precision agronomy, feedlot health management, herd management software, application programming interface (API) and application integration services, compliance management, food traceability and quality assurance, data management solutions and software solutions for trade promotion management, retail execution, TPx and analytics capabilities.

Our capabilities supporting mobile and fixed products and services

- Licensed gross national mobile spectrum holdings averaging 198 MHz.
- Coast-to-coast digital 4G LTE access technology and growing 5G deployment:
  - Overall coverage of 99% of Canada's population, with LTE advanced (LTE-A) technology covering more than 97% of Canada's population and 5G covering 70% of Canada's population at December 31, 2021. Coverage includes domestic network sharing agreements.
  - Manufacturer's rated download speeds: 5G, up to 1.9 Gbps; LTE-A, up to 1.5 Gbps; LTE, up to 150 Mbps; HSPA+, up to 42 Mbps. Average expected speeds: 5G, up to 450 Mbps; LTE-A, up to 390 Mbps; LTE, up to 45 Mbps; HSPA+, up to 14 Mbps.[1]
  - Reverts to LTE technology and speeds when customers are outside 5G coverage areas.
  - International voice and data roaming capabilities in more than 225 destinations, including voice over LTE (VoLTE) roaming and 5G roaming. As of the date of this MD&A, VoLTE roaming is available in 35 international destinations and 5G roaming is available in 47 international destinations.

1 Network speeds vary with location, signal and customer device. Compatible device required.

- IoT technology:
  - LTE-machine (LTE-M) technology across Canada, which supports large numbers of devices that transmit infrequent short bursts of data.
  - Multi-service multi-billing capabilities provide the ability to separately classify, rate and bill data traffic across IoT devices.
  - Specialized IoT solutions that support municipalities, construction, utilities and transportation.
- Ongoing connection of households and businesses directly to fibre-optic cable; over 2.7 million households and businesses connected with TELUS PureFibre in B.C., Alberta and Eastern Quebec at December 31, 2021.
- Broadcasting distribution licences allowing us to offer television services in incumbent territories, as well as a licence to offer video-on-demand services.
- Security technology to support central monitoring and guard response service (where available), integrated with automated smart devices. Field services capabilities to install, upgrade and repair security technology at customers' premises.
- An IP-based national network overlaying an extensive switched network in B.C., Alberta and Eastern Quebec, as well as global interconnection arrangements.
- Seven data centres in six communities directly connected to the national TELUS IP network, creating an advanced and regionally diverse computing infrastructure in Canada.
- Provide access for businesses across Canada through our extensive managed fibre network, and product capabilities bolstered by our national delivery teams.
- Technology solutions to assist regional health authorities, hospitals, insurers, consumers and employers; as well as solutions to improve connectivity and collaboration among healthcare providers, including physicians, nurses, pharmacists and physiotherapists.
- Technology solutions to assist agribusinesses, farmers, ranchers, commodity aggregators, processors, distributors, retailers and consumer packaged goods companies in sustainably improving the efficiency, traceability and responsiveness of the food system.
- Our leading customer service generates increased customer loyalty and reduced churn of mobile and fixed services. Having our TI team members assist with performing customer-serving activities strengthens our ability to continue delivering an exceptional customer experience.

Competition overview for mobile products and services

- Facilities-based national competitors Rogers Wireless and Bell Mobility, as well as provincial or regional telecommunications companies Shaw, Quebecor, SaskTel, Eastlink, Tbaytel and Xplornet.
- Fixed wireless services.
- Resellers of competitors' mobile networks.
- Services offered by cable and mobile competitors over mobile and metropolitan Wi-Fi networks.
- Competitors for our IoT solutions includes other providers of LTE and LTE-M low-power wide-area network capabilities, IoT connectivity tools and platforms, and automated vehicle location and transportation solutions.

Competition overview for fixed products and services

- Cable competitors for internet, telephone and entertainment services, such as Shaw Communications (in B.C. and Alberta) and Cogeco Cable and Videotron (in Eastern Quebec).
- Substitution of mobile services, including our own mobile offerings, for residential local and long distance voice services. The percentage of households with mobile-only telephone services (among all providers, including TELUS) was estimated to be 60% in B.C. and Alberta, and 24% in Eastern Quebec in 2021, compared to 56% and 20%, respectively, in 2020.
- Our national telecommunications competitors Rogers Communications Inc. and BCE Inc. also offer telecommunications services for business and enterprise customers, as do various suppliers that are increasingly selling directly to customers.
- Competitors for home and business security range from local to national companies, such as BCE Inc., Rogers Communications Inc., Chubb-Edwards, Stanley Security, Vivint and Fluent Home. Competitors also include do-it-yourself security providers such as Lorex and home automation service providers such as Ring, Nest, and Wyze.
- Various other small, non-traditional companies offering OTT business solutions, including SD-WAN and UCaaS solutions. These competitors are more prevalent in the small and medium-sized business segments.
- Various others offering VoIP-based local and long distance, as well as internet and data services, or reselling those services.
- OTT and direct-to-consumer voice and/or entertainment services.
- Satellite-based entertainment and internet services offered by BCE Inc., Shaw Communications and Xplornet.
- Competitors for TELUS Health include providers of EMR and pharmacy management products, such as Omnimed, Familiprix, Medfar, Fillware, ARI and Logipharm. Competitors also include systems integrators; health service providers, such as Loblaw, McKesson and the Jean Coutu Group, that have also become vertically integrated and own a mix of health services delivery, IT solutions and related services; and potentially, global providers, such as EPIC and Cerner, that could achieve expanded Canadian footprints. Competitors for virtual care services include Tia Health, CloudMD, MD Connected, AppleTree VC, Cover Health, Dialogue, Maple, LifeWorks and Homewood. Competitors for TELUS Health's corporate and preventative health service offerings include Medcan, Cleveland Clinic, Loblaw and Wellpoint.
- TELUS Agriculture is unique in the agriculture technology (AgTech) space in that we operate across the entire food chain, from farm to fork. Our ability to provide solutions across the chain provides us with the ability to drive insights through connecting data at various stages of production. The AgTech space broadly displays strong competition across a high volume of smaller competitors. TELUS Agriculture does have competitors at each stage along the food chain:
  - In the animal health business, competitors include companies such as Performance Livestock Analytics (a part of Zoetis).
  - In the food, beverage and consumer goods business, competitors include Accenture, Oracle and Kantar's.
  - Competitors for our agribusiness solutions range from local to global companies, such as AgData, Proagrica, Farmers Edge and FoodLogiQ.

Digitally-led customer experiences – TELUS International (DLCX): We are a digital customer experience innovator that designs, builds and delivers high-tech, high-touch next-generation solutions, including artificial intelligence (AI) and content moderation, for global and disruptive brands.

We partner with a diverse set of disruptive and established clients across our core industry verticals. For example, within tech and games, we serve some of the leading social networks and search engines, as well as high-growth online games, ride sharing and real estate technology companies. Within eCommerce and fintech we serve both traditional and next-generation payments and point of sale providers, business-to-business and business-to-consumer Software-as-a-Service (SaaS) companies, online marketplaces and large financial services institutions. Our clients are generally multinational and North American and Europe-based, with some Asia-based that are supporting a global customer base

Our products and services

- Our solutions and services are relevant across multiple markets, including digital transformation of customer experience systems and digital customer experience management.
- Digital transformation (DX) – Companies are increasingly partnering with third-party providers to meet their digital transformation challenges, which include designing solutions that facilitate an omnichannel experience, building digitally scalable infrastructure and delivering new digital channels. To keep systems scalable, an increasing number of companies are opting for cloud-based solutions and seeking to automate processes where possible
- Digital customer experience management (DCXM) – DCXM represents the next evolution of customer experience management. In recent years, digital customer experience has become increasingly important to companies, as highly engaged users dictate the nature and frequency of interactions. Customers ascribe value to seamless interactions and are willing to reward positive experiences with loyalty and repeat business. As customers have shifted toward digital channels, leveraging next-generation technologies to deliver a unified and satisfying customer experience has become paramount. We believe we are uniquely well-positioned to serve these markets and, as a result, we have a significant market opportunity due to the overall industry growth rate, low penetration to date and strong exposure to the comparatively higher-growth DCXM sector of the market.
- We serve markets that have experienced high growth in recent years, such as content moderation, which includes review and compliance services of user-generated content on social media and other digital platforms. The necessity of moderating content on digital platforms has prompted enterprises to seek specialized services to accommodate changes in the uncertain, highly regulated environment. AI data solutions is another market we serve that is also experiencing high demand. Along with the volume of content continuing to increase, equally important is the need for constant dynamic changes and need for improvement.

Our capabilities

We have the right combination of people, capabilities and technology to help companies address the entire spectrum of designing, building and delivering integrated end-to-end customer experience systems. Our service lines of customer experience management (CXM), content moderation, AI data solutions and digital IT services include services and solutions that span the design, build and deliver framework.

Strategy and innovation – Understand and define client needs to innovate and develop plans . With our intuitive digital design approach, we help our clients design next-generation business practices based not only on transforming technology, but also on transforming processes and culture.

- Next-generation digital strategy
- Ideation on innovation
- UX/UI design

- CX process consulting, including customer, employee and system journey mapping

Next-gen tech and IT services – Building digital customer systems using next-gen technologies . Our clients often need to re-engineer their customer experience systems to provide a seamless, contextual, consistent and personalized customer experience across all channels – digital or human. To do this, they need to modernize their core systems and applications, while at the same time build new digital solutions that leverage technologies such as cloud, mobile, AI, automation, IoT, analytics and more. The key services underlying our next-gen tech and IT services solution are:

- Engineering, application development and quality assurance (QA)
- Data annotation, AI/ML and intelligent automation – including RPA and chatbots
    - We assist our clients to improve customer experience with data annotation in domains such as search relevance, image/video labelling for smart cities, audio transcription and facial recognition to our clients who utilize AI technologies. We also use AI-based conversation bots in customer engagement situations to augment or simulate human interactions, enabling 24/7 personalized responses to customers. Through TIAI Data Solutions, we collect, annotate and validate data in text, images, videos and audio in more than 500 languages and dialects, including for computer vision, for technology companies in social media, search, retail and mobile.
    - We use advanced analytics and AI techniques to analyze structured and unstructured consumer datasets to provide a unified data view of end customers' entire transaction history with the client, and derive real-time insights from it to provide a personalized customer experience.
    - Intelligent Insights is a diagnostic platform tool that aligns human and digital workforce to manage the end-to-end lifecycle of digital co-workers.
- Managed cloud services – including migration, implementation and managed services for public cloud, private cloud and multi-cloud hybrid environments
- Workforce transformation

CX process and delivery – Delivering exceptional customer experience . We use our customer experience process expertise as well as our highly skilled, empathetic and engaged teams to provide exceptional, integrated customer experiences. Our global delivery platform enables us to service clients across geographies and customize the delivery strategy according to their evolving needs.

- Managed solutions, including learning services, workforce management, contact centre
- Learning excellence solutions
- Workforce management services
- Contact Centre-as-a-Service
- Omnichannel customer experience, including care, sales and tech support
- Content moderation, trust and safety
    - We combine automated digital moderation tools with human support to provide a robust trust and safety framework to monitor our clients' digital businesses. Our customizable and scalable digital content management solutions can also help clients boost their social media presence, increase their user base and attract more customers through social and e-commerce channels.

- Adjacent to content moderation and part of our broader trust and safety program, fraud prevention has become more critical across all industries. Our service offering is focused on promoting ethical conduct, identification verification, and profile validations combating asset misappropriation, managing fraudulent statements and preventing corruption or any other unlawful activity such as account takeovers.

- 360-degree customer analytics

Competition overview

- The sectors in which we compete are global, fragmented and rapidly evolving. We face competition primarily from:
  - In-house technology and customer experience management teams
  - Digital transformation services providers such as Endava, EPAM and Globant
  - Globally diversified IT and BPO service providers such as Accenture, Cognizant, Genpact and WNS
  - Customer experience providers such as 24-7 Intouch, TaskUs, Teleperformance S.A. and Webhelp
  - Single-threaded data annotation providers such as Appen.
- We believe that the main competitive factors in our business include digital capabilities, comprehensiveness of offerings, vertical and process expertise, global delivery capabilities, team member engagement and retention, reputation, track record and financial stability. We believe that we compete favourably with respect to each of these factors.

4.2 Operational resources

Resources

Our team

- We had approximately 90,800 employees at December 31, 2021, including 62,100 from TI. Of our 90,800 employees, 28,100 were located in Canada and 62,700 were located internationally. We also use external consultants and contractors, including crowdsourced providers through TELUS International AI Data Solutions (TIAI).

- Approximately 8,070 of our employees are covered by collective agreements. The agreement with the Telecommunications Workers Union (TWU), United SteelWorkers Local 1944, which covers approximately 6,515 employees, expired on December 31, 2021. Negotiations to renew this collective bargaining agreement began in October 2021 and are scheduled to continue into 2022. The expired contract remains in effect while the parties are bargaining, until a new agreement is reached.

- The agreement with the Syndicat québécois des employés de TELUS (SQET), which covers approximately 705 employees in Quebec, expires on December 31, 2022. The agreement with the Syndicat des agents de maîtrise de TELUS (SAMT), which covers approximately 555 employees in Quebec, expires on March 31, 2022. Our TELUS Employer Solutions Inc. subsidiary is signatory to a collective agreement with the B.C. Government and Services Employees' Union, which covers fewer than 100 employees and expires on July 31, 2023.

- Approximately 235 employees within the ADT Security Services Canada, Inc. subsidiary (ADT Canada) are unionized. These employees are covered by 10 separate collective agreements between ADT Canada and a number of different unions in multiple provinces. The expiry dates of these collective agreements vary.

- TI has access to labour across 28 countries for both management as well as support. Digital solutions are primarily resourced from North America, India, Philippines, Central America and Europe.

Resources

Our team (continued)

- Our objective is to attract, develop and retain talented employees in Canada and internationally. We achieve this objective by investing in our people throughout their careers, and by offering diverse and inclusive employment prospects and development opportunities.
- Team member engagement was measured again through our annual fall Pulsecheck survey, resulting in an engagement score of 84%, which is an encouraging accomplishment against the backdrop of the highly competitive and dynamic environment in which we work and reinforces the strength of the culture our team members have built together. TELUS is the most engaged organization globally compared to organizations of our size and composition according to our survey provider, Kincentric.
- In our team member surveys, we continue to include questions to assess our team's health and well-being and gather their insights about our work environment, including changes due to the COVID-19 pandemic. Key highlights include team members confirming their belief that their safety is a priority for their leaders; their leader is providing the support they need during this extraordinary time; and their work arrangements allow them to collaborate productively while also allowing them to meet the needs of customers.
- Having engaged teams leads to a better team member experience, which in turn drives an improved customer service experience – our customers are more satisfied, resulting in a lower churn rate with our products and services.
- In 2021, reinforcement of our culture continued to focus on diversity and inclusion, human capital development and team member engagement, through:
  - Leveraging our strong culture with a focus on listening to team members
  - Putting customers first and leaders engaging their teams through our fair process engagement model, and
  - Utilizing Pulsecheck feedback, including our inclusion index results, to build and create action plans for improvements.
- We aim to attract and retain key team members through both monetary and non-monetary approaches. Our compensation and benefits program is designed to support our high-performance culture and is both market-driven and performance-based. Where required, we implement targeted retention solutions for team members with critical skills or talents that are scarce in the marketplace, and we have a succession planning process to identify top talent for senior-level positions.
- For further details related to our team, see the description under *Mitigation* in *Section 10.11 Our team*.

Resources

Our major brands and distribution channels

- TELUS – A national communications and information technology company serving customers across mobile, data, IP, voice, television, entertainment, video and security, driven by a social purpose to connect all Canadians for good.
- Koodo Mobile – A national provider of postpaid and prepaid mobile voice and data services with a broad distribution network, including TELUS-owned stores, dealers and third-party electronics retailers.
- Public Mobile – A prepaid mobile service provider with web-based and physical distribution, providing customers with a SIM-only service.
- Mobile Klinik – A provider of device performance and professional smartphone and tablet repair offering high-quality, certified pre-owned mobile devices.
- Optik TV, launched in 2010. Pik TV, launched in 2017.
- TELUS PureFibre – Our next-generation fibre-optic network, which delivers fast internet and provides the backbone for our 5G network.
- TELUS SmartHome Security and TELUS Secure Business – Full-service security offerings for residential and business customers.
- TELUS International – A digital customer experience innovator that designs, builds and delivers high-tech, high-touch next-generation solutions, including AI and content moderation, for global and disruptive brands.
- TELUS Health – A national provider of electronic medical and personal health records, home health monitoring, benefits and pharmacy management solutions, preventive healthcare services and virtual care solutions for consumers, employers and insurers. We are improving health outcomes for all Canadians, including those in rural and Indigenous communities, through our virtual care offerings including TELUS Health MyCare, TELUS Health Virtual Care and TELUS Health Virtual Pharmacy, as well as through our TELUS Health Care Centres, LivingWell Companion personal emergency response service, the TELUS Healthy Living Network and Health for Good mobile health clinics.
- TELUS Agriculture – A global provider of agriculture and food technology and data solutions, serving customers across the food value chain.
- TELUS Ventures – A corporate venture capital fund that has invested in more than 80 market-transforming companies since 2001.
- GoCo – An agile entity that brings next-generation unified communications and managed network solutions to the business market in a highly differentiated and entrepreneurial manner.
- Social purpose initiatives - TELUS Wise (national digital safety education program), TELUS Pollinator Fund for Good (impact fund), and Connecting for Good programs that help bridge the digital divide: Mobility for Good (free or low-cost mobility plans and phones), Internet for Good (low-cost internet plans), Tech for Good (supporting and training, including assistive technology for Canadians with disabilities), and Health for Good (mobile health clinics that bring care to those experiencing homelessness).

Resources

Our major brands and distribution channels (continued)

- Our sales and support distribution channels:
  - Mobile services are supported through a broad network of TELUS-owned and branded stores, including our 50% ownership of the kiosk channel WOW! Mobile, and an extensive distribution network of exclusive dealers and large third-party national retail partners (e.g. Best Buy, Walmart and London Drugs), as well as online self-serve applications, intuitive virtual-assistant chatbots, mass marketing campaigns and customer care telephone agents. Through Mobile Klinik, we offer on-site professional smartphone and tablet repair services and sales.
  - Fixed residential services (including automation and security) are supported through TELUS-owned and branded stores, customer care telephone agents, digital home technicians and partners and online and TV-based self-serve applications.
  - Through **telus.com**, we sell mobile products and services (including digital accessories), fixed products and services, automation and security, health and business products and services. We provide online account management tools (e.g. My TELUS), enabling customers to manage their accounts through our website or mobile applications, as well as online chats for customer support. We also provide video calling solutions to enable installations without having technicians enter a customer's premises.
  - Dedicated direct-to-consumer channel across multiple provinces focusing on product intensity; safety protocols are maintained at all times when team members interact with customers.
    - In areas where it was decided not to proceed with field activity due to the pandemic, our teams were mobilized to make proactive outbound calls.
  - Business services, including healthcare and security, across mobile and fixed service offerings are supported through certain dedicated stores for business, TELUS sales representatives, product specialists, independent dealers, direct business channels and online self-serve applications for small and medium-sized businesses.
  - TELUS International's solutions are supported through sales representatives, client relationship management teams, data annotation and content moderation teams, and digital engineers, developers and architects.
  - TELUS Health provides some of its services – personal health records and home health monitoring – in partnership with provincial governments.
  - TELUS Agriculture's solutions are supported through online self-serve applications, sales representatives and customer relationship management teams.

Resources

Our technology, systems and properties

- We are a technology-enabled company with a multitude of IT systems and processes. We are focused on driving innovation and making generational investments to deliver state-of-the-art broadband solutions in an increasingly digital society.
- Broadband consumer and business networks
  - We launched our 4G LTE network in 2012, and today it covers 99% of Canada's population. This network evolved in 2017 to adopt LTE-A technology, which now covers 97% of Canada's population and offers peak theoretical speeds of up to 1.5 Gbps. Our LTE CAT-M1 IoT network covers 96% of Canada's population. See *Leveraging TELUS' world-leading technology to drive superior growth across mobile, home and business services* in *Section 3 Corporate priorities* for additional information.
  - We have made significant investments in heterogeneous network (HetNet) technology, one of the key building blocks for 5G. HetNet combines multiple types of cells, such as outdoor macrocells and microcells, as well as indoor pico cells, to enhance coverage and capacity in crowded urban areas and inside buildings. By taking continuous strides to evolve our small-cell technology concurrent with the evolution of network technologies to LTE-A pro (i.e. 4.5G), in 2017, we became the first operator in Canada to introduce licensed assisted access (LAA) small cells for both outdoor and indoor environments, capable of speeds of up to 970 Mbps. In 2019, we continued advancing LAA technology with speeds of up to 1.2 Gbps, and we have deployed more than 400 LAA sites to date.
  - In 2018, we became the first operator globally to introduce LTE FDD massive multiple-input-multiple-output (MIMO) 32TRx technology on the 2600 MHz band as part of the LTE-A pro technology evolution, and in 2020, we introduced dual-band massive MIMO technology in the 1900 MHz and AWS bands, also a global first. This technology further enhances the capacity of our wireless infrastructure, enables a stronger customer experience and helps to sustain our long-term wireless leadership.
  - In 2019, we progressed the virtualization of our core network infrastructure with the voice core, providing a stepping stone into 5G service readiness. The network virtualization improves our network scalability, resiliency and cost efficiency.
  - In 2020, we launched our 5G technology capable of speeds of up to 1.7 Gbps, and by December 31, 2021, our 5G network covered 70% of Canada's population. In 2021, we increased the speeds of our 5G network, capable of up to 1.9 Gbps, through the deployment of incremental 5G spectrum. Our 5G coverage is foundational, as it will enable the advancement of new 5G capabilities such as network slicing, multi-access edge computing (MEC) and low-latency critical communications. A key enhancement to our 5G network in 2021 is the beginning of the deployment of the 3.5 GHz spectrum with MIMO technology.

Resources

Our technology, systems and properties (continued)

- Our investments to deploy our PureFibre technology have brought fibre-optic connectivity further into our infrastructure and directly to homes and businesses. At the end of 2021, over 2.7 million homes and businesses in communities across B.C., Alberta and Quebec had access to ultra-fast, symmetrical internet speeds of 150 Mbps up to 1 Gbps, and approximately 1.3 million premises in B.C. and Alberta had access to symmetrical internet speeds of up to 2.5 Gbps with TELUS PureFibre. Recognizing the need for highly reliable connectivity with low latency throughput to support emerging services such as virtualized networks and IoT applications, we have also begun rolling out new equipment for enhanced speeds and services.
    - We continue to deploy the next evolution of our fixed IP and optical core/edge technology, smart edge architecture. This architecture enables significant automation and per-port cost improvement to support network growth and evolution.
    - We continue to roll out our third-generation national dense wavelength division multiplexing (DWDM) transport backbone (packet transport 3.0) colourless, directionless and contentionless (CDC) network overlay that connects from B.C. to Quebec and into the U.S. This architecture allows network growth without the need for costly re-generation, enables optimal optical rerouting during a fibre cut and improves network growth costs.
    - In 2021, we continued evolving our PureFibre and HSIA technologies to deliver a superior customer experience, propelling our market leadership in home and business services by launching 2.5 Gbps symmetrical service to major markets in B.C. and Alberta while continuing to bring broadband network speeds to thousands of homes in rural and Indigenous communities in B.C., Alberta and Quebec.
    - In 2021, we leveraged our national DWDM footprint to launch 1G, 10G and 100G optical wavelength services to our business customers.
    - We continue to evolve our world-class emergency services to harness the power of IP through our implementation of next-generation 9-1-1.
    - In 2021, we enabled the STIR/SHAKEN capabilities across our voice networks as per a CRTC mandate to prevent caller ID spoofing and help combat fraudulent calls.
- We have continued to innovate for our customers through our Optik TV and Pik TV platforms. In 2018, we introduced high dynamic range (HDR) colour capability to our 4K Optik TV customers, making us the first operator in Canada to deliver 4K HDR video across live TV, video-on-demand and Netflix services. We also launched device applications for Pik TV and Optik TV and gave customers the option to purchase Pik TV using only a web browser. By investing in the cloudification of video infrastructure and innovative applications, we are continuing to advance our priority of enabling "anytime, everywhere" access to content and entertainment, thereby continuing to deliver an exceptional customer experience.
    - In 2021, we launched Wi-Fi 6 capability, following our successful 2018 introduction of TELUS Boost Wi-Fi, a network of boosters that extends the reach of strong and reliable in-home Wi-Fi signals.

Resources

Our technology, systems and properties (continued)

- In 2021, we introduced XGS-PON as the next generation of PureFibre technology to more than quadruple our bandwidth delivery capabilities.
- We are continually enhancing our customer applications across Pik TV, Optik TV, TELUS SmartHome and TELUS My Wi-Fi, including deploying advanced Cujo-based parental controls.

- We are continuing to monitor traffic requirements and invest in our network to maintain service and support to Canadians:
  - Expanding capacity for Optik TV video-on-demand and new solutions to enable scaling to support a 40% increase in video-on-demand consumption and a 25% increase in broadcast viewing at peak levels.
  - Continuing to migrate voice traffic from legacy 3G with 85% of calls now processed as VoLTE.
  - Doubling virtual private network (VPN) and DefensePro capacities to 12 Gbps to support a 60% growth in VPN daily usage to approximately 19,000 users per day.
  - Doubling virtual desktop infrastructure (VDI) gateway capacity with additional resiliency between data centres; and adding 40% more TELUS Authentication Services (TAS) tokens (10,000) to support 21 times growth in VDI peak connections from home.
  - Augmenting our wireless networks to support a 32% year-over-year increase in mobility traffic and a 21% year-over-year increase in wireless HSIA traffic in 2021.
  - Deploying mission critical environment pods (self-contained units with HVAC and power) to quickly provision our critical network equipment and reduce the risk of equipment outages.

- Real estate – Our network facilities are constructed under or along streets and highways, pursuant to rights-of-way granted by the owners of land, including municipalities and the Crown, or on freehold land we own.
  - Our real estate properties (owned or leased) also include administrative office spaces, mixed-use office, commercial and residential properties, all of which may be developed through joint ventures, as well as other real estate development projects that advance our social purpose, work centres and space for telecommunications equipment. Some buildings are constructed on leasehold land and the majority of wireless radio antennae are on towers that are situated on lands or are on buildings held under leases or licences with varying terms. We currently participate in two real estate joint ventures. (See *Section 7.11*.)

Resources

Our technology, systems and properties (continued)

- Intangible assets – Our intangible assets include spectrum licences from Innovation, Science and Economic Development Canada (ISED), which are essential to providing mobile services. We have assets averaging 198 MHz nationally. We have deployed 700 MHz, 2300 MHz, 2500 MHz, 1900 MHz, AWS and 850 MHz spectrum to evolve our wireless infrastructure, and in 2020 we began operationalizing our 600 MHz spectrum acquired in the 2019 auction. Further, we began our work to operationalize our recently acquired 3500 MHz spectrum in the latter part of 2021 and will continue doing so in 2022. We intend to continue acquiring spectrum within the rules set out by ISED to meet our future capacity requirements.

    - Intellectual property, which we own or have been granted the right to use, is an essential asset for us. Intellectual property enables us to be known and recognized in the marketplace through our brand style, trade dress, domain names and trademarks. It protects our know-how and software, systems, processes and methods of doing business through copyrights, patents and confidential information, including trade secrets. It also helps us to improve our competitiveness by fostering an innovative work environment. Each form of intellectual property is important to our success. For instance, the TELUS brand plays a key role in product positioning and our Company's reputation. We aim to maximize the value of our intangible assets in the areas of innovation and invention by ensuring that they are appropriately used, protected and valued. To protect our intellectual property assets, we rely on a combination of legal protections afforded under copyright, trademark, patent and other intellectual property laws, as well as contractual provisions under licensing arrangements. Further information on recognized tangible and intangible assets can be found in *Section 8.1 Critical accounting estimates and judgments*.

    - Our broadcasting distribution licences enable us to provide entertainment services. See *Broadcasting-related issues* in *Section 9.4*, which discusses developments relating to these licences.

- Future technologies – In addition to evolving our existing infrastructure, we are investing in the technologies of the future that will serve as the foundation to provide next-generation services to Canadians.

    - We continue to invest in enabling systems such as our Jasper connected device platform (CDP) and our dedicated machine-to-machine virtual evolved packet core (M2M vEPC) to support IoT applications, where the ease of onboarding partners is crucial for emerging services such as connected vehicles, fleet management and more.

    - In 2018, we deployed our LTE-M technology across Canada. LTE-M is a low-power wide-area network (LPWAN) technology, which is ideal for IoT because it supports large numbers of devices that transmit infrequent short bursts of data, like IoT sensors. It will enable a plethora of IoT applications through long-range connectivity, extended battery life and carrier-grade security and quality of service.

    - We continue to invest in both technology and talent across TELUS to harness the competitive capabilities, flexibility, and resilience of cloud and digital technology. Our ongoing digitization efforts enable TELUS to rapidly introduce new products and services, swiftly respond to customer and market needs, and provide highly reliable service.

    - Advancing our drive to simplify and consolidate systems across several fronts, such as unlocking customer relationship management (CRM)/billing systems in Quebec with LivingWell Companion and SmartHome products now supported for Quebec incumbent local exchange carrier (ILEC) and new fibre customers, opening new Quebec territory growth opportunities, automating copper to fibre (C2F) processes to create a one-click C2F order, reducing call handling time and billing errors, and completing copper on CRM/billing system trials, each paving the way for consolidating consumer ordering into one system stack. Manual migrations of Quebec customers to our shared national systems have started in 2021 and we expect to be substantially complete by the end of 2022.

Resources

Our technology, systems and properties (continued)

- Modernizing our enterprise communication platform to be fully cloud-enabled and to improve system redundancy while processing millions of messages, including mobile eBill short message service (SMS) reminders, Koodo data threshold SMS and upsell messages, and mobile number portability messages.
- We completed the migration of our internet customers to our new cloud-based email platform. This service, leveraging our partnership with Google, provides an exceptional customer experience, improved reliability and expanded features for our customers.
- Reducing manual work through automation and advancing Agile and DevOps capabilities:
  - Leading to improved agility, cost to serve and speed to market, while also driving reliability, including expanding test automation capabilities
  - Scaling deploy-on-demand release frameworks, enabling faster speed to market and mitigating risks early in the release cycle, expanding automated software development and self-serve test data management capabilities to improve quality of software
  - Standardizing test case and defect management toolset, mitigating reliability risk related to unsupported tools.
- Improving our data analytics and telemetry capabilities to deliver business outcomes through enhanced customer targeting, visualization and business intelligence tools, while also making significant accuracy and reliability enhancements to our geo-analytics platform to support new and personalized/targeted market campaigns.

- Through TI, we are a digital customer experience innovator that designs, builds and delivers high-tech, high-touch next-generation solutions, including AI and content moderation, for global and disruptive brands, as described in *Section 4.1*. These services are provided from facilities located in North and Central America, Europe and Asia.
- Through TELUS Health's services – such as pharmacy management, EMRs (including mobile EMRs), electronic health records, personal health records, clinical information systems, remote patient monitoring, virtual care offerings and online claims settlement management software solutions, including the online renewal of prescriptions, e-prescribing services and MedDialog – TELUS Health facilitates the integration of electronic health records from the home to the doctor's office to the hospital, making critical health information available to healthcare providers over our broadband network.
  - Through its TELUS Health Care Centres, TELUS Health also provides executive benefits, occupational health, employee health and wellness services and individual preventive health services. With preventive health assessments, 24/7 virtual care support and health specialists, TELUS Health Care Centres provide proactive health services to individuals and their families.
- Our TELUS Agriculture technology solutions meaningfully impact primary production and sustainability across the food value chain, by empowering value chain participants with solutions that leverage advanced data systems and AI to streamline operations, improve food traceability, and provide consumers with fresher and healthier food.

4.3 Liquidity and capital resources

Capital structure financial policies

Our objective when managing capital is to maintain a flexible capital structure that optimizes the cost and availability of capital at acceptable risk.

In our definition of capital, we include Common equity (excluding Accumulated other comprehensive income), non-controlling interests, Long-term debt (including long-term credit facilities, commercial paper backstopped by long-term credit facilities and any hedging assets or liabilities associated with Long-term debt items, net of amounts recognized in Accumulated other comprehensive income), Cash and temporary investments, and Short-term borrowings, including those arising from securitized trade receivables.

We manage our capital structure and make adjustments to it in light of changes in economic conditions and the risk characteristics of our business. In order to maintain or adjust our capital structure, we may adjust the amount of dividends paid to holders of Common Shares, purchase Common Shares for cancellation pursuant to normal course issuer bid (NCIB) programs, issue new shares (including Common Shares and TELUS International subordinate voting shares), issue new debt, issue new debt to replace existing debt with different characteristics, and/or increase or decrease the amount of trade receivables sold to an arm's-length securitization trust.

We monitor capital utilizing a number of measures, including our net debt to EBITDA – excluding restructuring and other costs ratio, coverage ratios and dividend payout ratios. (See definitions in *Section 11.1 Non-GAAP and other specified financial measures* .)

Financing and capital structure management plans

Report on financing and capital structure management plans

Pay dividends to the holders of the common shares of TELUS Corporation (Common Shares) under our multi-year dividend growth program

- In May 2019, we announced our intention to target ongoing semi-annual dividend increases, with the annual increase in the range of 7 to 10% from 2020 through to the end of 2022, thereby extending the policy first announced in May 2011. Notwithstanding this target, dividend decisions will continue to be subject to our Board's assessment and the determination of our financial position and outlook on a quarterly basis. Our long-term Common Share dividend payout ratio guideline is 60 to 75% of free cash flow on a prospective basis. (See *Section 7.5 Liquidity and capital resource measures.*) There can be no assurance that we will maintain a dividend growth program or that it will be unchanged through 2022. (See *Caution regarding forward-looking statements – Lower than planned free cash flow could constrain our ability to invest in operations, reduce leverage or return capital to shareholders, and could affect our ability to sustain our dividend growth program through 2022 and any further dividend growth programs* and *Section 10.14 Financing, debt and dividends*.)
- Dividends declared in 2021 totalled $1.2710 per share, an increase of $0.08605 per share or 7.3% compared to the dividends declared in 2020. On February 9, 2022, the Board elected to declare a first quarter dividend of $0.3274 per share, payable on April 1, 2022, to shareholders of record at the close of business on March 11, 2022. The first quarter dividend for 2022 reflects a cumulative increase of $0.0162 per share or 5.2% from the $0.3112 per share dividend declared one year earlier.
- Our dividend reinvestment and share purchase (DRISP) plan trustee acquired shares from Treasury for the DRISP plan, rather than acquiring Common Shares in the stock market. We may, at our discretion, offer Common Shares at a discount of up to 5% from the market price under the DRISP. Effective with the dividends paid beginning on October 1, 2019, we offered Common Shares from Treasury at a discount of 2%. During 2021, our DRISP plan trustee acquired from Treasury approximately 24 million dividend reinvestment Common Shares for $620 million. For the dividends paid on January 4, 2022, the DRISP participation rate, calculated as the DRISP investment of $156 million (including the employee share purchase plan) as a percentage of gross dividends, was approximately 35%.
- TELUS International intends to retain all available funds and any future earnings to support operations and to finance the growth and development of its business.

Purchase Common Shares

- In June 2021, we received approval from the Toronto Stock Exchange (TSX) for a new 2021 normal course issuer bid (NCIB) to purchase and cancel up to 16 million Common Shares for an aggregate purchase price of up to $250 million over a 12-month period, from June 4, 2021, to June 3, 2022, through the facilities of the TSX, the New York Stock Exchange and alternative Canadian trading platforms, or as otherwise permitted by applicable securities laws. TELUS will purchase Common Shares only when and if we consider it opportunistic, subject to any purchases that may be made under automatic share purchase plans (ASPP). As of February 10, 2022, we have not completed any transactions pursuant to our 2021 NCIB.
- We may also enter into ASPP with a broker for the purpose of permitting us to purchase our Common Shares under our NCIB at times when we would not be permitted to trade in our shares, including regularly scheduled quarterly blackout periods. Such purchases will be determined by the broker in its sole discretion based on parameters that we have established prior to any blackout period, in accordance with TSX rules and applicable securities laws. The ASPP has been approved by the TSX and may be implemented from time to time in the future.

Report on financing and capital structure management plans

Use proceeds from securitized trade receivables (Short-term borrowings), bank facilities and commercial paper as needed, to supplement free cash flow and meet other cash requirements

- Our issued and outstanding commercial paper was $1.9 billion at December 31, 2021, all of which was denominated in U.S. dollars (US$1.5 billion), compared to $731 million (US$574 million) at December 31, 2020.
- Net draws due to a syndicate of financial institutions (excluding TELUS Corporation) on the TI credit facility were US$854 million at December 31, 2021, compared to US$1.4 billion at December 31, 2020. The TI credit facility is non-recourse to TELUS Corporation.
- Proceeds from securitized trade receivables were $100 million at December 31, 2021, unchanged from December 31, 2020.

Maintain compliance with financial objectives

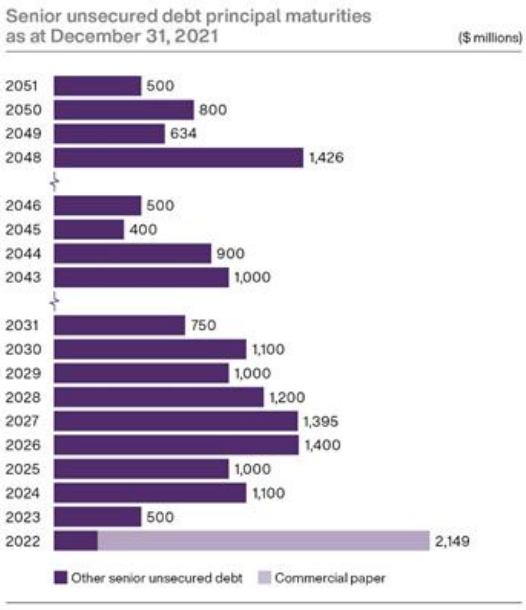
- Maintain investment grade credit ratings in the range of BBB+ or the equivalent – On February 10, 2022, investment grade credit ratings from the four rating agencies that cover TELUS were in the desired range. (See *Section 7.8 Credit ratings*.)
- Net debt to EBITDA – excluding restructuring and other costs ratio of 2.20 to 2.70 times – As measured at December 31, 2021, this ratio was 3.17 times, outside of the objective range, primarily due to the acquisition of spectrum licences and the fiscal 2021 impact of the COVID-19 pandemic. The net effect of business dispositions and business acquisitions increased the ratio. Given the cash demands of the 2019 600 MHz, the recent 2021 3500 MHz and upcoming spectrum auctions, as well as the inability to predict impacts of the COVID-19 pandemic, the assessment of the guideline and return to the objective range remains to be determined; however, it is our intent to return to a ratio below 2.70 times in the medium term (following the recent 2021, and upcoming 2023 and 2024, spectrum auctions), consistent with our long-term strategy. (See *Section 7.5 Liquidity and capital resource measures* .)
- Common Share dividend payout ratio of 60 to 75% of free cash flow on a prospective basis – Our objective range is on a prospective basis. The Common Share dividend payout ratio[1] we present in this MD&A is a historical measure utilizing the most recent four quarters of dividends declared, net of dividend reinvestment plan effects, and free cash flow, and is disclosed for illustrative purposes in evaluating our target guideline. As at December 31, 2021, the ratio was 140%, outside of the objective range, primarily due to: (i) our planned accelerated capital expenditures program to support our broadband capital investments, the build-out of our TELUS PureFibre infrastructure and the acceleration of our 5G network roll-out; and (ii) the fiscal 2021 impact of the pandemic. Excluding the effects of our accelerated capital expenditures program, as at December 31, 2021, the ratio was 73%. (See *Section 7.5 Liquidity and capital resource measures* .)
- Generally maintain a minimum of $1 billion in available liquidity – As at December 31, 2021, our available liquidity [1] was approximately $2.1 billion. (See *Section 7.6 Credit facilities* and *Liquidity risk* in *Section 7.9*.)

1 These are non-GAAP and other specified financial measures. See *Section 11.1 Non-GAAP and other specified financial measures*.

Financing and capital structure management plans for 2022

At the end of 2021, our senior unsecured debt (excluding unamortized discount) was $17.8 billion. For our long-term debt, the weighted average term to maturity was approximately 12.5 years (excluding commercial paper, the revolving component of the TI credit facility, lease liabilities and other long-term debt). Our weighted average interest rate on long-term debt (excluding commercial paper, the revolving component of the TI credit facility, lease liabilities and other long-term debt) was 3.72% at December 31, 2021, down from 3.80% one year ago. Aside from Short-term borrowings of $100 million, commercial paper of $1.9 billion (US$1.5 billion), the utilized revolving component of the TI credit facility (excluding TELUS Corporation) of $138 million (US$109 million) and lease liabilities of $1.9 billion, all of our debt was on a fixed-rate basis.

During 2022, we may issue notes to accelerate future debt reduction by prepaying certain notes or to use for general corporate purposes. Anticipated free cash flow and sources of capital are expected to be more than sufficient to meet requirements. For the related risk discussion, see *Section 10.14 Financing, debt and dividends*.



4.4 Disclosure controls and procedures and changes in internal control over financial reporting

Disclosure controls and procedures

Disclosure controls and procedures are designed to provide reasonable assurance that all relevant information is gathered and reported to senior management, including the President and Chief Executive Officer (CEO) and the Executive Vice-President and Chief Financial Officer (CFO), on a timely basis so that appropriate decisions can be made regarding public disclosure.

The CEO and the CFO have assessed the effectiveness of our disclosure controls and procedures related to the preparation of this MD&A and the December 31, 2021, Consolidated financial statements. They have concluded that our disclosure controls and procedures were effective, at a reasonable assurance level, in ensuring that material information relating to TELUS and its consolidated subsidiaries would be made known to them by others within those entities, particularly during the period in which the MD&A and the Consolidated financial statements were being prepared.

Internal control over financial reporting

Internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements in accordance with IFRS-IASB and the requirements of the Securities and Exchange Commission in the United States, as applicable. TELUS' CEO and CFO have assessed the effectiveness of our internal control over financial reporting as of December 31, 2021, in accordance with the criteria established in *Internal Control – Integrated Framework (2013)*, issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on this assessment, TELUS' CEO and CFO have concluded that our internal control over financial reporting is effective as of December 31, 2021, and have certified TELUS' annual filings within our annual report on Form 40-F, as required by the United States' *Sarbanes-Oxley Act of 2002*, and TELUS' Annual Information Form, as required by National Instrument 52-109 *Certification of Disclosure in Issuers' Annual and Interim Filings*.

Deloitte LLP, our auditor, has audited our internal control over financial reporting as of December 31, 2021.

Changes in internal control over financial reporting

There were no changes in internal control over financial reporting that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting in 2021.

5. Discussion of operations

This section contains forward-looking statements, including those with respect to mobile phone average revenue per subscriber per month (ARPU) growth, products and services trends regarding loading and retention spending, equipment margins, subscriber growth and various future trends. There can be no assurance that we have accurately identified these trends based on past results or that these trends will continue, in particular given uncertainty with regard to the COVID-19 pandemic and associated economic impacts. See *Caution regarding forward-looking statements* at the beginning of this MD&A.

5.1 General

Operating segments are components of an entity that engage in business activities from which they earn revenues and incur expenses (including revenues and expenses related to transactions with the other component(s)), the operations of which can be clearly distinguished and for which the operating results, and in particular, Adjusted EBITDA, are regularly reviewed by a chief operating decision-maker to make resource allocation decisions and to assess performance.

Effective January 1, 2020, we embarked upon the modification of our internal and external reporting processes, systems and internal controls to accommodate the technology convergence-driven cessation of the historical distinction between our wireless and wireline operations at the level of regularly reported discrete performance measures that are provided to our CEO (our chief operating decision-maker). Prior to the World Health Organization characterizing COVID-19 as a pandemic, we had anticipated transitioning to a new segment reporting structure during 2020; commencing with the three-month period ended March 31, 2021, we have now transitioned to our new segment reporting structure and have recast comparative amounts on a comparable basis. Segmented information in *Note 5* of the Consolidated financial statements is regularly reported to our CEO.

The TELUS technology solutions (TTech) segment includes: network revenues and equipment sales arising from mobile technologies; data revenues (which include internet protocol; television; hosting, managed information technology and cloud-based services; software, data management and data analytics-driven smart food-chain technologies; and home and business security); certain healthcare software and technology solutions; voice and other telecommunications services revenues; and equipment sales.

The digitally-led customer experiences – TELUS International (DLCX) segment, which has the U.S. dollar as its primary functional currency, is comprised of digital customer experience and digital-enablement transformation solutions, including artificial intelligence (AI) and content management solutions, provided by TELUS International.

Selected annual information

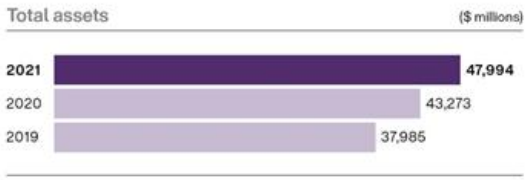
Years ended December 31 ($ in millions, except per share amounts)	**2021**	2020	2019
Operating revenues and other income	**17,258**	15,463	14,658
Net income	**1,698**	1,260	1,776
Net income attributable to TELUS Corporation Common Shares (Common Shares)	**1,655**	1,207	1,746
Net income per Common Share			
Basic earnings per share (EPS)	**1.23**	0.95	1.45
Diluted EPS	**1.22**	0.94	1.45
Dividends declared per Common Share	**1.2710**	1.18495	1.12625

At December 31 ($ millions)	**2021**	2020	2019
Total assets	**47,994**	43,273	37,985
Current maturities of long-term debt	**2,927**	1,432	1,332
Non-current financial liabilities[1]			
Provisions	**51**	54	43
Long-term debt	**17,925**	18,856	17,142
Other long-term financial liabilities	**181**	236	113
Total non-current financial liabilities	**18,157**	19,146	17,298
Deferred income taxes	**4,056**	3,718	3,214
Common equity	**15,116**	12,040	10,548

1 In our specific current instance, financial liabilities do not include liabilities that are excluded by definition (e.g. employee benefits and share-based compensation liabilities) or liabilities that do not involve a future outlay of economic resources (e.g. deferred recognition of customer activation and connection fees; deferred gains on sale-leaseback of buildings).

Operating revenues and other income: Consolidated Operating revenues and other income increased by $1,795 million in 2021 and $805 million in 2020. These increases were largely attributable to increased fixed data services and mobile revenues, as well as growth in DLCX operating revenues.

Total assets: Growth in Total assets includes increases in Property, plant and equipment and Intangible assets, which increased by a combined $3,349 million in 2021 and $2,984 million in 2020. These increases resulted primarily from business acquisitions, our ongoing investments in broadband infrastructure, connecting additional homes and businesses directly to our fibre-optic technology and accelerating our 5G network build. See *Section 7.3 Cash used by investing activities*.



For changes in **Long-term debt**, see *Section 6 Changes in financial position* and *Section 7.4 Cash provided by financing activities*.

5.2 Summary of consolidated quarterly results, trends and fourth quarter recap

Summary of quarterly results

($ millions, except per share amounts)	2021 Q4	2021 Q3	2021 Q2	2021 Q1	2020 Q4	2020 Q3	2020 Q2	2020 Q1
Operating revenues and other income[1]	**4,872**	**4,251**	**4,111**	**4,024**	4,060	3,981	3,728	3,694
Operating expenses								
Goods and services purchased[2]	**1,882**	**1,660**	**1,609**	**1,548**	1,766	1,632	1,458	1,412
Employee benefits expense[2]	**1,108**	**1,095**	**1,051**	**1,015**	958	959	911	873
Depreciation and amortization	**830**	**804**	**793**	**789**	789	773	725	725
Total operating expenses	**3,820**	**3,559**	**3,453**	**3,352**	3,513	3,364	3,094	3,010
Operating income	**1,052**	**692**	**658**	**672**	547	617	634	684
Financing costs before long-term debt prepayment premium	**192**	**184**	**203**	**207**	190	187	184	192
Long-term debt prepayment premium	**—**	**10**	**—**	**—**	—	—	18	—
Income before income taxes	**860**	**498**	**455**	**465**	357	430	432	492
Income taxes	**197**	**140**	**111**	**132**	86	109	117	139
Net income	**663**	**358**	**344**	**333**	271	321	315	353
Net income attributable to Common Shares	**644**	**345**	**335**	**331**	260	307	290	350
Net income per Common Share:								
Basic EPS	**0.47**	**0.25**	**0.25**	**0.25**	0.20	0.24	0.23	0.28
Adjusted basic EPS[3]	**0.23**	**0.29**	**0.26**	**0.27**	0.22	0.28	0.25	0.32
Diluted EPS	**0.47**	**0.25**	**0.25**	**0.25**	0.20	0.24	0.23	0.28
Dividends declared per Common Share	**0.3274**	**0.3162**	**0.3162**	**0.3112**	0.3112	0.29125	0.29125	0.29125
Additional information:								
EBITDA	**1,882**	**1,496**	**1,451**	**1,461**	1,336	1,390	1,359	1,409
Restructuring and other costs	**44**	**63**	**38**	**41**	71	58	70	60
Other equity losses related to real estate joint ventures	**1**	**—**	**1**	**1**	2	8	3	6
Gain on disposition of financial solutions business	**410**	**—**	**—**	**—**	—	—	—	—
Retirement of a provision arising from business acquisition-related written put options within DLCX	**—**	**—**	**—**	**—**	—	—	71	—
Adjusted EBITDA	**1,517**	**1,559**	**1,490**	**1,503**	1,409	1,456	1,361	1,475
Cash provided by operating activities	**896**	**1,309**	**1,244**	**939**	1,033	902	1,462	1,177
Free cash flow	**43**	**203**	**210**	**321**	218	161	511	545

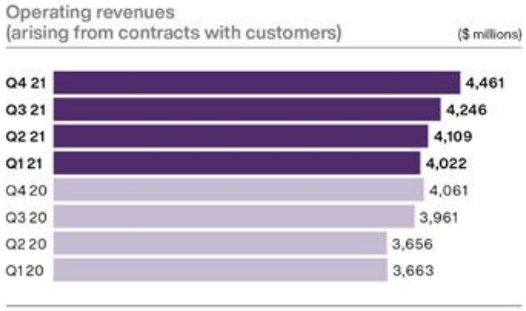
1 In the fourth quarter of 2021, we recorded a gain on disposition of our financial solutions business of $410 million.
2 Goods and services purchased and Employee benefits expense amounts include restructuring and other costs.
3 See *Section 11.1 Non-GAAP and other specified financial measures* .

Trends

COVID-19 was characterized as a pandemic in March 2020 and has had significant impacts on our business. The pandemic prevents us, our customers and our suppliers from operating in traditional manners of business in certain areas. While we expect the pandemic to continue to affect our operations until at least 2023, we have adapted, and continue to adapt, to future modes of operating.

The trend of year-over-year increases in consolidated revenue reflects TTech growth, including: (i) fixed data services growth in internet revenues, TV revenues, home and business security revenues, smart food-chain technology revenues and other advanced application offerings; (ii) mobile network revenue generated from growth in our subscriber base, as well as the acceleration of Internet of Things (IoT) connections, largely offset by COVID-19 pandemic impacts such as lower roaming revenue related to travel restrictions and customers reducing their general shopping habits in retail outlets commencing from the temporary closure of approximately 90% of our retail outlets beginning in March 2020 through a majority of the second quarter of 2020; and (iii) certain health revenues, including health benefits management, collaborative health records, pharmacy management and virtual pharmacy solutions, as well as TELUS Health Virtual Care. All of these areas have been partly offset by moderating equipment revenue growth that can be attributed to the abovementioned change in customers' general shopping habits in retail outlets, which more recently has seen suppressed handset upgrade volumes throughout 2020 manifest in increased demand in the first half of 2021, as well as other pandemic impacts, such as the temporary closure of our TELUS Health Care Centres in 2020, which began operating at reduced volume in 2021, and business customers faced with reduced and/or closed operations. Increased internet and data services and TV service revenues are being generated by subscriber growth and higher internet revenue per customer. There has also been increased customer adoption of our home and business security services and smart food-chain technology. For additional information on mobile and fixed revenue and subscriber trends, see *Section 5.4 TELUS technology solutions segment*.

Year-over-year increases in consolidated revenue also reflect growth in DLCX revenue from a combination of business acquisitions, including Competence Call Center (CCC) (since rebranded as TELUS International Northern Europe or TINE and comprised substantially of CCC) on January 31, 2020, and Lionbridge AI on December 31, 2020, which was subsequently rebranded as TELUS International AI Data Solutions (TIAI), and organic external customer growth.



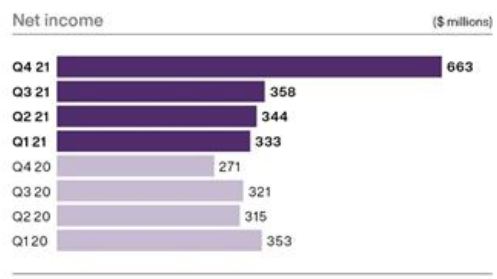
The trend of year-over-year increases in Goods and services purchased reflects increased expenses to support growth in our DLCX business, our subscriber base and business acquisitions; increased fixed data product costs of sales associated with a growing subscriber base; higher mobile equipment expenses associated with higher-value smartphones in the sales mix; and higher operating costs associated with growth related to scaling our health offerings and our digital capabilities. TIAI utilizes contracted labour in servicing its customers as compared to solely utilizing employees, and these contracted services have contributed to year-over-year increases in Goods and services purchased throughout 2021.

The trend of year-over-year increases in net Employee benefits expense reflects increases in the number of employees related to business acquisitions, including those supporting the growth of DLCX revenue, health offerings, smart food-chain technology business and our other complementary businesses. This was partly offset by moderating salaries expense resulting from reductions in the number of full-time equivalent (FTE) domestic employees, excluding business acquisitions, related in part to absorbed vacancies. We experienced year-over-year increases in net Employee benefits expense in 2021 related to merit-based compensation increases, including an April 2021 compensation program increase.

The trend of year-over-year increases in Depreciation and amortization reflects increases related to capital assets acquired in business acquisitions; growth in capital assets, in support of the expansion of our broadband footprint, including our generational investment to connect homes and businesses to TELUS PureFibre and 5G technology coverage; and growth in internet, TV and security subscriber loading. The investments in our fibre-optic technology also support our technology strategy to improve coverage and capacity, including the ongoing build-out of 5G, as we launched the first wave of our 5G network in June 2020.

The trend of year-over-year increases in Financing costs reflects an increase in long-term debt outstanding, mainly associated with our investments in spectrum, fibre and mobile technology, as well as business acquisitions. Financing costs include a long-term debt prepayment premium of $10 million in the third quarter of 2021 and $18 million in the second quarter of 2020. Moreover, Financing costs are net of capitalized interest related to spectrum licences acquired during the 600 MHz spectrum auction, which we commenced deploying into our existing network in 2021, and during the 3500 MHz spectrum auction. Financing costs also include Interest accretion on provisions (asset retirement obligations and written put options) and Employee defined benefit plans net interest. Additionally, for the eight periods shown, Financing costs include varying amounts of foreign exchange gains or losses and varying amounts of interest income.

The trend in Net income reflects the items noted above, as well as non-cash adjustments arising from substantively enacted changes in income tax and adjustments recognized in the current periods for income taxes of prior periods. Historically, the trend in basic EPS has reflected trends in Net income.





The general trend of year-over-year decreases in Cash provided by operating activities reflects higher year-over-year income taxes paid, other operating working capital changes and higher interest payments arising from increases in debt outstanding and year-over-year variations in fixed-term interest rates. The general trend of year-over-year decreases in free cash flow reflects the factors affecting Cash provided by operating activities in addition to increased capital expenditure activity, except that accounting policies which do not impact cash (IFRS 15 and IFRS 16) do not affect the determination of free cash flow. For further discussion of trends, see *Section 5.4 TELUS technology solutions segment* and *Section 5.5 Digitally-led customer experiences – TELUS International segment*.

Fourth quarter recap

Results for the fourth quarter of 2021 (three-month period ended December 31, 2021) are discussed in our February 10, 2022 news release and are compared with results from the fourth quarter of 2020 (three-month period ended December 31, 2020).

- Consolidated operating revenues and other income were $4,872 million in the fourth quarter of 2021, an increase of $812 million.
  - Service revenues were $3,805 million in the fourth quarter of 2021, an increase of $396 million. TTech service revenue growth of $227 million was driven by (i) increased internet and data service revenues, as well as smart food-chain technology and other fixed data services revenues, driven by higher revenue per customer resulting from internet speed upgrades, subscriber base growth, business acquisitions and expanded services; (ii) higher mobile network revenue from growth in our mobile phone and connected devices subscriber bases and higher ARPU; and (iii) growth in health services revenues. This was partly offset by continued declines in legacy fixed voice and legacy fixed data service revenues. Growth in DLCX operating revenues resulting from business acquisitions, as well as organic growth from both new clients and expanded services for existing customers.
  - Equipment revenues were $656 million in the fourth quarter of 2021, an increase of $4 million, driven by higher-value smartphones in the sales mix, despite an increased mix of certified pre-owned device sales. Additionally, industry-wide mobile handset inventory constraints resulted in lower revenues from mobile handset upgrade volumes.

  - Other income was $411 million in the fourth quarter of 2021, an increase of $412 million, largely reflecting a $410 million gain arising from the disposition of our financial solutions business in the fourth quarter of 2021, as described in *Section 1.3*.

- Consolidated operating expenses were $3,820 million in the fourth quarter of 2021, an increase of $307 million.

  - Goods and services purchased were $1,882 million in the fourth quarter of 2021, an increase of $116 million, due to: (i) higher operating, contracted labour and administrative costs associated with business acquisitions, organic DLCX revenue growth and scaling of our health offerings, including virtual care adoption; (ii) higher product and service costs in supporting growth across our subscriber connections, including TV subscribers; (iii) higher advertising and promotional costs relative to subdued marketing activity in 2020; (iv) higher mobile equipment sales expense, driven by higher-value smartphones in the sales mix, partly offset by lower mobile handset upgrades; and (v) growth in business operations related to scaling of our digital capabilities. These increases were partly offset by lower non-labour-related restructuring costs, lower bad debt expense, and lower commissions expense associated with an increased mix of digital sales and lower contracted volume.

  - Employee benefits expense was $1,108 million in the fourth quarter of 2021, an increase of $150 million, largely due to: (i) higher compensation and benefit costs resulting from an increase in the number of employees related to business acquisitions and organic DLCX revenue growth; and (ii) merit-based compensation increases. These employee benefits expense increases were partly offset by higher capitalized labour costs.

  - Depreciation was $545 million in the fourth quarter of 2021, an increase of $6 million, primarily due to growth in capital assets over the past 12 months, including our expanded broadband footprint and business acquisitions.

  - Amortization of intangible assets was $285 million in the fourth quarter of 2021, an increase of $35 million, arising from business acquisitions and higher expenditures associated with the intangible asset base over the past 12 months.

  - Financing costs were $192 million in the fourth quarter of 2021, an increase of $2 million.

  - Income tax expense was $197 million in the fourth quarter of 2021, an increase of $111 million. The effective tax rate decreased from 24.1 to 22.9% in the fourth quarter of 2021, primarily due to the non-taxable portion of the gain on the disposition of our financial solutions business partially offset by lower adjustments to prior period income taxes.

- EBITDA, which includes restructuring and other costs, other equity losses related to real estate joint ventures, and the gain on disposition of our financial solutions business, was $1,882 million in the fourth quarter of 2021, an increase of $546 million.

- Adjusted EBITDA, which excludes restructuring and other costs, other equity losses related to real estate joint ventures, and the gain on disposition of our financial solutions business, was $1,517 million in the fourth quarter of 2021, an increase of $108 million or 7.6%. This is reflective of growth in network revenue from increases in our mobile phone and connected devices subscriber bases; growth in mobile equipment margins; growth in internet and data service margins, as well as other fixed data service margins, resulting from subscriber base growth and expanded services; an increased contribution from our DLCX business; and lower bad debt expense. This was partly offset by higher Employee benefits expense and lower legacy fixed voice and legacy fixed data services. This growth also reflects lower non-labour restructuring and other costs related to the pandemic, partly offset by the dilutive lingering impacts of the pandemic, including reduced roaming margins related to travel restrictions

- Net income attributable to Common Shares was $644 million in the fourth quarter of 2021, an increase of $384 million, resulting from the after-tax impacts of higher Operating income and higher Financing costs. Adjusted Net income excludes the effects of restructuring and other costs, income tax-related adjustments, other equity losses related to real estate joint ventures, and the gain on disposition of our financial solutions business. Adjusted Net income in the fourth quarter of 2021 was $331 million, an increase of $42 million or 14.5%.

- Basic EPS was $0.47 in the fourth quarter of 2021, an increase of $0.27 as a result of the after-tax impacts of higher Operating income and higher Financing costs, as well as the effect of a higher number of Common Shares outstanding. Adjusted basic EPS

excludes the effects of restructuring and other costs, income tax-related adjustments, other equity losses related to real estate joint ventures, and the gain on disposition of our financial solutions business. Adjusted basic EPS was $0.23 in the fourth quarter of 2021, an increase of $0.01 or 4.5%.

- Cash provided by operating activities was $896 million in the fourth quarter of 2021, a decrease of $137 million, largely attributable to other working capital changes and higher income taxes paid related to the disposition of our financial solutions business.

- Cash used by investing activities was $1,989 million in the fourth quarter of 2021, a decrease of $218 million, largely attributable to fewer business acquisitions and proceeds received upon the disposition of our financial solutions business, partially offset by cash payments for 3500 MHz spectrum licences as noted in *Section 1.3* and higher cash payments for capital assets. Capital expenditures were $909 million in the fourth quarter of 2021, an increase of $296 million, due to accelerated investments in our 5G network, broadband build, enhanced product development, and digitization to increase system capacity and reliability.

- Cash used by financing activities was $48 million in the fourth quarter of 2021, a change of $1,449 million compared to Cash provided by financing activities of $1,401 million in the fourth quarter of 2020, primarily reflecting higher long-term debt issues.

- Free cash flow was $43 million in the fourth quarter of 2021, a decrease of $175 million, driven by higher capital expenditures as previously noted and higher income taxes paid, partly offset by higher EBITDA.

5.3 Consolidated operations

The following is a discussion of our consolidated financial performance. Segment information in *Note 5* of the Consolidated financial statements is regularly reported to our CEO. We discuss the performance of our segments in *Section 5.4 TELUS technology solutions segment* and *Section 5.5 Digitally-led customer experiences – TELUS International segment*.



Operating revenues

Years ended December 31 ($ in millions)	**2021**	2020	Change
Operating revenues			
Service	**14,535**	13,277	9.5 %
Equipment	**2,303**	2,064	11.6 %
Operating revenues (arising from contracts with customers)	**16,838**	15,341	9.8 %
Other income	**420**	122	n/m
Operating revenues and other income	**17,258**	15,463	11.6 %

Consolidated Operating revenues and other income increased by $1,795 million in 2021.

- **Service revenues** increased by $1,258 million in 2021. TTech service revenue growth of $685 million was driven by (i) increased internet and data service revenues, as well as smart food-chain technology and other fixed data services revenues, driven by higher revenue per customer resulting from internet speed upgrades, subscriber base growth, business acquisitions and expanded services; (ii) growth in our mobile phone and connected devices subscriber bases; and (iii) growth in health services revenues. This was partly offset by continued declines in legacy fixed voice and legacy fixed data service revenues. Growth in DLCX

operating revenues resulted from business acquisitions, as well as organic growth from both new clients and expanded services for existing customers.

Compared to the prior year, growth in 2021 also reflects the dilutive lingering impacts of the pandemic, most notably in the first quarter of 2021, including reduced roaming revenues related to travel restrictions.

- **Equipment revenues** increased by $239 million in 2021, reflecting higher-value smartphones in the sales mix, higher handset upgrade volumes and greater collectability of mobile device balances. These factors have been partly offset by the recent global supply chain challenges related to chipset shortages that became more prominent in the third quarter of 2021, which we have mitigated by leveraging certified pre-owned device inventory, our Bring-it-Back® device program, and device repair businesses, including Mobile Klinik.

- **Other income** increased by $298 million in 2021, largely due to a $410 million gain arising from the disposition of our financial solutions business in the fourth quarter of 2021, as described in *Section 1.3*, in addition to lower other equity losses related to real estate joint ventures. These were partly offset by the non-recurrence of a decrease and subsequent retirement of the comparative period's gain on a provision arising from business acquisition-related written put options to acquire the remaining non-controlling interest of an acquired subsidiary, Xavient Information Systems (Xavient), which was settled in the second quarter of 2020, in addition to the non-recurrence of the sale of certain assets.

Operating expenses

Years ended December 31 ($ in millions)	**2021**	2020	Change
Goods and services purchased	**6,699**	6,268	6.9 %
Employee benefits expense	**4,269**	3,701	15.3 %
Depreciation	**2,126**	2,107	0.9 %
Amortization of intangible assets	**1,090**	905	20.4 %
Operating expenses	**14,184**	12,981	9.3 %

Consolidated operating expenses increased by $1,203 million in 2021.

- **Goods and services purchased** increased by $431 million in 2021 mainly due to: (i) higher operating, contracted labour and administrative costs associated with business acquisitions, organic DLCX revenue growth and scaling of our health offerings, including virtual care adoption; (ii) higher mobile equipment sales expense driven by higher-value smartphones in the sales mix and higher mobile handset upgrade volumes; (iii) higher product and service costs in supporting growth across our subscriber connections, including TV subscribers; (iv) higher advertising and promotional costs relative to subdued marketing activity in 2020; and (v) growth in business operations related to scaling of our digital capabilities. These increases were partly offset by lower non-labour-related restructuring costs, lower bad debt expense, lower commissions expense associated with an increased mix of digital sales and lower contracted volume, and lower roaming expense.

- **Employee benefits expense** increased by $568 million in 2021, largely due to: (i) higher compensation and benefit costs resulting from an increase in the number of employees related to business acquisitions and organic DLCX revenue growth; (ii) merit-based compensation increases; and (iii) higher share-based compensation as a result of the mark-to-market adjustment on liability-accounted awards from an increased TI share price. These employee benefits expense increases were partly offset by higher capitalized labour costs.

- **Depreciation** increased by $19 million in 2021, primarily due to growth in capital assets over the past 12 months, including our expanded broadband footprint and business acquisitions. This was partly offset by the effect of accelerated depreciation in the comparative period from increased asset retirement activity.

- **Amortization of intangible assets** increased by $185 million in 2021 arising from business acquisitions and higher expenditures associated with the intangible asset base over the past 12 months.

Operating income

Years ended December 31 ($ in millions)	**2021**	2020	Change
TTech EBITDA[1] (See *Section 5.4*)	**5,735**	4,976	15.2 %
DLCX EBITDA[1] (See *Section 5.5*)	**555**	518	7.3 %
EBITDA	**6,290**	5,494	14.5 %
Depreciation and amortization (discussed above)	**(3,216)**	(3,012)	6.8 %
Operating income (consolidated earnings before interest and income taxes (EBIT))	**3,074**	2,482	23.9 %

1 See *Section 11.1 Non-GAAP and other specified financial measures*.

Operating income increased by $592 million in 2021, while EBITDA increased by $796 million in 2021. In addition to the gain on sale of our financial solutions business, this is reflective of growth in network revenue from increases in our mobile phone and connected devices subscriber bases; growth in mobile equipment margins; growth in internet and data service margins, as well as other fixed data service margins, resulting from subscriber base growth and expanded services; an increased contribution from our DLCX business; and lower bad debt expense. This was partly offset by higher Employee benefits expense and lower legacy fixed voice and legacy fixed data services. This growth also reflects lower non-labour restructuring and other costs related to the pandemic, partly offset by the dilutive lingering impacts of the pandemic, including reduced roaming margins related to travel restrictions.

Adjusted EBITDA

Years ended December 31 ($ in millions)	**2021**	2020	Change
TTech Adjusted EBITDA[1] (See *Section 5.4*)	**5,476**	5,177	5.7 %
DLCX Adjusted EBITDA[1,2] (See *Section 5.5*)	**593**	524	13.2 %
Adjusted EBITDA	**6,069**	5,701	6.4 %

1 See *Section 11.1 Non-GAAP and other specified financial measures*.
2 For certain financial metrics, there are definitional differences between TELUS and TELUS International reporting. These differences largely arise from TELUS International adopting definitions consistent with practice in its industry.

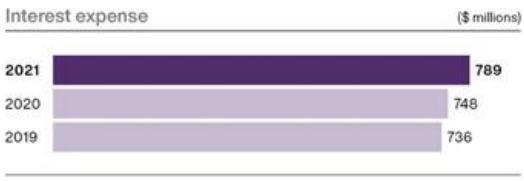
Adjusted EBITDA increased by $368 million or 6.4% in 2021, reflecting the factors mentioned in the Operating income discussion above.

Financing costs

Years ended December 31 ($ in millions)	**2021**	2020	Change
Interest on long-term debt, excluding lease liabilities – gross	**683**	676	1.0 %
Interest on long-term debt, excluding lease liabilities – capitalized	**(3)**	(37)	(91.9)%
Interest on lease liabilities	**66**	70	(5.7)%
Interest on short-term borrowings and other	**15**	5	n/m
Interest accretion on provisions	**18**	16	12.5 %
Long-term debt prepayment premium	**10**	18	(44.4)%
Interest expense	**789**	748	5.5 %
Employee defined benefit plans net interest	**26**	16	62.5 %
Foreign exchange (gains) losses	**(3)**	14	n/m
Interest income	**(16)**	(7)	128.6 %
Financing costs	**796**	771	3.2 %

Financing costs increased by $25 million in 2021, mainly due to the following factors:

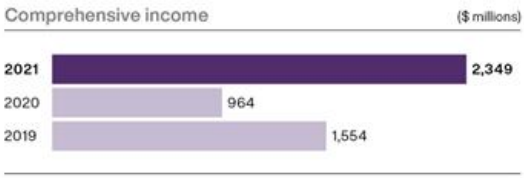
- **Interest expense** increased by $41 million in 2021, resulting from:
  - Gross interest on long-term debt, excluding lease liabilities, increased by $7 million in 2021, driven by an increase in average long-term debt balances outstanding in part attributable to business acquisitions, and an increase in the blended effective interest rate. Our weighted average interest rate on long-term debt (excluding commercial paper, the revolving component of the TI credit facility, lease liabilities and other long-term debt) was 3.72% at December 31, 2021, compared to 3.80% one year earlier. (See *Long-term debt issued and redemptions and repayment of long-term debt* in *Section 7.4*.)
  - Capitalized long-term debt interest, excluding lease liabilities, in 2021 is in respect of debt incurred for the purchase of spectrum licences during the 3500 MHz spectrum auction held in June to July 2021 by Innovation, Science and Economic Development Canada (ISED). In 2020, capitalized long-term debt interest, excluding lease liabilities, was in respect of debt incurred for the purchase of spectrum licences during the 600 MHz spectrum auction held by ISED in April 2019 for which capitalization ceased in the first quarter of 2021 as we commenced deploying this spectrum into our existing network.
  - In the third quarter of 2021, we recorded a long-term debt prepayment premium of $10 million before income taxes related to the early redemption of all of our $1 billion Notes, Series CT. In the second quarter of 2020, we recorded a long-term debt prepayment premium of $18 million before income taxes related to the early redemption of all of our $400 million Notes, Series CM, and all of our $500 million Notes, Series CO.
- **Employee defined benefit plans net interest** increased by $10 million in 2021, primarily due to the change in the defined benefit plan deficit as at December 31, 2020 to $913 million (net of the plan asset ceiling limit of $123 million), compared to the defined benefit plan deficit of $425 million (net of the plan asset ceiling limit of $121 million) one year earlier, partly offset by a decrease in the discount rate.
- **Foreign exchange gains** changed by $17 million in 2021, primarily reflecting changes in the value of the Canadian dollar relative to the U.S. dollar.



Income taxes

Years ended December 31 ($ in millions, except tax rates)	**2021**	2020	Change
Income taxes computed at applicable statutory rates (%)	**25.8**	26.1	(0.3) pts.
Revaluation of deferred income tax liability to reflect future income tax rates (%)	**—**	(0.4)	0.4 pts.
Adjustments recognized in the current period for income taxes of prior periods (%)	**(0.3)**	(1.3)	1.0 pts.
Non-deductible amounts (%)	**1.0**	1.2	(0.2) pts.
Gain on disposition (%)	**(2.0)**	—	(2.0) pts.
Other (%)	**1.0**	0.7	0.3 pts.
Effective tax rate (%)	**25.5**	26.3	(0.8) pts.
Income tax computed at applicable statutory rates	**589**	446	32.1 %
Revaluation of deferred income tax liability to reflect future income tax rates	**—**	(6)	(100.0)%
Adjustments recognized in the current period for income taxes of prior periods	**(8)**	(20)	(60.0)%
Non-deductible amounts	**23**	20	15.0 %
Gain on disposition	**(46)**	—	n/m
Other	**22**	11	100.0 %
Income taxes	**580**	451	28.6 %

Total income tax expense increased by $129 million in 2021. The effective tax rate decreased from 26.3 to 25.5% in 2021, primarily due to non-taxable portion of the gain on the disposal of our financial solutions business partially offset by lower adjustments to prior period income taxes.



Comprehensive income

Years ended December 31 ($ in millions)	**2021**	2020	Change
Net income	**1,698**	1,260	34.8 %
Other comprehensive income (net of income taxes):			
Items that may be subsequently reclassified to income	**(6)**	2	n/m
Items never subsequently reclassified to income	**657**	(298)	n/m
Comprehensive income	**2,349**	964	143.7 %

Comprehensive income increased by $1,385 million, primarily attributable to the increase in net income, discussed above, as well as employee defined benefit plans re-measurement amounts and changes in the unrealized fair value of derivatives designated as cash flow hedges and investment financial assets, partly offset by foreign currency translation adjustments arising from translating financial statements of foreign operations. Items that may subsequently be reclassified to income are composed of changes in the unrealized fair value of derivatives designated as cash flow hedges and foreign currency translation adjustments arising from translating financial statements of foreign operations. Items never subsequently reclassified to income are composed of employee defined benefit plans re-measurement amounts and changes in measurement of investment financial assets.

5.4 TELUS technology solutions segment

Mobile phone subscribers	**Connected device subscribers**	**Internet subscribers**	**TV subscribers**	**Security subscribers**	**Healthcare lives covered**
2021: 9,290,000	**2021: 2,134,000**	**2021: 2,271,000**	**2021: 1,265,000**	**2021: 804,000**	**2021: 20,600,000**
2020: 8,923,000	2020: 1,796,000	2020: 2,138,000	2020: 1,215,000	2020: 707,000	2020: 16,900,000
+4.1%	+18.8%	+6.2%	+4.1%	+13.7%	+21.9%

TTech trends and seasonality

The nature of the COVID-19 pandemic has had significant impacts on our business. The pandemic prevents us, our customers, and our suppliers from operating in the normal course of business in certain areas and we expect the pandemic to continue to affect our operations until at least 2023. For example, with the uncertainty surrounding COVID-19 variants and government and land border restrictions, consumer and business travel levels are uncertain, which negatively impacts roaming revenues. As well, our business customers who use our services are faced with reduced and/or closed operations. Additionally, our health services offerings are impacted, as TELUS Health Care Centres were unable to provide their full suite of core services in 2020 and operated at reduced volumes in 2021. Impacts directly associated with the pandemic, such as the reduction of roaming revenue, may be temporary in nature and have the potential to return to pre-pandemic levels once the pandemic has subsided or ended.

The historical trend over the past eight quarters in mobile network revenue reflects growth in our mobile phone subscriber base, as well as the acceleration of IoT connections. This is partly offset by declining mobile phone ARPU, primarily due to: (i) the impacts of the COVID-19 pandemic on international travel and international roaming revenues; (ii) carriers offering larger allotments of data, as well as rate plans that include bonus data, unlimited data plans and data sharing; and (iii) consumer behavioural response to more frequent customer data usage notifications and offloading of data traffic to increasingly available Wi-Fi hotspots, including within the home as a result of the pandemic. This decline in growth has been partly offset by an increased mix of higher-value rate plans and an increased proportion of higher-value customers in the subscriber mix. As a result of changing industry dynamics, customers have been able to gain access to higher network speeds and larger allotments of data included for a given price point, further limiting mobile phone ARPU expansion, as customers are continuing to obtain plans with a lower cost per gigabyte.

Mobile equipment revenue growth has been moderating, largely due to the impacts of various waves of the pandemic on our retail traffic, in terms of both mandated health restrictions and customer behaviour, in addition to global chipset constraints in our supply chain that became more prominent across the industry in the third quarter of 2021. This has been partly offset by our digital and other direct fulfilment channels, suppressed handset upgrade volumes throughout 2020 manifesting in increased demand in the first half of 2021, and our efforts to moderate supply constraints by leveraging certified pre-owned device inventory, our Bring-it-Back device program and device repair businesses, including Mobile Klinik. Over the past eight quarters, an increase of higher-value smartphones in the sales mix and improved collectability of device balances have been offset by a lower volume of new contracts due to: (i) the improving durability and increasing cost of popular devices that result in customers deferring upgrades; (ii) growing adoption of device financing arrangements, which provide transparency of full device costs and result in customers deferring device upgrades; and (iii) most recently, the effects of the pandemic on customers, the industry, global chipset constraints in our supply chain and methods of distribution, and the Canadian economy.

The general trend of year-over-year increases in mobile phone subscriber net additions resulted from: (i) the success of our promotions, including the bundling of our mobility and home services, and the leveraging of our digital sales channels; (ii) the effects of market growth arising from a growing population, changing population demographics and an increasing number of customers with multiple devices; (iii) continuous improvements in the speed and quality of our network; and (iv) our low churn rate, which reflects our customers first efforts, upgrade volume programs and focus on building, maintaining and enhancing our high-quality network. Additionally, the pandemic has caused customers to change their behaviour, such as reducing travel and making fewer visits to retail outlets, thereby reducing churn and renewal traffic.

Our connected device subscriber base has been growing primarily as a result of our expanded IoT offerings, partly offset by our strategic decision to reduce loading of low or negative-margin tablets. Our spectrum investments and capital expenditures on network improvements increase capacity and coverage, allowing us to grow revenue through net additions of mobile phone and connected devices subscribers.

We expect ongoing internet subscriber base growth as we continue our investments in expanding our fibre-optic infrastructure, supplemented with our low customer churn rate. The total number of TV subscribers has increased (in contrast to market-reported declines in traditional television viewing habits) as a result of healthy net additions in response to our diverse and flexible product offerings, combined with our low customer churn rate. Security subscriber base growth is increasing as a result of organic growth and business acquisitions. Home services growth has also been attributable to the adoption of the TELUS Whole Home bundle and the bundling of our mobility and home services to meet the demand for multiple services per home. Adoption increases our services per home and positively impacts churn for most products, in addition to the effectiveness of our self install and virtual install models. Residential voice subscriber losses continue to reflect the ongoing trend of substitution to mobile and internet-based services, but were partly mitigated by the success of our bundled service offerings and lower-priced offerings.

The trend of growing fixed data services revenues (excluding smart food-chain technology, which is described separately below) is due to the continued appetite for faster internet speeds and larger bandwidth, as well as our diverse suite of TV, home and business security, and other advanced application offerings, which are enabled by investments in our fibre-optic footprint. The trend of declining legacy fixed voice revenues is due to technological substitution and intensification of competition in the small and medium-sized business market; however, our rate of decline has been moderating with our utilization of bundled product offerings and successful retention efforts. The migration of business product and service offerings to IP services and the introduction of new competitors have yielded inherently lower margins compared to some legacy business product and service offerings; however, we are continually refining and diversifying our innovative suite of business offerings, including our Software as a Service (SaaS)-based solutions.

The trend of digitization has propelled the adoption of our health offerings, including virtual care solutions, collaborative health records, health benefits management and personal health monitoring solutions. In health, we are well positioned to improve the lives and outcomes for Canadians. Our competencies and assets in health, combined with the trend in digitization and automation, position us well to bolster the Canadian healthcare system in a complementary fashion. With our technology heritage, we see the trend moving the healthcare system to improved efficiency and improved outcomes through better insights. We also believe Canadians will have greater control of their healthcare outcomes through the integration of disparate data (better flow of information across the system) and consent-based management. While the pandemic has disrupted the operations of our TELUS Health Care Centres since March 2020, our diversified virtual care offerings continue to grow to meet the healthcare needs of Canadians and drive better health outcomes, including the accelerated adoption of virtual consultations, as reflected in our growing virtual care members. Our health benefits management solution is influenced by the number of lives covered and the number of benefit claims, which were disrupted by the pandemic. We expect the demand for these services to resume in correspondence with the effectiveness of COVID-19 vaccinations and higher employment rates.

The trend of greater use of digital solutions within the agriculture industry is due to increased demand for data and analytical insights to drive more effective and agile decision-making to address changing consumer demands and improve profitability. We are committed to providing solutions to create a better flow of information across the value chain, improving the safety and sustainability of our food system. Within the verticals of agri-business; food, beverage, and consumer goods; and animal agriculture, we are expanding our solutions and customer base worldwide through acquisitions and organic growth.

TTech operating indicators

At December 31	**2021**	2020	Change
Subscriber connections (000s):			
Mobile phone[1]	**9,290**	8,923	4.1 %
Connected device	**2,134**	1,796	18.8 %
Internet[2]	**2,271**	2,138	6.2 %
TV	**1,265**	1,215	4.1 %
Residential voice	**1,123**	1,164	(3.5)%
Security	**804**	707	13.7 %
Total TTech subscriber connections	**16,887**	15,943	5.9 %
LTE population coverage[3] (millions)	**37.0**	37.0	— %
5G population coverage[3] (millions)	**26.2**	10.5	n/m
Virtual care members (millions)	**2.8**	1.7	64.7 %
Healthcare lives covered (millions)	**20.6**	16.9	21.9 %

Years ended December 31	**2021**	2020	Change
Mobile phone gross additions (000s):	**1,353**	1,277	6.0 %
Subscriber connection net additions (losses) (000s):			
Mobile phone	**367**	280	31.1 %
Connected device	**338**	257	31.5 %
Internet	**149**	157	(5.1)%
TV	**50**	55	(9.1)%
Residential voice	**(41)**	(40)	(2.5)%
Security	**97**	68	42.6 %
Total TTech subscriber connection net additions	**960**	777	23.6 %
Mobile phone ARPU, per month[1,4] ($)	**57.07**	57.41	(0.6)%
Mobile phone ABPU, per month[1,4] ($)	**69.83**	70.49	(0.9)%
Mobile phone churn, per month[1,5] (%)	**0.91**	0.96	(0.05)pts.
Digital health transactions (millions)	**551.1**	534.9	3.0 %

1 Effective January 1, 2021, with retrospective application to January 1, 2020, in alignment with our segment reporting changes, we made a retroactive adjustment to remove internal network service revenue and approximately 29,000 subscribers from our mobile phone subscriber base and associated operating statistics (ARPU, ABPU, and churn). Internal network service revenue consists of earned revenue from both our internal mobile phone and connected devices subscribers, neither of which contribute to our restated subscriber base.

2 Effective January 1, 2021, on a prospective basis, following an in-depth review of customer accounts within a legacy subscriber provisioning system to be decommissioned, we adjusted our internet subscriber base to remove 16,000 subscribers.

3 Including network access agreements with other Canadian carriers.

4 These are non-GAAP and other specified financial measures. See *Section 11.1 Non-GAAP and other specified financial measures*. These are industry measures useful in assessing operating performance of a mobile products and services company, but are not measures defined under IFRS-IASB.

5 See *Section 11.2 Operating indicators*.

- **Mobile phone gross additions** were 1,353,000 in 2021, an increase of 76,000, driven by growth in high-value customer additions, improvements in retail traffic as pandemic-related restrictions had lessened when compared to the prior year, successful promotions, including the bundling of our mobility and home services, expanded channels, and the enhanced capabilities of our digital footprint, inclusive of increased self-serve functions. Industry-wide inventory shortages due to global supply chain challenges had an impact on competitive activity in the second half of 2021. However, we mitigated these challenges by leveraging certified pre-owned device inventory, our Bring-it-Back device program and device repair businesses, including Mobile Klinik, in addition to our compelling rate plan offers.

- **Our mobile phone churn rate** was 0.91% in 2021, compared to 0.96% in 2020, reflecting the impacts of industry-wide inventory shortages arising from global supply chain challenges that became more prominent in the third quarter of 2021, which had an impact on customer switching activity. These relatively low churn rates in the current and comparative period reflect the impacts of the pandemic, with customers reducing their general shopping habits in retail outlets since the start of the pandemic, along with mandated capacity restrictions. Churn continues to benefit from our successful bundling of mobility and home services, our focus on executing customers first initiatives and upgrade volume programs, and our leading network quality.

- **Mobile phone net additions** were 367,000 in 2021, an increase of 87,000, demonstrating improvements in retail traffic compared to the prior year, albeit still below our pre-pandemic baseline, our strong execution in digital sales and expanded channels, and our successful efforts to drive high-value customer net additions, inclusive of our consistently low customer churn, as discussed above.

- **Mobile phone ARPU** was $57.07 in 2021, a decrease of $0.34 or 0.6%, largely due to lower chargeable usage revenues as customers continue to adopt larger data allotments in their rate plans, the impact of the competitive environment putting pressure on base rate plan prices in the current and prior periods, and lower roaming revenues as declines in the first quarter of 2021 compared to a pre-pandemic baseline exceeded the sequential, modest roaming recoveries experienced in the final nine months of 2021, as reflected in ARPU growth in the fourth quarter. These factors were partly offset by higher monthly recurring charges caused by a greater mix of high-value customer additions.

- **Mobile phone ABPU** was $69.83 in 2021, a decrease of $0.66 or 0.9%, largely reflecting the same items noted above for mobile phone ARPU in addition to a greater mix of bring-your-own device customer additions.

- **Connected device net additions** were 338,000 in 2021, an increase of 81,000, largely due to increased demand for IoT net additions and a lower churn rate for tablets.

- **Internet net additions** were 149,000 in 2021, a decrease of 8,000, due to pandemic-related demand decline, higher churn and lower market demand relative to the subdued switching activity and record loading in 2020. This offset our success in driving strong net additions through bundled product offerings, including the TELUS Whole Home bundle and our bundling of mobility and home services.

- **TV net additions** were 50,000 in 2021, a decrease of 5,000, mainly due to lower market demand, primarily in the business market, offsetting a lower customer churn rate from strong retention efforts and the success of our bundled product offerings.

- **Residential voice net losses** were 41,000 in 2021 compared to residential voice net losses of 40,000 in 2020. The residential voice subscriber losses continue to reflect the trend of substitution to mobile and internet-based services, mostly mitigated by our expanding fibre footprint and bundled product offerings, as well as our strong retention efforts, including lower-priced offerings.

- **Security net additions** were 97,000 in 2021, an increase of 29,000, driven by strong growth in new connections through demand for our bundled product offerings and diverse suite of products and services. Our continued focus on connecting more homes and businesses directly to fibre, expanding and enhancing our addressable high-speed internet and Optik TV footprint, and bundling these services together, contributed to combined internet, TV and security subscriber growth of 280,000 over the past 12 months.

- **Virtual care members** were 2.8 million as of the end of 2021, an increase of 1.1 million over the past 12 months, due to the continued adoption of virtual solutions to keep Canadians safely connected to health and wellness care during the pandemic.

- **Healthcare lives covered** were 20.6 million as of the end of 2021, an increase of 3.7 million over the past 12 months, mainly due to the continued demand for virtual solutions, an increase in value-added services including vaccination solutions, and an increase in coverage related to elective health services. See *TTech trends and seasonality* for further details.

- **Digital health transactions** were 551.1 million in 2021, an increase of 16.2 million, largely driven by a higher number of adjudication, eClaims, transport, and collaborative health transactions from a business acquisition as plan members resume the utilization of elective health services with pandemic restrictions easing.

Operating revenues and other income – TTech segment

Years ended December 31 ($ in millions)	**2021**	2020	Change
Mobile network revenue	**6,208**	6,030	3.0 %
Mobile equipment and other service revenues	**2,124**	1,867	13.8 %
Fixed data services	**4,421**	3,939	12.2 %
Fixed voice services	**843**	912	(7.6)%
Fixed equipment and other service revenues	**411**	408	0.7 %
Health services	**521**	448	16.3 %
Operating revenues (arising from contracts with customers)	**14,528**	13,604	6.8 %
Other income	**420**	19	n/m
External Operating revenues and other income	**14,948**	13,623	9.7 %
Intersegment revenues	**18**	13	38.5 %
TTech Operating revenues and other income	**14,966**	13,636	9.8 %

TTech Operating revenues and other income increased by $1,330 million in 2021.



Mobile network revenue increased by $178 million or 3.0% in 2021, due to growth of 6.3% in the mobile phones and connected devices subscriber base over the past 12 months, partly offset by lower mobile phone ARPU, as described above.

Mobile equipment and other service revenues increased by $257 million in 2021, reflecting higher-value smartphones in the sales mix, higher handset upgrade volumes and greater collectability of mobile device balances. Handset upgrades were significantly impacted by the pandemic in 2020, including the temporary closure of approximately 90% of our retail outlets from March 2020 through most of the second quarter, and customers reducing their general shopping habits in retail outlets since the start of the pandemic, which resulted in lower contracted volume and accessory sales. In 2021, handset upgrade volumes increased as a result of the successful execution of our customers first initiatives, including the enhanced capabilities of our digital footprint, suppressed handset upgrade volumes throughout 2020 manifesting in increased demand in the first half of 2021 and fewer retail locations due to the pandemic. These factors have been partly offset by the recent global supply chain challenges mentioned above, which we have moderated by leveraging our certified pre-owned device inventory, Bring-it-Back device program and device repair businesses, including Mobile Klinik.

Fixed data services revenues increased by $482 million in 2021. The increase was driven by: (i) increased internet and data service revenues, reflecting higher revenue per customer resulting from internet speed upgrades, larger allotted data internet rate plans and rate changes, in addition to a 6.2% increase in our internet subscribers over the past 12 months; (ii) increased revenues from smart food-chain technology, driven by business acquisitions; (iii) higher TV revenues, reflecting subscriber growth of 4.1% over the past 12 months; and (iv) increased revenues from home and business security driven by expanded services and customer growth of 13.7% over the past 12 months. This growth was partly offset by the ongoing decline in legacy data service revenues.

Fixed voice services revenues decreased by $69 million in 2021, reflecting the ongoing decline in legacy voice revenues resulting from technological substitution and price plan changes. Declines were mitigated by the success of our bundled product offerings and retention efforts and the migration from legacy to IP services offerings. The decline in residential voice subscribers over the past 12 months was 3.5%, compared to a 3.3% decline in residential voice subscribers for the 12-month period ended December 31, 2020.

Fixed equipment and other service revenues increased by $3 million in 2021, reflecting a higher volume of home and business security equipment sales and data equipment sales.

Health services revenues increased by $73 million in 2021, driven by: (i) business acquisitions; (ii) increased in-clinic services in our reopened TELUS Health Care Centres, whereas clinics were impacted by mandated lockdowns last year; (iii) higher revenues from the continued adoption of our virtual care solutions; and (iv) growth in health benefits management services with plan members resuming the use of elective health services.

Other income increased by $401 million in 2021, largely related to the $410 million gain on disposition of our financial solutions business as described in *Section 1.3* and lower equity losses related to real estate joint ventures, partly offset by the non-recurrence of 2020 gains on sale of certain assets.

Intersegment revenues represent services provided to the DLCX segment that are eliminated upon consolidation, together with the associated DLCX expenses.

Direct contribution – TTech segment

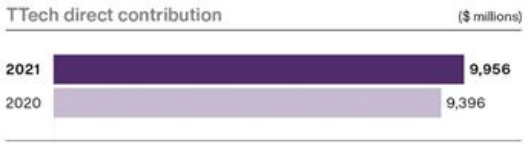
Years ended December 31 ($in millions)	Mobile products and services[1]			Fixed products and services[1]			Total TTech		
	2021	2020	Change	**2021**	2020	Change	**2021**	2020	Change
REVENUES									
Service	**6,297**	6,096	3.3 %	**5,928**	5,444	8.9 %	**12,225**	11,540	5.9 %
Equipment	**2,042**	1,809	12.9 %	**261**	255	2.4 %	**2,303**	2,064	11.6 %
Operating revenues (arising from contracts with customers)	**8,339**	7,905	5.5 %	**6,189**	5,699	8.6 %	**14,528**	13,604	6.8 %
EXPENSES									
Direct expenses	**2,802**	2,652	5.6 %	**1,771**	1,555	13.8 %	**4,572**	4,208	8.7 %
Direct contribution	**5,537**	5,253	5.4 %	**4,418**	4,144	6.6 %	**9,956**	9,396	6.0 %

1 Includes health services.

The direct expenses included in the direct contribution calculations in the preceding table represent a component of the Goods and services purchased and Employee benefits expense totals included in the table below and have been calculated in accordance with the accounting policies used to prepare the totals presented in the financial statements. TTech direct contribution increased by $560 million or 6.0% in 2021.

TTech mobile products and services direct contribution increased by $285 million or 5.4% in 2021 due to higher network revenues, higher equipment margins and lower commissions expense, as we continue to drive customer transactions to digital channels, in addition to lower contracted volumes in the current and prior periods. These factors were partly offset by the lingering effects of the pandemic on our business, such as lower roaming margins, which were not as prevalent in the first quarter of 2020.

TTech fixed products and services direct contribution increased by $275 million or 6.6% in 2021 due to growth in margins for internet and data services, smart food-chain technology and health services. This was partly offset by declining legacy data and legacy voice margins and the lingering effects of the pandemic on our business, which were not as prevalent in the first quarter of 2020.



Operating expenses – TTech segment

Years ended December 31 ($ in millions)	**2021**	2020	Change
Goods and services purchased[1]	**6,593**	6,282	5.0 %
Employee benefits expense[1]	**2,638**	2,378	10.9 %
TTech operating expenses	**9,231**	8,660	6.6 %

1 Includes restructuring and other costs.

TTech operating expenses increased by $571 million in 2021.

Goods and services purchased increased by $311 million in 2021, reflecting: (i) higher mobile equipment sales expense largely from higher-value mobile devices in the sales mix, in addition to higher handset upgrades; ii) higher costs related to business acquisitions, as well as costs associated with scaling our health offerings, including virtual care adoption; (iii) higher product and service costs in support of our growing subscriber connections, including TV subscribers; (iv) higher advertising and promotional costs relative to subdued marketing activity in 2020; and (v) higher costs related to the scaling of our digital capabilities. These factors were partly offset by: (i) lower non-labour-related restructuring costs; (ii) lower bad debt expenses; (iii) lower commissions expense associated with an increased mix of digital sales and lower contracted volume; and (iv) lower roaming expenses.

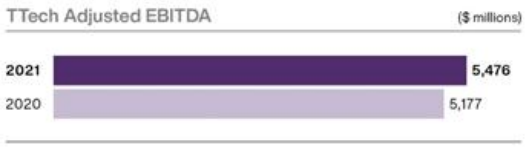
Employee benefits expense increased by $260 million in 2021, primarily due to an increase in compensation and benefits costs resulting from an increase in the number of employees related to business acquisitions in our health and smart food-chain technology businesses, as well as merit-based compensation increases. The increases were partly offset by higher capitalized labour costs.

EBITDA – TTech segment

Years ended December 31 ($ in millions, except margins)	**2021**	2020	Change
EBITDA	**5,735**	4,976	15.2 %
Add restructuring and other costs included in EBITDA	**148**	182	n/m
Add other equity losses related to real estate joint ventures	**3**	19	n/m
Deduct gain on disposition of financial solutions business	**(410)**	—	n/m
Adjusted EBITDA	**5,476**	5,177	5.7 %
EBITDA margin[1] (%)	**38.3**	36.5	1.8 pts.
Adjusted EBITDA margin[1] (%)	**37.6**	37.9	(0.3) pts.

1 These are non-GAAP and other specified financial measures. See *Section 11.1 Non-GAAP and other specified financial measures*.

TTech EBITDA increased by $759 million or 15.2% in 2021. TTech Adjusted EBITDA increased by $299 million or 5.7% in 2021, reflecting an increase in direct contribution, as mentioned above, and lower bad debt expense. These impacts were partially offset by higher employee benefits expense, operating and administrative costs related to business acquisitions and growth in business operations, in addition to higher advertising and promotional costs relative to subdued marketing activity in 2020.



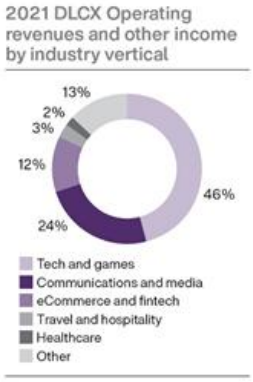
EBIT – TTech segment

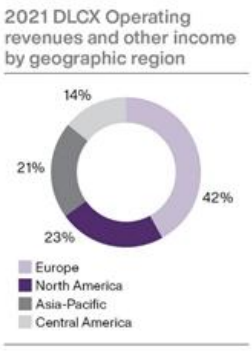
Years ended December 31 ($ in millions)	**2021**	2020	Change
EBITDA	**5,735**	4,976	15.2 %
Depreciation	**(1,982)**	(1,973)	0.5 %
Amortization	**(912)**	(795)	14.7 %
EBIT[1]	**2,841**	2,208	28.7 %

1 See *Section 11.1 Non-GAAP and other specified financial measures* .

TTech EBIT increased by $633 million in 2021. Depreciation and amortization increased in 2021 due to business acquisitions and growth in capital assets over the past 12 months, including our expanded fibre footprint and 5G network roll-out, partially offset by lower depreciation on right-of-use lease assets. The depreciation increase in 2021 was partially offset by the effect of accelerated depreciation in the first quarter of 2020 from asset retirement activity.

5.5 Digitally-led customer experiences – TELUS International segment





DLCX trends

Over the past eight quarters, the COVID-19 pandemic has impacted our business and we are not able to estimate its ultimate duration or the extent of its impact. As our service delivery centres are located in multiple geographic regions, the varying degrees of severity and recovery efforts from the pandemic in the countries we operate has required us to evolve our business operations. As of the date of this report, the majority of our team members continue to work remotely, as they have since the onset of the pandemic, and in some cases we have thoughtfully and strategically returned team members to delivery locations. Over the past few quarters in 2021, we were able to largely mitigate the negative impact on our financial condition, financial performance and operating cash flows by taking steps to strategically grow our client base and contain costs. The pandemic prevents us and our clients from operating in the normal course of business in certain areas, and we are unable to quantify with precision the impact that the pandemic has had or will have on our revenue. We expect the pandemic to continue to affect our operations into at least the first half of 2022.

The trend over the past eight quarters of increases in DLCX revenue reflects both the growth in our organic customer base, as well as the scale-up of new service programs provided to existing external customers. The higher revenue also includes revenue from internal services provided to the TTech segment and revenue growth from business acquisitions, including our acquisitions of CCC (since rebranded as TELUS International Northern Europe or TINE and comprised substantially of CCC) on January 31, 2020, and Lionbridge AI on December 31, 2020, which was subsequently rebranded as TELUS International AI Data Solutions (TIAI).

Goods and services purchased and Employee benefits expense have increased in correspondence with increases in our team member base as a result of business acquisitions and to service growing volumes from both our existing and new customers (including the expansion of our service offerings), increases in external labour to support the growth in our digital business, increases in our software licensing costs associated with our growing team member base, and increases in administrative expenses to support growth in the overall business and business acquisitions.

Depreciation and amortization have increased due to growth in capital assets, which is supporting the expansion of our sites required to service customer demand and growth in intangible assets recognized in connection with our business acquisitions.

DLCX operating indicators

Years ended December 31 ($in millions)	**2021**	2020	Change
Operating revenues by industry vertical			
Tech and games	**1,256**	840	49.5 %
Communications and media	**674**	656	2.7 %
eCommerce and fintech	**324**	233	39.1 %
Travel and hospitality	**78**	73	6.8 %
Healthcare	**59**	49	20.4 %
Other[1]	**363**	302	20.2 %
	2,754	2,153	27.9 %
Operating revenues by geographic region			
Europe	**1,153**	864	33.4 %
North America	**629**	472	33.3 %
Asia-Pacific	**575**	460	25.0 %
Central America	**397**	357	11.2 %
	2,754	2,153	27.9 %

1 Includes, among others, retail and other financial services. No individual vertical included in this category exceeds 3% of revenue.

Revenue from our tech and games industry vertical increased by $416 million to $1,256 million in 2021. This represented 46% of Operating revenues for 2021, compared to 39% in 2020. This growth is partly attributable to the acquisition of Lionbridge AI and continued growth within our existing clients and the addition of new clients, partially offset by the effect of foreign exchange rates. Revenue generated from the eCommerce and fintech industry vertical grew by $91 million to $324 million in 2021, which was primarily attributable to new clients and growth within our existing client base, partly offset by the effect of foreign exchange rates.

We serve our clients, who are primarily domiciled in North America, from multiple delivery locations across four geographic regions. In addition, our TIAI clients are largely supported by crowdsourced contractors that are globally dispersed and not limited to the physical locations of our delivery centres. The table above presents the revenue generated in each geographic region, based on the location of our delivery centre or where the services were provided from, for the periods presented.

Operating revenues and other income – DLCX segment

Years ended December 31 ($ in millions)	**2021**	2020	Change
Operating revenues (arising from contracts with customers)	**2,310**	1,737	33.0 %
Other income	**—**	103	n/m
External Operating revenues and other income	**2,310**	1,840	25.5 %
Intersegment revenues	**444**	416	6.7 %
DLCX Operating revenues and other income	**2,754**	2,256	22.1 %

DLCX Operating revenues and other income increased by $498 million in 2021.

Our **digital and customer experience solutions revenues** increased by $573 million in 2021, attributable in part to growth generated from our acquisitions, particularly within our tech and games clients as noted earlier. The remainder of the growth was organic, coming from growth in services provided to existing clients, as well as new clients added since the prior year. This growth was offset, in part, by foreign exchange impacts in 2021 driven by the strengthening of the Canadian dollar compared to the U.S. dollar, the primary operating currency of DLCX.

Other income decreased by $103 million in 2021, related to the non-recurrence of the comparative period's decrease and subsequent retirement of a provision arising from business acquisition-related written put options to acquire the remaining non-controlling interest of an acquired subsidiary, Xavient, which was settled in the second quarter of 2020.



Intersegment revenues represent services provided to the TTech segment, including those from the TELUS master services agreement. Such revenue is eliminated upon consolidation, together with the associated TTech expenses.

Operating expenses – DLCX segment

Years ended December 31 ($ in millions)	**2021**	2020	Change
Goods and services purchased[1]	**568**	415	36.9 %
Employee benefits expense[1]	**1,631**	1,323	23.3 %
DLCX operating expenses	**2,199**	1,738	26.5 %

1 Includes restructuring and other costs.

DLCX operating expenses increased by $461 million in 2021.

Goods and services purchased increased by $153 million in 2021, largely due to our acquisitions, in particular TIAI's crowdsourced contractors, for which the contracted labour costs are recognized in Goods and services purchased.

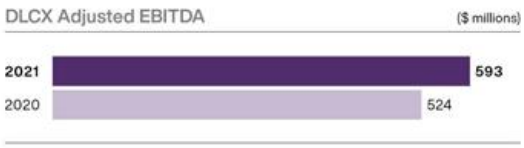
Employee benefits expense increased by $308 million in 2021 as a result of business growth, which has resulted in a higher team member count coupled with higher salaries and wages. The increases were also driven, in part, by greater share-based compensation expense associated with an increase in the share price of TELUS International, and the vesting of new awards granted in 2021 (see *Note 14(a)* of the Consolidated financial statements for further details).

EBITDA – DLCX segment

Years ended December 31 ($ in millions, except margins)	**2021**	2020	Change
EBITDA	**555**	518	7.3 %
Add restructuring and other costs included in EBITDA	**38**	77	n/m
Deduct retirement of a provision arising from business acquisition-related written put options within DLCX	**—**	(71)	n/m
Adjusted EBITDA[1]	**593**	524	13.2 %
EBITDA margin[2] (%)	**20.2**	22.9	(2.7) pts.
Adjusted EBITDA margin[2] (%)	**21.6**	24.0	(2.4) pts.

1 For certain metrics, there are definitional differences between TELUS and TELUS International reporting. These differences largely arise from TELUS International adopting definitions consistent with practice in its industry.
2 These are non-GAAP and other specified financial measures. See *Section 11.1 Non-GAAP and other specified financial measures*.

DLCX EBITDA increased by $37 million or 7.3% and DLCX Adjusted EBITDA increased by $69 million or 13.2% in 2021. While Adjusted EBITDA increased in 2021, Adjusted EBITDA margin decreased by 2.4 percentage points. The decline in Adjusted EBITDA margin in 2021 was due to the impact of the mark-to-market adjustment on the liability-accounted share-based compensation units associated with an increase in the share price of TELUS International and the expense recognition on new equity-accounted awards granted in 2021, and foreign exchange impacts on revenues as a result of the strengthening of the Canadian dollar compared to the U.S. dollar.



EBIT – DLCX segment

Years ended December 31 ($ in millions)	**2021**	2020	Change
EBITDA	**555**	518	7.3 %
Depreciation	**(144)**	(134)	7.5 %
Amortization	**(178)**	(110)	61.8 %
EBIT[1]	**233**	274	(15.0)%

1 See *Section 11.1 Non-GAAP and other specified financial measures* .

1 DLCX EBIT decreased by $41 million in 2021. Depreciation and amortization increased in 2021, driven primarily by the acquisitions of CCC and Lionbridge AI and corresponding intangible assets acquired in fiscal 2020.

6. Changes in financial position

Financial position at: ($ millions)	December 31 **2021**	2020	Change	Change includes:
Current assets				
Cash and temporary investments, net	**723**	848	(125)	See *Section 7 Liquidity and capital resources*
Accounts receivable	**2,671**	2,355	316	Increase primarily driven by digitally-led customer experiences – TELUS International (DLCX) receivable, as well as an increase in unbilled customer finance receivables from our Bring-It-Back device program and TELUS Easy Payment device financing program, partly offset by a decrease in dealer and retail channel handset volumes and customer receivables
Income and other taxes receivable	**206**	148	58	Instalments to date are greater than the expense
Inventories	**448**	407	41	Increases in average handset costs and volume of handsets
Contract assets	**443**	439	4	Refer to description in non-current contract assets
Prepaid expenses	**528**	478	50	An increase driven by maintenance contracts from business acquisitions and DLCX
Current derivative assets	**13**	2	11	An increase in the notional amount of U.S. currency hedging items.
Current liabilities				
Short-term borrowings	**114**	100	14	See *Section 7.7 Sale of trade receivables*
Accounts payable and accrued liabilities	**3,705**	2,971	734	An increase in accounts payable associated with higher capital expenditures, as well as an increase in payroll and other employee-related liabilities. See *Note 23* of the Consolidated financial statements
Income and other taxes payable	**104**	122	(18)	Instalments to date being greater than the expense
Dividends payable	**449**	403	46	Effects of increases in the number of shares outstanding and dividend rate
Advance billings and customer deposits	**854**	772	82	An increase in advance billings reflecting increased mobile subscriber growth during the period. See *Note 24* of the Consolidated financial statements
Provisions	**96**	73	23	An increase in new restructuring provisions in excess of restructuring disbursements
Current maturities of long-term debt	**2,927**	1,432	1,495	An increase in outstanding commercial paper, and increases from reclassification of long-term debt relating to upcoming 2022 maturities of the TELUS International credit facility term loan of $301 million (US$238 million) and TELUS Communications Inc. debenture of $249 million
Current derivative liabilities	**24**	32	(8)	A decrease in the notional amount of U.S. currency hedging items.
Working capital (Current assets subtracting Current liabilities)	**(3,241)**	(1,228)	(2,013)	TELUS normally has a negative working capital position. See *Financing and capital structure management plans* in *Section 4.3* and *Note 4(c)* of the Consolidated financial statements.

Financial position at: ($ millions)	December 31 2021	2020	Change	Change includes:
Non-current assets				
Property, plant and equipment, net	**15,926**	15,014	912	See *Capital expenditures* in *Section 7.3 Cash used by investing activities* and *Depreciation* in *Section 5.3 Consolidated operations*
Intangible assets, net	**17,485**	15,048	2,437	See *Capital expenditures* in *Section 7.3 Cash used by investing activities* and *Amortization of intangible assets* in *Section 5.3 Consolidated operations*
Goodwill, net	**7,281**	7,160	121	An increase primarily due to the acquisition of Blacksmith Applications Holdings Inc., as well as from individually immaterial business acquisitions, offset by the effect of translating TI financial statements into Canadian currency and the disposition of our financial solutions business. See *Note 18* of the Consolidated financial statements
Contract assets	**266**	268	(2)	A decrease driven by lower subsidized devices from the introduction of our TELUS Easy Payment device financing program
Other long-term assets	**2,004**	1,106	898	An increase in pension assets resulting from gains arising from financial and demographic assumptions re-measurement and the effects of pension plan returns greater than the discount rate, as well as increases in unbilled customer finance receivables, portfolio investments, and the asset fair value of derivatives used to manage currency risk from U.S. dollar-denominated debt. See *Note 20* of the Consolidated financial statements.
Non-current liabilities				
Provisions	**774**	961	(187)	A decrease in asset retirement obligations arising from an increase in discount rate
Long-term debt	**17,925**	18,856	(931)	See *Section 7.4 Cash provided by financing activities*
Other long-term liabilities	**907**	1,265	(358)	A decrease in pension liabilities resulting from gains arising from financial and demographic assumptions re-measurement and the effects of pension plan returns greater than the discount rate, as well as a decrease in the liability fair value of derivatives used to manage currency risk from U.S. dollar-denominated debt and European euro functional currency operations purchased with U.S. dollar-denominated long-term debt. See *Note 27* of the Consolidated financial statements
Deferred income taxes	**4,056**	3,718	338	An overall increase in temporary differences between the accounting and tax basis of assets and liabilities, including employee benefit plan re-measurements recorded in Other comprehensive income.
Owners' equity				
Common equity	**15,116**	12,040	3,076	See *Consolidated statements of changes in owners' equity* in the Consolidated financial statements
Non-controlling interests	**943**	528	415	See *Consolidated statements of changes in owners' equity* in the Consolidated financial statements.

7. Liquidity and capital resources

This section contains forward-looking statements, including those with respect to our TELUS Corporation Common Share (Common Share) dividend payout ratio and net debt to EBITDA – excluding restructuring and other costs ratio. See *Caution regarding forward-looking statements* at the beginning of this MD&A.

7.1 Overview

Our capital structure financial policies and financing and capital structure management plans are described in *Section 4.3*.

Cash flows

Years ended December 31 ($ millions)	**2021**	2020	Change
Cash provided by operating activities	**4,388**	4,574	(186)
Cash used by investing activities	**(5,466)**	(6,165)	(699)
Cash provided by financing activities	**953**	1,904	(951)
Increase (decrease) in Cash and temporary investments, net	**(125)**	313	(438)
Cash and temporary investments, net, beginning of period	**848**	535	313
Cash and temporary investments, net, end of period	**723**	848	(125)

7.2 Cash provided by operating activities

Analysis of changes in cash provided by operating activities

Years ended December 31 ($ millions)	**2021**	2020	Change
Operating revenues and other income (see *Section 5.3*)	**17,258**	15,463	1,795
Goods and services purchased (see *Section 5.3*)	**(6,699)**	(6,268)	(431)
Employee benefits expense (see *Section 5.3*)	**(4,269)**	(3,701)	(568)
Restructuring and other costs, net of disbursements	**10**	35	(25)
Net employee defined benefit plans expense	**113**	102	11
Employer contributions to employee defined benefit plans	**(53)**	(51)	(2)
Share-based compensation expense, net of payments	**139**	27	112
Interest paid	**(744)**	(740)	(4)
Interest received	**17**	13	4
Income taxes paid, net of recoveries received	**(601)**	(430)	(171)
Gain on disposition of financial solutions business	**(410)**	—	(410)
Other operating working capital changes	**(373)**	124	(497)
Cash provided by operating activities	**4,388**	4,574	(186)

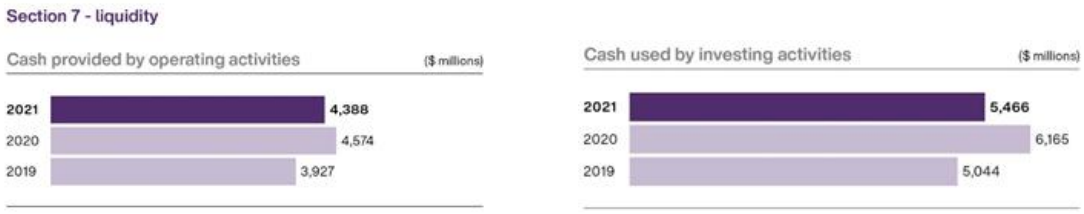
Cash provided by operating activities decreased by $186 million in 2021.

- Restructuring and other costs, net of disbursements, represented a net change of $25 million in 2021. We incurred lower restructuring and other costs disbursements net of expense, related to improving our overall cost structure and operational effectiveness.

- Share-based compensation expense, net of payments, represented a net change of $112 million in 2021 due to a shift to granting equity-settled restricted share units that started in fiscal 2019 and have now first vested during the year.

- Income taxes paid, net of recoveries received, increased by $171 million, largely due to taxes paid on the disposition of our financial solutions business, as well as higher income taxes paid related to our foreign operations.

- For additional details on the Gain on disposition of financial solutions business, see *Other income* in *Section 5.3*.
- For a discussion of Other operating working capital changes, see *Section 6 Changes in financial position* and *Note 31(a)* of the Consolidated financial statements.



7.3 Cash used by investing activities

Analysis of changes in cash used by investing activities

Years ended December 31 ($ millions)	**2021**	2020	Change
Cash payments for capital assets, excluding spectrum licences	**(3,097)**	(2,822)	(275)
Cash payments for spectrum licences	**(2,219)**	—	(2,219)
Cash payments for acquisitions, net	**(468)**	(3,205)	2,737
Advances to, and investment in, real estate joint ventures and associates	**(46)**	(100)	54
Real estate joint venture receipts	**4**	5	(1)
Proceeds on disposition	**508**	86	422
Investment in portfolio investments and other	**(148)**	(129)	(19)
Cash used by investing activities	**(5,466)**	(6,165)	699

Cash used by investing activities decreased by $699 million in 2021.

- The increase in Cash payments for capital assets, excluding spectrum licences in 2021 was primarily composed of:
  - An increase in capital expenditures of $723 million (see *Capital expenditure measures* table and discussion below).
  - Lower capital expenditure payments of $451 million in 2021 with respect to payment timing differences.
- Cash payments for spectrum licences are primarily related to the $1.95 billion for the 3500 MHz spectrum acquired in the 2021 spectrum auction further described *in Section 1.3*. Additionally, in the first quarter of 2021, we acquired 3500 MHz spectrum licences in the urban cores of Edmonton, Guelph/Kitchener, London, Ottawa and Winnipeg, as well as in East Kootenay and Whistler. In the second quarter of 2021, we acquired a 2500 MHz licence in the urban core of Calgary.
- In 2021, we made cash payments for Blacksmith Applications Holdings Inc. as noted in *Section 1.3*, as well as other individually immaterial business acquisitions that are complementary to our existing lines of business. This is compared to a higher number of business acquisitions in 2020 that included Competence Call Center (CCC) (since rebranded as TELUS International Northern Europe or TINE and comprised substantially of CCC), Mobile Klinik, AFS, EQ Care and Lionbridge AI, in addition to other individually immaterial business acquisitions complementary to our existing lines of business.
- Advances to, and investment in, real estate joint ventures and associates represented a net change of $54 million, predominantly related to higher investments in the first quarter of 2020.

- Proceeds on disposition increased by $422 million in 2021 primarily due to the disposition of our financial solutions business described in *Section 1.3*, partly offset by the non-recurrence on the sale of certain assets in the third quarter of 2020.



Capital expenditure measures

Years ended December 31 ($ millions, except capital intensity)	**2021**	2020	Change
Capital expenditures[1]			
TELUS technology solutions (TTech) segment	**3,372**	2,675	26.1 %
Digitally-led customer experiences – TELUS International (DLCX) segment	**126**	100	26.0 %
Consolidated	**3,498**	2,775	26.1 %
TTech segment capital expenditure intensity[2] (%)	**23**	20	3 pts.
DLCX segment capital expenditure intensity[2] (%)	**5**	4	1 pt.
Consolidated capital expenditure intensity[2] (%)	**20**	18	2 pts.

1 Capital expenditures include assets purchased, excluding right-of-use lease assets, but not yet paid for, and therefore differ from Cash payments for capital assets, excluding spectrum licences, as reported in the Consolidated statements of cash flows. Refer to *Note 31* of the Consolidated financial statements for further information.

2 See *Section 11.1 Non-GAAP and other specified financial measures*.

Consolidated capital expenditures increased by $723 million in 2021. TTech drove $697 million of the increase in 2021, primarily due to accelerated investments in our 5G network, broadband build, enhanced product development, and digitization to increase system capacity and reliability as announced on March 25, 2021. In addition, we saw strong security subscriber growth, and advanced the purchase of customer equipment to mitigate supply chain risks and support subscriber growth. This was partly offset by reduced spend resulting from efficiencies in our 4G network. With our investments, we are advancing the mobile speeds and coverage of our expanding 5G network, continuing to connect additional homes and businesses directly to our fibre-optic technology, enhancing products, and supporting system reliability and operational efficiency and effectiveness efforts. These investments also support our internet, TV and security subscriber growth, address our customers' demand for faster internet speeds, and extend the reach and functionality of our business, as well as our healthcare and agriculture solutions. By December 31, 2021, our 5G network covered over 26.2 million Canadians, representing 70% of the population.

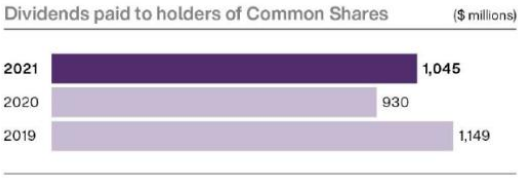
On March 25, 2021, we announced that we intended to accelerate up to $750 million of capital spending in 2021. $708 million of accelerated capital had been invested throughout 2021, to advance our fibre build and 5G coverage. This spend has enabled: (i) additional premises to be connected to our fibre network; (ii) acceleration of our copper to fibre migration program; (iii) expansion of the number of communities we are bringing fibre to, including many rural and Indigenous communities; (iv) advancement of our 5G network build, which covered 70% of the Canadian population at December 31, 2021; and (v) progress in the implementation of our digital strategy and enhancing products that will bolster both top-line revenue growth and operating expense efficiency.

7.4 Cash provided by financing activities

Analysis of changes in cash provided by financing activities

Years ended December 31 ($ millions)	**2021**	2020	Change
Common Shares issued	**1,300**	1,495	(195)
Dividends paid to holders of Common Shares	**(1,045)**	(930)	(115)
Issue (repayment) of short-term borrowings, net	**10**	(8)	18
Long-term debt issued	**4,891**	4,882	9
Redemptions and repayment of long-term debt	**(4,972)**	(3,863)	(1,109)
Shares of subsidiary issued and sold to non-controlling interests, net	**827**	400	427
Other	**(58)**	(72)	14
Cash provided by financing activities	**953**	1,904	(951)

Cash provided by financing activities decreased by $951 million in 2021.



Common Shares issued

Common Shares issued reflect 51 million Common Shares issued at a price of $25.35 per Common Share in the first quarter of 2021 as described in *Section 1.3 Equity offering*. This is compared to 58 million Common Shares issued at a price of $26.00 in the first quarter of 2020.

Dividends paid to holders of Common Shares

Our dividend reinvestment and share purchase (DRISP) plan trustee acquired shares from Treasury for the DRISP plan, rather than acquiring Common Shares in the stock market. Effective with the dividends paid on October 1, 2019, we offered Common Shares from Treasury at a discount of 2%. Cash payments for dividends increased by $115 million in 2021, which reflected higher dividend rates under our dividend growth program (see *Section 4.3*) and an increase in the number of shares outstanding. This was partly offset by a higher discounted DRISP issuance. During 2021, our DRISP plan trustee acquired Common Shares for $620 million.

In January 2022, we paid dividends of $293 million to the holders of Common Shares and the trustee acquired dividend reinvestment Common Shares from Treasury for $156 million, totalling $449 million.

Issue (repayment) of short-term borrowings, net

There were no material draws or repayments in the current or previous year, with the exception of the first quarter of 2020, when we drew down and repaid $200 million advanced to us from an arm's-length securitization trust.

Long-term debt issued and redemptions and repayment of long-term debt

In 2021, long-term debt issued increased by $9 million, while redemptions and repayment of long-term debt increased by $1,109 million. These changes were primarily composed of:

- A net increase in commercial paper outstanding, including foreign exchange effects, of $372 million to a balance of $1.9 billion (US$1.5 billion) at December 31, 2021, from a balance of $731 million (US$574 million) at December 31, 2020. Our commercial paper program, when utilized, provides low-cost funds and is fully backstopped by the revolving credit facility (see *Section 7.6 Credit facilities*).

- A decrease in net draws on the TELUS International (TI) credit facility, including foreign exchange effects, of $742 million. As at December 31, 2021, net draws due to a syndicate of financial institutions (excluding TELUS Corporation) were US$854 million, whereas as at December 30, 2020, net draws were US$1,428 million. The reduction in TI credit facility indebtedness was facilitated by the net proceeds of the TI initial public offering (IPO) (see *Note 28(c)* of the Consolidated financial statements). The TI credit facility is non-recourse to TELUS Corporation.

- The April 5, 2021 issue of $500 million of senior unsecured 4.10% Notes, Series CAE, due April 5, 2051. The net proceeds from this offering were used to fund the repayment upon maturity of the Series 3, 10.65% debentures of TELUS Communications Inc. (TCI) due June 2021, the repayment of commercial paper and for general corporate purposes.

- The June 28, 2021 issue of $750 million of our inaugural senior unsecured 2.85% Sustainability-Linked Notes, Series CAF, due November 13, 2031. The net proceeds were used for the repayment of outstanding indebtedness, including the repayment of commercial paper, and for other general corporate purposes.

- The repayment upon maturity of Series 3, 10.65% debentures of TCI due June 2021.

- The early full redemption of $1 billion of 2.35% Notes, Series CT, due March 28, 2022. The long-term debt prepayment premium recorded in the three-month period ended September 30, 2021 was $10 million before income taxes.

In comparison, in 2020, long-term debt issued decreased by $2,823 million while redemptions and repayment of long-term debt decreased by $1,398 million. These changes were primarily composed of:

- A net decrease in commercial paper outstanding, including foreign exchange effects, of $284 million from a balance of $1,015 million (US$781 million) at December 31, 2019.

- An increase in net draws on the TI credit facility, including foreign exchange effects, of $1,373 million. As at December 31, 2019, net draws were US$336 million.

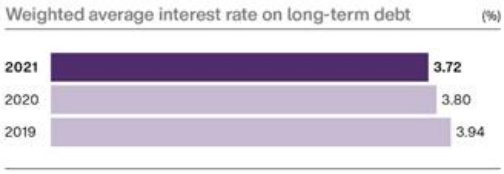
- The May 29, 2020 issues of $600 million of senior unsecured 2.35% Notes, Series CAC, due January 27, 2028, and $400 million through the re-opening of the 3.95% Notes, Series CAB, due February 16, 2050. The net proceeds of this offering were used for the early full redemptions of the $400 million 3.60% Notes, Series CM, due January 26, 2021 and the $500 million 3.20% Notes, Series CO, due April 5, 2021, as well as for general corporate purposes. The total long-term debt prepayment premium for the $400 million Series CM and $500 million Series CO notes redemptions was $18 million before income taxes.

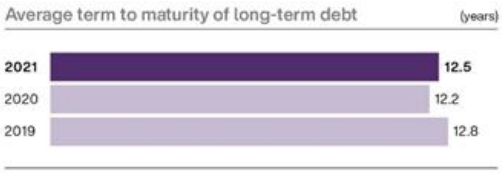
- The October 5, 2020 issue of $500 million of senior unsecured 2.05% Notes, Series CAD, due October 7, 2030.

- In connection with our acquisitions of CCC and AFS, we repaid other long-term debt acquired of $185 million and $118 million, respectively.

The average term to maturity of our long-term debt (excluding commercial paper, the revolving component of the TI credit facility, lease liabilities and other long-term debt) was 12.5 years at December 31, 2021, an increase from 12.2 years at December 31, 2020.

Additionally, the weighted average cost of our long-term debt (excluding commercial paper, the revolving component of the TI credit facility, lease liabilities and other long-term debt) was 3.72% at December 31, 2021, a decrease from 3.80% at December 31, 2020.





Shares of subsidiary issued and sold to non-controlling interests, net

In connection with the TI IPO described in *Section 1.3*, we received net cash proceeds of $827 million in the first quarter of 2021 (see *Note 28(c)* of the Consolidated financial statements). Also in 2020, TI issued shares to non-controlling interests related to its acquisitions of CCC and Lionbridge AI.

Other

In the second quarter of 2021, we incurred debt issuance costs in connection with the issuance of 4.10% Notes, Series CAE and 2.85% Sustainability-Linked Notes, Series CAF. In connection with our issuance of 51 million Common Shares in the first quarter of 2021, we incurred certain equity issuance costs. In the first quarter of 2020, we also incurred certain equity issuance costs in connection with our issue of 58 million Common Shares.

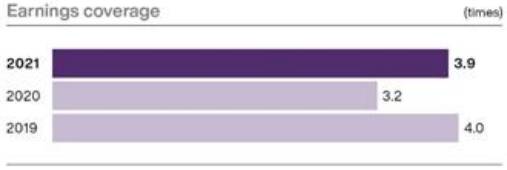
7.5 Liquidity and capital resource measures

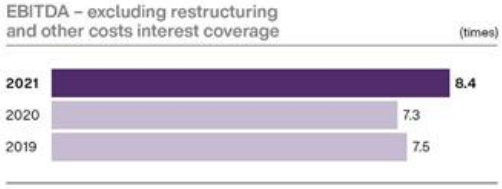
Net debt was $20.5 billion at December 31, 2021, an increase of $709 million compared to one year earlier, resulting mainly from an increase in commercial paper outstanding, and the second quarter 2021 issuances of $500 million of Series CAE notes and $750 million of Series CAF Sustainability-Linked Notes as described in *Section 7.4* as well as lower Cash and temporary investments. These factors were partially offset by the early redemption of Series CT notes described in *Section 7.4*, and the repayment upon maturity of Series 3, 10.65% debentures of TCI.

Fixed-rate debt as a proportion of total indebtedness, which excludes lease liabilities and other long-term debt, was 87% as at December 31, 2021, down from 89% one year earlier. This was mainly due to: (i) an increase in commercial paper outstanding, which is classified as floating-rate debt in this calculation; (ii) the early redemption of Series CT notes; and (iii) the repayment upon maturity of Series 3, 10.65% debentures of TCI. These factors were partially offset by: (i) a decrease in net draws due to a syndicate of financial institutions (excluding TELUS Corporation) on the TI credit facility, which is non-recourse to TELUS Corporation; and (ii) the second quarter 2021 issuances of $500 million of Series CAE notes and $750 million of Series CAF Sustainability-Linked Notes.

Net debt to EBITDA – excluding restructuring and other costs ratio was 3.17 times, as measured at December 31, 2021, down from 3.45 times one year earlier. Our long-term objective for this measure is within a range of 2.20 to 2.70 times, which we believe is consistent with maintaining investment grade credit ratings in the range of BBB+, or the equivalent, and providing reasonable access to capital. As at December 31, 2021, this ratio remains outside of the long-term objective range resulting from prior issuances of incremental debt, primarily due to business acquisitions and the acquisition of spectrum licences, partially offset by growth in EBITDA – excluding restructuring and other costs. Fiscal 2021 EBITDA growth was reduced by impacts from the COVID-19 pandemic. As at December 31, 2021, the acquisition of spectrum licences increased the ratio by approximately 0.49 and business acquisitions over the past 12 months increased the ratio by approximately 0.05, while business dispositions decreased the ratio by approximately 0.26. Our recent acquisitions of spectrum licences have increased our national spectrum holdings and represent an investment to extend our network capacity to support continuing data consumption growth, as well as growth in our mobile subscriber base. Given the cash demands of the 2019 600 MHz, the recent 2021 3500 MHz and upcoming spectrum auctions, as well as the inability to predict impacts of the COVID-19 pandemic, the assessment of the guideline and return to the objective range remains to be determined; however, it is our intent to return to a ratio below 2.70 times in the medium term (following the recent 2021, and

upcoming 2023 and 2024, spectrum auctions), consistent with our long-term strategy. While this ratio exceeds our long-term objective range, we are well in compliance with the leverage ratio covenant in our credit facilities, which states that we may not permit our leverage ratio to exceed 4.25 to 1.00 at September 30, 2021 (see *Section 7.6 Credit facilities*).





Liquidity and capital resource measures

As at, or for the 12-month periods ended, December 31	**2021**	2020	Change
Components of debt and coverage ratios[1] ($ millions)			
Net debt	**20,535**	19,826	709
EBITDA – excluding restructuring and other costs	**6,476**	5,753	723
Net interest cost	**773**	792	(19)
Debt ratios			
Fixed-rate debt as a proportion of total indebtedness (excluding lease liabilities and other long-term debt) (%)	**87**	89	(2) pts.
Average term to maturity of long-term debt (excluding commercial paper, the revolving component of the TI credit facility, lease liabilities and other long-term debt) (years)	**12.5**	12.2	0.3
Weighted average interest rate on long-term debt (excluding commercial paper, the revolving component of the TI credit facility, lease liabilities and other long-term debt) (%)	**3.72**	3.80	(0.08) pts.
Net debt to EBITDA – excluding restructuring and other costs [1] (times)	**3.17**	3.45	(0.28)
Coverage ratios[1] (times)			
Earnings coverage	**3.9**	3.2	0.7
EBITDA – excluding restructuring and other costs interest coverage	**8.4**	7.3	1.1
Other measures[1] (%)			
Determined using most comparable IFRS-IASB measures			
Ratio of Common Share dividends declared to cash provided by operating activities less capital expenditures (excluding spectrum licences)	**192**	84	108 pts.
Determined using management measures			
Common Share dividend payout ratio – net of dividend reinvestment plan effects	**140**	67	73 pts.

1 See *Section 11.1 Non-GAAP and other specified financial measures*.

Earnings coverage ratio for the 12-month period ended December 31, 2021 was 3.9 times, up from 3.2 times one year earlier. An increase in income before borrowing costs and income taxes increased the ratio by 0.7; the gain on the disposition of our financial solutions business in the fourth quarter of 2021 contributed to EBITDA growth.

EBITDA – excluding restructuring and other costs interest coverage ratio for the 12-month period ended December 31, 2021 was 8.4 times, up from 7.3 times one year earlier. Growth in EBITDA – excluding restructuring and other costs increased the ratio by 0.9 and a decrease in net interest costs increased the ratio by 0.2.

Common Share dividend payout ratios: Actual Common Share dividend payout decisions will continue to be subject to our Board's assessment of our financial position and outlook, as well as our long-term Common Share dividend payout objective range of 60 to 75% of prospective free cash flow. So as to be consistent with the way we manage our business, our Common Share dividend payout ratio is presented as a historical measure calculated as the sum of the most recent four quarters' dividends declared for

Common Shares, as recorded in the financial statements, net of dividend reinvestment plan effects, divided by the sum of the most recent four quarters' free cash flow amounts for interim reporting periods. For fiscal years, the denominator is annual free cash flow. The historical measure for the 12-month period ended December 31, 2021 is presented for illustrative purposes in evaluating our target guideline. As at December 31, 2021, the ratio was outside of the objective range, primarily due to: (i) our planned accelerated capital expenditures program to support our broadband capital investments, the build-out of our TELUS PureFibre infrastructure and the acceleration of our 5G network roll-out; and (ii) the fiscal 2021 impact of the pandemic. Excluding the effects of our accelerated capital expenditures program, as at December 31, 2021, the ratio was 73%.

TI intends to retain all available funds and any future earnings to support operations and to finance the growth and development of its business.

7.6 Credit facilities

At December 31, 2021, we had $850 million of liquidity available from the TELUS revolving credit facility and $833 million of liquidity available from the TI credit facility with a syndicate of financial institutions (excluding TELUS Corporation). In addition, we had $500 million available under our trade receivables securitization program (see *Section 7.7 Sale of trade receivables*). We are well within our objective of generally maintaining at least $1.0 billion of available liquidity.

TELUS revolving credit facility

We have a $2.75 billion (or U.S. dollar equivalent) unsecured revolving credit facility with a syndicate of financial institutions, expiring April 6, 2026. The revolving credit facility is used for general corporate purposes, including the backstop of commercial paper, as required.

TELUS revolving credit facility at December 31, 2021

($ millions)	Expiry	Size	Drawn	Outstanding undrawn letters of credit	Backstop for commercial paper program	Available liquidity
Revolving credit facility[1]	April 6, 2026	2,750	—	—	(1,900)	850

1 Canadian dollars or U.S. dollar equivalent.

Our revolving credit facility contains customary covenants, including a requirement that we not permit our consolidated leverage ratio to exceed 4.25 to 1.00 and that we not permit our consolidated coverage ratio to be less than 2.00 to 1.00 at the end of any financial quarter. As at December 31, 2021, our consolidated leverage ratio was 3.17 to 1.00 and our consolidated coverage ratio was 8.38 to 1.00. These ratios are expected to remain well within the covenants. There are certain minor differences in the calculation of the leverage ratio and coverage ratio under the revolving credit facility, as compared with the calculation of Net debt to EBITDA – excluding restructuring and other costs and EBITDA – excluding restructuring and other costs interest coverage. Historically, the calculations have not been materially different. The covenants are not impacted by revaluation, if any, of Property, plant and equipment, Intangible assets or Goodwill for accounting purposes. Continued access to our credit facilities is not contingent on maintaining a specific credit rating

Commercial paper

TELUS Corporation has an unsecured commercial paper program, which is backstopped by our revolving credit facility, enabling us to issue commercial paper up to a maximum aggregate amount at any one time of $1.9 billion equivalent (US$1.5 billion maximum) as at December 31, 2021. Foreign currency forward contracts are used to manage currency risk arising from issuing commercial paper denominated in U.S. dollars. The commercial paper program is to be used for general corporate purposes, including, but not limited to, capital expenditures and investments. Our ability to reasonably access the commercial paper market in the U.S. is dependent on our credit ratings (see *Section 7.8 Credit ratings*).

TELUS International credit facility

As at December 31, 2021, TELUS International (Cda) Inc. had a credit facility, secured by its assets, expiring on January 28, 2025, with a syndicate of financial institutions and, joined in 2020, by TELUS Corporation. The TI credit facility is comprised of US$620 million (TELUS Corporation as an approximately 7.5% lender) and US$230 million (TELUS Corporation as a 12.5% lender) revolving components and amortizing US$600 million (TELUS Corporation as 12.5% lender) and US$250 million term loan components. The TI credit facility is non-recourse to TELUS Corporation. The outstanding revolving components and term loan components had a weighted average interest rate of 1.88% as at December 31, 2021.

The term loan components are subject to an amortization schedule which requires that 5% of the principal advanced be repaid each year of the term of the agreement, with the balance due at maturity and December 22, 2022, for the US$250 million component, respectively.

Other letter of credit facilities

At December 31, 2021, we had $193 million of letters of credit outstanding issued under various uncommitted facilities; such letter of credit facilities are in addition to the ability to provide letters of credit pursuant to our committed bank credit facility. Available liquidity under various uncommitted letters of credit facilities was $117 million at December 31, 2021. Further, we had arranged $359 million of incremental letters of credit to allow us to participate in Innovation, Science and Economic Development Canada's 3500 MHz band spectrum auction that was held in June-July 2021, as further described in *Note 18(a)* of the Consolidated financial statements. Concurrent with funding the purchase of the spectrum licences, these incremental letters of credit were extinguished.

Other long-term debt

Other liabilities bear interest at 3.19%, are secured by the AWS-4 spectrum licences associated with these other liabilities and a real estate holding, and are subject to amortization schedules, so that the principal is repaid over the periods to maturity, the last period ending March 31, 2035.

7.7 Sale of trade receivables

TCI, a wholly owned subsidiary of TELUS, is a party to an agreement with an arm's-length securitization trust associated with a major Schedule I Canadian bank, under which it is currently able to sell an interest in certain trade receivables for an amount up to a maximum of $600 million. The agreement is in effect until December 31, 2024, and available liquidity was $500 million as at December 31, 2021. (See *Note 22* of the Consolidated financial statements.) Sales of trade receivables in securitization transactions are recognized as collateralized Short-term borrowings and thus do not result in our de-recognition of the trade receivables sold.

TCI is required to maintain a credit rating of at least BB by DBRS Ltd. or the securitization trust may require the sale program to be wound down prior to the end of the term. The minimum credit rating was exceeded as of February 10, 2022.

7.8 Credit ratings

There were no changes to our investment grade credit ratings during 2021 or as of February 10, 2022. We believe adherence to most of our stated financial policies (see *Section 4.3*), coupled with our efforts to maintain a constructive relationship with banks, investors and credit rating agencies, continue to provide reasonable access to capital markets. (See discussion of risks in *Section 10.14 Financing, debt and dividends*.)

7.9 Financial instruments, commitments and contingent liabilities

Financial instruments

Our financial instruments, their accounting classification and the nature of certain risks that they may be subject to are described in *Note 4* of the Consolidated financial statements. Our policies in respect of the recognition and measurement of financial instruments are described in *Note 1(c)* of the Consolidated financial statements.

		Risks				
				Market risks		
Financial instrument	Accounting classification	Credit	Liquidity	Currency	Interest rate	Other price
Measured at amortized cost						
Accounts receivable	AC[1]	X		X		
Contract assets	AC[1]	X				
Construction credit facilities advances to real estate joint venture	AC[1]				X	
Short-term borrowings	AC[1]		X	X	X	
Accounts payable	AC[1]		X	X		
Provisions (including restructuring accounts payable)	AC[1]		X	X		X
Long-term debt	AC[1]		X	X	X	
Measured at fair value						
Cash and temporary investments	FVTPL[2]	X		X	X	
Long-term investments (not subject to significant influence)[3]	FVTPL/FVOCI[3]			X		X
Foreign exchange derivatives[4]	FVTPL[2]	X	X	X		

1 For accounting recognition and measurement purposes, classified as amortized cost (AC).

2 For accounting recognition and measurement purposes, classified as fair value through net income (FVTPL). *Unrealized* changes in the fair values of financial instruments are included in net income unless the instrument is part of a cash flow hedging relationship. The effective portions of *unrealized* changes in the fair values of financial instruments held for hedging are included in other comprehensive income.

3 Long-term investments over which we do not have significant influence are measured at fair value if those fair values can be reliably measured. For accounting recognition and measurement purposes, on an investment-by-investment basis, long-term investments are classified as either fair value through net income or fair value through other comprehensive income (FVOCI).

4 Use of derivative financial instruments is subject to a policy which requires that no derivative transaction is to be entered into for the purpose of establishing a speculative or leveraged position (the corollary being that all derivative transactions are to be entered into for risk management purposes only) and sets criteria for the creditworthiness of the transaction counterparties.

Derivatives that are part of an established and documented cash flow hedging relationship are accounted for as held for hedging. We believe that classification as held for hedging results in a better matching of the change in the fair value of the derivative financial instrument with the risk exposure being hedged.

In respect of hedges of anticipated transactions, hedge gains/losses are included with the related expenditure and are expensed when the transaction is recognized in our results of operations. We have selected this method as we believe that it results in a better matching of the hedge gains/losses with the risk exposure being hedged.

Derivatives that are not part of a documented cash flow hedging relationship are accounted for as held for trading and thus are measured at fair value through net income.

Liquidity risk

As a component of our capital structure financial policies, discussed in *Section 4.3 Liquidity and capital resources* , we manage liquidity risk by: maintaining a daily cash pooling process that enables us to manage our available liquidity and our liquidity

requirements according to our actual needs; maintaining an agreement to sell trade receivables to an arm's-length securitization trust; maintaining bilateral bank facilities and syndicated credit facilities; maintaining a commercial paper program; maintaining an in-effect shelf prospectus; continuously monitoring forecast and actual cash flows; and managing maturity profiles of financial assets and financial liabilities.

As at December 31, 2021, TELUS Corporation could offer $2.75 billion of debt or equity securities pursuant to a shelf prospectus that is in effect until June 2023.

As at December 31, 2021, we had $850 million of liquidity available from the TELUS revolving credit facility and $833 million of liquidity available from the TI credit facility with a syndicate of financial institutions (excluding TELUS Corporation) (see *Section 7.6 Credit facilities*), as well as $500 million available under our trade receivables securitization program (see *Section 7.7 Sale of trade receivables*). Excluding the TI credit facility and including cash and temporary investments of $723 million, we had available liquidity of approximately $2.1 billion at December 31, 2021 (see *Section 11.1 Non-GAAP and other specified financial measures*). This adheres to our objective of generally maintaining at least $1 billion of available liquidity. We believe that our investment grade credit ratings contribute to reasonable access to capital markets.

Refer to *Note 4* of the Consolidated financial statements for further information regarding our financial instruments.

Commitments and contingent liabilities

Contractual obligations as at December 31, 2021

($ millions)	2022	2023	2024	2025	2026	2027 - 2031	Thereafter	Total
Short-term borrowings								
Interest obligations	1	1	1	—	—	—	—	3
Principal obligations[1]	14	—	100	—	—	—	—	114
	15	1	101	—	—	—	—	117
Long-term debt								
Interest obligations	630	601	572	526	481	1,793	4,251	8,854
Principal maturities	2,500	566	1,152	1,691	1,420	5,558	6,248	19,135
	3,130	1,167	1,724	2,217	1,901	7,351	10,499	27,989
Leases								
Interest obligations	67	53	44	36	29	86	65	380
Principal maturities	437	311	261	140	115	312	279	1,855
	504	364	305	176	144	398	344	2,235
Occupancy costs[2]	117	111	95	75	61	124	61	645
Purchase obligations[3]								
Operating expenditures	943	210	221	237	233	820	7	2,671
Property, plant and equipment, and Intangible assets	597	3	—	—	—	—	—	600
	1,540	213	221	237	233	820	7	3,271
Non-interest bearing financial liabilities	3,395	62	13	14	2	7	—	3,493
Other obligations	23	(1)	(1)	18	2	68	72	181
Total	8,724	1,917	2,458	2,737	2,343	8,768	10,983	37,931

1 See *Section 7.7 Sale of trade receivables*.

2 Occupancy costs include transactions with real estate joint ventures. See *Section 7.11 Transactions between related parties.*

3 Where applicable, purchase obligations reflect foreign exchange rates at December 31, 2021. Purchase obligations include future operating and capital expenditures that have been contracted for at the current year-end and include the most likely estimates of prices and volumes, where necessary. As purchase obligations reflect market conditions at the time the obligation was incurred for the items being purchased, they may not be representative of future years. Obligations from personnel supply contracts and other such labour agreements have been excluded.

Claims and lawsuits

A number of claims and lawsuits (including class actions and intellectual property infringement claims) seeking damages and other relief are pending against us and, in some cases, other mobile carriers and telecommunications service providers. As well, we have received notice of, or are aware of, certain possible claims (including intellectual property infringement claims) against us and, in some cases, other mobile carriers and telecommunications service providers. (See the related risk discussion in *Section 10.17 Litigation and legal matters*.)

It is not currently possible for us to predict the outcome of such claims, possible claims and lawsuits due to various factors, including: the preliminary nature of some claims; uncertain damage theories and demands; an incomplete factual record; uncertainty concerning legal theories and procedures and their resolution by the courts, at both the trial and the appeal levels; and the unpredictable nature of opposing parties and their demands.

However, subject to the foregoing limitations, management is of the opinion, based upon legal assessments and information presently available, that it is unlikely that any liability, to the extent not provided for through insurance or otherwise, would have a material effect on our financial position and the results of our operations, including cash flows, with the exception of the items disclosed in *Note 29(a)* of the Consolidated financial statements. This is a significant judgment for us (see *Section 8.1 Critical accounting estimates and judgments*).

Indemnification obligations

In the normal course of operations, we provide indemnification in conjunction with certain transactions. The terms of these indemnification obligations range in duration. These indemnifications would require us to compensate the indemnified parties for costs incurred as a result of failure to comply with contractual obligations, or litigation claims or statutory sanctions, or damages that may be suffered by an indemnified party. In some cases, there is no maximum limit on these indemnification obligations. The overall maximum amount of an indemnification obligation will depend on future events and conditions and therefore cannot be reasonably estimated. Where appropriate, an indemnification obligation is recorded as a liability. Other than obligations recorded as liabilities at the time of the related transactions, historically we have not made significant payments under these indemnifications.

As at December 31, 2021, we had no liability recorded in respect of our indemnification obligations.

7.10 Outstanding share information

Outstanding shares (millions)	December 31, 2021	January 31, 2022
Common Shares	1,370	1,376
Common Share options	3	3
Restricted share units – equity-settled	8	8

7.11 Transactions between related parties

Transactions with key management personnel

Our key management personnel have authority and responsibility for overseeing, planning, directing and controlling our activities and consist of our Board of Directors and our Executive Team. Total compensation expense for key management personnel was $99 million in 2021, compared to $62 million in 2020. The increase in compensation expense for key management personnel was primarily due to greater share-based compensation, which was largely related to liability-accounted awards that increased in value in the first quarter of 2021 and decreased in value in the comparative 2020 period and pension plan past service costs recorded in 2021. See *Note 30(a)* of the Consolidated financial statements for additional details.

Transactions with defined benefit pension plans

We provided management and administrative services to our defined benefit pension plans. Charges for these services were on a cost recovery basis and were immaterial.

Transactions with real estate joint venture and associates

In 2021, we had transactions with the TELUS Sky real estate joint venture, which is a related party to us, as set out in *Note 21* of the Consolidated financial statements. The new-build tower was completed in 2020.

For the TELUS Sky real estate joint venture, commitments and contingent liabilities include construction financing ($342 million, with Canadian financial institutions as 66-2/3% lender and TELUS as 33-1/3% lender) under a credit agreement maturing August 31, 2023. We have entered into lease agreements with the TELUS Sky real estate joint venture; for lease accounting purposes, the first lease commenced during the three-month period ended June 30, 2019.

8. Accounting matters

8.1 Critical accounting estimates and judgments

Our significant accounting policies are described in *Note 1* of the Consolidated financial statements for the year ended December 31, 2021. The preparation of financial statements in conformity with generally accepted accounting principles (GAAP) requires management to make estimates, assumptions and judgments that affect: the reported amounts of assets and liabilities at the date of the financial statements; the disclosure of contingent assets and liabilities at the date of the financial statements; and the reported amounts and classification of income and expense during the reporting period. Actual results could differ from those estimates. Our critical accounting estimates and significant judgments are generally discussed with the Audit Committee each quarter.

Refer to *Note 1* of the Consolidated financial statements for further information on our critical accounting estimates, including examples of the significant estimates and judgments that we make, and their relative significance and degree of difficulty, as illustrated in the graphic included in *Note 1*.

General

- In determining our critical accounting estimates, we consider trends, commitments, events or uncertainties that we reasonably expect to materially affect our methodology or assumptions. Our statements in this MD&A regarding such consideration are made subject to the *Caution regarding forward-looking statements*.

- In the normal course, we make changes to assumptions underlying all critical accounting estimates so that they reflect current economic conditions, updated historical information used to develop the assumptions, and changes in our credit ratings, where applicable. Unless indicated otherwise in the discussion below, we expect that no material changes in overall financial performance and financial statement line items would arise either from reasonably likely changes in material assumptions underlying the estimate or from selection of a different estimate from within a range of valid estimates.

- Our critical accounting estimates affect the Consolidated statements of income and other comprehensive income, and the Consolidated statements of financial position, as follows:

	Consolidated statements of income and other comprehensive income						
		Operating expenses					
Consolidated statements of financial position	Operating revenues and other income	Goods and services purchased	Employee benefits expense	Depreciation	Amortization of intangible assets	Financing costs	Employee defined benefit plans re-measurements[1]
Intangible assets, net, and Goodwill, net					X[2]		
Employee defined benefit pension plans			X	X[3]	X[3]	X	X
Property, plant and equipment, net				X			
Provisions for asset retirement obligations		X		X		X	
Provisions related to business combinations	X					X	
Investments	X						
Accounts receivable		X					
Contract assets	X	X					
Inventories		X					

1 Other comprehensive income – Item never subsequently reclassified to income.
2 Accounting estimate, as applicable to Intangible assets with indefinite lives relates to spectrum holdings.
3 Accounting estimate impact due to internal labour capitalization rates.

- All critical accounting estimates are uncertain at the time an estimate is made and affect the following Consolidated statements of income and other comprehensive income line items: Income taxes (except for estimates about Goodwill) and Net income. Similarly, all critical accounting estimates affect the following Consolidated statements of financial position line items: Current assets (Income and other taxes receivable), Current liabilities (Income and other taxes payable), Deferred income taxes and Common equity (retained earnings) and Non-controlling interests. The discussion of each critical accounting estimate does not differ between our two segments, TELUS technology solutions (TTech) and digitally-led customer experiences - TELUS International (DLCX), unless explicitly noted.

Intangible assets, net; Goodwill, net; and Property, plant and equipment, net

General

- The Intangible assets, net, line item represents approximately 36% of Total assets as at December 31, 2021 (35% as at December 31, 2020). Included in Intangible assets are spectrum licences, which represent approximately 25% of Total assets as at December 31, 2021 (23% as at December 31, 2020).

- The Goodwill, net, line item represents approximately 15% of Total assets as at December 31, 2021 and approximately 17% of Total assets as at December 31, 2020.

- The Property, plant and equipment, net, line item on our Consolidated statements of financial position represents approximately 33% of Total assets as at December 31, 2021 and approximately 35% of Total assets as at December 31, 2020.

- If our estimates of the useful lives of assets were incorrect and/or our estimates of the acquisition-date fair value of property, plant, equipment and intangible assets acquired in business combinations were incorrect, we could experience increased or decreased charges for amortization or depreciation in the future. If the future were to differ adversely from our best estimate of key economic assumptions and associated cash flows were to materially decrease, we could potentially experience future material impairment charges in respect of our Property, plant and equipment assets, Intangible assets or Goodwill. If Intangible assets with indefinite lives were determined to have finite lives at some point in the future, we could experience increased charges for amortization of Intangible assets. Such charges in and of themselves do not result in a cash outflow and would not immediately affect our liquidity.

The recoverability of Intangible assets with indefinite lives; *the recoverability of Goodwill*

- The carrying values of Intangible assets with indefinite lives and Goodwill are periodically tested for impairment, and this test represents a significant estimate for us.

- The recoverable amounts of the cash-generating units' assets have been determined based on a fair value less costs of disposal calculation. There is a material degree of uncertainty with respect to the estimates of the recoverable amounts of the cash-generating units' assets, given the necessity of making key economic assumptions about the future. The fair value less costs of disposal calculation uses future cash flows and growth projections; associated economic risk assumptions and estimates of the likelihood of achieving key operating metrics and drivers; estimates of future generational infrastructure capital expenditures; and the future weighted average cost of capital.

- See *Note 18(f)* of the Consolidated financial statements for further discussion of methodology and sensitivity testing.

The estimated useful lives of assets; the recoverability of tangible assets

- The estimated useful lives of most assets are determined by a continuing program of asset life studies. The recoverability of assets with finite lives is significantly impacted by the estimated useful lives of assets.

- Assumptions underlying the estimated useful lives of assets include the timing of technological obsolescence, competitive pressures and future infrastructure utilization plans.

Employee defined benefit pension plans

Certain actuarial and economic assumptions used in determining defined benefit pension costs, accrued pension benefit obligations and pension plan assets

- We review industry practices, trends, economic conditions and data provided by actuaries when developing assumptions used in the determination of defined benefit pension costs and accrued pension benefit obligations. Pension plan assets are generally valued using market prices; however, some assets are valued using market estimates when market prices are not readily available. Actuarial support is obtained for interpolations of experience gains and losses that affect the employee defined benefit plan actuarial gains and losses and accrued pension benefit obligations. The discount rate used to determine the accrued benefit obligation is based upon the yield on long-term, high-quality, fixed-term investments. The discount rate is set annually at the end of each calendar year, at a minimum, based upon yields on long-term corporate bond indices in consultation with actuaries. Future increases in compensation are based upon the current benefits policies and economic forecasts. We have examined our respective pension obligation and current service cost durations and observed an approximate 10-year difference in duration. As individual discount rates more accurately reflect the obligation and current service cost, commencing in 2016, we applied a dual discount rate methodology.

- On an annual basis, at a minimum, the defined benefit pension plan assumptions are assessed and revised as appropriate. Assumptions used in determining defined benefit pension costs, accrued pension benefit obligations and pension plan assets include life expectancy, discount rates, market estimates and rates of future compensation increases. Material changes in overall financial performance and financial statement line items would arise from reasonably likely changes in the material assumptions underlying this estimate, since certain assumptions may have been revised to reflect updated historical information and updated economic conditions. See *Note 15* of the Consolidated financial statements for further analysis.

- This accounting estimate related to employee defined benefit pension plans is in respect of components of the Operating expenses line item, Financing costs line item and Other comprehensive income line item on our Consolidated statements of income and other comprehensive income. If the future were to adversely differ from our best estimate of assumptions used in determining defined benefit pension costs, defined benefit obligations accrued and pension plan assets, we could experience future increased (or decreased) defined benefit pension expense, financing costs and charges to Other comprehensive income.

Income tax assets and liabilities

The amount and composition of income tax assets and income tax liabilities, including the amount of unrecognized tax benefits

- Assumptions underlying the composition of income tax assets and liabilities are based upon an assessment of the technical merits of tax positions. Income tax benefits on uncertain tax positions are recognized only when it is more likely than not that the ultimate determination of the tax treatment of a position will result in the related benefit being realizable; however, this does not mean that tax authorities cannot challenge these positions. Income tax assets and liabilities are measured at the amount that is expected to be realized or incurred upon ultimate settlement with taxation authorities. Such assessments are based upon the applicable income tax legislation, regulations, interpretations and jurisprudence, all of which in turn are subject to change and interpretation.

- Current income tax assets and liabilities are estimated based upon the amount of income tax that is calculated as being owed to taxation authorities, net of periodic instalment payments. Deferred income tax liabilities are composed of the tax effect of temporary differences between the carrying amount and tax basis of assets and liabilities, as well as the income tax effect of undeducted income tax losses. The timing of the reversal of temporary differences is estimated and the income tax rate substantively enacted for the periods of reversal is applied to the temporary differences. The carrying amounts of assets and liabilities are based upon the amounts recorded in the financial statements and are, therefore, subject to accounting estimates that are inherent in those balances. The tax basis of assets and liabilities, as well as the amount of undeducted income tax losses, is based upon the assessment and measurement of tax positions, as noted above. Assumptions as to the timing of reversal of temporary differences include expectations about the future results of operations and future cash flows. The composition of income tax liabilities is reasonably likely to change from period to period because of changes in the estimation of these significant uncertainties.

- This accounting estimate is in respect of material asset and liability line items on our Consolidated statements of financial position comprising less than 1% of Total assets as at December 31, 2021 and 2020, and approximately 9% of Total liabilities and owners' equity as at December 31, 2021 and 2020. If the future were to adversely differ from our best estimate of the likelihood of tax positions being sustained, the amount of tax expected to be incurred, the future results of operations, the timing of reversal of deductible temporary differences and taxable temporary differences, and the tax rates applicable to future years, we could experience material current income tax adjustments and deferred income tax adjustments. Such current and deferred income tax adjustments could result in an increase or acceleration of cash outflows at an earlier time than might otherwise be expected.

Provisions for asset retirement obligations

Certain economic assumptions used in provisioning for asset retirement obligations

- Asset retirement obligation provisions are recognized for statutory, contractual or legal obligations, normally when incurred, associated with the retirement of Property, plant and equipment (primarily certain items of outside plant and mobile site equipment) when those obligations result from the acquisition, construction, development and/or normal operation of the assets. The obligations are measured initially at fair value, determined using present value methodology, and the resulting costs are capitalized as a part of the carrying value of the related asset.

- On an annual basis, at a minimum, assumptions underlying the provisions for asset retirement obligations include expectations about inflation, discount rates and any changes in the amount or timing of the underlying future cash flows, which may span numerous decades. Material changes in financial position would arise from reasonably likely changes in the material assumptions underlying this estimate, since certain assumptions may have been revised to reflect updated historical information and updated economic conditions. The capitalized asset retirement cost is depreciated on the same basis as the related asset, and the discount accretion is included in the Consolidated statements of income and other comprehensive income as a component of Financing costs.

- This accounting estimate is in respect of the asset retirement obligations component of the Provisions line item on our Consolidated statements of financial position, and this component comprises approximately 1% of Total liabilities and owners' equity as at December 31, 2021 (2% as at December 31, 2020). If the provisions for asset retirement obligations were to be inadequate, we could experience a charge to Goods and services purchased in the future. A charge for an inadequate asset retirement obligation provision would result in a cash outflow proximate to the time that the asset retirement obligation is satisfied.

Provisions related to business combinations

Provisions for written put options

- In connection with certain business acquisitions, we have established provisions for written put options in respect of non-controlling interests. We provide written put options to the remaining selling shareholders under which they could put the remaining non-controlling interests at, or after, a specified date. The acquisition-date fair values of the puttable shares held by the non-controlling shareholders are recorded as provisions.

- On an annual basis, at a minimum, the provisions for written put options are assessed and revised as appropriate. The provisions for written put options have been determined based on the net present values of estimated future earnings results; there is a material degree of uncertainty with respect to the estimates of future earnings results, given the necessity of making significant economic assumptions about the future. The amounts of provisions for written put options are reasonably likely to change from period to period because of changes in the estimation of future earnings and foreign exchange rate movements.

- This accounting estimate is in respect of the provisions for written put options related to the non-controlling interests component of the Provisions line item on our Consolidated statements of financial position, and this component comprises less than 1% of Total liabilities and owners' equity as at December 31, 2021 and 2020. If the provisions for written put options were to be inadequate, we could experience a charge to Other income in the future. A charge for an inadequate written put option provision would result in a cash outflow proximate to the time that the written put option is exercised.

Investments

The recoverability of long-term investments

- We assess the recoverability of our long-term investments on a regular, recurring basis. The recoverability of investments is assessed on a specific-identification basis, taking into consideration expectations about future performance of the investments and comparison of historical results to past expectations.

- The most significant assumptions underlying the recoverability of long-term investments are related to the achievement of future cash flow and operating expectations. Our estimate of the recoverability of long-term investments could change from period to period due to the recurring nature of the recoverability assessment and due to the nature of long-term investments (we do not control the investees).

- Investments are included in the Other long-term assets line item on our Consolidated statements of financial position, which itself comprises approximately 4% of Total assets as at December 31, 2021 (2020 – 3%). If the allowance for recoverability of long-term investments were to be inadequate, we could experience an increased charge to Other income or Other comprehensive income depending on the financial asset classification. Such a provision for recoverability of long-term investments does not result in a cash outflow.

Accounts receivable

General

- When determining our allowance for doubtful accounts, we consider the business area that gave rise to the Accounts receivable, conduct a statistical analysis of portfolio delinquency trends and perform specific account identification.

- These accounting estimates are in respect of the Accounts receivable line item and the Unbilled customer finance receivables line within the Other long-term assets line item on our Consolidated statements of financial position, which together comprise approximately 7% of Total assets as at December 31, 2021 (6% as at December 31, 2020). If the future were to differ adversely from our best estimates of the fair value of the residual cash flows and the allowance for doubtful accounts, we could experience an increase in doubtful accounts expense in the future. Such doubtful accounts expense in and of itself does not result in a cash outflow.

The allowance for doubtful accounts

- The estimate of our allowance for doubtful accounts could materially change from period to period because the allowance is a function of the balance and composition of Accounts receivable, which can vary on a month-to-month basis. The variability of the balance of Accounts receivable arises from the variability of the amount and composition of Operating revenues and other income and from the variability of Accounts receivable collection performance.

Contract assets

General

- We maintain allowances for lifetime expected credit losses related to contract assets. Current economic conditions, historical information (including credit agency reports, if available), and the line of business from which the contract asset arose are all considered when determining impairment allowances. The same factors are considered when determining whether to write off amounts charged to the impairment allowance for contract assets against contract assets.

The impairment allowance

- These accounting estimates are in respect of the Contract assets line items on our Consolidated statements of financial position, which comprise approximately 2% of Total assets as at December 31, 2021 and 2020. If the future were to differ adversely from our best estimates of the fair value of the residual cash flows and the impairment allowance for contract assets, we could experience an increase in the impairment allowance for contract assets against contract assets in the future. Such impairment allowance in and of itself does not result in a cash outflow.

Inventories

The allowance for inventory obsolescence

- We determine our allowance for inventory obsolescence based upon expected inventory turnover, inventory aging, and current and future expectations with respect to product offerings.
- Assumptions underlying the allowance for inventory obsolescence include future sales trends and offerings and the expected inventory requirements and inventory composition necessary to support these future offerings. Our estimate of the allowance for inventory obsolescence could change materially from period to period due to changes in product offerings and the level of consumer acceptance of those products.
- This accounting estimate is in respect of the Inventories line item on our Consolidated statements of financial position, which comprises approximately 1% of Total assets as at December 31, 2021 and 2020. If the allowance for inventory obsolescence were to be inadequate, we could experience a charge to Goods and services purchased in the future. Such an inventory obsolescence charge does not result in a cash outflow.

8.2 Accounting policy developments

Refer to *Note 2* of the Consolidated financial statements for a description of current and future changes in accounting policies, including:

- Initial application of standards, interpretations and amendments to standards and interpretations in the reporting period.
- Standards, interpretations and amendments to standards and interpretations in the reporting period not yet effective and not yet applied.

9. General trends, outlook and assumptions, and regulatory developments and proceedings

This section contains forward-looking statements, which should be read together with the *Caution regarding forward-looking statements* at the beginning of this MD&A.

9.1 Telecommunications industry in 2021

We estimate that Canadian telecommunications industry revenues (including TV revenue and excluding equipment and media revenue) grew by approximately 3%. Mobile and data services continue to drive ongoing industry growth. Additionally, consumer communications and data consumption behaviours continue to demonstrate a strong preference for data-rich applications and data-intensive devices, including smartphones and tablets. However, this year and similar to 2020, revenue growth across the telecommunications industry was limited by the impacts of the global pandemic and in particular roaming revenue due to travel restrictions and changing consumer behaviour related to travelling.

TELUS reported Operating revenues arising from contracts with customers of $16.8 billion, with TELUS technology solutions (TTech) representing 86% of our total Operating revenues arising from contracts with customers, while our digitally-led customer experiences – TELUS International (DLCX) operating segment represented the remaining 14%. Within TTech, mobile products and services represented 57% of total TTech external Operating revenues arising from contracts with customers. With respect to our fixed

products and services, growth in internet and data services, health and agriculture services, home and business security, and TV, all inclusive of acquisitions, more than offset the decline in demand for legacy voice and legacy data services. Within DLCX, we saw strong growth across industry verticals driven by acquisitions, as well as robust organic growth from services provided to existing customers, as well as new clients added since the prior year. Revenue from our largest tech and games vertical increased by 50% from 2020 and represented 46% of DLCX Operating revenues and other income.

Mobile products and services

We estimate that in 2021, the Canadian mobile industry experienced mobile network revenue growth of approximately 2.7%, which we believe was attributable to ongoing growth and a general recovery after the first year of the pandemic. We estimate that the Canadian mobile industry added approximately 0.9 million net new subscribers in 2021 (inclusive of TELUS' mobile phone additions), compared to approximately 1.1 million in 2020 for the industry (inclusive of TELUS' mobile phone additions). This was supported by immigration and population growth; the trend toward multiple devices, including tablets; the expanding functionality of data and related applications; and the ongoing adoption of mobile devices and services, including connected devices. Various forms of public health measures during the global health crisis in 2020, including the temporary closure of retail stores, led to pent-up demand in 2021. We estimate that the mobile phone penetration rate increased to approximately 99% in Canada in 2021, with further increases in penetration expected in 2022. By comparison, the mobile phone penetration rate in the U.S. is well over 100%, while in Europe and Asia it is even higher, suggesting an opportunity for continued growth in Canada. TELUS' mobile network revenue increased by 3.0%, and TELUS mobile products and services direct contribution increased by 5.4%.

The 2021 mobile market in Canada continued to face challenges from the pandemic. Growth in blended average revenue per subscriber unit per month (ARPU) had been moderating as carriers migrated their customer bases to unlimited data plans. However, ARPU moderation was exacerbated by the pandemic, as mobile industry roaming revenue significantly declined from customers' reduced travel activity, which has not yet returned to pre-pandemic levels. Additionally, with large numbers of the workforce working from home during the pandemic, there were associated declines in chargeable data usage from workers offloading their mobile device traffic onto Wi-Fi. The Canadian mobile market continued to experience increased levels of competition nationally. This high level of competition has led to continued declines in chargeable data usage and larger allotments of data, in addition to other factors, such as: the popularity of data sharing plans; more frequent customer-friendly data usage notifications; and an evolving shift in the customer mix towards non-traditional mobile devices and tools such as video chats. These factors, combined with increases in overall data usage, which is expected to increase dramatically with the ongoing commercialization of 5G, led to widespread adoption and promotion of unlimited data plans and device financing plans by all national carriers. The build-out of 5G network infrastructure accelerated in 2021, with 5G covering approximately 70% of the Canadian population by the national carriers at the end of 2021. For TELUS, our accelerated 5G investments are underpinned by our accelerated broadband build program, which was pre-funded by our equity offering in March 2021 and will continue into 2022. Our long-standing commitment to network excellence is reflected in multiple independent third-party awards and recognition received in 2021, including from U.K.-based Opensignal and U.S.-based Ookla, each for five consecutive years, and from Canadian-based Tutela, for three years in a row.

We continue to work diligently to better monetize robust growth in data services, while simultaneously delivering a strong value-for-money proposition and leading customer service to our customers. To this end, we are focusing intensely on profitable customer growth and strong ARPU performance through our consistent strategic execution of premium smartphone loading, which includes driving higher-value data and share plan adoption, as well as flexible product offerings, including bundling our mobility and home services. Moreover, we are also focusing on the other levers available to us in an environment of moderating ARPU growth and expanding 5G network infrastructure, to ensure we continue to deliver on our TTech EBITDA growth objectives, including:

- Evolving our approach to mobile plans and device sales, through the simultaneous launch of our Peace of Mind endless data rate plans, TELUS Easy Payment device financing and TELUS Family Discount offerings, which have resulted in simplification for both customers and team members, while supporting growth in digital transactions and improved recovery of handset costs
- Continuing to drive volume growth through high-quality loading on the back of strong ongoing industry growth
- Seeking new sources of wireless revenue, such as Internet of Things (IoT) or Internet of Everything, machine-to-machine (M2M) and security applications in the B2B market, including health, agriculture and smart cities

- Exploring and securing new channel strategies associated with attractive economic characteristics
- Pursuing smart bundling opportunities across mobile and fixed products and services to achieve better economies of scope and enhance lifetime revenue per customer
- Working persistently to enhance the efficiency of the flow from revenue to EBITDA, or the flow from ARPU to average margin per subscriber unit per month (AMPU), in order to buttress and enhance our operating margins, including ongoing efficiency and effectiveness initiatives.

The Canadian mobile industry continues to be highly competitive and capital-intensive, with carriers continuing to expand and enhance their broadband mobile networks, including the ongoing build-out of 5G, as well as material investments in spectrum.

Fixed products and services

Similar to the Canadian mobile industry, fixed markets and operations were significantly affected by the pandemic. Physical distancing requirements impacted traditional fixed installations, as installers were not entering customers' premises. Conversely, with large numbers of workers and students working and learning from home, demand for fixed products and services surged, with traffic levels reaching historic levels during the pandemic. Although the consumer high-speed internet market is maturing, with a penetration rate of approximately 89% in Western Canada and 90% across Canada at the end of 2021, subscriber growth is expected to continue over the coming years. The four major cable-TV companies had an estimated 7.37 million internet subscribers at the end of 2021 (49% market share), up 2.9% from approximately 7.17 million at the end of 2020. Meanwhile, telecommunications companies had approximately 7.56 million internet subscribers (50% market share), up 4% from approximately 7.25 million at the end of 2020. We continue to make gains in market share as a result of the ongoing expansion of our TELUS PureFibre infrastructure and the pull-through of subscribers from our IP-based TELUS TV services (Optik TV and Pik TV), including bundling of our mobility and home services, as well as significant growth in home security and automation. Our ongoing focus on fibre to the premises or home (FTTP/FTTH) has allowed us to connect 2.7 million households and businesses in B.C., Alberta and Eastern Quebec as of December 31, 2021 to our TELUS PureFibre technology. Similar to our accelerated 5G investments, our investments to expand our fibre footprint are supported by our accelerated broadband build program, which commenced in 2021 and will continue into 2022 before capital expenditures on a consolidated basis are expected to decline significantly in 2023. Additionally, we received recognition from PCMag as the fastest internet service provider (ISP) in Canada among major ISPs for the second consecutive year.

While Canadians still watch conventional TV, digital platforms are playing an increasingly important role in the broadcasting industry and in respect of content. Popular online video services are providing Canadians with more choice about where, when and how to access video content. In 2021, Canadian IP TV providers increased their subscriber base by an estimated 4% to 3.2 million, or 32% of market share, up from 30% at the end of 2020, as a result of expanded network coverage, enhanced differentiated service and bundled offerings, and marketing and promotions focused on IP TV. Despite this IP TV growth, the combined cable-TV and satellite-TV subscriber penetration rate was unchanged. We estimate that the four major cable-TV companies had approximately 4.7 million TV subscribers or a 48% market share at the end of 2021, flat compared to 48% at the end of 2020.

In recent years, three of the largest Canadian cable-TV companies have launched new TV services based on the Comcast X1 TV platform, including Shaw, Rogers and Quebecor's Videotron brand. Our IP-based Optik TV platform continues to offer numerous service advantages over this cable platform, including: flexible pricing plans and packaging available to all customers; picture clarity and quality; content depth and breadth; and the number of ways customers can access content, including wireless set-top boxes, Restart TV, higher-capacity PVR and the Optik TV app, which offers more than twice as many live TV channels at home or on the go compared to our largest Western Canadian cable competitor. The TELUS PureFibre network was named the number one network for streaming Netflix for 17 consecutive months prior to the start of the COVID-19 pandemic (based on the Netflix ISP Speed Index rankings for Canadian providers released monthly, as of March 2020) and we are the only Canadian carrier to achieve the highest ratings for each month from August 2020 to December 2021 for the newly revamped index. We continue to offer more on-demand content and more over-the-top (OTT) content with Netflix, YouTube, Prime Video (included in the Amazon Prime membership), hayu, TED Talks and the National Film Board of Canada, and we are the multicultural content leader in Western Canada.

The national Canadian telecom providers continue to acquire and develop capabilities in home security and automation. Through various acquisitions, including ADT Security Services Canada, Inc., in 2019 and smaller tuck-ins in 2020, we have furthered our commitment to leverage the power of technology to bring state-of-the-art convenience, control and safety into the lives, homes and businesses of more Canadians to become Canada's leading security and home automation provider. Security also provides opportunities to offer attractive bundled solutions and advance our connected home strategy while accelerating our entry into the market for smart home and automation and physical and cybersecurity business solutions. Our SmartHome Security and TELUS Secure Business service offerings complement our industry-leading customer service and build on our strategy and commitment to leverage our world-leading wireless and PureFibre network, enabling us to enhance connected home, business, security, IoT, cybersecurity, smart buildings, smart cities and health services for customers in Canada.

Canada's four major cable-TV companies had an estimated base of approximately 3.2 million telephony subscribers at the end of 2021. This represents a national consumer market share of approximately 43%, relatively flat compared to 2020. Telecommunications companies had an estimated 3.6 million telephony subscribers at the end of 2021, representing approximately 48% of market share, relatively flat compared to 2020. Technological substitution by mobile services is continuing to erode the number of residential voice subscribers and associated local and long distance revenues, as expected.

TELUS Health

In 2021, we continued to drive strong growth within our industry-leading health business, driven by the ongoing adoption of our unique and innovative portfolio of health offerings across the healthcare ecosystem. Health services revenue increased by 16.3% to $521 million. The Canadian healthcare industry is expected to continue to realize strong growth in future years, based on an aging population in Canada, an increasing emphasis on chronic disease management, and the potential benefits that technology can deliver in terms of efficiency and effectiveness within the sector. Prior to the pandemic, the healthcare industry saw an emerging trend for physicians and other healthcare professionals to use smartphones and connected devices to access patient records from remote locations. Since the COVID-19 lockdown measures were first put into place in 2020, adoption of healthcare technology has accelerated, as clinicians have adapted to primarily virtual and tele-medicine-based practices, resulting in the overall Canadian healthcare technology market growing at a double-digit pace and beyond what was initially predicted at the beginning of 2020. The digitization of everyday functions within the healthcare ecosystem, combined with increased and pervasive broadband network connectivity, provides a unique opportunity to support the development and delivery of even more advanced health applications to benefit Canadians and improve health outcomes.

TELUS Agriculture

The global agriculture industry and global food industry are estimated to be valued at approximately $2.5 trillion and $8 trillion, respectively (World Economic Forum). It is estimated that global food supplies will need to increase by as much as 70% over the next 30 years, simply to keep pace with the world's growing population. Subsequently, farmers are managing more acres, equipment and suppliers than ever before; and streamlined digital access to data insights and features can translate into significant time and cost savings. Increasingly, farmers and producers across the globe are leveraging digital technologies to efficiently manage their operations and harness valuable data insights to optimize production and output to take advantage of the growing industry and demand. TELUS continues to grow its position to transform the agriculture industry by targeting the pressing needs across the entirety of the agriculture value chain through our TELUS Agriculture business. Our unique and differentiated seed-to-table approach encompasses strong capabilities from Agri-business, to food and beverage, to herd management and animal health.

Digitally-led customer experiences – TELUS International (DLCX)

In 2021, TI continued to win business with both new and existing clients, driving solid organic growth, supported by strategic acquisitions (see *Section 3 Scaling our innovative digital capabilities in TELUS International to build an asset of consequence* for further details). TI partners with major global and disruptive brands, fueling all stages of company growth. TI is also exposed to verticals that are experiencing high growth themselves, such as tech and games, enhancing TI's position for continued success. TI's solutions and services are relevant across multiple markets, including information technology services for digital transformation of customer experience systems (DX), digital customer experience management (DCXM) and adjacent new economy services. With its end-to-end digital capabilities, TI is uniquely well-positioned to serve these growing markets, including fast-growing areas such as content moderation and artificial intelligence (AI) data services. The necessity of moderating content on digital platforms has prompted enterprises to seek specialized services to accommodate changes in the dynamic, uncertain, and often highly regulated

environment. The demand for AI data services historically has been driven by large technology companies; however, demand is growing from other enterprises as AI adoption increases.

9.2 Telecommunications industry general outlook and trends

Mobile products and services

Mobile growth continues to be driven by increasing data usage and adoption, including: higher-value smartphones, unlimited data offerings, shared family data plans and tablets, and growth in IoT and M2M devices. In addition, consumers continue to replace fixed access with mobile access and related data services. These trends are expected to continue to drive a growing demand for mobile data services for the foreseeable future. Industry ARPU is expected to continue growing at a more moderate rate as compared to periods prior to the COVID-19 pandemic.

While LTE and LTE advanced (LTE-A) technologies increase download speeds, encourage data usage and improve the customer experience, growth in data traffic poses challenges to mobile access technology. To better manage this data traffic, Canadian providers continue to evolve their networks and deploy spectrum to support the evolution to 5G. Innovation, Science and Economic Development Canada (ISED) held its 3500 MHz spectrum auction in June to July 2021. We expect the 3800 MHz and millimetre wave (mmWave) spectrum auctions to commence in 2023 and 2024, respectively, which will be important to the expansion of 5G networks.

M2M and IoT technologies connect communications-enabled remote devices via wireless technologies, allowing them to exchange key information and share processes. Advanced platforms and networks are already in place in industries such as healthcare, utilities, agriculture and fleet management, with deployment ongoing in other industries, including smart cities, vehicle insurance, retail, food services, consumer utilities, and connected and autonomous vehicles. These and other industries are looking to IoT, combined with other applications, to generate value from their connections. IoT represents a meaningful opportunity for growth in mobility products and services, with secure connectivity, customer value, productivity and efficiency. While M2M applications generally have lower ARPU when sold as a stand-alone product, they tend to generate high service volumes with low or no subsidy costs, thereby supporting both revenue growth and margins. In 2021, we added 337,000 connected devices, bringing our connected device subscriber base to more than 2.1 million, up 18.8% from 2020.

5G has begun to play a mainstream role in technology evolution and innovation globally, and is an important component of meeting Canada's and TELUS' social impact-oriented efforts to further bridge the digital divide and connect rural Canadians. Investing in 5G will drive capital expenditure savings by allowing us to provide high-speed internet services over wireless in less urban areas, as well as improved cost savings and innovative services in industrial automation, transportation and telehealth. Driven by significantly faster speeds, lower latencies, improved reliability and attractive economics, 5G will enable a host of new applications: for businesses, 5G will create opportunities for enhanced productivity, virtual work and profitability; for industries, 5G will enable remote operations, industrial control and manufacturing automation; for consumers, home automation, autonomous vehicles, and wireless-to-the-home connectivity with speeds comparable to fixed access technologies; and for healthcare, converged solutions for hospitals, clinics and remote patient monitoring and even medical procedures. 5G is essential to the future of a global digital economy, including that of Canada's, and is expected to generate significant innovation, growth and productivity. 5G wireless technology is up to 100 times faster than 4G LTE technology. As 5G evolves, it will move from a non-stand-alone core, based on the existing 4G LTE infrastructure, to a stand-alone core, which makes use of cloud-based technology, enabling new functionality through the capacity to support more connected devices and ultra-low latency.

Enabling a robust and reliable 5G experience for Canadians will require complementary spectrum bands to support the needs of a diverse subscriber base and consist of a portfolio of low, mid and high-band spectrum. Low-band spectrum, such as 600 MHz, covers wide areas and penetrates well into buildings, thus improving coverage in urban and suburban areas. This low-band spectrum will play a vital role in bringing 5G to Canadians and as such, it is an important resource for Canada as wireless operators build out 5G in rural areas. High-band spectrum, such as mmWave, can enable speeds up to 100 times faster than 600 MHz spectrum; however, it does not have the same coverage characteristics to penetrate well into buildings or cover wide areas. This high-bandwidth spectrum and the associated faster connection speeds will help unlock new technologies such as virtual and augmented reality and provide a fibre-like experience for fixed wireless access. Mid-band spectrum, such as the 3500 MHz auctioned and acquired by carriers in 2021, is important to the 5G ecosystem as it balances both speed and coverage characteristics. This spectrum will be integral to low-latency communications services, including autonomous monitoring, fixed wireless access and vehicle-to-everything communication. Trials have shown 3500 MHz to be key for broader 5G coverage and is increasingly being used globally for 5G coverage. The 3500 MHz

and 3800 MHz spectrum bands are globally recognized as key for 5G networks. All of the national carriers in Canada commenced rolling out their initial 5G services in 2020 and accelerated the roll-out in 2021, and are expected to continue in the years ahead as spectrum is auctioned and deployed, along with the roll-out of new 5G technologies. See *Section 9.4 Communications industry regulatory developments and proceedings* for further details on upcoming spectrum auctions.

Fixed products and services

The fixed telecommunications market is expected to remain very competitive in 2022, as technology substitution – such as the broad deployment of higher-speed internet; the use of email, messaging and social media as alternatives to voice services; and the growth of mobile and VoIP services – continues to replace higher-margin legacy voice revenues. In our incumbent operating areas of B.C. and Alberta, it is estimated that, in 2021, 60% of households no longer had a fixed line and 37% of households no longer had a broadcast TV service. We are a key provider of these substitution services and the decline in this legacy business is continuing as expected, although residential voice losses continued to slow in 2021, reflecting our success in bundling our home solutions and services. Our long-standing growth strategy remains focused on mobile, data and IP-centric fixed capabilities.

The popularity of viewing TV and on-demand content anywhere, particularly on handheld devices, is expected to continue to grow as customers adopt services that enable them to view content on multiple screens. Streaming media providers continue to enhance OTT and direct-to-consumer (DTC) streaming services in order to compete for a share of viewership, as viewing habits and consumer demand evolve. Studies suggest that there were more than 25 million paid OTT video service subscriptions in Canada at the end of 2021, up 9.0% from 2020. The launch of streaming TV services is expected to continue in Canada.

Conventional TV content providers are monitoring OTT developments and evolving their content and market strategy to compete with these non-traditional offerings. Bell Media offers a content streaming service through its expanded Crave offering. We view OTT as an opportunity to add further capabilities to our linear and on-demand assets, providing customers with flexible options to choose the content they want and encourage greater customer use of TELUS high-speed internet and wireless services and to limit customer frustration by needing to have a multitude of subscriptions, and continue to partner with and offer services from a wide range of OTT providers.

Consistent with facilities-based competition, telecommunications companies continue to make significant capital investments in broadband networks, with a focus on FTTP to maintain and enhance their ability to support enhanced IP-based services and higher broadband speeds. Cable-TV companies continue to evolve their cable networks with DOCSIS-related bandwidth enhancements and node splitting. Although this platform increases speed in the near term and is cost-efficient, it does not offer the same advanced capabilities as FTTP over the longer term, such as fast symmetrical upload and download speeds. At the end of 2021, our fibre-optic infrastructure was available to more than 2.7 million homes and businesses. Advances in LTE mobile technology and our extensive LTE infrastructure also allow us to target otherwise underserved areas with a fixed mobile solution, and 5G is expected to enhance these capabilities.

Our broadband investments, including the build-out of our FTTP broadband network and our premium differentiated IP-based Optik TV service, as well as lower-cost Pik TV service, home security and automation and integrated bundled service offerings, which also encompass mobility, consumer healthcare and cybersecurity, continue to enhance our competitive position relative to our competitors. Our bundled offerings drive higher product intensity with our customers and lead to improved customer loyalty results.

In the business market (enterprise and small and medium-sized businesses, or SMB), the convergence of IT and telecommunications, facilitated by the ubiquity of IP, continues to shape the competitive environment, with non-traditional providers increasingly blurring the lines of competition and business models. Cable-TV companies continue to make investments to better compete in the highly contested SMB space. Telecommunications companies like TELUS are providing network-centric managed applications that leverage their significant FTTP investments, while IT service providers are bundling network connectivity with their proprietary software as service offerings. While our business-to-business (B2B) line of business was dilutive to our EBITDA growth in 2020, we aggressively pursued opportunities in 2021 to stabilize this business; however, the pandemic continued to negatively impact our SMB customer base.

The development of IP-based platforms providing combined IP voice, data and video solutions creates potential cost efficiencies that compensate, in part, for the loss of margins resulting from the migration from legacy to IP-based services. New opportunities exist for integrated solutions, as well as business process and IT outsourcing, that could have a greater business impact than traditional

telecommunications services. Data security represents both a challenge and an opportunity for TELUS to provide customers with our data security solutions. Increasingly, businesses are looking to partner with their communications service provider to address their business goals and challenges, and to tailor cloud-based solutions for their needs that leverage telecommunications in ways not imagined a decade ago. Cloud computing is changing service delivery to always-on and everything-as-a-service, and strong growth is expected in this area. TELUS offers Network-as-a-Service capabilities for businesses with the option of an IT network as a service over the internet, mirrored across multiple locations, based on a self-serve platform that reduces deployment cycles and reliance on IT specialists. Our home and business security offerings are powered by our broadband network and integrate the latest smart devices to improve the lives of Canadians.

As the industry evolves to 5G mobile technologies in the coming years, we expect to be operating on, and providing services over, a more converged network. The lines between fixed access and mobile access will continue to blur, as the way we deliver services to customers – and the way our customers use those services – continues to evolve. As our broadband network continues to expand and 5G is further commercialized in the coming years, we expect to benefit from the flexibility of being able to select the most efficient way to deliver services across our footprint. We do not expect to have to build fibre to every home; instead, we believe that there will be opportunities to deliver services to some areas within our broadband footprint wirelessly with 5G.

TELUS Health

Through TELUS Health, we are leveraging our position as the leading end-to-end provider of digital healthcare in Canada and our expanding broadband network technologies such as fibre and 5G to increase access, integration and effectiveness of innovative healthcare tools and applications across the primary care ecosystem in order to continue positioning ourselves for anticipated strong continued growth. These solutions include virtual care applications, personal health records to empower self-management of healthcare data, electronic drug prescriptions with online insurance validation by the physician, and home health monitoring devices and data capture with caregiver oversight. Operating under TELUS Health Virtual Care, our national, employer-focused virtual care services allow patients 24/7 bilingual and unlimited access to healthcare practitioners for the mental and physical care they need, from anywhere in the country. In 2021, we enhanced our TELUS Health Virtual Care offering with the launch LifeJourney, a modernized employee assistance program designed to address various personal and employment-related issues that can compromise an employee's ability to perform at work, including mental health support. Our TELUS Health MyCare application revolutionized consumer access to healthcare. With innovative AI-powered preventative health app features (available in English and French) such as the Symptom Checker, Monitor and Health Check, users can get information about their health and, if required, speak directly with a licensed physician from the convenience of a smartphone, in multiple languages across B.C., Alberta, Saskatchewan and Ontario. In 2020, TELUS Health MyCare also launched two physical clinics in B.C. to augment our digital first approach. Together, these virtual care solutions and capabilities are empowering Canadians to better manage their health and get the care and information they need when it's convenient for them – a huge step forward in the evolution of Canada's healthcare system and the current status quo. In 2020, TELUS Health enabled Canadian practitioners to conduct virtual visits with their patients by integrating patient videoconferencing into its electronic medical records (EMR) across Canada, and by the end of December 2021, more than 557,000 consultations had been conducted through the TELUS EMR Virtual Visit solution. This capability has been augmented by the acquisition of InputHealth Systems Inc. and its Collaborative Health Record (CHR) – a cloud-based solution that strengthens the physician-patient relationship with a full suite of tools for collaboration, patient engagement, automation and data optimization. Since the onset of the pandemic, these virtual care solutions experienced accelerated adoption, easing pressure on the healthcare system, and strong growth in virtual care is expected to continue. Market activities and trends throughout the year have validated TELUS Health's long-standing presence in the healthcare market and assumptions about the business' main growth areas and path forward, reinforcing our focus on employee health and virtual care. In the first quarter of 2021, we acquired a digitally enabled central dispensing pharmacy to make the pharmacy experience more personal, convenient and accessible, as well as easier for users to manage, and in January 2022, we launched TELUS Health Virtual Pharmacy. In 2022 and beyond, aligned with our passionate commitment to social capitalism, TELUS Health will leverage these and other digital health tools to continue to expand access to care and improve health outcomes for Canadians across the country, with the ongoing commercialization of 5G expected to significantly bolster our capabilities with innovative new health care applications taking advantage of higher speeds and lower latency.

TELUS Agriculture

With the official launch of TELUS Agriculture in 2020, a business initially built on eight acquisitions throughout 2019 and 2020, we positioned ourselves to become a major global player in the promising and rapidly growing agriculture technology market. With the addition of two companies in 2021, Conservis and Blacksmith Applications, as well as acquiring the assets of Herdtrax, we continued our ongoing growth strategy. TELUS Agriculture is dedicated to creating the best producer-to-consumer outcomes. We deliver digital insights that empower and connect customers, from producers to consumers, around the world, improving the quality, safety, distribution and sustainability of food and consumer goods – both today and for the future. We also provide digitizing activities across a complex and fragmented supply chain to create actionable, integrated solutions. It is estimated that global food supplies will need to increase by as much as 70% over the next 30 years, simply to keep pace with the world's growing population. Increasingly, farmers and producers across the agriculture, food and consumer goods supply chains are leveraging digital technologies to efficiently manage their operations and harness valuable data insights to optimize production and output. With an ever-expanding world population, and increased demand for food and consumer goods, streamlined digital access to data insights and features can translate into significant resource, time and cost savings.

TELUS has established meaningful digital technology and data insight positions in three key segments of the agriculture, food and consumer goods value chain: (i) agri-business, which enables the flow of business data between manufacturers such as farm machinery, seed and chemical suppliers, distributors, retailers and farms; as well as farm solutions, which enable precision agriculture and farm management; (ii) food, beverage and consumer goods, which enables food and consumer goods traceability from producer to consumer and aids efficient promotional activity across industry stakeholders such as food manufacturers, grocers, restaurants and consumers; and (iii) animal health, which supports the safe and efficient development of protein sources through technology and consultative expertise. We offer leading software solutions across the value chain and address complex data management challenges and data silos to digitally transform, protect and improve the global food system by improving the efficient production, transportation, quality and safety of our food and consumer goods.

Digitally-led customer experiences – TELUS International (DLCX)

Since its inception 17 years ago, TI has grown exponentially in size, scope and geographic diversity to deliver digital customer experience solutions for clients from delivery centres in North and Central America, Europe and Asia. In recent years, TI added significant scale and diversity through the January 2020 acquisition of Competence Call Center (since rebranded as TELUS International Northern Europe or TINE and comprised substantially of CCC), a leading provider of higher-value-added business services with a focus on customer relationship management and content moderation. In December 2020, TI further advanced its digital transformation strategy with the acquisition of Lionbridge AI, a market-leading global provider of crowd-based training data and annotation platform solutions used in the development of AI algorithms to power machine learning. Lionbridge AI's advanced technology innovation, combined with human ingenuity, improves data functionality to deliver significantly enhanced, customized and high-quality outcomes for customers. In July 2021, TI acquired Playment, a leader in data annotation and computer vision tools and services specialized in 2D and 3D image, video and light detection and ranging (LiDAR). Lionbridge AI and Playment now operate as TELUS International AI Data Solutions (TIAI), helping companies test and improve machine learning models through a global AI community of over one million data annotators and linguists. These acquisitions added substantial scale and diversity to TI, as its size, scope and reach grew to encompass over 62,000 highly engaged team members globally at the end of 2021. Armed with deeper end-to-end digital capabilities, TI now provides integrated solutions and services that span digital strategy, innovation, consulting and design, digital transformation and IT lifecycle solutions, data annotation and intelligent automation, and omnichannel CX solutions, including content moderation, trust and safety solutions and other managed solutions, with back-office support in almost 50 languages from 53 delivery locations across over 25 countries. Looking ahead, TI is extremely well-positioned to continue growing with and adding to its over 600 global clients. These clients span a number of high-growth target verticals, including tech and games, e-Commerce and fintech, communications and media, healthcare, and travel and hospitality. The clients TI serves are a diverse group that includes digital native technology companies that need help continuing to grow and scale their businesses, and also well-established companies that require help with their digital transformation strategy and execution. TI's continued focus on providing premium, complex, technology-centric solutions, thoughtfully executed by highly-skilled, empathetic engaged team members, positions TI favourably for ongoing success in the growing market.

In February 2021, TI successfully completed its initial public offering (see *Section 1.3* for additional details). In September 2021, TI successfully completed a public secondary offering (see *Section 10.2* and *Section 3 Scaling our innovative digital capabilities in*

TELUS International to build an asset of consequence for additional details), further positioning the organization for continued growth in the years to come.

As technology continues to change our industry rapidly, customer demand continues to evolve and grow, and Canada shifts to a more digital economy, we are committed to evolving our business and offering innovative and reliable services and thought leadership in core future growth areas that are complementary to our current operations. This, along with the constant focus of our highly engaged team on leadership in delivering an enhanced customer experience, over world leading networks, positions us for continued differentiation and growth in the years ahead.

9.3 TELUS assumptions for 2022

In 2022, we expect the COVID-19 pandemic to continue to have impacts on our business, primarily in the first half of the year, attributable to economic factors such as continued travel advisories and border restrictions, business and consumer travel not yet at pre-pandemic levels, which continue to impact our roaming revenues, global supply chain challenges, subsequent business lockdowns and disruptions, including staffing shortages, and/or reduced scope of operations impacting our retail and health operations. We expect the pandemic impacts in 2022 to be smaller in scale than in 2021, primarily due to the uptake of COVID-19 vaccinations in the general population, allowing for the re-opening of the global economy in areas where we conduct business. We expect growth in EBITDA, driven by continued demand for data in our mobile and fixed products and services and contributions from new business acquisitions; roaming revenue improvement corresponding with a reduction in pandemic restrictions; continued significant ongoing investments in our leading fibre broadband network and growing 5G deployment; our strategic efforts to enhance operational simplicity and efficiency; and our constant focus on an enhanced customer experience across all areas of our operations, with the objective of simplifying our customers' interaction with us while reducing our overall cost structure.

Our assumptions in support of our 2022 outlook are generally based on industry analysis, including our estimates regarding economic and telecom industry growth, as well as our 2021 results and trends discussed in *Section 5*.

Our key assumptions include the following:

- Estimated economic growth rates in Canada, B.C., Alberta, Ontario and Quebec of 4.3%, 4.2%, 4.4%, 4.5% and 3.7%, respectively.
- Estimated annual unemployment rates in Canada, B.C., Alberta, Ontario and Quebec of 6.1%, 5.2%, 7.1%, 6.1% and 5.3%, respectively.
- Estimated annual rates of housing starts on an unadjusted basis in Canada, B.C., Alberta, Ontario and Quebec of 224,000 units, 39,000 units, 30,000 units, 83,000 units and 55,000 units, respectively.
- No material adverse regulatory rulings or government actions against TELUS.
- Continued intense mobile products and services competition and fixed products and services competition in both consumer and business markets.
- Continued increase in mobile phone industry penetration of the Canadian market.
- Ongoing subscriber adoption of, and upgrades to, data-intensive smartphones, as customers seek more mobile connectivity to the internet at faster speeds.
- Mobile products and services revenue growth resulting from improvements in subscriber loading, with continued competitive pressure on blended ARPU. Roaming revenue from business and consumer travel will improve from levels seen in 2021, with the easing of travel advisories and border restrictions, including those in Canada and the U.S. A full recovery is estimated closer to the end of 2022 at the earliest.
- Continued pressure on mobile products and services acquisition and retention expenses, arising from gross loading and customer renewal volumes, including potential impacts related to deferred device upgrades during the global health pandemic, competitive intensity and customer preferences. Continued connected devices growth, as our IoT offerings diversify and expand.

- Continued growth in fixed products and services data revenue, reflecting an increase in internet, TV and security subscribers, speed upgrades, rate plans with larger data buckets or endless data usage, and expansion of our broadband infrastructure, healthcare solutions, agriculture solutions and home and business security offerings.
- Continued erosion of residential voice revenue resulting from technological substitution and greater use of inclusive long distance.
- Continued growth of DLCX revenue and EBITDA generated by expanded services for existing and new clients and strategic business acquisitions.
- Continued focus on our customers first initiatives and maintaining our customers' likelihood-to-recommend.
- Employee defined benefit pension plans: current service costs of approximately $98 million recorded in Employee benefits expense and interest expense of approximately $8 million recorded in Financing costs; a rate of 2.95% for discounting the obligation and a rate of 3.10% for current service costs for employee defined benefit pension plan accounting purposes; and defined benefit pension plan funding of approximately $52 million.
- Restructuring and other costs of approximately $150 million for continuing operational effectiveness initiatives, with margin enhancement initiatives to mitigate pressures related to intense competition, technological substitution, repricing of our services, increasing subscriber growth and retention costs, and integration costs associated with business acquisitions.
- Net cash Interest paid of approximately $700 million to $750 million.
- Depreciation and Amortization of intangible assets of approximately $3.45 billion to $3.55 billion.
- Income taxes: Income taxes computed at an applicable statutory rate of 25.2 to 25.8% and cash income tax payments of approximately $500 million to $580 million (2021 – $563 million).
- Continued stabilization in the average Canadian dollar: U.S. dollar exchange rate ($1.25 in 2021).
- Continued deployment of access-agnostic technology in our network.
- SMB will continue to be negatively impacted by lockdown measures primarily during the first quarter of the year, and will continue to feel the effects through the rest of the year, with access to continued government support easing in mid-2022.
- Government funding programs to support consumers' ability to pay bills will ease in the first half of 2022.
- We expect that we will be able to operate our retail stores as effectively as we did in 2021, reflecting the additional safety measures in place but still allowing us to serve our customers in person, in addition to the digital capabilities that have enabled us to continue serving our customers through the pandemic.
- Continued impacts on our TELUS Health Care Centres as a result of ongoing restrictive measures resulting in cancellations of appointments, reduced capacity or closure of clinics. We expect a slow recovery throughout the year, with a focus on effective deployment of value-added services, building capabilities on our virtual platform and optimizing efficiency.
- Our international operations will be impacted by the recoveries in other global economies based on vaccine availability, distribution and effectiveness on their respective populations and regional lockdown measures.
- Our smart food-chain technology business will continue to expand through business acquisitions and organic growth.
- We expect to continue our digitization efforts to simplify how our customers do business with us, introduce new products and services, respond to customer and market needs, and provide highly reliable service.

Our 2022 outlook is forward-looking information that is based on these assumptions and is subject to inherent risks and uncertainties. These assumptions may ultimately prove to have been inaccurate. Events or our actual results may differ materially from expectations

expressed in or implied by this outlook due to these assumptions having been incorrect or as a result of risks such as those described in detail in *Section 10 Risks and risk management*.

9.4 Communications industry regulatory developments and proceedings

Our telecommunications, broadcasting and radiocommunication services are regulated under federal laws by various authorities, including the Canadian Radio-television and Telecommunications Commission (CRTC), ISED, Canadian Heritage and the Competition Bureau.

The following is a summary of certain significant regulatory developments and proceedings relevant to our business and our industry. This summary is not intended to be a comprehensive legal analysis or description of all of the specific issues described. Although we have indicated those issues for which we do not currently expect the outcome of a development or proceeding to be material to us, there can be no assurance that the expected outcome will occur or that our current assessment of its likely impact on us will be accurate. See *Section 10.3 Regulatory matters*.

Radiocommunication licences and spectrum-related matters

ISED regulates, among other matters, the allocation and use of radio spectrum in Canada and licenses radio apparatus, frequency bands and/or radio channels within various frequency bands to service providers and private users. The department also establishes the terms and conditions that may attach to such radio authorizations, including restrictions on licence transfers, coverage obligations, research and development obligations, annual reporting, and obligations concerning mandated roaming and antenna site sharing with competitors.

3500 MHz spectrum auction to support 5G

On July 29, 2021, ISED released the provisional results of its auction of spectrum in the 3500 MHz band. We acquired 142 licences equating to 16.4 MHz of spectrum at a price of approximately $1.95 billion. Combined with the spectrum we acquired privately in advance of the auction, we now hold an average of 25 MHz of spectrum in the 3500 MHz band nationally. The auction framework included a 50 MHz set-aside in all markets where 50 MHz or more spectrum was available. This was on top of the competitive imbalance that was already introduced by ISED's 2019 transition decision for the band. That decision left nearly 90 MHz of the 200 MHz band in the hands of band incumbents.

On August 26, 2021, we brought an application in Federal Court for judicial review of the decision of the Minister of Innovation, Science and Industry to permit Videotron to bid on set-aside blocks of spectrum in B.C., Alberta and Manitoba in the 3500 MHz auction. In the application, we argue that Videotron did not meet the eligibility test set out by ISED in the auction framework, and thus should not have been permitted to bid on a portion of the set-aside spectrum that it eventually won. Bell has also brought a similar application. Additionally, on September 21, 2021, we brought a motion for an interim order enjoining the Minister from releasing the impugned spectrum to Videotron until our application for judicial review is decided. Our motion for an injunction was dismissed on October 22, 2021. Our application for judicial review is scheduled to be heard in February 2022.

We continue to review the results of the auction, including the amounts acquired by our competitors, to determine the impact of the auction on us.

Consultation on amendments to SRSP-520, Technical requirements for fixed and/or mobile systems, including flexible use broadband systems, in the band 3450-3650 MHz

In August 2021, ISED issued a consultation on Standard Radio System Plan (SRSP) 520 to examine technical specifications on the use of 3500 MHz spectrum. In the consultation, ISED identified a concern that 5G equipment operating on 3500 MHz spectrum may have the potential to cause interference with altimeters on aircraft. ISED proposed new restrictions on 3500 MHz spectrum, including a ban on its use in large areas around major airports. Though the consultation closed in August 2021, on September 22, 2021, ISED announced that it was re-opening its consultation to give additional time for parties to comment and made public technical studies that it relied upon to formulate its proposals. ISED also notified prospective 3500 MHz licensees that their final auction payments and issuance of licences, originally scheduled for October 4, 2021, would be delayed until December 17, 2021. On November 18, 2021, ISED issued its decision on amendments to the 3500 MHz technical requirements, which remain effectively as proposed; limiting use in areas around major airports and restricting the transmission of energy above the horizon. ISED projected next steps including a future consultation, should Canadian or global developments and studies merit further changes to the technical rules as it relates to the

radio altimeter protection issue. There is a risk that this decision could have a material impact on TELUS depending on how long they remain in application.

mmWave and 3800 MHz spectrum auctions to support 5G

On June 5, 2019, ISED released its *Decision on Releasing Millimetre Wave Spectrum to Support 5G* , repurposing several tranches of mmWave spectrum for mobile use. ISED will consult on a licensing framework (i.e., auction rules and conditions of licence) for these mmWave bands in the future. ISED formerly projected that the mmWave auction would commence in 2021, but has now revised its forecast to the first quarter of 2024. There is a risk that the auction rules may favour certain carriers over us and impact our ability to acquire an adequate quantity of mmWave spectrum.

The 3800 MHz spectrum band is seen as an extension to the 3500 MHz band. ISED released the first of two consultations on August 27, 2020. This first consultation featured proposals from ISED and from Telesat, the Canadian satellite spectrum licensee of 3700 to 4200 MHz spectrum, on how to repurpose existing spectrum. On May 21, 2021, ISED released its *Decision on the Technical and Policy Framework for the 3650-4200 MHz Band and Changes to the Frequency Allocation of the 3500-3650 MHz Band*, which will make 250 MHz of spectrum available for auction in the first quarter of 2023. ISED's decision rejects Telesat's proposal for private auction and early clearing of the band. The 3800 MHz spectrum will only be cleared and available by March 2025 in urban areas and March 2027 in many rural areas. Certain rural areas (in the territories and northern parts of B.C., Alberta, Saskatchewan, Manitoba, Ontario, Quebec and Newfoundland and Labrador) are still deemed satellite-dependent areas and this spectrum will not be available for mobile use in these areas. Many important issues (such as auction format or competitive measures) are subject to the second consultation on an auction framework for the 3800 MHz band. There is a risk that the auction rules will favour certain carriers over us and impact our ability to acquire an adequate quantity of 3800 MHz band spectrum.

Regulatory and federal government reviews

The CRTC and the federal government have initiated public proceedings to review various matters. A number of key proceedings are discussed below.

Proposed acquisition of Shaw by Rogers

In March 2021, Rogers Communications Inc. and Shaw Communications Inc. announced their agreement for Rogers Communications Inc. to acquire Shaw Communications Inc. In addition to approval by shareholders of Shaw Communications Inc., the acquisition will require approvals by the Competition Bureau, the CRTC and ISED. It is possible that the parties to the transaction will agree to merger remedies that could negatively affect us, or that the CRTC, ISED or other governmental authorities could make (or decline to make) other regulatory changes, or impose behavioural remedies, that could materially affect us directly or affect the industry as a whole. It is also possible that this acquisition could trigger further consolidation in the industry. Until the governmental authorities complete their reviews and make a determination on whether to allow the acquisition and, if so, under what conditions, it is too early to determine the impact of these reviews on us.

Review of mobile wireless services

On April 15, 2021, the CRTC released its decision in the *Wireless Regulatory Framework Review*. The CRTC determined that Bell, Rogers, TELUS and SaskTel must provide wholesale mobile virtual network operator (MVNO) access to facilities-based regional wireless providers in areas where those providers hold a mobile wireless spectrum licence. MVNO access is based on commercially negotiated rates and will be phased out after seven years. In addition, the CRTC has requested that Bell, Rogers, TELUS and SaskTel provide certain low-cost and occasional-use plans, which we have now implemented. We are working to implement the new MVNO and other requirements. The impact of this decision on us will be dependent on the commercial rates that are negotiated for MVNO access.

On May 4, 2021, Data on Tap Inc. brought a petition to the Governor in Council to vary the CRTC's decision in the *Wireless Regulatory Framework* so as to mandate and set rates for full MVNO access. On September 22, 2021, we filed our response opposing this petition. The impact of this petition will not be known unless and until the Governor in Council issues a decision. The Governor in Council has until April 14, 2022, to do so.

We have also been granted leave to appeal two determinations from this decision to the Federal Court of Appeal: (i) the requirement for the national mobile carriers, including us, to offer seamless roaming as an additional condition under which the existing mandated wholesale roaming service must be offered; and (ii) the ruling that sections 43 and 44 of the *Telecommunications Act* do not provide the CRTC with jurisdiction to adjudicate disputes involving mobile wireless transmission facilities. If we are successful on appeal, we anticipate it will be easier for us to deploy our 5G infrastructure, in particular on municipal property.

Wireline wholesale services follow-up

On July 22, 2015, the CRTC released *Review of wholesale wireline services and associated policies,* Telecom Regulatory Policy CRTC 2015-326 (TRP 2015-326). The major component of this decision was that the CRTC ordered the introduction of a disaggregated wholesale high-speed access (HSA) service for ISP competitors. This includes access to FTTP facilities.

On June 11, 2020, the CRTC released *Call for comments – Appropriate network configuration for disaggregated wholesale high-speed access services*, Telecom Notice of Consultation CRTC 2020-187 (TNC 2020-187), where it is examining the appropriate network and service configurations for the disaggregated wholesale HSA service regime for all wholesale HSA service providers across the country. This process, which took the place of the previous follow-up proceedings, is now closed. Until the CRTC issues its decision, it is too early to determine the impact of this proceeding on us.

Final rates for aggregated wholesale internet access services

On August 15, 2019, the CRTC released Telecom Order CRTC 2019-288, which finalized rates for the aggregated wholesale internet services of the ILEC and incumbent cable companies. The final rates were considerably lower than the interim rates, and the CRTC ordered the rates to apply retroactively to October 6, 2016. The financial impact of this decision was not material to us.

On September 13, 2019, Bell Canada and affiliated companies and a group of cable companies filed separate applications with the Federal Court of Appeal to seek leave to appeal Telecom Order CRTC 2019-288. Bell Canada and the cable companies also sought a stay of the order. On November 22, 2019, the Federal Court of Appeal allowed both leave applications and granted a stay pending the disposition of the appeal. On September 10, 2020, the Federal Court of Appeal dismissed the appeals on their merits, thereby upholding the CRTC's decision. On February 25, 2021, the Supreme Court of Canada dismissed applications for leave to appeal the Federal Court of Appeal decision brought by Bell Canada and the group of cable companies.

Separately, on November 13, 2019, we filed a petition to the Governor in Council seeking to refer back to Telecom Order CRTC 2019-288 for redetermination of the rates and seeking to vary Telecom Order CRTC 2019-288 on the basis that the rates and retroactive component of the order will threaten future investment. Bell Canada and a group of cable companies filed similar petitions on the same day. On August 15, 2020, the Governor in Council issued an Order in Council dismissing the petitions. However, the Order in Council, as well as an accompanying statement from the Minister of Innovation, Science and Industry, recognized that the rates set out in Telecom Order CRTC 2019-288 would, in some instances, undermine investment in high-quality networks.

On May 27, 2021, following separate applications requesting the CRTC to review and vary Telecom Order 2019-288 filed by each of TELUS, Bell Canada and a group of cable carriers, the CRTC issued Telecom Decision CRTC 2021-181. In this decision, the CRTC largely reversed Telecom Order 2019-288, meaning that we do not have to implement the rates ordered in Telecom Order CRTC 2019-288 or issue significant retroactive refunds to wholesale customers. Given that Telecom Decision 2021-181 essentially maintains the rates that have been in place since 2016, the decision does not have a material effect on us.

On May 28, 2021, TekSavvy Solutions Inc. brought a petition to the Governor in Council to vary the decision. On July 15, 2021, the Competitive Network Operators of Canada brought a similar petition. On August 25, 2021, National Capital Freenet Inc. also filed a petition to the Governor in Council. On June 28, 2021, TekSavvy Solutions Inc. sought leave to appeal Telecom Decision CRTC 2021-181 to the Federal Court of Appeal. The Federal Court of Appeal granted leave to appeal on September 15, 2021. We are not filing responding submissions in the petitions or the appeal.

5G security review – Public Safety Canada

In September 2018, the federal government announced a review of national cybersecurity requirements for Canada's 5G networks. The stated objective of the reviews was to provide policy clarity on what security controls or restrictions the government intends to impose on 5G networks in Canada and to which foreign vendors such controls and restrictions would apply. The timelines for the

conclusion of this review were never released by the federal government, which has also not announced its intentions regarding 5G cybersecurity requirements. Following the September 20, 2021 federal election, on September 28, 2021, Prime Minister Justin Trudeau stated: "We will look forward to sharing a decision on many different issues, including telecommunications and Huawei, in the coming weeks," indicating that the government is still weighing some decisions, but is nearing a final decision. Given the range of potential government or regulatory action that may result from this review, the impact on us, and on Canadian mobile service providers in general, cannot be reliably predicted.

International security developments

On May 16, 2019, an executive order entered into force permitting the U.S. Secretary of Commerce to block certain technology transactions deemed to constitute national security risks. The U.S. Department of Commerce subsequently established a list of entities, including Huawei Technologies Co., Ltd. and its global affiliates, to whom the export, re-export or transfer (in-country) of certain restricted technologies was prohibited unless specifically authorized under licence.

In a unanimous vote on July 13, 2021, the U.S. Federal Communications Commission authorized a US$1.9 billion subsidy program to enable telecommunications companies with fewer than 10 million subscribers to replace Huawei and ZTE equipment.

Given the range of potential government or regulatory actions by foreign governments with respect to Huawei, the impact on us, and on Canadian mobile service providers generally, cannot currently be predicted.

CRTC proceeding regarding potential barriers to the deployment of broadband-capable networks in underserved areas in Canada

On December 10, 2019, the CRTC issued *Call for comments regarding potential barriers to the deployment of broadband-capable networks in underserved areas in Canada*, Telecom Notice of Consultation CRTC 2019-406. In this proceeding, the CRTC sought comment on barriers that service providers and communities face in building new facilities, or interconnecting to or accessing existing facilities, and in extending networks into underserved areas in order to offer universal service objective-level services. The CRTC has specifically identified access to affordable transport services and efficient use of support structures as potential barriers. The record of the proceeding is now closed and we anticipate a decision in early 2022. It is too early to determine the impact of the proceeding on us.

CRTC proceeding regarding access to poles owned by Canadian carriers

On October 30, 2020, the CRTC issued *Call for comments regarding potential regulatory measures to make access to poles owned by Canadian carriers more efficient*, Telecom Notice of Consultation CRTC 2020-366. The CRTC commenced the proceeding further to comments in the proceeding initiated by Telecom Notice of Consultation CRTC 2019-406 that untimely and costly access to poles owned by Canadian carriers has negative impacts on broadband deployment, particularly in areas with limited or no access to broadband-capable networks. In the most recent proceeding, the CRTC is considering, among other issues, authorization delays, make-ready costs, spare capacity reservations, joint use agreements and the potential for improved dispute resolution. We are participating fully in the proceeding. It is too early to determine the impact of the proceeding on us.

Government mobile wireless pricing election commitment

Ahead of the 2019 federal election, the Liberal Party of Canada made a commitment to reduce wireless prices by 25%. On March 5, 2020, the Liberal government clarified its expectation that we, Bell, and Rogers (including flanker brands) lower mobile prices for postpaid, bring-your-own-device plans in the 2 to 6 GB range by 25% over a two-year period. To track progress, the government is reporting quarterly on wireless pricing. Although the required price reductions were reported as met in the latest quarterly report which covered the period from October to December 2021, the two-year period to reduce wireless prices is due to end in March 2022, following the initial announcement made in March 2020 to track wireless prices. In light of the fact that the two-year reporting period continues and the government's statement that wireless services are still too expensive, we are unable to determine the full impact of this commitment at this time. The announcement or implementation of specific regulations or other actions intended to reduce cell phone plan prices could precipitate a material reduction in operating expenditures and capital expenditures to ameliorate this impact.

CRTC review of rate setting for wholesale telecommunications services

On April 24, 2020, the CRTC issued *Call for comments – Review of the approach to rate setting for wholesale telecommunications services*, Telecom Notice of Consultation CRTC 2020-131. In this proceeding, the CRTC is seeking comment on whether to change its methodology of setting wholesale rates and, if so, how. The CRTC has stated its intent to use the proceeding to establish a more transparent and efficient rate-setting process. We are participating fully in all stages of the proceeding. It is too early to determine the impact of the proceeding on us.

CRTC review of deadlines for transition to next-generation 9-1-1 service

On June 14, 2021, the CRTC issued Telecom Decision CRTC 2021-199, *Establishment of new deadlines for Canada's transition to next-generation 9-1-1* (NG9-1-1), where the CRTC stipulated revised implementation for NG9-1-1 service in Canada. The CRTC directed NG911 network providers, including us, to establish their NG911 networks, complete all NG911 production onboarding activities, and be ready to provide NG911 voice service by transiting live NG911 traffic, wherever public safety answering points have been established in a particular region, by March 1, 2022. We will work to comply with the directives from this decision, including our recent application proposing to introduce NG9-1-1 and the associated service agreements filed on November 1, 2021. The impact of this proceeding is not expected to be material.

Amendments to Quebec's public and private sector privacy law

On September 22, 2021, the Quebec National Assembly passed *An Act to modernize legislative provisions as regards the protection of personal information*, which received assent the same day. Extensive new requirements governing the collection, use and disclosure of the personal information of individuals in Quebec will be phased in over three years. The Act also creates a new enforcement regime with significant criminal fines and administrative monetary penalties for certain infractions and a private right of action with minimum statutory punitive damages. The full impact of the Act is not yet known because some key provisions, such as those relating to AI, have to be further elaborated through government regulations and interpretive guidance from the regulator. The materiality of the change cannot be fully assessed at this time.

Proposed subsidy increases for Northwestel

On November 2, 2020, the CRTC initiated a review of its regulatory framework for Northwestel Inc. and the state of telecommunications services in Canada's North in Telecom Notice of Consultation CRTC 2020-367. On January 20, 2021, a number of interveners proposed large subsidy increases to Northwestel and other companies providing service in the North. The proceeding is ongoing. The impact of this proceeding is not expected to be material.

Broadcasting-related issues

Review of the Telecommunications Act, the Radiocommunication Act and the Broadcasting Act

On January 29, 2020, the Broadcasting and Telecommunications Legislative Review Panel released its final report entitled *Canada's Communications Future: Time to Act*. The report contains 97 recommendations to update legislation governing broadcasting, telecommunications and radiocommunication for the Government of Canada to consider. Further to the report, on November 3, 2020, the government introduced legislation to amend the *Broadcasting Act*. Bill C-10 would have: brought streaming services that operate over the internet expressly within the scope of the *Broadcasting Act*; provided the CRTC with new and expanded regulatory powers to implement a modernized regulatory framework that addresses declining levels of support for Canadian content over the past several years; and provided a more sustainable source of support going forward. On June 21, 2021, Bill C-10 passed third reading at the House of Commons, but its debate in the Senate was cut short upon the proroguing of parliament and the calling of the federal election. On September 20, 2021, the Liberals were re-elected with a minority government, and may either attempt to reinstate Bill C-10 to the progress it had reached under the previous session, or alternatively, introduce a new bill to reform the *Broadcasting Act* and the entire legislative review process would start anew. It is too early to determine if proposed amendments, as well as any other potential legislative changes arising as a result of the report, will have a material impact on us.

Review of the Copyright Act and Copyright Board reforms

The *Copyright Act*'s statutorily mandated five-year review was due in 2017, and a process for conducting the review via parliamentary committee was announced in December 2017. The House of Commons Standing Committee on Industry, Science and Technology, with the assistance of the House of Commons Standing Committee on Canadian Heritage, completed the review early in 2019, and both committees presented reports to the House of Commons in May and June of 2019. To date, no legislation has been proposed as a result of the parliamentary review, although it has led to further government consultations to explore specific issues raised during the review, such as how to modernize the copyright framework for online intermediary liability, AI and IoT. The timeline for potential changes to the *Copyright Act* is uncertain, although government officials have signaled that copyright reform legislation may be tabled in early 2022. The policy approach for copyright has traditionally been based on a balance of interests of creators and consumers, and as a result, the impact of this proceeding is not expected to be material.

On April 14, 2021, ISED announced the launch of a consultation to modernize the copyright framework for online intermediaries. The consultation builds on the work done in 2018 and 2019 as part of the parliamentary review of the *Copyright Act*. ISED has sought comments on a broad range of issues, including the role of intermediaries in policing online copyright infringement, how to remunerate rights holders for the use of their content on online platforms, and what types of enforcement tools (such as website-blocking orders) should be available against intermediaries. We participated in this consultation and filed joint comments with other ISPs on May 31, 2021. Among other things, the comments advocated for a continuation of existing government policy that provides ISPs with unconditional safe harbour protection for the potentially infringing activities of their customers. It is too early to tell whether this consultation will have a material impact on us.

On July 19, 2021, the government announced a consultation to modernize the copyright framework applicable to AI and IoT. The government's objectives were to support innovation and investment in AI and other digital and emerging technologies, support Canada's cultural industries and preserve the incentive to create and invest provided by the economic rights set out in the Act, and support competition and marketplace needs regarding IoT devices and other software-enabled products. We participated in this consultation and filed joint comments with other ISPs on September 17, 2021. Among other things, the joint comments advocated that no changes should be made to the *Copyright Act* that would unduly burden or create potential liability risks for ISPs. Similar to the broader *Copyright Act* review, the impact of this proceeding is not expected to be material.

Legal challenge to the CRTC's ability to regulate affiliation agreements

The CRTC's ability to regulate affiliation agreements between broadcasting distributors and programming services was challenged by a vertically integrated broadcasting entity before the Federal Court of Appeal. The Federal Court of Appeal heard the case on May 18, 2021, and released its decision on July 28, 2021. We were granted leave to intervene in the case and appeared at the hearing, where we defended the CRTC's jurisdiction. The Federal Court of Appeal's decision confirmed that the CRTC has jurisdiction to govern economic aspects of disputes between programming services and distributors, and generally supported our competitive position by reinforcing the validity of competitive safeguards put in place by the CRTC to protect non-vertically integrated companies in the broadcasting sector. On September 29, 2021, the vertically integrated company filed an application for leave to appeal the Federal Court of Appeal's decision to the Supreme Court of Canada. On November 25, 2021, we filed a response opposing the application for leave to appeal. It is too early to determine the impact this application for leave to appeal might have on our broadcasting distribution activities.

Consultation on the government's proposed approach to address harmful content online

On July 29, 2021, the government launched a consultation on its proposed approach to address harmful content online. The government's proposals largely target social media and content platforms, but a few proposals would also have impacted ISPs. Accordingly, we participated in this consultation and filed joint comments with other ISPs on September 25, 2021. Among other things, the joint comments advocated that the legal framework for addressing harmful online content should not create undue obligations or liability for telecommunications carriers, and that requirements to block access to content online or to provide subscriber information should continue to require judicial orders. The impact of this proceeding is not expected to be material.

10. Risks and risk management

10.1 Overview

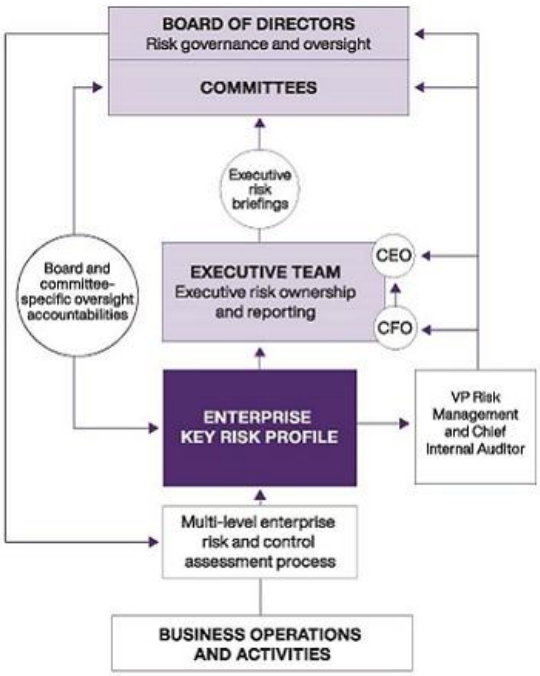
Risk arises from the uncertainty around events, actions and our business activities that may have a negative impact on the achievement of our objectives and goals, but may also create positive opportunities. Risk oversight and management processes are integral elements of our risk governance and strategic planning practices.

Risk governance, oversight and culture

We maintain strong risk governance and oversight practices, with risk oversight responsibilities outlined in the policy manual for our Board of Directors (Board). Our Board is responsible for ensuring that material risks to our business are identified, and for overseeing the implementation of systems and processes that effectively identify, monitor and manage material risks.

Our risk governance culture starts with clear risk management leadership and transparent communications, supported by our Board and Executive Team. In our approach to risk governance, accountability for the management of risks and reporting of risk information is clearly defined. Training and awareness programs, appropriate resources and risk champions help to ensure that we have the risk management competencies necessary to support effective decision-making across the organization. Ethics are integral to our risk governance culture, and our code of ethics and conduct directs team members to meet the highest standards of integrity in all business decisions and actions.

TELUS enterprise risk governance and management



Responsibilities for risk management

We take a multi-step approach to managing risks, sharing responsibility across the organization and recognizing that agile and effective risk management is integral to the achievement of our strategic and operational objectives. The first line of assurance is executive and operating management, and these team members are expected to integrate risk management into core decision-making processes (including strategic planning processes) and day-to-day operations. We have risk management and compliance functions across the organization, in areas that include Finance, Legal, Data and Trust (which includes Privacy), Security and other business operational areas, and these form the second line of assurance. These teams establish policies, provide guidance and expertise, and work collaboratively with management to monitor the design and operation of controls. Internal Audit is the third line of assurance, providing independent assessments of the effectiveness and efficiency of risk management and controls across all areas of our business.

Risk and control assessment process

Events within and outside of TELUS present us with both risks and opportunities. We strive to avoid taking on undue risk and we work to ensure alignment of risks with business strategies, objectives, values and risk tolerances; we also seek to take advantage of opportunities that may emerge and, in so doing, consider the impacts of our decisions on our multiple stakeholders. We strive to proactively mitigate our risk exposures through performance planning, operational management and risk response strategies, which can include mitigating, transferring, retaining and/or avoiding risks.

We have in place multi-level enterprise risk and control assessment processes that solicit and incorporate insights from leaders across all areas of TELUS and enable us to track multi-year trends in key risks and the control environment. A comprehensive annual risk and control assessment is conducted with leaders and an annual assessment is completed by Board members to provide perspective on key enterprise risks. Results of the assessments are shared with senior management, our Board of Directors and Audit Committee, and inform the development of our risk-focused internal audit program. These risk assessments are also incorporated into our strategic planning, operational risk management and performance management processes. In addition, key enterprise risks are reviewed on a quarterly basis in order to capture and communicate any changes, and detailed risk assessments are conducted for various risk management, strategic and operational initiatives throughout the year.

10.2 Principal risks and uncertainties

This section describes our principal risks and uncertainties. The significance of these risks is such that they, alone or in combination, may have material impacts on our operations, results, reputation and brand, as well as the approaches taken by investment analysts when evaluating or valuing TELUS as an investment. These risks and the associated risk mitigation activities are addressed further in the following sections.

On March 11, 2020, the World Health Organization declared the spread of the novel coronavirus associated with COVID-19 to be a global pandemic. Due to the wide range of possible COVID-19 pandemic outcomes and the uncertainty with regard to the duration and impact of the pandemic, government policies implemented to limit its spread and the ongoing development and distribution of effective vaccines and treatments, we cannot accurately forecast the impact of the COVID-19 pandemic on our future operations, financial performance, financial position or cash flows. Throughout 2021, successive waves of the pandemic continued to have a material impact on our customers and on our business. Restrictions on travel continued to reduce our revenue from mobile roaming and lockdowns have led to decreased foot traffic which has impacted loading across in-person channels. Our global operations have also been impacted depending on the geographical regions where we and our customers operate, and other international, regional and local government responses to the COVID-19 pandemic, for example, temporary site closures enforced across our delivery sites. In response, we have made significant investments to adapt to these challenges, ensuring that our workforce is equipped to be flexible when restrictions are imposed. While high vaccination rates have enabled the reopening of many areas of the economy, successive waves of COVID-19 cases have resulted in restrictions being introduced and continue to affect customer behaviour, for example by driving a demand for online shopping.

The COVID-19 pandemic has impacted our customers, suppliers and vendors, our team members and our communities, and this has led to changes in our business and operations, including the levels of demand for, and supply of, the products and services that we offer and the channels through which we offer them. Risks and uncertainties that could affect our business results and the market prices of our debt and equity securities, including those of our TELUS International (Cda) Inc. subsidiary, and that could also be heightened by the COVID-19 pandemic or by any future pandemic or similar event include, but are not limited to, the risks described in *Section 10*.

Although we believe the measures we take to identify and mitigate risks are reasonable, there can be no expectation or assurance that they will effectively mitigate or fully address the risks described, or that new developments and risks will not materially affect our operations or financial results. Despite our efforts to implement controls in our domestic and international operations, there can be no assurance that these controls will prove to be effective in all instances. Forward-looking statements in this section and elsewhere in this MD&A are based on the assumption that our risk mitigation measures and controls will be effective. See *Caution regarding forward-looking statements*. We consider our exposure to risk in four categories: strategic, operational, financial and compliance.

Strategic risks and uncertainties

These strategic risks arise from uncertainties that may shape the nature and focus of our strategic direction as an organization and our ability to sustain profitable revenue growth.

Risk	Potential impact	Mitigations
Regulatory matters (see 10.3)	We operate in a number of highly regulated industries and are therefore subject to a wide variety of laws and regulations domestically and internationally. Policies and practices of elected officials and regulatory decisions, reviews and government activity may have strategic, operational and/or financial (including revenue and free cash flow).	• Advocacy • Spectrum acquisition strategies • Non-regulated, diversified revenue streams • Prudent investment and cost efficiency planning decisions that consider our regulatory environment
Competitive environment (see 10.4)	Competitor expansion, activity and intensity (pricing, bundling), as well as non-traditional competitors, disruptive technology and disintermediation, may alter the nature of the market and impact our market share and financial results (including revenue and free cash flow).	• Customers first strategy • Bundling of services • Diversified investment • Monitoring of competitors • Product portfolio innovation and acquisition • Product life cycle management
Technology (see 10.5)	Consumer adoption of alternative technologies and changing customer expectations have the potential to impact our revenue streams and customer churn rates.	• Technology road map • Fibre deployment • Spectrum acquisition strategies • 5G roll-out
Suppliers (see 10.6)	We may be impacted by supply chain disruptions and lack of resiliency in relation to global or localized events. Dependence on a single supplier for products, components, service delivery or support may impact our ability to efficiently meet constantly changing and rising customer expectations while maintaining our quality of service.	• Supplier risk profiling and multi-vendor strategy • Vendor partnerships, contracts and agreements • Supplier code of conduct • Business continuity management plans Information on supply chain sustainability can be found in our sustainability report[1] at **telus.com/sustainability**.
Organizational change (see 10.7)	Investment and acquisition activities present opportunities to expand our scope but may expose us to new risks. We may be unsuccessful in gaining market traction/share and realizing benefits, and integration efforts may divert resources from other priorities.	• Investment and acquisition strategy • Pre- and post-acquisition due diligence • TELUS Ventures investments • Innovation partnerships

1 Not incorporated by reference

Operational risks and uncertainties

Operational risks arise from uncertainties we face in our day-to-day operations. Our approach is guided by our code of ethics and conduct, while our operations are supported by policies, procedures and internal controls.

Risk	Potential impact	Mitigations
Customer service (see 10.8)	Our service delivery directly impacts customer experience, customer churn rates, and likelihood to recommend outcomes. We may not be able to deliver the excellence our customers expect or maintain our competitive advantage in this area.	• Process simplification and digitization • Customer experience management
Our systems and processes (see 10.9)	Systems and technology innovation, maintenance and management may impact our IT systems and network reliability, as well as our operating costs.	• Life cycle management and adoption of emerging solutions • Project management • Change management • Continuous monitoring and response programs • Disaster recovery program and plans
Security and data protection (see 10.10)	Our awareness of security issues and the effectiveness of our security controls influence our ability to identify potential threats and vulnerabilities, protect our environment, detect breaches, respond to attacks and restore normal operations. A successful disruption may impact the operations of our network or allow the unauthorized interception, destruction, use or dissemination of customer, team member or business information.	• Security policies, standards and methodologies • Privacy and security impact assessments • Vulnerability assessments • Continuous monitoring and response programs

Our team (see 10.11)	The rapidly evolving and highly competitive nature of our business and changing workforce demographics, as well as the relative effectiveness of internal training, development and succession programs, may impact our ability to attract, develop and retain team members with the skills required to meet the changing needs of our customers and our business.
	
	Increased mental health challenges faced by team members (and their families) due to ongoing pandemic pressures may result in the loss of key team members through short-term and long-term disability. An organic shift in personal values/expectations may also lead to elevated voluntary turnover.
		• Performance development program
		• Health and well-being strategy:
		  • Mental health training for leaders and all team members
		  • Ongoing awareness-building with managers
		  • Early intervention strategies for those facing significant challenges
		• Compensation and benefits program
		• Retention and succession planning
		• Work Styles program
		• Integration of team members joining from acquisitions
		
		Additional information on our team member programs can be found in our sustainability report at **telus.com/sustainability**.

Our environment (see 10.12)	Natural disasters, pandemics, climate change impacts and disruptive events may impact our operations, customer satisfaction and team member experience.	• Business continuity and disaster recovery program and plans • Emergency Management Operating Committee (EMOC) • Medical Advisory Council (MAC) to ensure our response and mitigation measures related to the COVID-19 pandemic are informed and supported by qualified medical advice • Commitments to sustainable and responsible business practices, with targets that balance economic growth with positive social and environmental outcomes See *Section 5.2* of our 2021 Annual Information Form for a description of our alignment with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). Additionally, a detailed report of our environmental risk mitigation activities can be found in our sustainability report at **telus.com/sustainability**.
Real estate matters (see 10.13)	Real estate investments are subject to possible financing risks and uncertainty of future demand, occupancy and rental rates, especially during the pandemic. Future real estate developments may not be completed on budget or on time and may not obtain lease commitments as planned.	• Rationalization of locations • Fixed-price supply contracts and expert project management oversight • Costs for the real estate projects are monitored through capital gating and approval processes • Arrange pre-lease agreements with prospective tenants prior to construction completion to fill vacant space • Work from home initiatives

Financial risks and uncertainties

Financial risks arise from uncertainties involved in maintaining appropriate levels of liquidity, financing and debt to sustain operations and support future growth.

Risk	Potential impact	Mitigations
Financing, debt and dividends (see 10.14)	Our access to capital markets at optimal pricing may be impacted by general market conditions and investors' assessments of our cash generation capability. Our current intention to return capital to shareholders could constrain our ability to invest in our operations to support future growth.	• Shelf prospectus in effect until June 2023 • Investment grade credit ratings • Credit facilities, trade receivables securitization and commercial paper program • Foreign currency forward contracts
Tax matters (see 10.15)	Complexity of domestic and foreign tax laws, regulations and reporting requirements applying to TELUS and our international operating subsidiaries may impact financial results, effective governance of tax considerations and compliance. International acquisitions and expansion of operations increase our exposure to multiple forms of taxation.	• Tax strategy • Internal taxation professionals • External advisors
The economy (see 10.16)	Changing global economic conditions including changing expectations about inflation, as well as our effectiveness in monitoring and revising growth assumptions and contingency plans, may impact the achievement of our corporate objectives, our financial results (including free cash flow), and our defined benefit pension plans.	• Pension investment governance and monitoring • Foreign currency forward contracts • Diverse product sets • Efficient business operations

Compliance risks and uncertainties

Compliance risks arise from uncertainties related to compliance with laws and regulations across the many jurisdictions in which we operate globally. We have policies, controls, processes and contractual arrangements in place, as well as insurance coverage, that are designed to support compliance and limit our exposure to compliance risks.

Risk	Potential impact	Mitigations
Litigation and legal matters (see 10.17)	Complexity of, and compliance with, laws, regulations and commitments may have a financial and reputational impact.	• Customer contracts and agreements • Supplier contracts and agreements • Insurance policies • Compliance programs

TELUS International subordinate voting shares

The market price of the TI subordinate voting shares may be volatile and is likely to fluctuate due to a number of factors, including actual or anticipated changes in profitability; general economic, social or political developments; changes in industry conditions; changes in governance regulation; inflation; the general state of the securities markets; and other material events. TI may not achieve its publicly announced targets, which could result in a reduction in the market price of the TI subordinate voting shares. A reduction in the market price of the TI subordinate voting shares due to these or other factors could result in a reduction in the fair value of TI multiple voting shares held by TELUS.

10.3 Regulatory matters

Risk category: Strategic

The regulatory regime under which we operate, including the laws, regulations, and decisions in regulatory proceedings and court cases, reviews, appeals, policy announcements and other developments, such as those described in *Section 9.4 Communications industry regulatory developments and proceedings*, imposes conditions on the products and services that we provide and the ways in which we provide them. The regulatory regime sets forth, among other matters, rates, terms and conditions for the provision of

telecommunications services, licensing of broadcast services, licensing of spectrum and radio apparatus, and restrictions on ownership and control by non-Canadians.

The allocation and use of spectrum in Canada are governed by Innovation, Science and Economic Development Canada (ISED), which establishes spectrum policies, determines spectrum auction frameworks, issues licences and sets radio authorization conditions.

Canadian ownership and control requirements, including restrictions on the ownership of the common shares of TELUS Corporation (Common Shares) by non-Canadians, are imposed by the *Canadian Telecommunications Common Carrier Ownership and Control Regulations* under the *Telecommunications Act* (collectively, the Telecommunications Regulations) and the *Direction to the CRTC (Ineligibility of Non-Canadians)*, as ordered by the Governor in Council pursuant to the *Broadcasting Act* (the Broadcasting Direction).

With our Internet of Things (IoT), business, health, agriculture and international footprint, our operations must also comply with the laws, regulations and decisions in effect in all of the jurisdictions in which we operate. These jurisdictions, as well as the contracts that we enter into (particularly those of our TI and TELUS Agriculture subsidiaries), require us to comply with, or facilitate our customers' and clients' compliance with, numerous complex and sometimes conflicting legal regimes, both domestically and internationally. These laws and regulations relate to a number of aspects of our business, including anti-corruption, internal financial control and disclosure obligations, data privacy and protection, wages-and-hours-of-work standards, employment and labour relations, trade protections and restrictions, import and export control, tariffs, taxation, sanctions, data and transaction processing security, payment card industry data security standards, records management, user-generated content hosted on websites we operate, privacy practices, data residency, corporate governance, anti-trust and competition, team member and third-party complaints, telemarketing regulations, telephone consumer regulations, government affairs and other regulatory requirements affecting trade and investment. Our customers and clients are also located around the world, and the laws and regulations that apply include, among others, U.S. federal laws and regulations; state laws on third-party administration services, utilization review services, data privacy and protection telemarketing services; and state laws on debt collection in the United States, collectively enforced by numerous federal and state government agencies and attorneys general; as well as similar consumer protection laws in other countries in which our international subsidiaries' clients are based. Failure to provide services in a manner that complies with any such requirements could result in breaches of contracts with our international subsidiaries' clients. The application of these laws and regulations to our international subsidiaries' clients is often unclear, and laws and regulations of different jurisdictions may at times conflict. The global nature of our operations increases the difficulty of compliance. For example, in many foreign countries, particularly in those with developing economies, it is common to engage in business practices that are prohibited by regulations applicable to us or our international subsidiaries' clients, including Canada's *Corruption of Foreign Public Officials Act* and the U.S. *Foreign Corrupt Practices Act*. We cannot provide assurance that our international subsidiaries' clients or their customers will not take actions in violation of our internal policies or Canadian or U.S. laws. Compliance with these laws and regulations may be further challenged by the shift to remote working arrangements that was initiated in response to the COVID-19 pandemic and is expected to continue in the near term. For example, payment card industry and *Health Insurance and Portability and Accountability Act* guidance is evolving in light of these remote working arrangements globally, and thus there is uncertainty over additional costs and our ability to comply with these evolving standards.

We have acquired a number of businesses and entered into new areas in the health sector, including virtual care and digital pharmacy services, that are highly regulated and that also involve risk related to the quality of care. The operations of our health business are subject to various federal and provincial laws and regulations, as well as policies, guidelines and directives issued by regulatory and administrative bodies, such as medical associations, provincial colleges of physicians and other associations governing the practice of the health professionals (the holders of licences and permits to provide healthcare services) that we engage for the delivery of our services. In the case of virtual care, in addition to the laws and regulations applicable to the provision of "insured" services (including temporary billing codes adopted by each provincial government in response to the COVID-19 pandemic, which are determined by each province and are not uniform across Canada), the related laws, regulations, policies, guidelines and directives are still evolving and thus are subject to being interpreted and applied in different ways.

In Canada, federal and provincial privacy laws are changing, with a trend toward more stringent requirements and greater enforcement powers. The province of Quebec recently passed amendments to the *Act Respecting the Protection of Personal Information in the Private Sector*. Over three years, the amendments will phase in major changes and new regulatory requirements in areas such as notice, consent, data breach notification and the use of automated decision systems. In September 2023, the amendments will implement a new enforcement regime, which includes substantial fines, administrative monetary penalties and a private right of

action with minimum statutory damages. The federal government may also re-introduce privacy reform legislation that will increase the regulatory burden, as described in *Section 9.4 Communications industry regulatory developments and proceedings* . Similarly, provinces such as British Columbia and Ontario are considering privacy reforms that risk fragmenting the regulatory landscape in Canada.

Potential impact

Changes to the regulatory regime under which we operate, including changes to laws and regulations and ownership rules or the enactment of laws or regulations by provinces or municipalities that threaten unitary federal regulatory authority over telecommunications in Canada, could materially and adversely affect our business. These changes may increase our costs, restrict or impede the way we provide our services, limit the range of services we provide, and otherwise cause us to reduce our capital and operational expenditures, including investment in network technologies, and alter customer perceptions of our operations. The further regulation of our broadband, mobile and other operations and any related regulatory decisions could also restrict our ability to compete in the marketplace and limit the return we can expect to achieve on past and future investments in our network. Such changes may not be anticipated or, when they are anticipated, our assessment of their impact on us and our business may not be accurate.

Our ability to provide competitive services, including our ability to enhance our current services and offer new services on a timely basis, is also dependent on our ability to obtain access to new spectrum licences at a reasonable cost as they are made available. The revocation of, or a material limitation on obtaining, spectrum licences could have a material adverse effect on our business and our operations, including the quality and reliability of our network and service offerings, as well as our financial condition.

Government or regulatory actions with respect to certain countries or suppliers may also impact us, and other Canadian telecommunications carriers generally, and may have material non-recurring incremental cost consequences for us.

Changes to the regulatory regime under which we operate our health business, including enactment of laws, regulations and policies, guidelines or directives by regulatory and administrative bodies, such as medical associations, provincial colleges of physicians and other associations governing health professionals, could adversely affect the reputation, brand, financial results and operations of our health business. As it relates to our virtual care business, uncertainty regarding the regulatory regime, including the temporary measures adopted in response to the COVID-19 pandemic, combined with the anticipated regulatory changes that may be enacted by provincial governments, could have adverse effects on our business if they result in the revocation of, or significant limitations on, our ability to provide and charge for the provision of virtual care services to our customers.

Overall, compliance with laws and regulations in multiple jurisdictions globally may involve significant costs, consume significant time and resources or require changes in our business practices that result in reduced revenue and profitability. We may also face burdensome and expensive governmental investigations or enforcement actions regarding our compliance. Non-compliance could result in fines, damages, criminal sanctions against us, our officers or our team members, prohibitions on the conduct of our business, damage to our reputation, restrictions on our ability to process information, allegations by our customers that we have not satisfied our contractual obligations, or other unintended consequences. In addition, we are required under various laws to obtain and maintain accreditations, permits and/or licences for the conduct of our business in all jurisdictions in which we have operations and, in some cases, where our customers receive our services, including the United States, Canada, Europe and Asia. If we do not maintain our accreditations, licences or other qualifications to provide our services, or if we do not adapt to changes in legislation or regulation, we may have to cease operations in the relevant jurisdictions and may not be able to provide services to existing customers or attract new customers. Our failure to comply with applicable legal and regulatory requirements could have a material adverse effect on our business, financial performance, financial condition and cash flows.

Changes over the past 12 months

Significant regulatory developments and proceedings by the Government of Canada, and its various agencies, continued through 2021. Certain significant regulatory developments and proceedings relevant to our business and industry are highlighted in *Section 9.4*. These include, but are not limited to, the following:

- The issuance of the CRTC's decision in its review of the regulatory framework for mobile wireless services
- Continued cybersecurity review of international suppliers of 5G network equipment and technologies to evaluate potential risks involved in the development of 5G networks in Canada
- The CRTC's revisions to its 2019 decision, in which it had significantly reduced wholesale internet service rates charged by incumbent local exchange carriers for wholesale digital subscriber services and cable companies' third-party internet access services to competitor internet service providers
- The expectation set out by the federal government that we, BCE Inc. and Rogers (including respective flanker brands) lower mobile prices for postpaid, bring-your-own-device plans in the 2, 4 and 6 GB range by 25% by March 2022
- The award of spectrum licenses in the 3500 MHz band, including the award of set-aside licenses in B.C., Alberta and Manitoba to Videotron, and our application for judicial review of that decision
- The agreement under which Rogers would acquire Shaw Communications Inc. (Shaw) requires approvals from the Competition Bureau, the CRTC and ISED. The governmental reviews of this transaction are underway and will continue into 2022.

Mitigation

We advocate at all levels of government, including: our participation in CRTC and federal government proceedings, studies, reviews and other consultations; representations before provincial and municipal governments pertaining to telecommunications issues; legal proceedings impacting our operations at all levels of the courts; and other relevant inquiries (such as those relating to the exclusive federal jurisdiction over telecommunications), as described in *Section 9.4 Communications industry regulatory developments and proceedings*.

We will continue to monitor regulatory developments and may need to reconsider our investment decisions with a view to generating a necessary return on capital. Our risk mitigation strategies for investment decisions may include, but are not limited to, reducing capital and operational expenditures and reducing employment.

We continue to strive to comply with all radio authorization and spectrum licence and renewal conditions, and we plan to participate in future spectrum auctions. We continue to advocate with the federal government for fair spectrum auction rules, so that companies like TELUS can bid on an equal footing with other competitors for spectrum blocks available at auction and can purchase spectrum licences available for sale from competitors. We also continue to strongly advocate that preferential treatment is not required and is not in the best interests of Canadians, especially rural Canadians, for regional carriers, including for 5G services, most notably carriers that are currently part of established, sophisticated and well-financed cable companies.

As it relates to our health business, we monitor new and amended regulations, policies, guidelines and directives to stay ahead and plan for new and changing requirements. In addition, we have put in place internal governance to ensure oversight of clinical practice across all healthcare operations, to manage compliance with licensing requirements and to ensure quality of care. We also advocate with the federal and provincial governments for reasonable regulations, in part by participating in market studies and other consultations.

The Canadian Telecommunications Common Carrier Ownership and Control Regulations require us to monitor and control the level of non-Canadian ownership of our Common Shares. These powers have been incorporated into our Articles and extended to ensure compliance under the *Broadcasting Act*.

10.4 Competitive environment

Risk category: Strategic

As the telecommunications industry continues to evolve, we have expanded our offerings beyond the delivery of traditional voice and data services for consumer and business customers. We offer services in security and home automation, next-generation digitally-led customer experiences, healthcare and agriculture, both inside and outside Canada (see *Competition overview* in *Section 4.1*). We face intense competition in our traditional voice and data services, as well as in all sectors of our business operations and in all geographic markets.

Mobile markets are characterized by aggressive competition from established players and regional carriers, with competitors using aggressive promotional offers to attract and retain customers.

In the consumer market, cable companies and other competitors continue to offer a mix of residential local voice over IP (VoIP), long distance, internet access and, in some cases, mobile services under one bundled and/or discounted monthly rate, along with their existing broadcast or satellite-based TV services. Some of our competitors own and continue to acquire broadcast content assets, and we continue to source content from them for our broadcasting services.

In the business market, traditional facilities-based competitors continue to compete based on network footprint and reliability, while hyperscalers such as Microsoft (Teams, Skype) and other IP voice/collaborative service providers such as Zoom emphasize price, flexibility and convenience. These service providers do not invest in, or own, networks or other infrastructure but compete directly with video, voice and messaging services across both the consumer and business market segments.

TI is a leading digital customer experience innovator with a focus on customer experience and transformation innovation that designs, builds and delivers next-generation digital solutions, including artificial intelligence (AI) and content moderation. TI competes with professional services companies that offer consulting services, information technology companies with digital capabilities, AI and data labelling providers, and traditional contact centre and business process outsourcing companies that are expanding their capabilities to offer higher-margin and higher-growth digital services. In addition, the continued expansion of the digital services offered by TI and the markets in which it operates will also introduce it to new and different competitors, many of which may have significantly greater market recognition than TI in the markets it is entering, as well as increased competition from existing competitors that are also expanding their services to include digital capabilities. From time to time, TI's clients that are currently using services may determine that they can provision these services in-house. As a result, TI faces competitive pressure to continually offer services in a manner that will be viewed by its clients as better and more cost-effective than the in-house provision of those services.

TELUS Health competes with other providers of virtual and clinical care, electronic medical records (EMR) and pharmacy management products, claims adjudicators, systems integrators and health service providers, including those that own a vertically integrated mix of health services delivery, IT solutions and related services, as well as global providers. With consumer-facing health products, we compete in the provision of virtual healthcare services (with access to general practitioners, nurse practitioners, mental health therapists and dieticians through virtual consultations), preventative health services, and personal emergency response services.

TELUS Agriculture is a global data science and digital technology business leveraging technology innovation, ingenuity and AI to optimize agricultural production and the global and local food and consumer goods supply chain. While we maintain a broad solution set as compared to other agriculture technology providers, we compete with focused software and IoT competitors.

Potential impact

Our customers' loyalty and their likelihood to recommend TELUS both depend on our ability to provide a service experience that meets or exceeds their expectations, a range of relevant products and services, and reliable state-of-the-art networks.

Intense competition from mobile competitors, traditional telephony, data, IP and IT service providers and VoIP-focused competitors in both the consumer and business markets, along with various promotional offers, inclusive bundles and rate plans, places pressures on average revenue per subscriber per month (ARPU), average billing per subscriber per month (ABPU), churn rates and costs of acquisition and retention. In addition, technological substitution and technological advances across all key business lines

and market segments have blurred the boundaries between broadcasting, internet service and telecommunications sectors (see *Section 10.5 Technology*).

If TI is unable to compete successfully against companies that offer similar services and offer its clients a compelling alternative to the in-house provision of services, the results could include higher client churn rates, revenue loss, pressures on recruitment and retention of team members, service price reductions, and increased marketing and promotional expenses, as well as reduced operating margins, which could have a material adverse effect on the business, financial performance, financial condition and cash flows.

We also face intense competition in agriculture, health and digital technologies from companies that offer similar services. If we are unable to effectively differentiate our offerings in these sectors, our business, financial performance, financial condition and cash flows could be materially adversely impacted, and we may not achieve the benefits of the significant investments that we have made in acquiring, integrating and growing these businesses.

Changes over the past 12 months

On March 15, 2021, Shaw and Rogers announced an agreement under which Rogers would purchase all of Shaw's issued and outstanding Class A and Class B shares for $40.50 per share, representing a transaction value of approximately $26 billion (including approximately $6 billion in Shaw debt). While this transaction is subject to regulatory review by the CRTC, ISED and the Competition Bureau (including if approved, potential requirements for remediation), regardless of outcome, a business combination of this size has significant competitive implications across the telecommunications landscape in Canada. As of February 10, 2022, those reviews have yet to be concluded.

In October 2021, the flanker market (all carriers) aligned to meet the ISED recommended 25% price reduction on 2, 4 and 6GB rate plans. These plans are available across all flanker brands for 4G service with bring-your-own-phone only, effectively increasing the financed entry point to $50 across all regions in the flanker market.

In October 2020, the CRTC approved the application from Space Exploration Technologies Corp. (SpaceX Starlink) to provide low-earth orbit satellite internet to rural Canadians. Starlink did not complete its beta testing as expected in 2021, although the size of the beta test continues to grow with reports that Starlink now has over 140,000 customers across 20 countries. However, customers have reported long lead times on equipment delivery. Additionally, in August 2021, the Government of Canada announced a $1.44 billion investment in Telesat's low-earth orbit satellite constellation. Other competitors in the market include Amazon (Kuiper), Boeing, OneWeb and the Europe-based Thales Alenia. However, as of February 10, 2022, these companies do not yet have approval to provide services in Canada.

Canadian cable competitors are licensing next-generation TV platforms while continuing to increase the speed of their internet offerings and their roll-out of Wi-Fi services in metropolitan areas. Over-the-top (OTT) services, such as Amazon Prime Video, Apple TV, Disney+, Netflix and YouTube, are also competing for share of viewership, which may accelerate the disconnection of traditional paid TV services or affect subscriber and revenue growth in our TV and entertainment services.

Erosion of our residential voice service and the decline of higher-margin legacy voice revenues are expected to continue, due to ongoing technological substitution by mobile and VoIP and competition. This decline has been partially offset by growth in demand and/or migration of customers to IP-based platforms.

The COVID-19 pandemic has driven an accelerated adoption of cloud-based solutions (IP voice, collaboration and network-as-a-service (NaaS) offerings) and expedited the shift from legacy business solutions to next-generation technologies, as businesses adopted solutions that enable remote working arrangements.

Non-traditional competitors such as Amazon, Google and Microsoft are entering the business market and are able to leverage their global scale to offer low-cost data storage and cloud computing services. In addition, rapidly evolving technologies, such as software-defined networks (SDNs) and virtualized network functions (VNFs), enable the layering of new services in cloud-centric solutions.

Digital health adoption, including virtual care, is accelerating, prompting rapid expansion of competitor offerings and the emergence of new players in the market, capitalizing on increased demand and available government funding. Early in the COVID-19 pandemic, non-traditional healthcare companies, such as Google, Amazon Web Services and Apple, also entered the healthcare space.

Within the Canadian digital health market specifically, several of TELUS Health's long-standing competitors announced significant investments or acquisitions that mirror the activities of U.S.-based or international companies. The overall trend sees competitors quickly expand product offerings through partnerships or acquisitions. In several cases, some of our competitors are now working together, such as Loblaw Companies Ltd. and Maple Corporation, or Sun Life Financial and Dialogue Technologies Inc. However, we believe no other digital health provider spans the Canadian healthcare ecosystem with breadth or depth comparable to TELUS Health.

In the markets TI competes in, competitors are actively building scale through consolidation (e.g. Sitel Group acquisition of Sykes Enterprises, Inc.) and enhancing digital capabilities through niche acquisitions. There was also a steep rise in employee attrition and labour rates in 2021, in particular at global IT companies, with demand for skilled talent generally driving higher wages worldwide.

Mitigation

Our top corporate priority is putting customers first and earning industry leadership in likelihood to recommend. In fact, 60% of our 2021 internal corporate scorecard is weighted to team member engagement and customer experience. To enhance customer experience, we continue to invest in our products and services, system and network reliability, team members, and system and process improvements. Additionally, with our product life cycle management processes, we endeavour to introduce innovative products and services through both research and development and acquisition, enhance our current services with integrated bundled offers, and invest in customer-focused initiatives to bring greater transparency and simplicity to our customers, all in order to differentiate ourselves from our competition.

Our 4G technology covers approximately 99% of Canada's population, which has enabled us to establish and maintain a strong position in smartphone and data device selection and expand roaming capability to more than 225 global destinations. To compete effectively across customer segments, we offer a wide range of services through our TELUS, Koodo and Public Mobile brands. Each brand has a unique value proposition and web-based channel (see *Our capabilities* in *Section 4.1* and *Our major brands and distribution channels* in *Section 4.2*). TELUS' 5G network has been deployed across most major tier 1 and tier 2 areas in Canada, and covered 70% of Canada's population as at December 31, 2021. As we expand our 5G coverage, we will continue to offer a network that is reliable, fast and built in full compliance with all of the Health Canada safety guidelines in order to provide our customers with faster speeds, increased capacity and near-instantaneous responsiveness, while also enabling applications such as remote surgery and autonomous cars and the creation of truly smart cities (see *Our technology, systems and properties* in *Section 4.2*).

We are continuing to make significant investments in our broadband infrastructure, including connecting more homes and businesses directly to our fibre-optic network. At December 31, 2021, more than 2.7 million households and businesses in B.C., Alberta and Eastern Quebec were connected with fibre-optic cable, which provides these premises with immediate access to our fibre-optic infrastructure. This is up from approximately 2.5 million households and businesses at December 31, 2020. Our broadband investments extend the reach and functionality of our IP TV services and business and healthcare solutions, and are also enabling a more efficient and timely evolution to a converged 5G network (see *Our technology, systems and properties* in *Section 4.2*).

Our IP TV and OTT multimedia initiatives support the next generation of IP TV and, importantly, tie our OTT environment to a single platform, which allows us to be agile in the delivery of OTT services, such as Amazon Prime Video, Apple TV, Disney+, Netflix and YouTube, while also strengthening our leadership position in Western Canada in the provision of high-definition linear channels, video-on-demand services and ultra-high definition 4K HDR content. Our strategy is to aggregate and integrate content and applications and make them accessible for our customers' enjoyment, on a timely basis across multiple devices. We have demonstrated that it is not necessary to own content in order to make it accessible to customers on an economically attractive basis, provided there is timely and strict enforcement of the CRTC's regulatory safeguards. In addition, as more OTT service providers launch services and offer higher-resolution video over the internet, we continue to make investments in our network. As of January 2022, TELUS PureFibre is still the leader in Canada in the Netflix Internet Service Provider (ISP) Speed Index, a measure of prime-time Netflix performance delivered by a specific group of ISPs around the world, as well as being ranked as the fastest ISP in Canada among major ISPs by U.S.-based PCMag. In 2021, we were ranked first in network coverage, speed, reliability or experience by Opensignal, Ookla and Tutela.

Our SmartHome Security and Secure Business solutions offerings further leverage our infrastructure investments and our proven customer experience capabilities to enhance our suite of services with video surveillance and analytics, home and business automation and related safety and security monitoring. These services leverage smartphone applications and our leading PureFibre and wireless networks, while also generating multi-service bundling and retention profiles.

We continue to add to our capabilities in the business market through product development, acquisitions and partnerships and investments in SDN, unified communications and IoT. By acquiring and combining six companies (bluArc, BroadConnect Canada, Infra-Solutions, Netrium, Radiant and Ubity), TELUS created GoCo, a fully integrated organization that quickly became one of Canada's leading providers of some of the markets fastest-growing solutions, such as SD-WAN and unified communication.

To meet our customer expectations, TI provides an experience that is not only personalized and empathetic, but also consistent and integrated across omni-channel touchpoints. To quickly capture, evaluate and adapt to customer feedback on a global scale, we have team members with expertise in advanced analytics, AI, machine learning and data analysis, together with leading digital technologies. We have also built an agile delivery model with global scale with substantially all of our delivery locations connected through a carrier-grade infrastructure backed by cloud-based technologies, enabling globally distributed and virtualized teams. However, our primary competitive differentiator is our unique workplace culture, which makes people and a shared set of values a priority in everything we do. We continue to build on this culture of care, ensuring the full engagement of the individuals we choose to join our team, the clients we choose to work with and the manner in which we build and run our business. TI is focused on organic growth, accelerating digital adoption for all solutions offered, with an emphasis on collaborative innovation. We also continue to consider inorganic mergers and acquisitions in executing our growth strategy, adding scale and digital capabilities. In the current evolving labour market, the ability to attract and retain talent is key to TI's business. We continue to adapt our models and practices by assessing the regional conditions of the markets we operate in, and by offering proactive compensation and talent programs.

Through TELUS Health, we have leveraged our systems, proprietary solutions and third-party solutions to extend our footprint in healthcare and benefit from the investments in eHealth being made by governments and employers. With the introduction of healthcare products and services for Canadians, we are seeing evidence of a positive shift in perception, driving overall interest and sales of our services, and differentiating us from our competitors.

Over the course of two and a half years, we completed a number of key acquisitions in order to assemble a suite of agriculture industry assets. In November 2020, TELUS Agriculture was launched to help companies improve the reliability of their supply chain, protect their brands, and drive efficiency and profitability. As one of the few service providers with a perspective that spans the full value chain, we expect to be able to differentiate ourselves from more narrowly focused competitors.

We are continuing our disciplined long-term strategy of investing in our growth areas and delivering on our customers first priority. We intend to continue to market and distribute innovative and differentiated services; offer bundled services across our product portfolio; invest in our extensive network and systems to support customer service; evolve technologies; invest in our distribution channels, including our digital capabilities; and acquire the use of spectrum to facilitate service development and the expansion of our subscriber base, as well as to address the accelerating growth in demand for data usage.

10.5 Technology

Risk category: Strategic

We are a technology-enabled company and we maintain short-term and long-term strategies to optimize our selection, costs and use of technology, minimize risks and uncertainties and diversify our product and service offerings. Our 5G technology, 4G LTE technology, LTE advanced (LTE-A) and TELUS PureFibre infrastructure are foundational to our future growth (see *Our technology, systems and properties* in *Section 4.2*).

An accentuation of a paradigm shift involving customer adoption of alternative technologies, such as video and voice OTT offerings (e.g. Netflix and FaceTime), IP voice and collaboration services, NaaS, and increasingly available Wi-Fi networks, could negatively affect our revenue streams. For example, Wi-Fi networks are being used to deliver entertainment services to customers outside the home, while OTT content providers are competing for a share of entertainment viewership. OTT technology may also impact the business by enabling capabilities that in the past were associated with telecommunications service providers (e.g. cloud-based services and roaming). The proliferation of low-power wide-area (LPWA) IoT networks and services also presents challenges arising from low bandwidth usage, which may put additional pressure on our revenue streams. In addition, we are constantly focused on advances in cybersecurity, in order to identify any opportunities they may offer.

Through TI, we are a digital customer experience innovator that designs, builds and delivers high-tech, high-touch next-generation solutions, including artificial intelligence and content moderation.

Through TELUS Health's services – such as pharmacy management, EMRs (including mobile EMRs), electronic health records, personal health records, clinical information systems, remote patient monitoring, virtual care offerings and online claims settlement management software solutions, including the online renewal of prescriptions, e-prescribing services and MedDialog – TELUS Health facilitates the integration of electronic health records from the home to the doctor's office to the hospital, making critical health information available to healthcare providers over our broadband network.

Our TELUS Agriculture technology solutions meaningfully impact primary production and sustainability across the food value chain, by empowering value chain participants with solutions that leverage advanced data systems and AI to streamline operations, improve food traceability, and provide consumers with fresher and healthier food.

Potential impact

Our mobile business depends on deploying technology and maintaining sufficient access to spectrum to deliver services. Rising data traffic levels and the fast pace of data device innovation present challenges to providing adequate capacity and maintaining high service levels at competitive cost structures.

Our growth and profitability and the diversity of our revenue sources will depend on our ability to develop and adopt new technologies that help us expand our existing offerings, proactively identify new revenue streams and improve cost efficiencies in our operations, all while meeting rapidly evolving customer expectations. We may not always be successful in anticipating or responding to our customers' expectations and interests when we adopt evolving technology solutions and integrate these solutions into our offerings, and we may not achieve the intended enhancements or cost reductions in our operations. New services and technologies offered by our competitors may make our service offerings uncompetitive. Our failure to innovate, maintain technological advantages or respond effectively and in a timely manner to changes in technology could have a material adverse effect on our business, financial performance, financial condition and cash flows.

Changes over the past 12 months

The demand for mobile data services continues to grow rapidly. According to the 2021 Communications Market Report, the average data usage per subscriber increased by 27.6% in 2020 over the 2019 average, while mobile data revenue grew by less than 1% over the same period.

In July 2021 ISED completed auction of 3500 MHz spectrum, which has become the primary band for 5G mobile coverage globally. TELUS secured 16.4 MHz of 3500 MHz spectrum at the auction, and together with the spectrum acquired privately in January 2021, this brings our national 3500 MHz spectrum holdings to 25 MHz, averaging 40 MHz in our key markets. The limited amount of spectrum available at auction creates a risk that we may not be able to compete equally in the provision of higher network speeds and 5G capacity in all of the markets we serve.

Mitigation

As at December 31, 2021, our 4G LTE access technology covered 99% of Canada's population, and our LTE-A access technology covered 97%, while our 5G access technology covered 70%. Our ongoing investments in 4G LTE technology, including LTE-A technology and new 5G capabilities, allow us to manage data capacity demands by more effectively utilizing our spectrum holdings. The evolution to 5G technologies is supported by our investments in our Core network, IP network, IP/fibre back-haul to cell sites, including our small-cell infrastructure, as well as our software-upgradeable radio infrastructure. The 5G expansion is expected to further increase network capacity and speed, reduce delivery costs per megabyte, deliver a superior subscriber experience, and enable new innovative applications for consumers and businesses.

Mobile network infrastructure investments will increasingly be directed to systems based on Network Function Virtualization (NFV), which offers greater capacity for computing and storage, higher levels of resiliency and more flexible software design. Our large-scale move to national, geographically distributed private cloud-based facilities that use commercial off-the-shelf computing and storage solutions enables the deployment of broad-scale NFV and SDN technologies. This will allow us to virtualize much of our infrastructure and will also facilitate a common control plane for coordination of our virtualized and non-virtualized network assets. The architecture of our intelligence and content capabilities is located at the edge of our network, close to our customers. The distributed smaller-scale computing power and storage deliver services faster while managing the ongoing need to continually scale the IP/fibre core network infrastructure.

Rapid growth of data volumes requires efficient utilization of all our spectrum. We have extensively deployed our 4G spectrum holdings, and we began operationalizing our 5G spectrum in 2020, including spectrum in the 600MHz band. Further, we expect to continue operationalizing our recently acquired 3500 MHz spectrum through early 2022. The spectrum licences previously used for our CDMA access technology have been repurposed for use with LTE and 5G technologies. Our deployment of small-cell technology is helping us achieve a more efficient utilization of our spectrum holdings and mitigate any potential speed and capacity disadvantages created by 3500 MHz availability.

Since early 2014, we have also worked with numerous businesses and many major sports and entertainment venues as we continue to expand our public Wi-Fi infrastructure. This public Wi-Fi service is a part of our network strategy of deploying small cells that integrate seamlessly with our 4G and 5G wireless access technology, automatically shifting our smartphone customers to Wi-Fi and offloading data traffic from our wireless spectrum. Integrated public Wi-Fi infrastructure build-out activity also extends service and channel opportunities with small and medium-sized businesses and improves customers' likelihood to recommend. Integration of home Wi-Fi increases the propensity for higher data usage on smartphones within and outside the home, helping to drive the uptake of our internet service. In addition to the availability of our Wi-Fi service, our IoT portfolio is also growing, with the addition of services such as GEOTrac and TELUS Alert and Assist, as well as a wide variety of IoT solutions, combined with seamless global IoT connectivity across more than 200 countries and networks. We are also capitalizing on advanced self-learning technologies and automation (e.g. AI and robotic process automation), which will change the way we manage our operations and support customer experience innovation, as well as presenting new revenue opportunities. In addition, we are maintaining a constant focus on cybersecurity solutions, recognizing that cybersecurity, as an ecosystem of technologies and processes working together, may provide greater visibility of risks and guide better security decisions for organizations across Canada.

Ongoing investments in fibre-to-the-premises, along with our copper-to-fibre migration program and copper decommissioning within our fibre footprint, should support the further evolution of IP-based telephony, and as those services evolve, we will continue to assess opportunities to further consolidate separate technologies within a single voice service environment. The overall convergence of mobile and fixed services provides opportunities for cost savings and for the rapid development and deployment of new and advanced services. To support this convergence within a common IP-based application environment, we are leveraging modular architectures, lab investments and employee trials. We are partnering with system integrators where appropriate, purchasing hardware that is common to most other North American IP-based technology deployments and introducing virtualization technologies, where feasible. We are also active in a number of standard-setting bodies, such as the Metro Ethernet Forum, in order to advocate for a new IP infrastructure strategy that leverages standards-based functionality, which could allow us to further simplify our network.

10.6 Suppliers

Risk category: Strategic

We rely on, and have relationships with, multiple vendors, including large suppliers such as Amazon, Apple, Cisco, Google, Microsoft, Ericsson, Nokia and Samsung, which are important in supporting our network and service evolution plans and our delivery of services to our customers. Our suppliers and vendors may experience business difficulties or privacy and/or security incidents, and may face external challenges such as epidemics or pandemics, global supply chain shortages or global shipping and port disruptions, as well as government or regulatory pressures. They may restructure their operations, be consolidated with other suppliers, discontinue or cease to provide support or updates for certain products or sell their operations or products to other vendors. In addition, various suppliers may sell products or services directly to our customers rather than selling those products and services through us.

In certain cases, the number of suppliers of a product, service or technology that we use is limited. In addition, government or regulatory actions with respect to certain countries or suppliers may affect our relationship with certain vendors and our future use of their products and services.

Potential impact

Our agility in the delivery of products and services is directly linked to our ability to engage or replace a supplier or vendor on a timely basis and without incurring additional cost. Reliance on certain manufacturers may increase their market power and adversely affect our ability to purchase certain products at an affordable cost. Consequently, the success of upgrades and the evolution of technology that we offer our customers, including our IP TV solutions and the roll-out and evolution of our broadband technologies and systems, may be impacted, as well as the cost of acquisition or the time required to deploy certain technologies and systems.

There is no guarantee that our vendor strategies and agreements will not be impacted by vendor operational difficulties or government/regulatory pressures, or that we will not incur additional costs or delays in continuing to provide services or in deploying our technologies and systems.

Changes over the past 12 months

While the COVID-19 pandemic has had a significant impact on many of our suppliers, the pandemic-related challenges affecting manufacturing operations have largely been managed effectively. The continued pandemic-related reduction in commercial air traffic has eliminated the accompanying air cargo capacity, resulting in a rising demand for ocean freight. This has put pressure on the availability of both shipping vessels and ports, as well as domestic road and rail transportation capacities. The widely reported global supply chain shortages have had a particular impact on technology products, beginning with a shortage of silicon wafers and extending to the chipsets and circuit boards that are embedded in almost all of the products TELUS purchases. These shortages have resulted in both longer lead times and higher costs. These combined logistics and supply chain challenges are expected to continue until the end of 2022.

Following the restrictions placed on its access to U.S.-based technologies, Huawei has exited the mobile phone business. As part of our 5G network upgrade, we have also chosen to replace many of the Huawei products in other layers of our network with enhanced equipment from the suppliers of our 5G network (either Ericsson, Samsung or Nokia). During the transition phase, components removed from the network will be used as replacements, as required on the remaining network, thus ensuring a supply of necessary materials.

Mitigation

We value our relationships with our suppliers because they help us achieve our business objectives and contribute to our success. We work closely with key strategic suppliers to ensure appropriate timing in the manufacturing, delivery and warehousing of their products so that our needs will be met regardless of changing conditions. We strive to award business to suppliers that have demonstrated a strong commitment to sustainable development by adopting ethical, labour, health and safety, and environmental principles and compliance practices that align with our expectations and support the well-being of their employees, contractors and communities.

In response to the impact of the pandemic and global supply chain challenges, our supply operations, in collaboration with our product development and marketing teams, have extended future forecasts and increased purchase order quantities to help maintain our fulfilment capabilities in the context of longer lead times. In addition, we continue to seek alternative devices or sources of supply, and where possible, we refurbish equipment in the form of certified pre-owned devices, including smartphones from our Bring-it-Back program and our Mobile Klinik business, to support sustainability.

As a leading network aggregator, we partner with several network equipment suppliers and work with numerous international and domestic vendors to deliver the best possible experience for our customers across our business operations. We consider possible vendor strategies and/or restructuring outcomes when planning for our future growth, as well as the maintenance and support of existing equipment and services. We have reasonable contingency plans for different scenarios, including working with multiple vendors, maintaining ongoing strong vendor relationships with periodic reviews of vendor performance, and working closely with other product and service users to influence vendors' product or service development plans. With continued international focus on telecom suppliers, business continuity plans have been formalized to ensure availability of supply in compliance with U.S. Bureau of Industry and Security (BIS) Entity List restrictions. For our 5G network build, we have announced partnerships with Ericsson, Nokia and Samsung, consistent with our multi-vendor strategy.

In addition, we regularly monitor the risk profiles of our key vendors and review the applicable terms and conditions of our agreements to determine whether additional contractual safeguards are required. We also promote our supplier code of conduct, which is based on generally accepted standards of ethical business conduct.

In respect of supplier market power, we offer and promote alternative devices to provide greater choice for consumers and to help limit our reliance on a few key suppliers.

Additional information on supply chain sustainability can be found in our sustainability report at **telus.com/sustainability**.

10.7 Organizational change

Risk category: Strategic

We will partner, acquire and divest as necessary to accelerate the implementation of our growth strategy. Through the partnerships and acquisitions we pursue, we may seek opportunities to expand the scope of our existing services, add new customers or enter new markets around the world. There can be no assurance that we will successfully identify suitable candidates in the future for partnerships, for strategic transactions at acceptable prices or at all, or be able to complete any such transactions.

As we have implemented this strategy, we have experienced rapid growth and significantly expanded our operations into new business sectors and geographic markets, and the number of our team members has increased significantly over the past several years. We expect to develop and improve our internal systems in the locations where we operate in order to address the anticipated continued growth of our business. We are also continuing to look for delivery locations, service offerings and organizations outside of our current geographic operating regions in order to limit the risks of operating from a limited number of countries and/or expand our capabilities and customer value propositions. We may not, however, be able to effectively manage our infrastructure and team member expansion, establish additional delivery locations or hire skilled team members as and when they are required to meet the ongoing needs of our customers and clients and to maintain our current growth trajectory, and we may not be able to develop or improve our internal systems. We also need to manage cultural differences between our team member populations, which may increase the risk for employment law claims. Our inability to execute our growth strategy, to ensure the continued adequacy of our current systems or to manage our expansion, capital and other resources effectively could have a material adverse effect on our business, financial performance, financial condition and cash flows.

A substantial majority of the assets and operations of our DLCX and TELUS Agriculture lines of business are located outside of Canada and the United States. In addition, the business strategies of DLCX and TELUS Agriculture may involve expanding or developing their business operations in emerging market regions, including Europe and Asia-Pacific. Due to the international nature of our business, we are exposed to various economic, political and other risks of doing business globally.

Potential impact

Business combination transactions add complexity to our corporate structure, product and service offerings, and operational systems and processes. If pre-acquisition due diligence is insufficient or ineffective, our investments may not realize potential synergies or generate strategic growth.

We may be unable to successfully identify, complete, integrate and realize the benefits of acquisitions or manage the associated risks. Consequently, any acquisition we complete may not result in anticipated or long-term benefits or synergies to us, and we may not be able to further develop the acquired business in the manner we anticipated.

Acquisitions involve a number of risks, including diversion of management's attention from operating our business, developing our relationships with customers and seeking new revenue opportunities; failure to retain key personnel of acquired companies; legal risks and liabilities relating to the acquisition or the acquired entity's legacy operations that may be unknown or undisclosed and for which we may not be indemnified fully or at all; failure to integrate the acquisition in a timely manner; and in the case of potential acquisitions, our ability to finance the acquisitions on attractive terms or at all, any of which could have an adverse effect on our business, financial performance, financial condition and cash flows. Future acquisitions may also require that we incur indebtedness or issue equity securities.

We could also experience financial or other setbacks if transactions encounter unanticipated problems, including problems related to execution, integration or underperformance relative to prior expectations. Post-acquisition activities include the review and alignment of team member cultures, accounting policies, treasury policies, corporate policies such as ethics and privacy policies, team member transfers and moves, information systems integration, optimization of service offerings and the establishment of control over new operations. Such activities may not be conducted efficiently and effectively. Our management may not be able to successfully integrate any future acquired business into our operations and culture on the anticipated timeline or at all, or maintain our standards, controls and policies, which could negatively impact the experience of our customers and clients, the optimization of our service offerings and our control over operations, and otherwise have a material adverse effect on our business, financial performance,

financial condition and cash flows. Consequently, acquisitions may not result in anticipated or long-term benefits or synergies for us, and we may not be able to further develop the acquired business in the manner we anticipated.

The risks to which we are exposed by doing business globally and in emerging markets may impede the execution of our strategy by limiting the countries and regions in which we are able to expand. The impacts of these risks may also only emerge after we have begun preparations and made investments to provide services in a new country or region. Our exposure to such risks may cause us to incur additional costs to mitigate the impact of these risks on our business. As we continue to operate our business globally, our success will depend, in part, on the nature and extent of any such impacts and our ability to anticipate, respond to and effectively manage these impacts. Finally, international trade and political disputes can adversely affect the operations of multinational corporations like TELUS by limiting or disrupting trade and business activity between countries or regions. For example, we may be required to limit or halt operations, terminate customer or client relationships or forgo profitable opportunities in countries which may, in the future, be subject to sanctions or other restrictions on the business activity of corporations such as TELUS, by U.S. or Canadian legislation, executive order or otherwise. Some TI clients have been targeted by, and may in the future be subject to, such sanctions. Additionally, trade disputes between countries may also lead to unexpected operating difficulties in certain countries, including heightened regulatory scrutiny, greater difficulty transferring funds or negative impacts on currency exchanges. All of the foregoing could have a material adverse effect on our business, financial performance, financial condition and prospects.

Given the rapid rate of technological change, we may also look to partner and invest in emerging opportunities that may not yet be fully viable and established. These investments may require high levels of initial funding and experience low levels of initial adoption, growth and returns, all of which could impact our financial position in the short term.

Changes over the past 12 months

Over the course of 2021, we made a number of acquisitions to support our growth strategy. Please refer to *Note 18* of the Consolidated financial statements for more information.

Mitigation

To support ongoing investment in leading-edge and innovative technology, we have diversified our approach to allow for varied levels of commitment, which we determine based on the relative maturity of a technology in its life cycle, its alignment with our strategy and its linkage with our value proposition. Our TELUS Ventures investments include more than 50 active companies, and we continue to build on our commitment to help develop exciting new technologies with the potential to deliver benefits for our customers, stakeholders and shareholders. In addition, we continue to engage in partnerships that can conduct research and development of leading-edge innovative technology and services in sectors such as healthcare, agriculture and entertainment.

Over the course of time, we have built a disciplined corporate development and ventures expertise, with due diligence and post-acquisition integration planning rigour, reinforced by a well-defined process and governance approach to evaluating investments and acquisitions. Where a larger-scale business combination is contemplated, our teams follow a well-established and collaborative due-diligence review process, with oversight by our senior leadership and Board. In addition, formal post-acquisition processes are in place to support onboarding, engagement and operational integration with our risk monitoring and management practices.

10.8 Customer service

Risk category: Operational

Our customers' loyalty, their likelihood to add to the services they engage us for and their likelihood to recommend us are dependent upon our ability to provide a service experience that meets or exceeds their expectations and is differentiated from our competitors. Our service delivery teams focus on driving excellence and efficiency in our operations, implementing radical simplification, investing in digitization to enhance the customer experience and becoming best-in-class solution advisors, with the objective of safely minimizing the effort involved for our customers when they interact with us. Having our TI team members assist with customer-serving activities further strengthens our ability to continue delivering exceptional customer service.

Potential impact

Delivering sub-optimal experiences when our customers engage with us for the provision of services or support may negatively impact customer satisfaction, our portfolio of brands and our ability to grow our customer base, including customers of our telecom businesses, DLCX, TELUS Health and TELUS Agriculture. Inadequate or inefficient customer interactions (e.g. order taking, support contact, service delivery, billing accuracy, and network and services reliability) may increase customer dissatisfaction and churn rates. Failure to continue to execute effectively on organizational initiatives, such as our customers first priority, solutions advisor support, digitization and simplification, may lead to a deterioration in the customer experience we provide. Any significant or prolonged systems and service disruptions or outages may negatively impact customer satisfaction and our brands. Regulatory decisions may also limit our ability to invest in our customer experience.

Our corporate sustainability and social purpose initiatives are an important part of our organizational culture and are key factors in attracting and retaining customers and employees and differentiating us from our competitors. If we are unable to meet or exceed the evolving expectations of our customers in these areas or implement high-quality corporate sustainability and social purpose initiatives on a timely basis, and effectively communicate them to our customers, our reputation may suffer, which may negatively impact our ability to attract new customers and retain existing customers.

Our TI business has derived a significant portion of its revenue from a limited number of large clients, and we believe this will continue in the near term. A leading social media company was TI's largest external client in the years ended December 31, 2021 and 2020, and accounted for approximately 18% and 16%, respectively, of its revenue in those periods. Additionally, the volume of work performed for specific clients of TI or the revenue it generates can vary from year to year. For example, a client may demand price reductions, change its customer engagement strategy or begin to provision services in-house, and continued consolidation in many of the verticals in which TI offers services could result in the loss of a client. In light of the foregoing, a major client in one year may not provide the same level of revenue in any subsequent year.

Any significant reduction in, or elimination of, the use of the services TI provides as a result of client consolidation or our removal from a key client's provider network would reduce TI's revenue and could negatively affect our business. In addition, such consolidation may encourage TI's clients to apply more pressure on TI to lower the prices it charges for its solutions. All of the foregoing could have a material adverse effect on our business, financial condition, financial performance and prospects.

Changes over the past 12 months

The global pandemic has had widespread effects on many areas of service delivery. These include significant constraints on our interactions with our customers; a major acceleration of our transformation into a digital-first organization; and the proliferation of self-serve capabilities to help our customers. These impacts have affected our team around the world, requiring us to be agile in enabling our team members to work efficiently from home or from alternative locations, as well as virtually with customers through our virtual technician model (VTM) and do-it-yourself (DIY) capabilities.

Mitigation

Continued simplification and digitization, including our ongoing work on conversational interactive voice response and enhanced call-back capabilities, have improved first-time interaction experiences by reducing the number of call transfers and shortening customer wait times. We continue to enhance the reliability and functionality of our websites and applications, while promoting digital engagement to minimize effort for our customers and reduce the volume of calls related to basic transactions, interactions and other concerns.

To ensure minimal disruption of our ability to deliver on our service promise during any further lockdown scenarios, we quickly developed a robust capacity to ramp our virtual repair and installation program up or down at a community level in response to outbreak data, maximizing value and safety. This is in conjunction with our focus on further developing our DIY installation and repair program and our VTM, which will generate further internal cost savings and provide greater choice for our customers. We have also invested in our work-from-home capabilities around the world, including additional virtual private network (VPN) capacity, allowing more than 90% of our global workforce to work from home or from alternative locations for the foreseeable future and serve our customers safely. The work of our EMOC also helps us track outbreaks and coordinate responses to keep our customers and team members safe.

Our TI subsidiary was created with an intense focus on customer service excellence, continuous improvement and a values-driven culture with the goal of better serving a growing portfolio of global clients. Through TI, customer care and business services are delivered from within a unified TELUS-wide culture by a flexible team of over 62,000 team members in over 25 countries, minimizing business disruptions. Competence Call Center (CCC) (since rebranded as TELUS International Northern Europe or TINE and comprised substantially of CCC) and Lionbridge AI were acquired during 2020, with the latter's business subsequently rebranded as TELUS International AI Data Solutions (TIAI); these acquisitions help extend the reach of TI's customer service capabilities by diversifying its service offerings. The acquired CCC capabilities have enabled higher-value-added business services with a focus on trust and safety, including content moderation, while TIAI's solutions help improve data functionality and deliver secure, compliant, scalable and high-quality solutions for our TI subsidiary's clients.

Within TELUS Health, we have developed virtual care delivery options, including the capability to perform virtual health assessments from our local care centres. We have also introduced a "virtual first" approach to implementation of our software solutions. Virtual training and onboarding are being delivered to new physician and pharmacist clients, incorporating rigorous practices that ensure the safety of our customers and team members when on-site visits are required. The integration of virtual-visit functionality into our EMR service offering across Canada allows clinicians to support their own roster of patients virtually while maintaining continuity of care and fully up-to-date health records. As of December 31, 2021, more than 950,000 consultations have been conducted through our various virtual care solutions, including TELUS MyCare, TELUS Health Virtual Care and TELUS EMR Virtual Visit.

As a social capitalism company, we are also committed to making a difference by building stronger, healthier communities and ensuring that the most vulnerable among us are not left behind. Our Internet for Good program is focused on connecting Canadians in need by providing low-cost high-speed internet access for low-income families, young people leaving foster care and people with disabilities, as well as empowering schools across Alberta and B.C. to extend the offer directly to families in need. In addition, our Mobility for Good program provides subsidized smartphones and plans for young people leaving foster care, low-income seniors and, new in 2021, Indigenous women at risk, helping them stay in touch with loved ones, maintain vital support networks and build new lives. We believe these initiatives increase our customers' loyalty and likelihood to recommend, and are key factors in differentiating us from our competitors. Additional information on our sustainability and environmental governance practices and related disclosure is included in *Section 10.12 Our environment*.

We continue to be ranked favourably in third-party reports based on customer and network experience. In 2021, we were ranked first in network coverage, speed, reliability or experience by Opensignal, Ookla and Tutela, as well as being ranked as the fastest ISP among major ISPs in Canada by U.S.-based PCMag. This successful performance was the result of continuing to evolve our coverage across Canada, increasing the accessibility of our network, and working to better understand the emerging network methodologies that can enhance coverage and LTE availability, all of which earned TELUS recognition for providing the best network coverage among our competitors.

10.9 Our systems and processes

Risk category: Operational

We are a key provider of essential telecommunications services, as well as security and health services in Canada. Through TELUS International, we provide digital customer experience services to global brands, and through TELUS Health, we ensure optimal care is made possible by combining the power of technology and data with the provision of market-leading experiences. Within TELUS Agriculture, we leverage technology and data to improve the flow of information across the agricultural, food and consumer goods production industries in Canada and internationally. Our success depends on our ability to deliver reliable and continuous services to all our customers.

We have a large number of interconnected operational and business support systems. Acquisitions, business combinations and the development and launch of new services typically require significant systems development and integration efforts. Acquisitions may also pose potential cybersecurity, privacy and brand risks. As next-generation services are introduced, they must work with next-generation systems, frameworks and IT infrastructures, while also being compatible with legacy services and support systems. In addition, our large enterprise deals and our TI subsidiary's client contracts may involve complex and multi-faceted customer-specific enterprise requirements, including customized systems and reporting requirements in support of service delivery.

Potential impact

Our network, technology, infrastructure, supply chain, team members and operations may be materially impacted by disruptions in the functioning of critical infrastructure due to intentional threats (see *Section 10.10 Security and data protection*), labour disruptions (see *Section 10.11 Our team*), climate-related risks and natural hazards or unintentional threats (see *Section 10.12 Our environment*), health threats (such as epidemics or pandemics), competitive threats and geopolitical pressures. Any of these risks or hazards may lead to the disruption of our ability to deliver services to our customers and may also make it difficult or impossible for team members to reach or work in our business locations. Damage or destruction that interrupts our provision of services could adversely affect our reputation, our relationships with our customers and our leadership team's ability to administer and supervise our business, and could also cause us to incur substantial additional expenditures to repair or replace damaged equipment or sites. We may also be liable to our customers for any service disruption resulting from such damage or destruction. Our resiliency provisions and disaster recovery plans may not be sufficient to support continuity and reliability of service during disruptions or reduce the duration and impact of service outages. While we currently have commercial liability insurance, our insurance coverage may be insufficient or may not provide coverage at all for certain events. Furthermore, we may be unable to secure such insurance coverage at premiums acceptable to us in the future, or such insurance may become unavailable. Core expertise and competencies in all areas of our organization are in high demand worldwide and our operations and continued growth depend on our ability to hire, retain and develop highly skilled leaders and key personnel. Any of the above factors may adversely affect our business.

As the complexity of our systems increases, our system stability and availability may be affected. There can be no assurance that any of our proposed IT systems or process change initiatives will be implemented successfully, that they will be implemented in accordance with anticipated timelines, or that sufficient numbers of skilled team members will be available to complete such initiatives and maintain our competitive position in the marketplace. If we fail to implement and maintain appropriate IT systems on a timely basis, fail to create and maintain an effective governance and operating framework to support the management of our teams, or fail to understand and streamline our significant number of legacy systems and proactively meet constantly evolving business requirements, we could experience an adverse impact on our business and financial performance.

Changes over the past 12 months

Expansion of our work-from-home programs due to the COVID-19 pandemic increased requirements on our VPN systems.

IT services are increasingly delivered by cloud-based vendors as either Software-as-a-Service (SaaS) or Infrastructure-as-a-Service (IaaS) and our reliance upon these third-party cloud-based computing services is growing. While this can result in benefits for our speed to market, reliability, performance and agility, it requires adjustments to our operations and may increase the potential for service disruptions. Operational support processes and vendor negotiations must now take into account that the delivery of hardware and software services may occur outside of our own infrastructure, and therefore controls need to be incorporated into our operational support processes and tools.

In addition, we routinely have numerous integration activities, complex system and process change initiatives, and development projects underway.

Mitigation

During the COVID-19 pandemic, we expanded our VPN capacity in order to ensure stability, productivity and security for team members working from home and from alternative locations, and we accelerated the purchase and deployment of a new VPN system, improving connection capacity and reliability while enhancing security measures. For our TI subsidiary's clients, to the extent possible, we were able to redistribute customer volumes from facilities impacted by local government-mandated temporary site closures to locations that were less impacted. We have also equipped the majority of our customer-serving TI team members to provide remote support to our clients, as they have since the onset of the pandemic, and in some cases we have thoughtfully and strategically had team members return to work on-site. In addition, the TIAI business utilizes the services of a crowd-sourced provider base that is geographically dispersed across the globe.

In line with industry best practice, our approach is to separate business support systems (BSS) from operational support systems (OSS) and underlying network technology. Our aim is to decouple the introduction of new network technologies from the services we sell to customers so that both can evolve independently. This allows us to optimize network investments while limiting the impact on

customer services, and also facilitates the introduction of new services. In addition, due to the maturing nature of telecommunications vendor software, we adopt industry-standard software for BSS/OSS functions, leverage SaaS and IaaS capacities, and avoid custom development where possible. This enables us to leverage vendor knowledge and industry practices acquired through the installation of those platforms at numerous global telecommunications companies. We have established a next-generation BSS/OSS framework to ensure that, as new services and technologies are developed, they are part of the next-generation framework that will ease the retirement of legacy systems in accordance with TeleManagement Forum's next-generation operations systems and software program. As part of our ongoing fibre roll-out, we have invested in new operational support systems that are consolidating our legacy systems and simplifying our current environment. Concurrent with our fibre roll-out, we are also migrating customers from our legacy copper network to our fibre network and beginning to decommission the copper network within our fibre footprint. This will improve our ability to support and maintain our systems with newer, more resilient technology and improve the customer experience. We also continue to make significant investments in system resiliency and reliability in support of our ongoing customers first initiatives.

For each new large enterprise deal, we look to leverage systems and processes developed for previous contracts while incorporating others as required, using a controlled methodology to draft a new custom solution and following standard industry practices for project management and systems support. We have release and change management policies, processes and controls in place that are based on industry best practices. In general, we strive to ensure that system development and process changes are prioritized, and we apply a project management approach to such initiatives that includes appropriate risk identification and contingency planning, scope and change control, and resource and quality management. We conduct reasonable functional, performance and revenue assurance testing, as well as capturing and applying any lessons learned. Where a change involves major system and process conversions, we often shift our business continuity planning and emergency management operations centre to a heightened state of readiness in advance of the change.

Consistent with best practice, we continue to make smart investments in mitigating risk in older technology, modernizing key platforms and capabilities for greater flexibility and reliability, and securing the benefits and capabilities that cloud-based operations can offer. We continue to make progress in modernizing and improving our systems and critical applications by leveraging proven, state-of-the-art, cloud-based technologies and capabilities. Over the past two years, we have augmented our teams with additional digitization and cloud expertise so they can play a leading role, today and into the future. We are leveraging our 10-year partnership with Google Cloud to supplement our in-house expertise and experience as we extend the digitization of TELUS and by harnessing the capabilities of Google Cloud Platform, as well as other partners and cloud-based service providers.

We have adopted a post-acquisition stabilization period for the SmartHome Security and automation line of business to deeply assess any risks, vulnerabilities and exposures, and consider the mitigation of key risks, before integrating common elements into our core systems and critical applications.

We conduct ongoing monitoring of our systems and critical applications. Risk-based disaster recovery capabilities are leveraged to help prevent outages and limit impacts on our customers and operations. In addition, enterprise-wide business continuity programs are in place to support monitoring, preparedness, mitigation, response and recovery. However, there can be no assurance that specific events, or a combination of events, will not disrupt our operations.

10.10 Security and data protection

Risk category: Operational

As a national provider of information and communications services, we have a perspective extending beyond that of individual organizations. We leverage this insight and understanding to monitor and identify security-related trends as they evolve in the wider threat landscape. The risks outlined below reflect both our experience and the trends we have observed in the wider ecosystem.

We have a number of assets that may be exposed to risks involving intentional threats. These include physical assets that may be exposed to terrorist attacks, vandalism and/or theft, including (but not limited to) cellular towers, distributive copper cable, corporate stores, network and telephone switch centres, and elements of corporate infrastructure.

Additionally, we operate data centres and collect and manage data in our business and on behalf of our customers (including, in the case of TELUS Health, sensitive personal health information) that may move across our interconnected operational and business support systems and networks. Depending on the nature of the data, it may be restricted for use within Canada or leveraged by our

teams or outsourcing partners in Canada or abroad. Our systems and networks may also be subject to cyberattacks. Personal health information in particular is known to be a prime target for these attacks.

A number of TI's service contracts provide for high or unlimited liability for the benefit of its clients related to damages resulting from breaches of privacy or data security in connection with the provision of its services.

Although our network security measures and our authentication of customer credentials are designed to protect against unauthorized disclosure, alteration and destruction of, and access to, data on our networks, it is impossible for such security measures to be perfectly effective. There can be no assurance that such measures will function as expected or will be sufficient to protect our network infrastructure against certain attacks, and there can be no assurance that such measures will successfully prevent or mitigate service interruptions or other security-related incidents. All network infrastructure is vulnerable to rapidly evolving cyberattacks, and our user data and corporate systems and security measures may be breached due to the actions of outside parties (including malicious cyberattacks), team member error, malfeasance, internal bad actors, a combination of these, or other circumstances. A breach may allow an unauthorized party to obtain access to or exfiltrate our data or our users', customers' or clients' data. Additionally, outside parties may attempt to fraudulently induce team members, users, customers or clients to install malicious software, disclose sensitive information or access credentials, or take other actions that may provide access to our data or our users', customers' or clients' data. Because networking and computing environments are increasing in complexity and the techniques used to obtain unauthorized access, disable or degrade service or sabotage systems change frequently, become more sophisticated over time, or may be designed to remain dormant until a predetermined event and thus may not be identified until deployed against a target, we may be unable to anticipate these techniques or implement adequate preventative measures. If an actual or perceived breach of our security measures occurs (or a breach of a third-party vendor's, customer's or client's security that can be attributed to our failure or is perceived to be our fault), the market perception of the effectiveness of our security measures could be harmed and we could lose users, customers and clients. Security breaches also expose us to risk involving loss of information, class action or other litigation brought both by customers and clients and by individuals whose information was compromised; or to remediation costs, increased costs for security measures, loss of revenue, damage to our reputation, and potential liability.

Potential impact

Physical security threats can place both our team members and our infrastructure, systems and networks at risk of incurring significant harm, including personal injury, destruction of property and loss of service and/or data. The risks and consequences of cyberattacks on our assets could surpass the risks and consequences of physical attacks, due to the rapidly evolving nature and sophistication of these threats.

We and our partners may also be subject to software, equipment or other system malfunctions that could result in unauthorized access to, or change, loss or destruction of, our data. These malfunctions could compromise the privacy of individuals, including our customers, team members and suppliers, and could expose other sensitive information.

A successful disruption of our systems, networks and infrastructure, or those of third parties, including our suppliers, vendors and partners, may prevent us from providing reliable service, impact the operations of our networks, or lead to the unauthorized interception, destruction, use or dissemination of our information or our customers' information. Such disruption, whether physical or digital, or unauthorized access to our data could cause us to lose customers or revenue, incur expenses, or experience reputational and goodwill damages. Additionally, such damages could result in TELUS incurring costs arising from investigation efforts, replacement or restoration of assets and potential civil lawsuits or fines imposed by regulatory bodies.

While we believe our team members receive appropriate training, if any person, including any of our team members, negligently disregards or intentionally breaches controls or procedures with which we are required to comply in relation to a customer's data, or otherwise mismanages or misappropriates that data, or if unauthorized access to or disclosure of data in our possession or control occurs, we could be subject to significant liability to customers, our TI subsidiary's clients or its clients' customers for breaching contractual confidentiality and security provisions or for permitting access to personal information subject to privacy laws, as well as liability and penalties in connection with any violation of applicable privacy laws or criminal prosecution. Unauthorized disclosure of sensitive or confidential customer, client or team member data, whether through breach of computer systems, systems failure, team member negligence, fraud or misappropriation, or otherwise, could damage our reputation and cause us to lose customers and clients and result in liability to individuals whose information was compromised.

Similarly, unauthorized access to or through our information systems and networks or those we develop or manage for our customers and clients, whether by our team members or third parties, could result in negative publicity, damage to our reputation, loss of customers, clients or business, class action or other litigation, costly regulatory investigations and other potential liability.

From a TELUS Health perspective, breaches involving personal health information have proven to be the most expensive to remediate; such a breach can have a significant impact on trust and reputation, and may also affect future health outcomes.

Changes over the past 12 months

Two major trends evident in the cybersecurity threat landscape in 2021 were supply chain attacks and the use of ransomware in cyberattacks. Supply chain attacks are attractive to cybercriminals since they can have a significant impact on downstream organizations, which adds to the pressure on the primary target and could permit the cybercriminals to leverage that pressure against the downstream organizations and make further demands. Ransomware has been increasingly used in attacks, according to a report from the Cybersecurity and Infrastructure Security Agency in August 2021, which noted a 62% increase in ransomware incidents and a 20% increase in ransomware losses reported between January and July 2021, compared to the same period in 2020.

With our perspective and our monitoring capabilities, we have observed that the frequency and sophistication of cyberattacks continue to increase, with attack techniques evolving in parallel with trends in technology. These attacks may involve a variety of techniques that include the targeting of individuals and the use of sophisticated malicious software and hardware, or a combination of both, to evade the technical and administrative safeguards that are in place (including firewalls, intrusion prevention systems, active monitoring and other measures).

Cyberattacks penetrating the network security of our data centres, or any unauthorized disclosure of, or access to, confidential information and data of our customers and clients or their end customers, could have a negative impact on our reputation and customer confidence, which could have a material adverse effect on our business, financial performance, financial condition and cash flows.

Mitigation

Our security program addresses risk through a number of mechanisms, including:

- Security awareness programs
- Controls based on policies, standards and methodologies that are aligned with recognized industry frameworks and practices
- Monitoring of external activities by potential attackers
- Incident response
- Regular security evaluations of our most important assets
- Identification and regular re-evaluation of our known security risks
- Regular reviews of our standards and policies to ensure they address current needs and threats
- Regular reviews of our business continuity and recovery planning processes that would be invoked in the event of a disruption
- A privacy and security impact assessment process
- A secure-by-design process that incorporates security provisions into new initiatives across the Company.

Incident response is a critical component of control within our organization. Our technical capabilities help us identify security-related events, respond to possible threats and adjust our security posture appropriately. Additionally, our approach to cyber-hygiene includes regular vulnerability assessments and the prioritization and remediation of any identified exposure through patching or other mechanisms. Our security office also works with law enforcement and other agencies to address ongoing threats and disruptions, and provides awareness training to our team members to help them better recognize and report threats.

10.11 Our team

Risk category: Operational

Our success depends on the abilities, experience, well-being and engagement of our team members, as well as our ability to attract and retain the talent upon which our service offerings depend. Each year, we launch a number of unique initiatives that are intended to improve our productivity and competitiveness. These may include acquisitions, operational business integrations, efficiency programs,

business process automation and/or outsourcing, offshoring and reorganizations. Since keeping team members healthy is critical to keeping them engaged and productive, our well-being strategy provides an array of resources and initiatives to support optimal health and well-being for our team.

We believe that our unique customers first, inclusive and caring culture has contributed to our ability to attract and retain a highly skilled, engaged and motivated workforce, which in turn has driven strong customer and client retention. It may become more difficult for us to maintain a culture that supports our success as we continue to evolve our products and services, enter new geographic areas, open new delivery locations, increase the number of team members and acquire new businesses. Current thought-leadership suggests that the experience of the COVID-19 pandemic has altered many shared values and expectations; there is a significant amount of concern regarding a surge in voluntary turnover rates, given the difficulties many people have faced during this trying time and their renewed perspectives moving into the future. If our unique culture is not maintained, our ability to attract and retain highly skilled team members, customers and clients across our core verticals may be adversely impacted, and our operational and financial results may be negatively affected.

Our business could also be adversely affected if individuals providing their data annotation services through TIAI's crowdsourcing solutions were classified as employees. The classification of certain individuals who provide their services through third-party digital platforms as independent contractors is currently being challenged in courts, by legislators and by government agencies in the United States and many other countries where our TIAI business uses the services of independent contractors. Similarly, some of our healthcare practitioners who are supporting our virtual care business in TELUS Health may be classified as employees instead of independent contractors by decision-makers in certain jurisdictions. We generally believe that most individuals who provide their data annotation services through TIAI's crowdsourcing solution and those healthcare practitioners who support our virtual care business are independent contractors. Since, among other things, independent contractors can choose whether, when, and where to provide services, and for data annotation professionals they are free to provide services on competitors' platforms, and they use their own equipment. In the case of healthcare practitioners, they are free to provide services in other non-virtual healthcare settings. We may not be successful in defending the independent contractor classification in the jurisdictions where we operate or where such classification is challenged. The costs associated with defending, settling or resolving any future lawsuits (including demands for arbitration) relating to the independent contractor classification could be material to our business.

Potential impact

Lost work time resulting from team member illness or injury can negatively affect organizational productivity and employee benefit costs. The loss of key team members through short-term and long-term disability (including absences resulting from mental health concerns), attrition and retirement, the inability to attract and retain team members with essential or evolving skills, including familiarity with legacy systems, or, in the case of team members leading recent acquisitions in emerging areas of our business, specialized knowledge of such businesses, or any deterioration in overall team member morale and engagement resulting from organizational changes, unresolved collective agreements or ongoing cost reduction initiatives, could have an adverse impact on our growth, business and profitability and our efforts to enhance the customer experience. In addition, changes in technology are shifting the set of skills needed by our team and driving competition for resources among global players.

Our corporate sustainability and social purpose initiatives are also important to our team members, as is our ability to offer resources and services to maintain optimal health and well-being. Our failure to meet or exceed our team members' evolving expectations in these areas could have adverse impacts on our ability to attract and retain team members.

Changes over the past 12 months

The COVID-19 pandemic continues to cause heightened uncertainty in many of our lives, resulting in more stress and anxiety and waning resiliency among our team members. Long before March 2020, when we began adopting stricter measures to prevent the spread of COVID-19, 500,000 Canadians per week were citing mental health symptoms or illnesses as the reason they were unable to work. Many Canadian workers – our team members included – are still working from home, isolated from peers and extended family members and friends, and juggling multiple competing priorities. More than 90% of our domestic team members (excluding field technicians and retail store representatives) and over 80% of our TI team members continue to work from home or from alternative work locations.

Global events and ongoing efforts from marginalized communities to achieve equality and social justice have also focused attention on the discrimination and racial injustice that continue to affect many communities.

Mitigation

Our People and Culture team works to provide an environment for our team members that is safe, empowering and engaging. Our culture is anchored in our TELUS leadership values, which were set out by our team nearly two decades ago. These values affirm that:

- We embrace change and initiate opportunity
- We have a passion for growth
- We believe in spirited teamwork
- We have the courage to innovate.

Our objective is to attract, develop and retain talented employees in Canada and internationally. We achieve this objective by investing in our people throughout their careers, and by offering diverse and inclusive employment prospects and development opportunities.

To support team members' overall well-being and to achieve a positive effect on absenteeism in the workplace, we take a holistic and proactive approach to health that involves risk prevention, early intervention, team member and family assistance, mental health training, engaging social and educational well-being initiatives, assessment and support services, disability management, and accommodation and return-to-work services. Our well-being strategy encourages our team members to develop optimal personal health across five dimensions of well-being: physical, psychological, financial, social and environmental. To promote safe work practices, we offer training and orientation programs for team members and contractors who have access to our facilities.

Having teams that are engaged leads to a better team member experience, which in turn drives an improved customer service experience – our customers are more satisfied, resulting in a lower churn rate for our products and services.

Through our annual Pulsecheck engagement surveys, we continue to assess our team's health and well-being and gather their insights about our work environment, including changes due to the COVID-19 pandemic. Key highlights included team members confirming their belief that their safety is a priority for their leaders; that their leaders are providing the support they need during this extraordinary time; and that their work arrangements allow them to collaborate productively to meet the needs of customers. TELUS is the most engaged organization globally among organizations of our size and composition according to Kincentric, our survey provider.

In 2021, reinforcement of our culture continued to focus on Diversity and Inclusion, human capital development and team member engagement, through:

- Leveraging our strong culture with a focus on listening to team members;
- Putting customers first and leaders engaging their teams through our fair process engagement model; and
- Utilizing Pulsecheck feedback including our Inclusion index results to build and create action plans for improvements.

At TELUS, we believe that honouring the diversity of our team, customers and communities opens up new perspectives and enables us to connect for good and deliver remarkable outcomes for everyone.

Building on our initiatives in 2020 to encourage team members across TELUS to share our stance against racism and all forms of systemic bias and reaffirm our commitment to standing united in our pursuit of equity, fairness, social justice and systemic change, we continue to drive our renewed D&I strategy.

We appreciate and celebrate every team member's unique talents, voice and abilities, and we encourage them to always bring their whole selves to work. To promote diversity and inclusion at TELUS with a focus on both behavioural and structural change, we developed a new inclusive leadership model, along with an inclusion index in our Pulsecheck survey, to measure our progress in fostering an inclusive culture. We achieved a score of 85%, indicating a strong sense of inclusion and belonging among team members.

Building on our commitment to Indigenous Peoples on which our long-standing, respectful and productive relationships, we formalized our commitment to reconciliation in 2021 and launched a five-year Indigenous Reconciliation Action Plan, setting us on a path that will bring our commitment to life. Developed with guidance from Indigenous voices and frameworks for reconciliation, the plan is based on four pillars on which we believe we can drive meaningful change – connectivity, enabling social outcomes, cultural responsiveness and relationships, and economic reconciliation.

We aim to attract and retain key team members through both monetary and non-monetary approaches. Our compensation and benefits program is designed to support our high-performance culture and is both market-driven and performance-based. Where required, we implement targeted retention solutions for employees with critical skills or talents that are scarce in the marketplace, and we have a succession planning process in place to identify top talent for senior-level positions.

We focus on and manage organizational change through a formal business transformation function that leverages the expertise, key learnings and effective practices developed in recent years during the implementation of mergers, business integrations and efficiency-related reorganizations.

We have a post-acquisition integration team that works with our business units and the operations they acquire, applying an integration model based on learnings from previous integrations, while also focusing on the unique attributes and employee cultures of the acquired companies, which advances the standardization of our business processes and is intended to preserve the unique qualities of each acquired operation.

Additionally, we continuously strive to raise the level of our team members' engagement. We believe that our strong team member engagement continues to be driven by our focus on the customer and team member experience, our success in the marketplace and our social purpose. We plan to continue our focus on other non-monetary factors that are supportive of team member engagement, including performance development, career opportunities, learning and development, recognition, diversity and inclusiveness, well-being resources and initiatives, our leading-edge Work Styles program (enabling team members to work where and how they will be most effective and equipping them with robust digital collaboration tools to stay connected), and our community volunteerism, including TELUS Days of Giving. Additional information on our programs can be found in our sustainability report at **telus.com/sustainability**.

10.12 Our environment

Risk category: Operational

Our operations, infrastructure and team members are exposed to climate-related physical risks, which include extreme weather events and other natural hazards. We may also be exposed to transition risks related to climate change, such as the impact of changes in policy or the deployment of lower-emission technology.

Our data and voice communications infrastructure, including TI delivery locations in Central America, India, Europe and the Philippines, may be damaged or disrupted as a result of natural disasters or extreme weather events, including those resulting from or exacerbated by climate change, such as earthquakes, floods, volcano eruptions, heavy rains, winter storms, extreme heat waves, tsunamis and cyclones; epidemics or pandemics, including the COVID-19 pandemic; technical disruptions and infrastructure breakdowns, including damage to, or interruption of, electrical grids, transportation systems, communication systems or telecommunication cables; issues with information technology systems and networks, including computer glitches, software vulnerabilities and electronic viruses or other malicious code; accidents and other events, such as fires, floods and failures of fire suppression and detection, heating, ventilation or air conditioning systems; or other events, such as protests, riots, labour unrest, security threats and terrorist attacks. Any of these events may lead to the disruption of information systems and telecommunications services for sustained periods and may create delays and inefficiencies in providing services to clients and potentially result in closure of our operating sites. They also may make it difficult or impossible for team members to reach or work in our business locations. Some locations may not be well-suited to work-from-home approaches to providing client services due to connectivity, infrastructure or other issues.

Certain areas of our operations are subject to environmental considerations, such as the construction of telecommunications infrastructure, handling and disposing of waste, electronic waste or other residual materials, managing our water use, and responding to spills and releases. Some areas of our operations are also subject to evolving and increasingly stringent federal, provincial and local

environmental and health and safety laws and regulations. Such laws and regulations impose requirements with respect to matters such as the release of certain substances into the environment, corrective and remedial action concerning such releases, protection of sensitive ecosystems and associated wildlife habitat, and the proper handling and management of certain substances, including wastes.

Potential impact

Evolving public expectations and increasingly stringent laws and regulations could result in increased costs of compliance, while failure to recognize and adequately respond to them could result in penalties, regulatory scrutiny or damage to our reputation and brand.

Damage or destruction that interrupts our provision of services could adversely affect our reputation and our relationships with our customers and clients, and could also cause us to incur additional expenditures to repair or replace damaged equipment or sites. Our resiliency provisions and disaster recovery plans may not be sufficient to support continuity and reliability of service during disruptions or reduce the duration and impact of service outages. While we currently have commercial liability insurance, our insurance coverage may be insufficient or may not provide coverage at all for certain events. Furthermore, we may be unable to secure such insurance coverage at premiums acceptable to us in the future, or such insurance may become unavailable. Prolonged disruption of our services could also entitle our customers and clients to terminate their contracts with us or require us to pay penalties or damages. Any of the above factors may materially adversely affect our business, financial performance, financial condition and cash flows.

Changes over the past 12 months

The COVID-19 pandemic has had a significant impact on our operations and team members throughout 2021.

Along with the continued and widely shared concerns about climate-related and other environmental impacts on our business operations, there are growing expectations regarding the disclosure of environmental and sustainability governance strategies, targets, and risk management practices, including climate-related scenario analysis. In its 2021 Status Report, the TCFD stated that the number of organizations expressing support for TCFD had grown to more than 2,600 globally, with many companies having begun to implement TCFD recommendations. Our disclosure aligned with these recommendations can be found in our 2021 Annual Information Form.

Potential impacts associated with low levels of non-ionizing radio frequency (RF) emissions from mobile phones and cell towers continue to be a matter of public concern, and will remain a public concern as we deploy 5G technology, with the number of small cells in our infrastructure expected to increase as we continue to upgrade our network.

Mitigation

We have in place widely recognized and award-winning business continuity and disaster recovery programs that encompass provisions for monitoring and preparedness, mitigation, response and recovery. These programs enhance the safety of our team members, minimize the potential impact of threats to our facilities, infrastructure and business operations, support the maintenance of service to our customers and help keep our communities connected.

In response to the COVID-19 pandemic, our Corporate Business Continuity Office convened a cross-functional working group in January 2020, and in March 2020, our EMOC was activated. In 2021, EMOC continued to meet regularly to coordinate strategic management of the COVID-19 pandemic and advise on tactical issues such as door-to-door activities, retail safety measures, and technician safety in the field. COVID-19 case counts are closely monitored so that we can align our operations with public health measures within individual public health agency jurisdictions. These actions are likely to continue in 2022.

We also assembled a Medical Advisory Council (MAC), composed of leading medical professionals from across the country, along with other key leaders from within TELUS. The MAC meets regularly, advises on the Company's COVID-19 pandemic policy, and makes recommendations for specific health and safety measures, which are incorporated into our corporate infectious disease playbook and other guidance. These documents are continuously updated and provide foundational governance for all other pandemic-related playbooks for specific business functions.

The Corporate Business Continuity Office convened the EMOC an additional two times in 2021 to manage the impacts on TELUS of wildfires and flooding in British Columbia.

We are committed to following sustainable and responsible business practices and making decisions that balance economic growth with social and environmental benefits. We have implemented award-winning sustainability and environmental governance practices and related disclosure. The Corporate Governance Committee of our Board is responsible for oversight of corporate social responsibility and climate-related risks. Our Chief Executive Officer and Executive Team exercise oversight of climate-related risks and opportunities and provide approval of the overall strategic direction of our sustainability programs. Our Sustainability and Environmental Compliance team prepares quarterly reports for the Corporate Governance Committee, as well as other updates for the Board as required, on risks, targets and other key performance metrics related to climate change and the environment.

Disclosure in our sustainability report and other filings contains information pertaining to the governance and management of climate-related risks and opportunities. Included are approaches to assessing impacts of these risks using scenario analysis, as well as strategies for addressing impacts of these risks, risk management practices pertaining to these risks, and the metrics and targets used to manage them. Scenario analysis in 2021 included a consideration of risks and opportunities under a low-carbon adoption scenario and an extreme global warming scenario. Additionally, we have established corporate targets with respect to operational net carbon neutrality, renewable energy, energy efficiency and waste reduction. Included in these are science-based targets, approved by the Science-based Targets initiative, for our scope 1, 2 and 3 greenhouse gas (GHG) emissions. Related action plans include having executed multiple power purchase agreements for renewable energy.

An ISO 14001:2015 certified environmental management system is in place to identify and control environmental impacts associated with our operations and to support compliance with regulatory requirements. We continue to identify new ways to reduce our environmental impact.

See our climate-related financial disclosure in *Section 5.2* of our 2021 Annual Information Form. Additionally, a detailed report of our environmental risk mitigation activities and details with respect to our targets can be found in our sustainability report at **telus.com/sustainability**.

Canada's federal government is responsible for establishing safe limits for human exposure to RF electromagnetic fields. We are confident that the mobile handsets and devices we sell, and our cell towers and other associated devices, comply, in all material respects, with all applicable Canadian and U.S. government safety standards. We continue to monitor new published studies, government regulations and public concerns about the health impacts of RF exposure. Stakeholder engagement also continues as part of the regulatory process concerning the installation of new cell towers.

10.13 Real estate matters

Risk category: Operational

Our real estate properties (owned or leased) include administrative office spaces, mixed-use office, commercial and residential properties, all of which may be developed through joint ventures, as well as other real estate development projects that advance our social purpose, work centres and space for telecommunications equipment. Some buildings are constructed on leasehold land and the majority of wireless radio antennae are on towers that are situated on lands or are on buildings held under leases or licences with varying terms. We currently participate in two real estate joint ventures.

Investments in real estate property development, including return on investment and benefits realization, may be impacted by local economies, changes in construction costs and timelines, financing costs and partnership agreements. Our current and future investments in real estate may also be impacted by the COVID-19 pandemic as we continue to take precautionary measures and follow public health guidelines and restrictions to minimize the spread of the virus to our team members, tenants and the communities in which we operate.

Potential impact

Risks associated with our real estate investments include possible financing risks and uncertainty of future demand, occupancy and rental rates especially during the pandemic. There can be no assurance that future real estate developments will be completed on

budget or on time or will obtain lease commitments as planned. Accordingly, we are exposed to the risk of loss on investment and loan amounts should a project's business plan not be successfully realized.

Changes over the past 12 months

Over the course of 2021, we have:

- Renegotiated and executed two agreements with external global real estate experts for property management and the maintenance and repair of our real estate assets and subject to performance measures overseen by us
- Entered into binding joint venture development agreements with an external real estate development firm for the redevelopment of two surplus real estate sites
- Started executing on our real estate future mode of operation, which involves consolidation of a number of large office holdings throughout the country representing roughly a floor area reduction of 25% of our office space and have undertaken a floor and building hibernation program during the COVID-19 lockdowns to mitigate real estate operating costs
- Downsized our critical network infrastructure in existing network buildings and reduced required equipment space through customer migrations from copper to fibre-based services.

TELUS Sky has completed its development phase and additional office and residential leasing is underway. TELUS Ocean in Victoria, B.C. has received all required municipal planning approvals and commencement of construction and pre-leasing is planned for 2022.

Mitigation

For our construction projects (residential and commercial) in progress, budget overrun risks have been mitigated with fixed-price supply contracts and expert project management oversight. Costs for the real estate projects are monitored through our capital gating and approval processes and we aim to mitigate leasing risk of vacant space by arranging pre-lease agreements with prospective tenants prior to construction completion.

On new deals, joint venture partners and developers are compensated partially on a performance basis that encourages projects to meet timing and budget objectives and we engage independent third-party consultants to verify key assumptions such as market rental rates, construction costs and management costs. We also rely on our internal and external legal teams to ensure that contracts, partnerships and procurements with third parties are created to ensure our interests are represented.

We plan in advance our lease strategy for those properties that are not directly owned including quarterly reviews for continued requirement/demand, lease expiry risk, rental rate risk, landlord risk and physical risk (such as poor building condition or flooding).

10.14 Financing, debt and dividends

Risk category: Financial

Risk factors, such as fluctuations in capital markets, the economic environment or regulatory requirements pertaining to bank capitalization, lending activity or changes in the number of Canadian chartered banks, may impact the availability of capital and the cost of capital for investment-grade corporate issuers, including us.

The market price of our Common Shares may be affected by various factors, such as TELUS Corporation's continued access to bank credit facilities, trade receivables securitization and public debt markets, as well as the continuation of the dividend growth plan outlined in our multi-year objectives.

The trading price may also be affected by TI factors, such as:

- The market price of TI subordinate voting shares
- TI's access to banks and public markets
- Actions taken or statements made by TELUS, TI or others concerning our relationship with TI

- Factors affecting the performance of TI, that may impact TI's financial performance and subsequently our financial performance.

Our financial instruments, and the nature of the credit risks, liquidity risks and market risks to which they may be subject, are described in *Section 7.9 Financial instruments, commitments and contingent liabilities* .

Potential impact

Our business plans and growth could be negatively affected if current financing is not sufficient to cover funding requirements. External capital market conditions could potentially affect our ability to make strategic investments or meet ongoing capital funding requirements, and may prohibit the roll-over of commercial paper at low rates.

There can be no assurance that we will maintain or improve our current credit ratings. Given the cash demands of the 3500 MHz spectrum auction held in 2021 and upcoming spectrum auctions, we may be unable to lower our net debt to EBITDA ratio to our objective range in the medium term, which could eventually have a negative impact on our credit ratings. Our cost of capital could increase and our access to capital could be affected by a reduction in the credit ratings of TELUS and/or TELUS Communications Inc. (TCI). A reduction in our ratings from the current BBB+ or equivalent could result in an increase in our cost of capital.

While future free cash flows and sources of capital are expected to be sufficient to meet current requirements, our intention to return capital to shareholders could constrain our ability to invest in our operations for future growth.

Changes over the past 12 months

At December 31, 2021, our senior unsecured debt was approximately $17.8 billion (see the *Senior unsecured debt principal maturities* chart in *Section 4.3*). We operate a commercial paper program (maximum of US$1.5 billion) that currently provides access to low-cost funding. As at December 31, 2021, we had $1.9 billion of commercial paper outstanding, all of which was denominated in U.S. dollars (US$1.5 billion). When we issue commercial paper, it must be refinanced on an ongoing basis in order to realize the cost savings relative to borrowing on the $2.75 billion credit facility.

Mitigation

We may finance future capital funding requirements with internally generated cash flows, including the possible monetization of non-core assets and cash-generating working capital initiatives, borrowings under the unutilized portion of our bank credit facilities, use of securitized trade receivables, use of commercial paper and/or the issuance of debt or equity securities. We have a shelf prospectus in effect until June 2023, under which we can offer up to $2.75 billion of debt or equity securities as of the date of this MD&A. We believe that our investment grade credit ratings, coupled with our efforts to maintain a constructive relationship with banks, investors and credit rating agencies, continue to provide reasonable access to capital markets.

To enable us to meet our financial objective of generally maintaining $1.0 billion of available liquidity, we have a $2.75 billion credit facility that expires on April 1, 2026 ($850 million available at December 31, 2021), as well as availability under other bank credit facilities (see *Section 7.6 Credit facilities*). In addition, our TCI subsidiary has an agreement with an arm's-length securitization trust, ending December 31, 2024, under which it is able to sell an interest in certain of its trade receivables up to a maximum of $600 million, of which $500 million was available at December 31, 2021 (see *Section 7.7 Sale of trade receivables*).

We successfully completed a number of debt transactions in 2020 and 2021 (see *Section 7.4*). As a result, the average term to maturity of our long-term debt (excluding commercial paper, the revolving component of the TELUS International (Cda) Inc. credit facility (TI credit facility), lease liabilities and other long-term debt) was 12.5 years at December 31, 2021 (compared to 12.2 years at December 31, 2020), and the average cost of our long-term debt was 3.72% (excluding commercial paper, the revolving component of the TI credit facility, lease liabilities and other long-term debt). Foreign currency forward contracts are used to manage currency risk arising from the issuance of commercial paper and substantially all long-term, fixed-term debt denominated in U.S. dollars. Our commercial paper program is fully backstopped by our $2.75 billion credit facility.

At December 31, 2021, TELUS International (Cda) Inc. had a credit facility consisting of US$850 million of revolving components and US$850 million of amortizing term loan components. For further details on the TI credit facility, see *Section 7.6 Credit facilities*.

We manage our capital structure and adjust it in light of changes in economic conditions and the risk characteristics of our business and telecommunications infrastructure. We have financial policies in place that are reviewed annually and are intended to help maintain our existing investment grade credit ratings in the range of BBB+ or the equivalent. Four credit rating agencies currently have ratings that are in line with this target. Access to our $2.75 billion credit facility would be maintained, even if our ratings were reduced to below BBB+.

Funding for future spectrum licence purchases, defined benefit pension plan obligations and any increases in corporate income tax rates will reduce the after-tax cash flow otherwise available to return to our shareholders. Should actual results differ from our expectations, there can be no assurance that we will not change our financing plans, including our intention to pay dividends according to our payout policy guidelines and to maintain our multi-year dividend growth program. No shares were purchased in 2021 under the normal course issuer bid (NCIB) program. In June 2021, we received approval for an NCIB to purchase and cancel up to 16 million Common Shares (to a maximum of $250 million) from June 4, 2021, to June 3, 2022, which would allow us to purchase our Common Shares if and when we consider it advantageous, based on our financial position and outlook, and the market price of our Common Shares. For further details on our multi-year dividend growth program and NCIB program, see *Section 4.3 Liquidity and capital resources*.

Our Board of Directors reviews and approves the declaration of a dividend each quarter, and the amount of the dividend, based on a number of factors, including our financial position and outlook. This assessment is subject to various assumptions and the impact of various risks and uncertainties, including those described here in *Section 10*.

10.15 Tax matters

Risk category: Financial

We collect and pay significant amounts of indirect taxes, such as goods and services taxes, harmonized sales taxes, provincial sales taxes, sales and use taxes and value-added taxes, to various tax authorities. As our operations are complex and the related tax interpretations, regulations, legislation and jurisprudence that pertain to our activities are subject to continual change and evolving interpretation, the final determination of the taxation of many transactions is uncertain. Moreover, the implementation of new legislation in itself has its own complexities, including those of execution where multiple systems are involved and the interpretation of new rules as they apply to specific transactions, products and services.

TELUS, along with TI and TELUS Agriculture, operates in a number of foreign jurisdictions, including Armenia, Australia, Austria, Bosnia and Herzegovina, Brazil, Bulgaria, China, Costa Rica, the Czech Republic, Denmark, El Salvador, Finland, France, Germany, Guatemala, India, Ireland, Japan, Latvia, Mexico, the Philippines, Poland, Romania, Singapore, Slovakia, Spain, Switzerland, the Republic of Korea, Turkey, the United Kingdom and the United States, which increases our exposure to multiple forms of taxation. Generally, each jurisdiction has taxation peculiarities in the forms of taxation imposed (e.g. value-added tax, gross receipts tax, stamp and transfer tax, and income tax), and differences in the applicable tax base and tax rates, legislation and tax treaties, as well as currency and language differences. In addition, the telecommunications industry faces unique issues that lead to uncertainty in the application of tax laws and the division of tax between domestic and foreign jurisdictions.

Potential impact

We are subject to the risk that income and indirect tax amounts, including tax expense, may be materially different than anticipated, and that a general tendency by domestic and foreign tax collection authorities to adopt more stringent interpretations and aggressive auditing practices could adversely affect our financial condition and operating results.

We have significant current and deferred income tax assets and liabilities, income tax expenses and cash tax payments. Income tax amounts are based on our estimates, applying accounting principles that recognize the benefit of income tax positions only when it is more likely than not that the ultimate determination of the tax treatment of a position will result in the related benefit being realized. The assessment of the likelihood and amount of income tax benefits, as well as the timing of realization of such amounts, can materially affect the determination of net income or cash flows. We expect the income taxes calculated at applicable statutory rates to

range between 25.2 to 25.8% in 2022 (compared to 25.8% in 2021). These expectations can change as a result of changes in interpretations, regulations, legislation or jurisprudence.

The timing of the monetization of deferred income tax amounts is uncertain, as it is dependent upon our future earnings and other events. The amounts of deferred income tax liabilities are also uncertain, as the amounts are based on substantively enacted future income tax rates that were in effect at the time of deferral, which can be changed by tax authorities. As well, the amounts of cash tax payments and current and deferred income tax liabilities are also based on our anticipated mix of revenues among the jurisdictions in which we operate, which is also subject to change.

The audit and review activities of tax authorities affect the ultimate determination of the actual amounts of indirect taxes payable or receivable, income taxes payable or receivable, deferred income tax liabilities, taxes on certain items included within capital and income tax expense. Therefore, there can be no assurance that taxes will be payable as anticipated and/or that the amount and timing of receipt or use of the tax-related assets will be as currently expected.

Changes over the past 12 months

Global and local tax policies are subject to continual change, which increases the complexity of taxation.

Canada, together with approximately 140 other countries comprising the OECD/G20 Inclusive Framework on Base Erosion and Profit Shifting (BEPS), approved in principle in 2021 model Global Anti-Base Erosion Rules. These proposals introduced a form of 15% global minimum tax which is intended to be effective in 2023. Similar proposals were introduced by the European Commission in December 2021. These proposals, together with related changes to domestic laws and tax treaties, may result in an increase to our effective tax rate in certain jurisdictions.

Mitigation

We follow a comprehensive tax strategy that has been adopted by our Board. This strategy outlines the principles underlying and guiding the roles of team members, their responsibilities and personal conduct, the method of conducting business in relation to tax law and the approaches to working relationships with external tax authorities and external advisors. This strategy recognizes the requirement to comply with all relevant tax laws. The components necessary to manage tax risk are outlined in the strategy.

In giving effect to this strategy, we maintain an internal Taxation department composed of professionals who stay current on domestic and foreign tax obligations, supplemented where appropriate with external advisors. This team reviews systems and process changes for compliance with applicable domestic and international taxation laws and regulations. Its members are also responsible for the specialized accounting required for income taxes.

Material transactions are reviewed by our Taxation department so that transactions of an unusual or non-recurring nature are assessed from multiple risk-based perspectives. As a matter of regular practice, large transactions are reviewed by external tax advisors, while other third-party advisors may also be engaged to express their views as to the potential for tax liability. We continue to review and monitor our activities, so that we can take action to comply with any related regulatory, legal and tax obligations. In some cases, we also engage external advisors to review our systems and processes for tax-related compliance. The advice provided and tax returns prepared by such advisors and counsel are reviewed for reasonableness by our internal Taxation department.

10.16 The economy

Risk category: Financial

Risks to the Canadian economy include: fluctuations in oil prices, potential rises in interest rates and levels of consumer and mortgage debt, an acceleration in inflation, fluctuations in the housing market, the timing and rate of economic recovery from the effects of the COVID-19 pandemic, and uncertainty related to trade issues, including the ongoing imposition of tariffs, supply chain disruption and climate change. In addition, as we expand our international operations through acquisitions, such as those within our TI and TELUS Agriculture businesses, we become more susceptible to global market conditions. Meanwhile, trade disputes between countries, as well as other economic and political uncertainties and developments outside of Canada, may have global implications, as supply chains have become increasingly integrated.

Potential impact

Economic uncertainty may cause consumers and business customers to reduce or delay discretionary spending, impacting new service purchases, volumes of use and substitution by lower-priced alternatives.

Globally, some countries may require financial support, sovereign credit ratings may continue to decline, and there may be a default on the sovereign debt obligations of certain countries. Any of these economic outcomes may increase the cost of borrowing and cause credit to become more limited, which could have a material adverse effect on our business, financial condition, financial performance and cash flows. Economic and political uncertainty could undermine business confidence and cause potential new clients of TI to delay engaging TI, and could also cause existing clients to reduce or defer spending on TI's services or reduce or eliminate spending under existing contracts with TI.

Fluctuations in the Canadian economy could adversely impact growth in our customer base revenue, profitability and free cash flow, and could potentially require us to record impairments in the carrying values of our assets, including, but not limited to, our intangible assets with indefinite lives (spectrum licences and goodwill). Impairments in the carrying values of our assets would result in a charge to earnings and a reduction in owners' equity, but would not affect cash flow. Rising inflationary expectations could lead to increases in input costs such as labour, which may not be offset by revenue increases. In addition, ongoing international supply chain disruptions may make it difficult to source key components (such as handsets) in sufficient quantities and at reasonable prices.

Fluctuations in the global economy could affect different industry verticals in different ways. Counter-cyclical industries such as agriculture and logistics should remain reasonably unaffected, as food producers, distributors and retailers would continue to operate. Healthcare, particularly products and services related to logistics or vaccines, should do well as vaccines are rolled out, and hospitals and healthcare providers in certain countries could perform well. Cyclical industries such as retail, travel and hospitality, and others will continue to be negatively affected as consumers alter their behaviour because of the COVID-19 pandemic.

With certain acquisitions, operating costs and revenues, including TI's revenues, denominated in U.S. dollars or other non-Canadian dollar currencies, fluctuations in the Canadian dollar exchange rate may impact our financial and operating results.

Economic and capital market fluctuations could also adversely affect the investment performance, funding and expense associated with our defined benefit pension plans, as obligations are based on certain actuarial assumptions related to expected plan asset returns, salary escalation, retirement ages, life expectancy, the performance of financial markets and future interest rates.

Changes over the past 12 months

In 2021, both the Canadian and the global economy continued to perform at suboptimal levels relative to their performance prior to the COVID-19 pandemic. There were indications of a recovery in the fourth quarter of 2021, as high vaccination rates appeared to be lessening the impact of the fourth wave in Canada compared to many other western countries. However, the emergence of the Omicron variant in December 2021 (which has continued into early 2022) has rekindled economic uncertainty with respect to 2022. The opening of the U.S.-Canada border in the fourth quarter of 2021 was expected to lead to improved roaming revenue in the first few months of 2022; however, the rapid spread of the Omicron variant is having a negative impact and there is no assurance that the border will remain open or that international travel will increase. Meanwhile, new COVID-19 variants (in addition to Omicron) may impact consumer behaviour, including international travel, and may lead to a delayed recovery in roaming revenue. We expect that the pandemic will continue to present challenges to both the Canadian and global economy throughout 2022, notwithstanding that vaccines have been developed and are being administered widely, including school-age children.

Interest rates are now expected to rise in 2022 and 2023, with several central banks around the world making specific mention of this monetary tool to combat rising inflation. If monetary bodies raise interest rates more quickly and further than the economy can absorb, there is a risk that both the Canadian and the global economy could slide into a recession later in the year or in 2023.

The Canadian dollar exchange rate with the U.S. dollar remained the same at $1.27 at the end of 2020 and 2021.

The employee defined benefit pension plans, in aggregate with the application of the asset ceiling, were in a $190 million deficit position at December 31, 2021 (compared to a $913 million deficit position at the end of 2020). The solvency position, as determined under the *Pension Benefits Standards Act, 1985*, was estimated to be a surplus of $1,366 million at the end of 2021 (compared to a $375 million surplus at the end of 2020).

Mitigation

While economic risks cannot be completely mitigated, our top priority of putting customers first and pursuing global leadership in the likelihood of our customers recommending our products, services and people also supports our efforts to acquire and retain customers through the economic fluctuations that affect them and us. We also continue to pursue cost reduction and efficiency initiatives across our business operations. See *Section 4.3 Liquidity and capital resources* for our capital structure financial policies and plans.

An increase in our revenue denominated in U.S. dollars may help to mitigate currency risk, as our revenue base has been primarily in Canadian dollars.

Foreign currency forward contracts and currency options are leveraged to fix the exchange rates on U.S. dollar-denominated transactions, commitments, commercial paper and U.S. Dollar Notes in order to help mitigate risks related to exchange rate fluctuations, and we seek to mitigate pension risk through the application of policies and procedures for managing exposure to investment risk and through ongoing monitoring of our funding position. Our best estimate of cash contributions to our defined benefit pension plans in 2022 is $32.0 million ($50.6 million in 2021).

10.17 Litigation and legal matters

Risk category: Compliance

Given the size of our organization, investigations, claims and lawsuits seeking damages and other relief are regularly threatened or pending against us. The expansion of our product and service offerings into areas such as managed services, security, healthcare and agriculture technology, and the initial public offering of shares by TI in February 2021 have also added to our compliance requirements, the risk of litigation and the possibility of damages, sanctions and fines. We may also be the target of class actions due to our millions of customer relationships. In addition, like other public companies, we may be subject to civil liability for misrepresentations in written disclosure and oral statements, and liability for fraud and market manipulation.

The intellectual property and proprietary rights of owners and developers of hardware, software, business processes and other technologies may be protected under statute, such as patent, copyright and industrial design legislation, or under common law, such as trade secrets. Significant damages may be awarded in intellectual property infringement claims and defendants may incur significant costs to defend or settle such claims.

Potentially material certified and uncertified class actions, intellectual property litigation and other claims against us are detailed in *Note 29(a)* of the Consolidated financial statements.

With operations in foreign jurisdictions, we are required to comply not only with Canadian laws and regulations, but also with local laws and regulations in foreign jurisdictions. These laws and regulations may differ substantially from Canadian laws and add to our regulatory, legal and tax exposures. We continue to extend our business and our operations into additional jurisdictions, and expand our product and service offerings in such jurisdictions, and this may also add to our regulatory, legal and tax exposure. In certain cases, laws with extraterritorial application may also impose obligations on us. See *Section 10.3 Regulatory matters*.

Potential impact

It is not currently possible to predict the outcome of such legal matters due to various factors, including: the preliminary nature of some claims; uncertain damage theories and demands; incomplete factual records; the uncertain nature of legal theories and procedures and their resolution by the courts, at both the trial and appellate levels; and the unpredictable nature of opposing parties and their demands.

We are typically required to process, and sometimes collect and/or store sensitive data, including, but not limited to, personal data regulated by data protection and privacy legislation, where applicable, including the *General Data Protection Regulation*, the *Personal Information Protection and Electronic Documents Act*, *California Consumer Privacy Act*, the *California Invasion of Privacy Act*, *Personal Data Protection Bill of 2018*, and the *Data Privacy Act of 2012*. The adoption and enforcement by governments of increasingly stringent privacy legislation may increase our exposure to risks related to compliance and liability. A successful class

action lawsuit or intellectual property infringement claim, by its nature, could result in a sizeable damages award that could negatively affect a defendant's financial or operating results.

There can be no assurance that our financial or operating results will not be negatively impacted by any of these factors.

Changes over the past 12 months

As our TELUS Health team and medical clinics offer new services (such as virtual care and electronic prescriptions), including in some cases to consumers and in other cases through third-party partnerships, new risks arise from parameters such as dependence on third-party suppliers for legal compliance and/or compliance with medical professional standards, as well as a heightened possibility of political intervention.

As we add to our offerings in agriculture technology (such as animal health and management) and the jurisdictions in which we offer them, we face increased risks with respect to regulatory compliance and data security and privacy.

With the growth and development of technology-based industries, the value of intellectual property and proprietary rights has increased. Due to trends in awards for damages, costs to defend and the likelihood of settlements, property rights holders may be encouraged to aggressively pursue infringement claims. Given the vast array of technologies and systems that we use to deliver products and services, and the rapid change and complexity characteristic of such technologies, the number of disputes over intellectual property and proprietary rights can reasonably be expected to increase.

The Province of Quebec has made amendments to the *Act Respecting the Protection of Personal Information in the Private Sector*, as noted in *Section 10.3*. Over three years, the amendments will phase in major changes and new regulatory requirements.

Mitigation

We believe that we have in place reasonable policies, controls, processes and contractual arrangements, as well as insurance coverage, intended to enable compliance and reduce our exposure to any related risks. We have a designated Chief Data and Trust Officer, whose role is to work across the enterprise to ensure that TELUS has in place appropriate processes and controls in place in order to facilitate legal compliance and to report on compliance to the Audit Committee.

Our team of legal professionals advise on and manage risks related to claims and possible claims, vigorously defend class actions and other claims, pursue settlements in appropriate cases, regularly assess our business practices and monitor legal developments that may impact risk. They seek and obtain contractual protections consistent with standard industry practices to help mitigate the risks of intellectual property infringements and work to protect our intellectual property rights through litigation and other means.

We have a corporate disclosure policy that restricts disclosure by team members, defines the role of Company spokesperson, provides a protocol for communicating with investment analysts, investors and others, and outlines our communications approach.

We rely on our team members, officers, Board of Directors, key suppliers and other business partners to demonstrate behaviour consistent with applicable legal and ethical standards in all jurisdictions within which we operate. We have an anti-bribery and corruption policy, a comprehensive code of ethics and conduct for our team members and Board of Directors, and mandatory annual integrity training for all team members and identified contractors.

Subject to the foregoing limitations, management is of the opinion, based upon legal assessments and the information presently available, that it is unlikely that any liability relating to existing investigations, claims and lawsuits, to the extent not provided for through insurance or otherwise, would have a material effect on our financial position and the results of our operations, excepting the items disclosed herein and in *Note 29(a)* of the Consolidated financial statements.

11. Definitions and reconciliations

11.1 Non-GAAP and other specified financial measures

We have issued guidance on and report certain non-GAAP measures that are used to evaluate the performance of TELUS, as well as to determine compliance with debt covenants and to manage our capital structure. As non-GAAP measures generally do not have a

standardized meaning, they may not be comparable to similar measures presented by other issuers. For certain financial metrics, there are definitional differences between TELUS and TELUS International reporting. These differences largely arise from TELUS International adopting definitions consistent with practice in its industry. Securities regulations require such measures to be clearly defined, qualified and reconciled with their nearest GAAP measure. Certain of the metrics do not have generally accepted industry definitions.

Adjusted Net income and adjusted basic earnings per share (EPS): These are non-GAAP measures that do not have any standardized meaning prescribed by IFRS-IASB and are therefore unlikely to be comparable to similar measures presented by other issuers. Adjusted Net income excludes the effects of restructuring and other costs, income tax-related adjustments, other equity losses related to real estate joint ventures, long-term debt prepayment premium and other adjustments (identified in the following tables). Adjusted basic EPS is calculated as adjusted net income divided by the basic weighted-average number of Common Shares outstanding. These measures are used to evaluate performance at a consolidated level and exclude items that, in management's view, may obscure underlying trends in business performance or items of an unusual nature that do not reflect our ongoing operations. They should not be considered alternatives to Net income and basic EPS in measuring TELUS' performance.

Reconciliation of adjusted Net income

	Fourth quarters ended December 31		Years ended December 31	
($ millions)	**2021**	2020	**2021**	2020
Net income attributable to Common Shares	**644**	260	**1,655**	1,207
Add (deduct) amounts net of amount attributable to non-controlling interests:				
Restructuring and other costs	**43**	65	**170**	244
Tax effect of restructuring and other costs	**(11)**	(15)	**(41)**	(62)
Income tax-related adjustments	**3**	(23)	**(16)**	(26)
Other equity losses related to real estate joint ventures	**1**	2	**3**	19
Long-term debt prepayment premium	**—**	—	**10**	18
Tax effect of long-term debt prepayment premium	**—**	—	**(2)**	(4)
Gain on disposition of financial solutions business	**(410)**	—	**(410)**	—
Tax effect of gain on disposition of financial solutions business	**61**	—	**61**	—
Retirement of a provision arising from business acquisition-related written put options within DLCX	**—**	—	**—**	(45)
Tax effect of retirement of a provision arising from business acquisition-related written put options within DLCX	**—**	—	**—**	10
Adjusted Net income	**331**	289	**1,430**	1,361

Reconciliation of adjusted basic EPS

($)	Fourth quarters ended December 31		Years ended December 31	
	2021	2020	**2021**	2020
Basic EPS	**0.47**	0.20	**1.23**	0.95
Add (deduct) amounts net of amount attributable to non-controlling interests:				
Restructuring and other costs	**0.03**	0.05	**0.13**	0.18
Tax effect of restructuring and other costs, per share	**(0.01)**	(0.01)	**(0.03)**	(0.04)
Income tax-related adjustments, per share	**—**	(0.02)	**(0.01)**	(0.02)
Other equity losses related to real estate joint ventures, per share	**—**	—	**—**	0.01
Long-term debt prepayment premium, after income taxes, per share	**—**	—	**0.01**	0.01
Gain on disposition of financial solutions business	**(0.30)**	—	**(0.30)**	—
Tax effect of gain on disposition of financial solutions business	**0.04**	—	**0.04**	—
Retirement of a provision arising from business acquisition-related written put options within DLCX, per share	**—**	—	**—**	(0.04)
Tax effect of retirement of a provision arising from business acquisition-related written put options within DLCX, per share	**—**	—	**—**	0.01
Adjusted basic EPS	**0.23**	0.22	**1.07**	1.06

Available liquidity: This is a non-GAAP measure that does not have any standardized meaning prescribed by IFRS-IASB and is therefore unlikely to be comparable to similar measures presented by other issuers. Available liquidity is calculated as the sum of Cash and temporary investments, net, amounts available from the revolving credit facility and amounts available under our trade receivables securitization program measured at the end of the period. We believe this to be a useful measure because it allows us to monitor compliance with our financial objectives. It should not be considered as an alternative to Cash and temporary investments, net in measuring TELUS' performance.

Available liquidity reconciliation

As at December 31 ($ millions)	**2021**	2020
Cash and temporary investments, net	**723**	848
Net amounts available from the TELUS Corporation revolving credit facility	**850**	1,519
Amounts available under trade receivables securitization program	**500**	400
Available liquidity	**2,073**	2,767

Capital expenditure intensity: This measure is calculated as capital expenditures (excluding spectrum licences) divided by Operating revenues and other income. It provides a basis for comparing the level of capital expenditures to those of other companies of varying size within the same industry.

Calculation of Capital expenditure intensity

	TTech		**DLCX**		**Eliminations**		**Total**	
Years ended December 31 ($millions, except ratio)	**2021**	2020	**2021**	2020	**2021**	2020	**2021**	2020
Capital expenditures	**3,372**	2,675	**126**	100	**—**	—	**3,498**	2,775
Denominator – Operating revenues and other income	**14,966**	13,636	**2,754**	2,256	**(462)**	(429)	**17,258**	15,463
Capital expenditure intensity (%)	**23**	20	**5**	4	**n/m**	n/m	**20**	18

TELUS Corporation Common Share (Common Share) dividend payout ratio: This is a historical measure calculated as the sum of the most recent four quarterly dividends declared, as recorded in the financial statements, net of dividend reinvestment plan effects, divided by the sum of free cash flow amounts for the most recent four quarters for interim reporting periods. For fiscal years, the denominator is annual free cash flow. Our objective range for the annual TELUS Corporation Common Share dividend payout ratio is on a prospective basis, rather than on a trailing basis. (See *Section 7.5 Liquidity and capital resource measures.*)

Calculation of ratio of Common Share dividends declared to cash provided by operating activities less capital expenditures (excluding spectrum licences)

Determined using most comparable IFRS-IASB measures

For the 12-month periods ended December 31 ($ millions, except ratio)	**2021**	2020
Numerator – Sum of the last four quarterly dividends declared	**1,711**	1,520
Cash provided by operating activities	**4,388**	4,574
Less:		
Capital expenditures (excluding spectrum licences)	**(3,498)**	(2,775)
Denominator – Cash provided by operating activities less capital expenditures (excluding spectrum licences)	**890**	1,799
Ratio (%)	**192**	84

Calculation of Common Share dividend payout ratio, net of dividend reinvestment plan effects

Determined using management measures

For the 12-month periods ended December 31 ($ millions, except ratio)	**2021**	2020
Sum of the last four quarterly dividends declared	**1,711**	1,520
Sum of the last four quarterly amount of dividends declared reinvested in Common Shares	**(624)**	(561)
Numerator – Sum of the last four quarterly dividends declared, net of dividend reinvestment plan effects	**1,087**	959
Denominator – Free cash flow[1]	**777**	1,435
Ratio (%)	**140**	67

1 Reflects the impacts of our accelerated capital program announced on March 25, 2021.

Earnings coverage: This measure is defined in the Canadian Securities Administrators' National Instrument 41-101 and related instruments, and is calculated as follows:

Calculation of Earnings coverage

For the 12-month periods ended December 31 ($ millions, except ratio)	**2021**	2020
Net income attributable to Common Shares	**1,655**	1,207
Income taxes (attributable to Common Shares)	**544**	428
Borrowing costs (attributable to Common Shares)[1]	**749**	749
Numerator	**2,948**	2,384
Denominator – Borrowing costs	**749**	749
Ratio (times)	**3.9**	3.2

1 Interest on Long-term debt plus Interest on short-term borrowings and other plus long-term debt prepayment premium, adding capitalized interest and deducting borrowing costs attributable to non-controlling interests.

EBITDA (earnings before interest, income taxes, depreciation and amortization): We have issued guidance on and report EBITDA because it is a key measure used to evaluate performance at a consolidated level. EBITDA is commonly reported and widely used by investors and lending institutions as an indicator of a company's operating performance and ability to incur and service debt, and as a valuation metric. EBITDA should not be considered as an alternative to Net income in measuring TELUS' performance, nor should it be used as a measure of cash flow. EBITDA as calculated by TELUS is equivalent to Operating revenues and other income less the total of Goods and services purchased expense and Employee benefits expense.

We calculate EBITDA – excluding restructuring and other costs, as it is a component of the **EBITDA – excluding restructuring and other costs interest coverage** ratio and the **Net debt to EBITDA – excluding restructuring and other costs** ratio.

We also calculate **Adjusted EBITDA** to exclude items of an unusual nature that do not reflect our ongoing operations and should not, in our opinion, be considered in a long-term valuation metric or should not be included in an assessment of our ability to service or incur debt.

EBIT (earnings before interest and income taxes) is calculated for our operating segments because we believe it is a meaningful indicator of our operating performance as it represents our earnings from operations before costs of capital structure and income taxes.

EBITDA and Adjusted EBITDA reconciliations

	TTech		DLCX		Total	
Fourth quarters ended December 31 ($ millions)	**2021**	2020	**2021**	2020	**2021**	2020
Net income					**663**	271
Financing costs					**192**	190
Income taxes					**197**	86
EBIT	**973**	495	**79**	52	**1,052**	547
Depreciation	**508**	504	**37**	35	**545**	539
Amortization of intangible assets	**240**	221	**45**	29	**285**	250
EBITDA	**1,721**	1,220	**161**	116	**1,882**	1,336
Add restructuring and other costs included in EBITDA	**36**	39	**8**	32	**44**	71
EBITDA – excluding restructuring and other costs	**1,757**	1,259	**169**	148	**1,926**	1,407
Other equity losses related to real estate joint ventures	**1**	2	**—**	—	**1**	2
Gain on disposition of financial solutions business	**(410)**	—	**—**	—	**(410)**	—
Adjusted EBITDA	**1,348**	1,261	**169**	148	**1,517**	1,409

EBITDA and Adjusted EBITDA reconciliations

	TTech		DLCX		Total	
Years ended December 31 ($ millions)	**2021**	2020	**2021**	2020	**2021**	2020
Net income					**1,698**	1,260
Financing costs					**796**	771
Income taxes					**580**	451
EBIT	**2,841**	2,208	**233**	274	**3,074**	2,482
Depreciation	**1,982**	1,973	**144**	134	**2,126**	2,107
Amortization of intangible assets	**912**	795	**178**	110	**1,090**	905
EBITDA	**5,735**	4,976	**555**	518	**6,290**	5,494
Add restructuring and other costs included in EBITDA	**148**	182	**38**	77	**186**	259
EBITDA – excluding restructuring and other costs	**5,883**	5,158	**593**	595	**6,476**	5,753
Other equity losses related to real estate joint ventures	**3**	19	**—**	—	**3**	19
Gain on disposition of financial solutions business	**(410)**	—	**—**	—	**(410)**	—
Retirement of a provision arising from business acquisition-related written put options within DLCX	**—**	—	**—**	(71)	**—**	(71)
Adjusted EBITDA	**5,476**	5,177	**593**	524	**6,069**	5,701

We calculate **EBITDA margin** and **Adjusted EBITDA margin** to evaluate the performance of our operating segments and we believe these measures are also used by investors as indicators of a company's operating performance. We calculate EBITDA margin as EBITDA divided by Operating revenues and other income. Adjusted EBITDA margin is a non-GAAP ratio that does not have any standardized meaning prescribed by IFRS-IASB and is therefore unlikely to be comparable to similar measures presented by other issuers. We calculate Adjusted EBITDA margin as Adjusted EBITDA divided by adjusted Operating revenues.

Calculation of EBITDA margin

Fourth quarters ended December 31	TTech		DLCX		Eliminations		Total	
($ millions, except margin)	**2021**	2020	**2021**	2020	**2021**	2020	**2021**	2020
Numerator – EBITDA	**1,721**	1,220	**161**	116	**—**	—	**1,882**	1,336
Denominator – Operating revenues and other income	**4,237**	3,595	**757**	577	**(122)**	(112)	**4,872**	4,060
EBITDA margin (%)	**40.6**	34.0	**21.4**	20.1	**n/m**	n/m	**38.6**	32.9

Calculation of EBITDA margin

	TTech		DLCX		Eliminations		Total	
Years ended December 31 ($ millions, except margin)	**2021**	2020	**2021**	2020	**2021**	2020	**2021**	2020
Numerator – EBITDA	**5,735**	4,976	**555**	518	**—**	—	**6,290**	5,494
Denominator – Operating revenues and other income	**14,966**	13,636	**2,754**	2,256	**(462)**	(429)	**17,258**	15,463
EBITDA margin (%)	**38.3**	36.5	**20.2**	22.9	**n/m**	n/m	**36.4**	35.5

Calculation of Adjusted EBITDA margin

Fourth quarters ended December 31	TTech		DLCX		Eliminations		Total	
($ millions, except margin)	**2021**	2020	**2021**	2020	**2021**	2020	**2021**	2020
Numerator – Adjusted EBITDA	**1,348**	1,261	**169**	148	**—**	—	**1,517**	1,409
Adjusted Operating revenues and other income:								
Operating revenues and other income	**4,237**	3,595	**757**	577	**(122)**	(112)	**4,872**	4,060
Other equity losses related to real estate joint ventures	**1**	2	**—**	—	**—**	—	**1**	2
Gain on disposition of financial solutions business	**(410)**	—	**—**	—	**—**	—	**(410)**	—
Denominator – Adjusted Operating revenues and other income	**3,828**	3,597	**757**	577	**(122)**	(112)	**4,463**	4,062
Adjusted EBITDA margin (%)	**35.2**	35.1	**22.5**	25.8	**n/m**	n/m	**34.0**	34.7

Calculation of Adjusted EBITDA margin

	TTech		DLCX		Eliminations		Total	
Years ended December 31 ($ millions, except margin)	**2021**	2020	**2021**	2020	**2021**	2020	**2021**	2020
Numerator – Adjusted EBITDA	**5,476**	5,177	**593**	524	**—**	—	**6,069**	5,701
Adjusted Operating revenues and other income:								
Operating revenues and other income	**14,966**	13,636	**2,754**	2,256	**(462)**	(429)	**17,258**	15,463
Other equity losses related to real estate joint ventures	**3**	19	**—**	—	**—**	—	**3**	19
Gain on disposition of financial solutions business	**(410)**	—	**—**	—	**—**	—	**(410)**	—
Retirement of a provision arising from business acquisition-related written put options within DLCX	**—**	—	**—**	(71)	**—**	—	**—**	(71)
Denominator – Adjusted Operating revenues and other income	**14,559**	13,655	**2,754**	2,185	**(462)**	(429)	**16,851**	15,411
Adjusted EBITDA margin (%)	**37.6**	37.9	**21.6**	24.0	**n/m**	n/m	**36.0**	37.0

EBITDA – excluding restructuring and other costs interest coverage: This measure is defined as EBITDA – excluding restructuring and other costs, divided by Net interest cost, calculated on a 12-month trailing basis. It is similar to the coverage ratio covenant in our credit facilities, as described in *Section 7.6 Credit facilities*.

Calculation of EBITDA - excluding restructuring and other costs interest coverage

For the 12-month periods ended December 31 ($ millions, except ratio)	**2021**	2020
Numerator – EBITDA – excluding restructuring and other costs	**6,476**	5,753
Denominator – Net interest cost	**773**	792
Ratio (times)	**8.4**	7.3

Free cash flow: We report this measure as a supplementary indicator of our operating performance, and there is no generally accepted industry definition of free cash flow. It should not be considered as an alternative to the measures in the Consolidated statements of cash flows. Free cash flow excludes certain working capital changes (such as trade receivables and trade payables), proceeds from divested assets and other sources and uses of cash, as found in the Consolidated statements of cash flows. It provides an indication of how much cash generated by operations is available after capital expenditures (excluding purchases of spectrum licences) that may be used to, among other things, pay dividends, repay debt, purchase shares or make other investments. We exclude impacts of accounting changes that do not impact cash, such as IFRS 15 and IFRS 16. Free cash flow may be supplemented from time to time by proceeds from divested assets or financing activities.

Free cash flow calculation

	Fourth quarters ended December 31		Years ended December 31	
($ millions)	**2021**	2020	**2021**	2020
EBITDA	**1,882**	1,336	**6,290**	5,494
Deduct gain on disposition of financial solutions business	**(410)**	—	**(410)**	—
Deduct non-cash gains from the sale of property, plant and equipment	**—**	(1)	**—**	(4)
Restructuring and other costs, net of disbursements	**3**	14	**10**	35
Effects of contract asset, acquisition and fulfilment (IFRS 15 impact) and TELUS Easy Payment device financing	**(117)**	(112)	**(45)**	43
Effects of lease principal (IFRS 16 impact)	**(131)**	(110)	**(502)**	(365)
Leases formerly accounted for as finance leases (IFRS 16 impact)	**—**	16	**—**	86
Items from the statements of cash flows:				
Share-based compensation, net	**16**	(62)	**139**	27
Net employee defined benefit plans expense	**27**	25	**113**	102
Employer contributions to employee defined benefit plans	**(15)**	(14)	**(53)**	(51)
Interest paid	**(180)**	(169)	**(744)**	(740)
Interest received	**2**	3	**17**	13
Capital expenditures (excluding spectrum licences)[1]	**(909)**	(613)	**(3,498)**	(2,775)
Free cash flow before income taxes	**168**	313	**1,317**	1,865
Income taxes paid, net of refunds	**(186)**	(95)	**(601)**	(430)
Effect of disposition of financial solutions business on income taxes paid	**61**	—	**61**	—
Free cash flow	**43**	218	**777**	1,435

1 Refer to *Note 31* of the Consolidated financial statements for further information.

The following reconciles our definition of free cash flow with Cash provided by operating activities.

Free cash flow reconciliation with Cash provided by operating activities

($ millions)	Fourth quarters ended December 31		Years ended December 31	
	2021	2020	**2021**	2020
Free cash flow	**43**	218	**777**	1,435
Add (deduct):				
Capital expenditures (excluding spectrum licences)	**909**	613	**3,498**	2,775
Effects of lease principal and leases accounted for as finance leases prior to adoption of IFRS 16	**131**	94	**502**	279
Gain on disposition of financial solutions business, net of effect on income taxes paid	**(349)**	—	**(349)**	—
Individually immaterial items included in Net income neither providing nor using cash	**162**	108	**(40)**	85
Cash provided by operating activities	**896**	1,033	**4,388**	4,574

Mobile phone average billing per subscriber per month (ABPU): Mobile phone ABPU is a non-GAAP ratio that does not have any standardized meaning prescribed by IFRS-IASB and therefore is unlikely to be comparable to similar measures presented by other issuers. Mobile phone ABPU is calculated as network revenue derived from monthly service plan, roaming and usage charges, as well as monthly re-payments of the outstanding device balance owing from customers on contract; divided by the average number of mobile phone subscribers on the network during the period, and is expressed as a rate per month. Compared to ARPU, this measure provides management with a view of average monthly cash receipts from mobile services subscribers by reversing impacts of allocation of revenue to upfront performance obligations due to IFRS 15, in addition to device financing receipts, and is used to evaluate historical trending of an equivalent metric prior to the application of IFRS 15 and introduction of the device financing program.

Calculation of mobile phone ABPU

	Fourth quarters ended December 31		Years ended December 31	
	2021	2020	**2021**	2020
Numerator				
Mobile network revenue ($ millions)	**1,591**	1,515	**6,208**	6,030
Re-payments of the outstanding device balance owing from customers on contract ($ millions)	**350**	342	**1,389**	1,374
	1,941	1,857	**7,597**	7,404
Denominator – Simple average number of subscribers during the period [1] (millions)	**9.234**	8.880	**9.070**	8.752
Annual average of billing per subscriber unit ($)	**210**	209	**838**	846
Divide by number of months during the period	**3**	3	**12**	12
Mobile phone ABPU ($)	**70.09**	69.70	**69.83**	70.49

1 Simple average number of subscribers calculated for quarterly periods as the average of beginning-of-period subscribers and end-of-period subscribers. For annual periods, it is calculated as the average of beginning-of-period subscribers and end-of-period subscribers for each quarterly period. It is used as an illustrative proxy, which does not materially differ from the actual average number of subscribers.

Mobile phone average revenue per subscriber per month (ARPU) is calculated as network revenue derived from monthly service plan, roaming and usage charges; divided by the average number of mobile phone subscribers on the network during the period, and is expressed as a rate per month.

Net debt: We believe that net debt is a useful measure because it represents the amount of Short-term borrowings and long-term debt obligations that are not covered by available Cash and temporary investments. The nearest IFRS measure to net debt is Long-term

debt, including Current maturities of Long-term debt. Net debt is a component of the **Net debt to EBITDA – excluding restructuring and other costs** ratio.

Net debt to EBITDA – excluding restructuring and other costs: This measure is defined as net debt at the end of the period divided by 12-month trailing EBITDA – excluding restructuring and other costs. (See discussion in *Section 7.5 Liquidity and capital resource measures*.) This measure is similar to the leverage ratio covenant in our credit facilities, as described in *Section 7.6 Credit facilities*.

Calculation of Net debt to EBITDA – excluding restructuring and other costs

For the 12-month periods ended December 31 ($ millions, except ratio)	**2021**	2020
Numerator – Net debt	**20,535**	19,826
Denominator – EBITDA – excluding restructuring and other costs	**6,476**	5,753
Ratio (times)	**3.17**	3.45

Net interest cost: This measure is the denominator in the calculation of **EBITDA – excluding restructuring and other costs interest coverage**. Net interest cost is defined as financing costs, excluding capitalized long-term debt interest, employee defined benefit plans net interest and recoveries on redemption and repayment of debt, calculated on a 12-month trailing basis. Expenses recorded for the long-term debt prepayment premium, if any, are included in net interest cost.

Calculation of Net interest cost

For the 12-month periods ended December 31 ($ millions)	**2021**	2020
Financing costs	**796**	771
Deduct: Employee defined benefit plans net interest	**(26)**	(16)
Add: Interest on long-term debt, excluding lease liabilities – capitalized	**3**	37
Net interest cost	**773**	792

11.2 Operating indicators

The following measures are industry metrics that are useful in assessing the operating performance of a mobile and fixed telecommunications entity, but do not have a standardized meaning under IFRS-IASB.

Churn is calculated as the number of subscribers deactivated during a given period divided by the average number of subscribers on the network during the period, and is expressed as a rate per month. Mobile phone churn refers to the aggregate average of both prepaid and postpaid mobile phone churn. A TELUS, Koodo or Public Mobile brand prepaid mobile phone subscriber is deactivated when the subscriber has no usage for 90 days following expiry of the prepaid credits.

Connected device subscriber means a TELUS subscriber on an active service plan with a recurring revenue-generating portable unit (e.g. tablets, internet keys, Internet of Things, wearables and connected cars) that is connected to the TELUS network and is intended for limited or no cellular voice capability.

Mobile phone subscriber means a TELUS subscriber on an active service plan with a recurring revenue-generating portable unit (e.g. feature phones and smartphones) that is connected to the TELUS network and provides voice, text and/or data connectivity.

Internet subscriber means a TELUS subscriber on an active internet plan with a recurring revenue-generating fixed unit that is connected to the TELUS network and provides internet connectivity.

Residential voice subscriber means a TELUS subscriber on an active phone plan with a recurring revenue-generating fixed unit that is connected to the TELUS network and provides voice service.

Security subscriber means a TELUS subscriber on an active security plan with a recurring revenue-generating fixed unit that is connected to the TELUS security and automation platform.

TV subscriber means a TELUS subscriber on an active TV plan with a recurring revenue-generating fixed unit subscription for video services from a TELUS TV platform (e.g. Optik TV and Pik TV).

Virtual care member means primary enrolment to receive services on an active TELUS Health virtual care plan.

Healthcare lives covered means the number of users (primary members and their dependents) enrolled in various health programs supported by TELUS Health services (e.g. virtual care, health benefits management, preventative care and personal health security).

Digital health transactions mean the total number of health claims, dental claims, consultations or other paid transactions facilitated by TELUS Health services.

Exhibit 99.5

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in Registration Statement No. 333-256124 on Form F-10, Registration Statement No. 333-258770 on Form F-3D and Registration Statement Nos. 333-125486 and 333-181463 on Form S-8 and to the use of our reports dated February 10, 2022 relating to the financial statements of TELUS Corporation (the "Company") and the effectiveness of the Company's internal control over financial reporting appearing in this Annual Report on Form 40-F for the year ended December 31, 2021.

/s/ Deloitte LLP
Chartered Professional Accountants
Vancouver, Canada
February 10, 2022