

stronger together



Management's discussion and analysis

Caution regarding forward-looking statements

This document contains forward-looking statements about expected events and the financial and operating performance of TELUS Corporation. 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.

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 targets, outlook, updates, and 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*.

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 2018 are presented in *Section 9 General trends, outlook and assumptions* 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:

- **Competition** including: our ability to continue to retain customers through an enhanced customer service experience, including through the deployment and operation of evolving wireless and wireline networks; the ability of industry competitors to successfully launch their respective platforms and to combine a mix of residential local voice over Internet protocol (VoIP), long distance, high-speed Internet access (HSIA) and, in some cases, wireless services under one bundled and/or discounted monthly rate, along with their existing broadcast or satellite-based TV services; the success of new products, new services and supporting systems, such as Internet of Things (IoT) services for Internet-connected devices; continued intense rivalry across all services among wireless and wireline telecommunications companies, cable-TV providers, other communications companies and over-the-top (OTT) services, which, among other things, places pressures on current and future average revenue per subscriber unit per month (ARPU), cost of acquisition, cost of retention and churn rate for all services, as do customer usage patterns, flat-rate pricing trends for voice and data, inclusive rate plans for voice and data and availability of Wi-Fi networks for data; mergers and acquisitions of industry competitors; pressures on high-speed Internet and TV ARPU and churn rate resulting from market conditions, government actions and customer usage patterns; residential and business network access line (NAL) losses; subscriber additions and retention volumes, and associated costs for wireless, TV and high-speed Internet services; and our ability to obtain and offer content on a timely basis across multiple devices on wireless and TV platforms at a reasonable cost.
- **Technological substitution** including: reduced utilization and increased commoditization of traditional wireline voice local and long distance services from impacts of OTT applications and wireless substitution, a declining overall market for paid TV services, including as a result of content piracy and signal theft and as a result of a rise in OTT direct to consumer video offerings and virtual multichannel video programming distribution platforms; the increasing number of households that have only wireless and/or Internet-based telephone services; potential wireless ARPU declines as a result of, among other factors, substitution to messaging and OTT applications; substitution to increasingly available Wi-Fi services; and disruptive technologies such as OTT IP services, including Network as a Service in the business market, that may displace or re-rate our existing data services.
- **Technology** including: subscriber demand for data that may challenge wireless networks and spectrum capacity levels in the future and may be accompanied by increases in delivery cost; our reliance on information technology and our need to streamline our legacy systems; technology options, evolution paths and roll-out plans for video distribution platforms and telecommunications networks (including broadband initiatives, such as fibre to the premises (FTTP), wireless small-cell deployment, 5G wireless and availability of resources and ability to build out adequate broadband capacity); our reliance on wireless network access agreements, which have facilitated our deployment of wireless technologies; 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 concentration and market power for network equipment, TELUS TV and wireless handsets; the performance of wireless technology; our expected long-term need to acquire additional spectrum capacity through future spectrum auctions and from third parties to address increasing demand for data; deployment and operation of new wireline broadband networks at a reasonable cost and availability and success of new products and services to be rolled out on such networks; network reliability and change management; self-learning tools and automation that may change the way we interact with customers; and uncertainties around our strategy to replace certain legacy wireline networks, systems and services to reduce operating costs.
- **Capital expenditure levels and potential outlays for spectrum licences in spectrum auctions or from third parties**, due to: our broadband initiatives, including connecting more homes and businesses directly to fibre; our ongoing deployment of newer wireless technologies, including wireless small cells to improve coverage and capacity and prepare for a more efficient and timely evolution to 5G wireless services; utilizing acquired spectrum; investments in network resiliency and reliability; subscriber demand for data; evolving systems and business processes; implementing efficiency initiatives; supporting large complex deals; and future wireless spectrum auctions held by Innovation, Science and Economic Development Canada (ISED). Our capital expenditure levels could be impacted if we do not achieve our targeted operational and financial results.
- **Regulatory decisions and developments** including: the potential of government intervention to further increase wireless competition; the CRTC wireless wholesale services review, in which it was determined that the CRTC will regulate wholesale GSM-based domestic roaming rates and the setting of such rates charged to wireless service providers (WSPs); the Governor in Council's order to the CRTC to reconsider whether Wi-Fi networks should be considered a home network for WSPs seeking mandated roaming; future spectrum auctions and spectrum policy determinations, including the recently announced repurposing of 600 MHz spectrum (and including limitations on established wireless providers, proposed spectrum set-aside that favours certain carriers and other advantages provided to new and foreign participants, and the amount and cost of spectrum acquired); restrictions on the purchase, sale and transfer of spectrum licences; the impact of the CRTC's wireline wholesale services review, with a formal review of rates for wholesale FTTP access still to be commenced for TELUS; disputes with certain municipalities regarding rights-of-way

bylaws; and other potential threats to unitary federal regulatory authority over telecommunications, including provincial wireless legislation; the potential impacts of the CRTC's decision to require pro-rated refunds when customers terminate their services; the CRTC's proposed phase-out of the local service subsidy regime and corresponding establishment of a broadband funding regime to support the enhancement of high-speed Internet services focusing on underserved areas in Canada; the impact of the review of the Minister of Canadian Heritage's new Creative Canada policy framework announced on September 28, 2017; the CRTC's consultation and report on distribution models of the future; vertical integration in the broadcasting industry resulting in competitors owning broadcast content services, and timely and effective enforcement of related regulatory safeguards; the review of the *Copyright Act* scheduled to begin in early 2018; the federal government's stated intention to review the *Broadcasting Act* and *Telecommunications Act* as announced in the March 22, 2017 federal budget; TELUS' applications for renewal of its broadcasting distribution licences; the North American Free Trade Agreement renegotiation; and restrictions on non-Canadian ownership and control of TELUS Common Shares and the ongoing monitoring and compliance with such restrictions.

- **Human resource matters** including: recruitment, retention and appropriate training in a highly competitive industry, and the level of employee engagement.
- **Operational performance and business combination risks** including: our reliance on legacy systems and ability to implement and support new products and services and business operations in a timely manner; our ability to implement effective change management for system replacements and upgrades, process redesigns and business integrations (such as our ability to successfully integrate acquisitions, complete divestitures or establish partnerships in a timely manner, and realize expected strategic benefits, including those following compliance with any regulatory orders); the implementation of complex large enterprise deals that may be adversely impacted by available resources, system limitations and degree of co-operation from other service providers; our ability to successfully manage operations in foreign jurisdictions; information security and privacy breaches, including data loss or theft of data; intentional threats to our infrastructure and business operations; and real estate joint venture re-development risks.
- **Business continuity events** including: our ability to maintain customer service and operate our networks in the event of human error or human-caused threats, such as cyberattacks and equipment failures that could cause various degrees of network outages; supply chain disruptions; natural disaster threats; epidemics; pandemics; political instability in certain international locations; and the completeness and effectiveness of business continuity and disaster recovery plans and responses.
- **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, including the future benefits of the immediately vesting transformative compensation initiative; business integrations; business product simplification; business process outsourcing; offshoring and reorganizations, including any full-time equivalent (FTE) employee reduction programs; procurement initiatives; and real estate rationalization. Additional revenue and cost efficiency and effectiveness initiatives will continue to be assessed and implemented.
- **Financing and debt requirements** including: our ability to carry out financing activities, and our ability to maintain investment grade credit ratings in the range of BBB+ or the equivalent.
- **Ability to sustain our dividend growth program through 2019.** This program may be affected by factors such as the competitive environment, economic performance in Canada, our earnings and free cash flow, our levels of capital expenditures and spectrum licence purchases,

acquisitions, the management of our capital structure, and regulatory decisions and developments. Quarterly dividend decisions are subject to assessment and determination by our Board of Directors (Board) based on the Company's financial position and outlook. Shares may be purchased under our normal course issuer bid (NCIB) when and if we consider it opportunistic, based on the Company's financial position and outlook, and the market price of TELUS shares. There can be no assurance that our dividend growth program or any NCIB will be maintained, not changed and/or completed through 2019.

- **Taxation matters** including: interpretation of complex domestic and foreign tax laws by the tax authorities that may differ from our interpretations; the timing of income and deductions, such as tax depreciation and operating expenses; changes in tax laws, including tax rates; tax expenses being materially different than anticipated, including the taxability of income and deductibility of tax attributes; elimination of income tax deferrals through the use of different tax year-ends for operating partnerships and corporate partners; and tax authorities adopting more aggressive auditing practices, for example, 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; and the complexity of legal compliance in domestic and foreign jurisdictions, including compliance with 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 change, waste and waste recycling, risks relating to fuel systems on our properties, and changing government and public expectations regarding environmental matters and our responses.
- **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; 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, funding and discount rates; and Canadian dollar: U.S. dollar exchange rates.

These risks are described in additional detail in *Section 9 General trends, outlook and assumptions* 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 our current expectations or knowledge. Additional risks and uncertainties 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.

Glossary

4G (fourth generation): Wireless technologies, including HSPA+, LTE, LTE advanced and LTE advanced pro, as defined by the International Telecommunications Union.

5G (fifth generation): The next generation of converged wireless technologies, expected to provide higher Internet speeds, improved coverage and lower latency, which is critical as the number of connected devices continues to increase rapidly. 5G technical standards remain in development.

AWS (advanced wireless services) spectrum: Spectrum in the 1.7 and 2.1 GHz frequency ranges that is utilized in North America for 4G services. It is commonly used in urban and suburban areas.

Fibre-optic network: Hair-thin glass fibres along which light pulses are transmitted. Optical fibre networks are used to transmit large amounts of data between locations at high upload and download speeds.

FTTx (fibre to the x): A collective term for any broadband network architecture using optical fibre to replace all or part of the existing copper local loops. FTTH denotes fibre to the home, FTTP denotes premises and FTTN denotes node or neighbourhood.

GPON (gigabit-capable passive optical network): A fibre-based transmission technology that can deliver data download speeds of up to 2.5 Gbps and upload speeds of up to 1.25 Gbps.

HSPA+ (high-speed packet access plus): A 4G technology capable of delivering manufacturer-rated wireless data download speeds of up to 21 Mbps (typical speeds of 4 to 6 Mbps expected). HSPA+ dual-cell technology can double those download speeds.

ILEC (incumbent local exchange carrier): An established telecommunications company providing local telephone service.

Internet of Things (IoT): A network of uniquely identifiable end points (or things) that interact without human intervention, most commonly over a wireless network. These systems collect, analyze and act on information in real time and can be deployed to enable the creation of smart connected businesses, homes, cars and cities.

IP (Internet protocol): A packet-based protocol for delivering data across networks.

IP-based network: A network designed using IP and QoS (quality of service) technology to reliably and efficiently support all types of customer traffic, including voice, data and video. An IP-based network allows a variety of IP devices and advanced applications to communicate over a single common network.

IP TV (Internet protocol television): A television service that uses a two-way digital broadcast signal sent through a network by way of a streamed broadband connection to a dedicated set-top box. The TELUS service is offered as Optik TV and Pik TV.

LAA (licensed assisted access): An LTE feature that makes use of unlicensed spectrum in combination with licensed spectrum to deliver a performance boost for mobile device users.

LTE (long-term evolution): The leading 4G global wireless industry technology standard. LTE advanced and LTE advanced pro offer higher speeds and greater capacity, moving networks closer to 5G.

M2M (machine-to-machine): Technologies and networked devices that are able to exchange information and perform actions without any human assistance.

Non-ILEC (non-incumbent local exchange carrier): The telecommunications operations of TELUS outside its traditional ILEC operating territories, where TELUS competes with the incumbent telephone company (e.g. Ontario and most of Quebec).

Normal course issuer bid (NCIB): A program that enables a company to purchase its own shares, typically for cancellation, through exchanges or private purchases over a set period of time.

Over-the-top (OTT): Content, services and applications in a video format, for which the delivery occurs through a medium other than the established video delivery infrastructure.

Roaming: A service offered by wireless network operators that allows subscribers to use their mobile phones while in the service area of another operator.

Small cell: Low-powered radio access nodes that can operate in licensed and unlicensed spectrum within a small range to provide densification and capacity to a macro wireless network.

Spectrum: The range of electromagnetic radio frequencies used in the transmission of voice, data and video. The capacity of a wireless network is in part a function of the amount of spectrum licensed and utilized by the carrier.

VoIP (voice over Internet protocol): The transmission of voice signals over the Internet or IP network.

Wave 3 solutions: Next-generation wireless offerings that use Internet of Things technology to provide solutions to businesses and consumers.

Wi-Fi (wireless fidelity): Networking technology that allows any user with a Wi-Fi-enabled device to connect to a wireless access point or hotspot in high-traffic public locations.

xDSL: A fibre-to-the-node IP technology that allows existing telephone lines to carry voice, data and video.

For financial definitions, see Section 11 of Management's discussion and analysis