

# 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.

In 2017, we continued to deliver a leading postpaid customer churn rate on a national basis. Our monthly postpaid churn rate further exemplifies the success of our differentiated customers first culture and our ongoing focus on delivering outstanding customer service, coupled with attractive new product and service offerings. For further discussion, see *Section 3 – Delivering on TELUS’ future friendly brand promise by putting customers first.*

#### **Investing in internal capabilities to build a high-performance culture and efficient operation**

Each year, we conduct team member Pulsecheck engagement surveys, administered by Aon Hewitt, 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 2017, our employee engagement score increased to 84%, elevating our high-performance culture and placing our Company within the top 10% of all employers surveyed on a global basis.

In addition, we incurred incremental, non-recurring restructuring and other costs with the objectives of improving our operating efficiency and effectiveness and addressing the profitability challenges in certain areas of our business. Restructuring costs associated with the rationalization of administrative, channel and network real estate were recorded in Goods and services purchased. Employee-related restructuring costs for reorganizing and streamlining business processes, such as certain client care, marketing and support functions, were recorded in Employee benefits expense. Other costs for incremental external expenses in connection with business acquisition or disposition activity, as well as litigation costs, in the context of significant losses and settlements, were recorded in Goods and services purchased.

#### **Restructuring and other costs**

Years ended December 31 (\$ millions)	2017	2016
Goods and services purchased	103	62
Employee benefits expense	36	417
Restructuring and other costs included in EBITDA	139	479

For further discussion, see *Section 3 – Elevating our winning culture for sustained competitive advantage.*

## 3 Corporate priorities

We confirm or set new corporate priorities each year to advance TELUS’ 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 2017 corporate priorities.

#### **Delivering on TELUS’ future friendly brand promise by putting customers first**

- We maintained our leadership position in customer loyalty, achieving a postpaid wireless churn rate of less than 1% for 17 of the last 18 quarters. Notably, in the J.D. Power 2017 Canadian Wireless Network Quality Study, TELUS was ranked Highest Wireless Network Quality Performance in Ontario, three years in a row; and in the West (including British Columbia, Alberta, Saskatchewan and Manitoba) two years in a row.
- In February 2017, TELUS was awarded Fastest Overall Download Speed and Best Availability among three national providers by OpenSignal, a UK-based company that studies wireless coverage globally using crowd-sourced data from real customer devices. This result is testament to our multi-pronged strategy for technology development, such as through our roll-out of LTE, our wireless network upgrade in Eastern Canada and our approach to the roll-out of 5G by incubating new technologies through trials in a real-life environment in our 5G Living Lab in Vancouver.
- We were ranked as having the fastest wireless network nationally according to PCMag. Additionally, we were ranked as having the fastest network in certain markets across Canada, including Victoria, Vancouver, Edmonton, Saskatoon, Moose Jaw, Winnipeg, Windsor, Toronto, Ottawa, Quebec City, Montreal, Fredericton and Prince Edward Island.
- We were recognized as having Canada’s fastest mobile network according to the crowd-sourced Ookla Speedtest for the second quarter to third quarter of 2017.
- We now provide Cuba Roaming Passports, providing customers travelling to Cuba with cost savings and cost certainty.
- Our customers’ likelihood-to-recommend scores improved for Business Solutions and TELUS Health. We also continue to lead our national peers in the consumer space, with Koodo being the most recommended of any wireless brand.
- We made YouTube available on all Optik TV 4K digital boxes. As a result, a subscription to 4K content or a 4K-capable TV is no longer required to access the YouTube app on Optik TV.
- We launched our new Optik TV app, which allows subscribers to watch live TV, set recordings and access our On Demand library on a smartphone, tablet or computer.
- We expanded our cloud communications solutions with the launch of TELUS Business Connect Mobile, an all-in-one integrated mobile solution designed to drive productivity and cost savings for businesses.

### Elevating our winning culture for sustained competitive advantage

- Our employee engagement levels continue to place our organization within the top 10% of all employers surveyed on a global basis (see *Investing in internal capabilities to build a high-performance culture and efficient operation* in Section 2.2).
- Our culture continues to drive our success in the marketplace, as we focus on putting our customers first in a manner that differentiates us from our competitors.
- In 2017, we reached our goal of volunteering one million hours in order to honour the 150th anniversary of Canadian confederation. Also, TELUS, our team members and retirees contributed over \$45 million to charities and community organizations across Canada and around the world.
- We launched the TELUS Barrie Community Board, which will provide funding to local registered charitable organizations to support youth programs. Additionally, the TELUS Manitoba Community Board and the TELUS International Romania Community Board were both officially launched in 2017, bringing our total to 18 community boards around the world.
- For the 12th year, we received a BEST award for excellence in employee learning and development from the Association for Talent Development.
- We launched the TELUS Mobility for Good pilot project in B.C., working with the government of B.C.'s Ministry of Children and Family Development to support young adults transitioning from foster care into independent living by providing them with a smartphone and wireless rate plan. We are working with the Children's Aid Foundation of Canada to pilot this program in Ontario.
- We expanded TELUS WISE (wise Internet and smartphone education) to incorporate a TELUS WISE Youth Ambassador Program, which engages ambassador students in grades nine through 12 to deliver interactive workshops, practicing their presentation and public speaking skills and making a difference in their community. TELUS WISE is our free educational program aimed at keeping participants, their families and communities safer online.

### Generating profitable top-line revenue growth while enhancing our operational efficiency

- We continued to execute clear and simple principles to reduce complexity and customer support requirements.
- We retired our legacy CDMA network assets.
- We continue to invest in operational efficiency initiatives, including increased utilization of our TELUS International (TI) customer care, IT and business process services, incremental real estate rationalization, and various other efficiency and effectiveness programs, in support of our top priority of putting customers first while continuing to drive toward a more efficient cost structure.

### Increasing our competitive advantage through advanced, client-centric technology, networks and systems that lead the world in reliability

- Together with our lead vendor, we successfully completed a 5G wireless connection using the global 3GPP technology standards platform in our 5G Living Lab in Vancouver.
- We successfully completed Canada's first test of licensed assisted access (LAA) on indoor and outdoor live networks. The test delivered wireless download speeds of 970 Mbps indoors and 966 Mbps outdoors using 80MHz of aggregated spectrum in a live, dynamic production network. LAA technology will enhance the TELUS network as it continues to evolve towards next-generation 5G speeds, bringing customers higher throughput and a better overall network experience as we deploy the technology into our network in the coming years.
- We successfully completed a live-environment mobile broadband test using 3.5 GHz spectrum and achieved download speeds eclipsing 2 Gbps in suburban northwest Edmonton. The 3.5 GHz spectrum will enable future 5G networks to deliver faster speeds in more places.
- We continued to invest in our leading-edge broadband technology, which has enabled the success of Optik TV and Pik TV, Internet and business services, as well as the ongoing evolution of our world-class wireless networks.
  - Our 4G LTE network covered 99% of Canada's population at December 31, 2017.
  - Our high-speed broadband coverage reached more than 3 million households and businesses in B.C., Alberta and Eastern Quebec at December 31, 2017, including approximately 1.44 million homes and businesses covered by fibre-optic cable, up from 1.08 million homes and businesses in 2016, which now provides these premises with immediate access to our gigabit-capable fibre-optic network.
- As noted in Section 2.2, in June 2017, we updated our radio access network in Ontario and Quebec to the latest wireless technologies, improving network performance for our customers and enabling advanced capabilities.
- We continued to enhance our network performance and achieved significant year-over-year improvements in 4G LTE average download speeds, voice accessibility, voice dropped call rates and 4G LTE data accessibility.
- To provide our customers with an improved wireless calling experience, we expanded our voice over LTE (VoLTE) coverage nationally, excluding the province of Saskatchewan and some parts of Manitoba, and we expect to cover the remaining parts of Manitoba in 2018.

### Driving TELUS' leadership position in our chosen business, public sector and international markets

- TI remains focused on providing outstanding contact centre, business process and IT solutions to our global customers, and continuing to partner with like-minded organizations that share our commitment to providing world-class customer experiences by helping them to provide better service for their clients. TI continues to focus on growth and, in 2017, expanded with our acquisition of Voxpro, which has extended our U.S. footprint and added new capacity in Europe and Asia. Additionally, our 2018 acquisition of Xavient adds client diversity, next-generation IT solutions and operations in the U.S. and India that will help us sustain our growth trajectory.
- We launched Network as a Service (NaaS) in 2017, further solidifying our position in the Canadian business telecom market. NaaS makes it easy for Canadian businesses to deploy and optimize their own secure and reliable software defined networks quickly, easily and cost-effectively through a flexible self-serve cloud-based platform.
- As Canadian companies continue to drive their digital transformation to improve their competitiveness in a rapidly evolving global economy, we look to be an Internet of Things (IoT) thought leader, providing integrated solutions that allow our customers to focus on their core competencies.

### Advancing TELUS' leadership position in healthcare information management for better human outcomes

- TELUS Health and Université Laval announced a partnership to provide comprehensive simulation teaching facilities to the university's pharmacy faculty. Additionally, pharmacy students will have an opportunity to operate Ubik, TELUS Health's pharmacy management platform currently being deployed across pharmacies in Quebec, which will be customized for use in academic settings.
- We acquired Kroll Computer Systems Inc. to enhance our geographic reach and the quality of our product offering as a national pharmacy management services provider.
- Canada Health Infoway selected TELUS Health as the successful bidder to be the technical solution provider for PrescribelT, a national e-prescribing service. PrescribelT will enable the secure electronic transmission of prescriptions from a physician office or clinic directly to the patient's pharmacy of choice. Electronic transmission of prescriptions will prevent transcription errors, save time for physicians and pharmacists, and increase convenience for patients. PrescribelT will be built on the open, interoperable and vendor-agnostic TELUS Health Exchange platform, which already provides healthcare professionals with a variety of collaboration tools that improve the quality and efficiency of the care they provide to their patients.
- In July 2017, TELUS Health announced the launch of MedDialog, a national clinical solution that allows doctors to communicate electronically with other physicians regarding the care of their patients directly from their EMR systems. This technology will enable more efficient clinical practice and better patient care by eliminating the need for phone and fax communications and ensuring all patient communication history remains within the digital chart.
- TELUS Health announced a partnership with Tunstall Healthcare, a leading connected healthcare company, to provide Canadians with access to healthcare through the Tunstall Integrated Care Platform (ICP). As patients track and upload their own vital signs from their homes, the TELUS Home Health Monitoring solution powered by ICP will allow virtual care teams to maintain a close watch on biometrics in real time and intervene before a health issue arises, regardless of where they are located. By leveraging remote monitoring and videoconferencing telehealth software solutions, we aim to improve the lives of patients living with chronic disease and help prevent unnecessary hospital admissions.

Our 2018 corporate priorities are provided in the table below.

### 2018 CORPORATE PRIORITIES

- Honouring our team, customers and social purpose by delivering on our brand promise
- Leveraging our broadband networks to drive TELUS' growth
- Fuelling our future through recurring efficiency gains
- Driving emerging opportunities in TELUS Health and TELUS International.

## 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

#### WIRELESS PRODUCTS AND SERVICES FOR CONSUMERS AND BUSINESSES ACROSS CANADA

##### Our products and services

- Data and voice – Fast Internet access for video, social networking, messaging and mobile applications, including our new Optik TV app; Internet of Things (IoT) solutions (including machine-to-machine (M2M) connectivity); clear and reliable voice services; push-to-talk (PTT) solutions, including TELUS Link® service; and international roaming.
- Devices – The latest smartphones, tablets, mobile Internet keys, mobile Wi-Fi devices, M2M modems, digital life devices and wearable technology.
- Suite of IoT solutions to support Canadian businesses locally and internationally, including asset tracking, fleet management, remote monitoring, digital signage and security.