TELUS

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strongertogether

2017 ANNUAL REPORT

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.

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 PrescribeIT, a national e-prescribing service. PrescribeIT 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. PrescribeIT 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.

WIRELESS PRODUCTS AND SERVICES FOR CONSUMERS AND BUSINESSES ACROSS CANADA

Our capabilities

- Licensed gross national wireless spectrum holdings averaging 160.4 MHz.
- Coast-to-coast digital 4G LTE network:
  - Overall coverage of 99% of Canada's population, with the LTE advanced portion of the network covering 88% of Canada's population, at December 31, 2017. Coverage includes roaming agreements.
  - Coverage and capacity were enhanced with the deployment of the 700 MHz wireless spectrum licences acquired in 2014 and the deployment of the 2500 MHz wireless spectrum acquired in 2015. We plan to utilize other spectrum licences purchased in recent years in combination with unlicensed supplementary spectrum, as network and device ecosystems evolve.
  - Manufacturer's rated download speeds: LTE advanced, up to 750 Mbps; LTE, up to 110 Mbps; HSPA+, up to 42 Mbps. Average expected speeds: LTE advanced, 12–200 Mbps; LTE, 12–45 Mbps; HSPA+, 4–14 Mbps[1].
  - Reverts to the HSPA+ network and speeds when customers are outside LTE coverage areas.
  - International voice and data roaming capabilities in more than 225 countries.

Competition overview

- Facilities-based national competitors Rogers Wireless and Bell Mobility, as well as provincial or regionally focused telecommunications companies Freedom Mobile, Videotron, SaskTel, Eastlink, Tbaytel and Xplornet (expected in 2018).
- Fixed wireless services.
- Resellers of competitors' wireless networks.
- Services offered by cable-TV and wireless competitors over wireless and metropolitan Wi-Fi networks.

WIRELINE PRODUCTS AND SERVICES: RESIDENTIAL SERVICES IN BRITISH COLUMBIA, ALBERTA AND EASTERN QUEBEC; HEALTHCARE SOLUTIONS; BUSINESS SERVICES ACROSS CANADA; AND CONTACT CENTRE AND OUTSOURCING SOLUTIONS OFFERED INTERNATIONALLY

Our products and services

- Voice – Reliable fixed phone service with long distance and advanced calling features; voice over IP (VoIP) supporting voice services into the future.
- Internet – Fixed high-speed Internet access (HSIA) service with email and a comprehensive suite of security solutions. Also includes HSIA over LTE and TELUS PureFibre, with reliable Wi-Fi, and cloud storage. TELUS offers symmetrical 150 Mbps download and upload speeds.
- TELUS TV – High-definition entertainment service with Optik TV, Pik TV and TELUS Satellite TV®. Optik TV offers extensive content options and innovative features such as PVR Anywhere, Remote Recording, Optik® Smart Remote channel browsing with a tablet or smartphone, and our new Optik TV app (see *Section 3* for further information). Pik TV, which is provided only in B.C. and Alberta, delivers a streamlined offer for customers who have ceased and/or never subscribed for TV services by offering a self-install TV service created to embrace the changing environment where content is increasingly available from over-the-top (OTT) services. We are the content leader in Western Canada, which includes being the only provider in Western Canada offering 4K TV capability. TELUS Satellite TV service is offered only in B.C. and Alberta by way of an agreement with Bell Canada.
- IP networks and applications for businesses – Converged voice, video and data services and Internet access, offered on a high-performing network.
- Contact centre, business process and IT outsourcing solutions in more than 30 languages – Managed solutions providing low-cost and scalable infrastructure in North America, Asia, Europe and Central America and next-generation IT consulting and delivery capabilities upon closing our acquisition of Xavient Information Systems.
- Hosting, managed IT and cloud-based services – Cybersecurity and other solutions with ongoing assured availability of telecommunications, networks, servers, databases, files and applications, with critical applications stored in our Internet data centres (IDCs) across Canada or through partner facilities, depending on customer preferences, including our Network as a Service (NaaS) offering.
- Healthcare – TELUS Health's services, including pharmacy management, electronic medical records (EMR) and mobile EMR, electronic health records, drug information systems, regional clinical information systems, personal health record systems, remote patient monitoring, online settlement claims management solutions, e-prescribing services, TELUS Health Exchange Platform and MedDialog.
- Unified Communications conferencing and collaboration – Full range of equipment and application solutions to support meetings and webcasts by means of phone, video and Internet.
- Home security – Central monitoring station, wireless and hard-wired security accessibility, and wearable security offerings for residential customers.

1 Network speeds vary with location, signal and customer device. Compatible device required.

WIRELINE PRODUCTS AND SERVICES: RESIDENTIAL SERVICES IN BRITISH COLUMBIA, ALBERTA AND EASTERN QUEBEC; HEALTHCARE SOLUTIONS; BUSINESS SERVICES ACROSS CANADA; AND CONTACT CENTRE AND OUTSOURCING SOLUTIONS OFFERED INTERNATIONALLY

Our capabilities

- Broadband Internet coverage reaching more than three million homes and businesses in B.C., Alberta and Eastern Quebec.
- Ongoing connection of homes and businesses directly to fibre-optic cables; approximately 1.44 million homes and businesses addressable by TELUS PureFibre in B.C., Alberta and Eastern Quebec at December 31, 2017 and we are approaching nearly 50% of our targeted coverage footprint.
- Wireline residential access line services provided to an estimated 31% of households in B.C. and Alberta, and 58% of households in our Eastern Quebec region.
- Broadcasting distribution licences allowing us to offer digital television services in incumbent territories, as well as licences to offer commercial video-on-demand services.
- Home security technological abilities to support central monitoring. Field services capabilities to install, upgrade and repair security at a customer's premises.
- An IP-based national network overlaying an extensive switched network in B.C., Alberta and Eastern Quebec, as well as global interconnection arrangements.
- Eight data centres in six communities directly connected to the national TELUS IP network, creating an advanced and regionally diverse computing infrastructure in Canada.
- Access to businesses across Canada through our networks, as well as competitive local exchange carrier status.
- Business process outsourcing and next-generation IT consulting services with global delivery capabilities through our multinational, multi-language programs, supported by approximately 27,900 full-time equivalent (FTE) roles across North America, Asia, Europe and Central America, as at December 31, 2017.
- Technology solutions to assist health regions, hospitals, insurers, consumers and employers; also to improve the connectivity and collaboration among healthcare providers, including physicians, nurses, pharmacists and physiotherapists.

Competition overview

- Substitution of wireless services, including our own wireless offerings, for residential local and long distance services. The percentage of households with wireless-only telephone services (among all providers, including TELUS) is estimated to be 45% in B.C. and Alberta, and 18% in Eastern Quebec, compared to 41% and 16%, respectively, in 2016.
- Allstream Inc., a national telecommunications service provider for business customers, owned by Zayo Group Holdings Inc., a U.S.-based provider of communications infrastructure services.
- Cable-TV competitors for Internet and entertainment services, such as Shaw Communications (in B.C. and Alberta) and Cogeco Cable and Videotron (in Eastern Quebec).
- Various others offering resale or VoIP-based local, long distance and Internet services.
- OTT voice and entertainment services, such as Skype, Netflix, Amazon Prime Video and YouTube.
- Satellite-based entertainment and Internet services offered by Bell Canada, Shaw Communications and Xplornet.
- Competitors for contact centre services, such as Convergys, Teleperformance, Sykes Alorica, Sutherland and Sitel.
- Fixed wireless services.
- Customized managed outsourcing solutions competitors, such as system integrators CGI Group Inc., EDS division of HP Enterprise Services and IBM.
- 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 Loblaws, 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 home security range from local to national companies, such as ADT, Chubb Security, Stanley Security, Fluent and Monitronics.

4.2 Operational resources

RESOURCES

Our team

- Approximately 53,630 employees at the end of 2017 (approximately 52,860 FTE roles across a wide range of operational functions, with 24,960 FTE roles in Canada and 27,900 FTE roles internationally).
- Approximately 10,465 of our employees are covered by collective agreements. The agreement with the Telecommunications Workers Union (TWU), United Steel Workers Local Union 1944, which covers approximately 9,020 employees, expires on December 31, 2021. The agreement with the Syndicat des agents de maîtrise de TELUS (SAMT), which covers approximately 635 team members in the TELUS Quebec region, expires on March 31, 2022. The agreement with the Syndicat québécois des employés de TELUS (SQET), which covers approximately 1,385 employees, expires on December 31, 2022.
- Operations at Canadian and international locations to support contact centres and business process outsourcing services for external wholesale customers, as well as for certain functions internally.
- Employee compensation programs that support a high-performance culture and contain market-driven and performance-based components (bonus and share-based compensation) to attract and retain key employees.
- Succession plans to cover ongoing retirement, ready access to labour in Canada and, for contact centres and specific support functions, in various international locations. We also use external contractors and consultants.
- Training, mentoring and development programs to maintain and improve employee engagement levels and enhance the customer experience.

Our brand and distribution channels

- A well-established and recognizable national brand (TELUS, the future is friendly).
- Koodo Mobile® – A national provider of postpaid and prepaid wireless voice and data services with a broad distribution network, including TELUS-owned stores, dealers and third-party electronics retailers.
- Public Mobile – A prepaid wireless service provider, with a primarily web-based distribution channel, and provides customers with a SIM-only service.
- Optik TV brand, launched in mid-2010. Pik TV brand, launched in mid-2017.
- TELUS PureFibre, our next-generation fibre-optic network.
- Our sales and support distribution channels:
  - Wireless services are supported through a broad network of TELUS-owned and branded stores, including our 50% ownership of the kiosk channel WOW! Mobile, an extensive distribution network of exclusive dealers and large third-party electronics retailers (e.g. Best Buy, WalMart and London Drugs) and a white label brand for a premier retail chain, as well as online self-serve applications, mass marketing campaigns and customer care telephone agents.
  - Wireline residential services are supported through TELUS-owned and branded stores, including third-party electronics retailers, as well as mass marketing campaigns, customer care telephone agents, and online and TV-based self-serve applications.
  - Through telus.com, we enable sales of both wireless and wireline products and services. We also provide online account management tools enabling wireless and wireline customers to manage their accounts through our website or mobile applications.
  - TELUS Health provides some of its consumer services – personal health records and home health monitoring – in partnership with provincial governments.
  - Business services, including healthcare, across wireless and wireline are supported through certain dedicated stores for business, TELUS sales representatives, product specialists, independent dealers and online self-serve applications for small and medium-sized businesses (SMBs). Business process outsourcing services are supported through sales representatives and client relationship management teams.
  - Dedicated direct-to-consumer channel of over 600 field sales agents.

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.
- *Wireless broadband networks* – In 2012, we launched our 4G LTE wireless network capable of speeds of up to 110 Mbps, and today, our wireless network covers 99% of Canada's population. Our LTE network allows customers to take advantage of the newest mobile devices and enjoy a seamless experience across their multiple devices. In 2015, we launched the newest LTE advanced (LTE-A) network technology and have been working to expand our LTE capabilities with this technology since then. In April 2016, we enhanced our LTE-A network with the first global implementation of frequency division duplex (FDD) 4x4 multiple-input-multiple-output (MIMO) technology. We implemented another key enhancement to our LTE-A network in June 2017 by introducing quad-band LTE-A carrier aggregation technology – this network covers 88.2% of Canada's population and enables theoretical peak speeds of 750 Mbps.
  - In 2014, we deployed a centralized radio access network (C-RAN) in Vancouver and, in 2016, launched voice over LTE (VoLTE) service in B.C. and Alberta communities. Both deployments were key transformations in our wireless capabilities. We were also the first national operator to provide high-speed Internet service over our LTE network for rural customers in B.C. and Alberta through our Smart Hub mobile Internet solution.
  - We have been making significant investments in heterogeneous network (HetNet) technology, one of the key building blocks for 5G. HetNet combines multiple types of cells, such as outdoor macro cells and microcell, 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 September 2017, we became the first operator in Canada to introduce licensed assisted access (LAA) small cells for both outdoor and indoor environments. This technology is capable of speeds of up to 970 Mbps, which are the highest achieved globally.

RESOURCES

Our technology, systems and properties

- *Wireline broadband networks* – Our investments to deploy our gigabit-enabled TELUS PureFibre network have brought fibre-optic connectivity deeper into our network and directly to homes and businesses. At the end of 2017, 1.44 million homes and businesses in communities across B.C., Alberta and Quebec had access to fast, symmetrical 150/150 Internet download and upload speeds with TELUS PureFibre. Sixty of these communities now also have 250/250 Mbps and 1 Gbps/250 Mbps Internet service tiers available to them. Recognizing the need for highly reliable, high-capacity connectivity with low latency to support emerging services such as virtualized networks and IoT applications, we have also begun rolling out a next-generation nationwide optical backbone network capable of 400 Gbps per channel with automated self-healing and the ability to turn up network capacity on demand.
  - We have advanced our converged voice evolution strategy with the launch of our enhanced home phone service and small business voice services. These services leverage the capabilities of the TELUS PureFibre network and will serve as a foundation for new services in conjunction with our wireless network.
  - We have continued to innovate through Optik TV advancements for our customers, building a next-generation video platform to enable more differentiated OTT friendly services and launching a user-installable Android TV-based set-top box, which enabled us to introduce our new Pik TV service to customers as of May 2017.
  - By deploying next-generation platforms like Ericsson MediaRoom and MediaFirst Cloud, and investing in video distribution and the cloudification of video infrastructure, we will continue to advance our priority of enabling "anytime, everywhere" content and entertainment.
- *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 space, work centres and space for telecommunications equipment. Some buildings are constructed on leasehold land and the majority of wireless towers are situated on lands or buildings held under leases or licences with varying terms. We also participate in two real estate joint ventures. (See *Section 7.11*.)
- *Intangible assets* – Our intangible assets include wireless spectrum licences from Innovation, Science and Economic Development Canada (ISED), which are essential to providing wireless services. We have assets totalling 160.4 MHz average nationally. We have deployed 700 MHz, 2300 MHz, 2500 MHz, 1900 MHz, AWS-1 and 850 MHz spectrum to evolve our wireless network and will continue to enhance our LTE capability with AWS-3 spectrum as well as look to the introduction of new bands that will enable the realization of 5G networks. We intend to continue acquiring spectrum within the rules set out by ISED to meet our future capacity requirements.
  - Our broadcasting distribution licences enable us to provide entertainment services. See *Section 9.4 Broadcasting related issues* describing developments relating to these licences.
- *Future technologies, TELUS Health and TELUS International* – In addition to evolving our existing wireless and wireline infrastructure, we are investing in the technologies of the future that will serve as the foundation to provide next-generation services to Canadians. By way of example, we are building the next generation of 5G wireless technologies and capitalizing on the promise of convergent wireless and wireline network technologies. As mobile operators globally work to develop 5G, we have achieved groundbreaking wireless speeds of nearly 30 Gbps – 200 times faster than today's LTE standard – in our Living Lab. In 2017, we broke new ground by piloting 5G wireless-to-the-premises (WTTx) technology and achieved 2 gigabit per second download speeds in a live-environment test using 3.5 GHz spectrum.
  - We continue to invest in enabling platforms 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 2017, we launched our NaaS solution, the first Canadian network function virtualization (NFV) infrastructure that will power the virtualized networks of the future and enable Canadian businesses to serve their customers better with improved total cost of ownership.
- Through TELUS International, we provide customer care, IT, business processing and next-generation IT consulting services by utilizing geographically diverse service centres, software tools and international data networks and data centres. Global rerouting capabilities and geographic diversity are supported by facilities located in North America, Asia, Europe and Central America.
- Through TELUS Health's services, such as pharmacy management, EMRs (including mobile EMR), electronic health records, personal health records, clinical information systems, remote patient monitoring 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 wireless and wireline broadband networks.

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 the management of capital and in its definition, we include Common Share equity (excluding Accumulated other comprehensive income), Long-term debt (including long-term credit facilities, commercial paper backstopped by long-term credit facilities and any associated hedging assets or liabilities, net of amounts recognized in Accumulated other comprehensive income), Cash and temporary investments, and short-term borrowings 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 telecommunications infrastructure. In order to maintain or adjust our capital structure, we may change the amount of dividends paid to holders of Common Shares, purchase shares for cancellation pursuant to our normal course issuer bid (NCIB) programs, issue new 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 by utilizing a number of measures, including the net debt to EBITDA – excluding restructuring and other costs ratio, coverage ratios and the dividend payout ratio. (See definitions in *Section 11.1*.)

Financing and capital structure management plans

REPORT ON FINANCING AND CAPITAL STRUCTURE MANAGEMENT PLANS

Pay dividends to the holders of Common Shares under our multi-year dividend growth program

- In May 2016, we announced our intention to target ongoing semi-annual dividend increases, with the annual increase in the range of 7 to 10% from 2017 through to the end of 2019, 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 dividend payout ratio guideline is 65 to 75% of prospective net earnings per share. (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 not be changed through 2019. (See *Caution regarding forward-looking statements – Ability to sustain our dividend growth program through 2019* and *Section 10.7 Financing, debt requirements and returning cash to shareholders*.)
- Dividends declared in 2017 totalled $1.97 per share, an increase of $0.13 per share or 7.1% compared to the dividends declared in 2016. On February 7, 2018, the Board declared a first quarter dividend of $0.5050 per share, payable on April 2, 2018, to shareholders of record at the close of business on March 9, 2018. The first quarter dividend for 2018 reflects a cumulative increase of $0.025 per share or 5.2% from the $0.48 per share dividend declared one year earlier.
- In connection with dividends declared during 2017, our dividend reinvestment and share purchase plan trustee purchased from Treasury approximately 2 million dividend reinvestment Common Shares for $91 million, with no discount applicable.

Purchase Common Shares

- In November 2017, we received approval from the Toronto Stock Exchange (TSX) for a new 2018 NCIB to purchase and cancel up to 8 million Common Shares for consideration of up to $250 million over a 12-month period, commencing from November 13, 2017, to November 12, 2018, through the facilities of the TSX, the New York Stock Exchange, and alternative 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 an automatic share purchase plan (ASPP). As of February 8, 2018, we have not had any transactions pursuant to our 2018 NCIB.
- Our 2017 NCIB, for which we had received approval to purchase up to 8 million shares for an aggregate purchase price of up to $250 million, concluded on September 29, 2017 with TELUS having purchased, in the same manner as provided under the new 2018 NCIB, approximately 2.0 million shares or 0.3% of our outstanding shares for $80 million at an average price of approximately $40.97 per share.
- We may also enter into an 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 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.

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 $1,140 million at December 31, 2017, all of which was denominated in U.S. dollars (US$908 million), compared to $613 million (US$456 million) at December 31, 2016.
- Our net draws on the TELUS International (Cda) Inc. credit facility were $346 million ($339 million net of unamortized costs) at December 31, 2017, compared to $340 million ($332 million net of unamortized issue costs) at December 31, 2016.
- Proceeds from securitized trade receivables were $100 million at December 31, 2017, unchanged from December 31, 2016.

REPORT ON FINANCING AND CAPITAL STRUCTURE MANAGEMENT PLANS

Maintain compliance with financial objectives

Certain of our current financial objectives will be reviewed in 2018 for possible revision due to changes arising from the adoption of new accounting standards, IFRS 15, *Revenue from Contracts with Customers* and IFRS 16, *Leases*. (See *Section 8.2 Accounting policy developments*.)

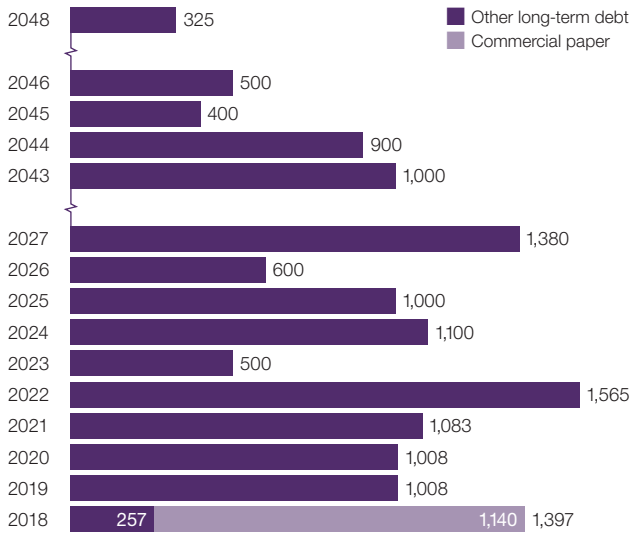
- **Maintain investment grade credit ratings in the range of BBB+ or the equivalent** – On February 8, 2018, investment grade credit ratings from the four rating agencies that cover TELUS were in the desired range. (See *Section 7.8 Credit ratings*.)
- **Net debt to EBITDA – excluding restructuring and other costs ratio of 2.00 to 2.50 times** – As measured at December 31, 2017, the ratio was 2.73 times, outside of the objective range, primarily due to the funding of spectrum licences acquired in wireless spectrum auctions held during 2014 and 2015, and the elevated strategic capital investments in our fibre-optic network. We expect this ratio to decline in 2018 and we continue to expect it to return to within the objective range in the medium term, consistent with our long-term strategy. (See *Section 7.5 Liquidity and capital resource measures*.)
- **Dividend payout ratio of 65 to 75% of net earnings per share on a prospective basis** – Our objective range is on a prospective basis. The dividend payout ratio we present in this MD&A is a historical measure utilizing the last four quarters of dividends declared and earnings per share, and is disclosed for illustrative purposes in evaluating our target guideline. As at December 31, 2017, the historical ratio of 80% and the adjusted historical ratio of 80% exceeded the objective range; however, we currently expect that we will be within our target guideline when considered on a prospective basis within the medium term. (See *Section 7.5 Liquidity and capital resource measures*.)
- **Generally maintain a minimum of $1 billion in unutilized liquidity** – As at December 31, 2017, our unutilized liquidity was more than $1 billion. (See *Section 7.6 Credit facilities*.)

Financing and capital structure management plans for 2018

At the end of 2017, our long-term debt (excluding unamortized discount) was $13.8 billion and the weighted average term to maturity was approximately 10.7 years (excluding commercial paper and the revolving component of the TELUS International credit facility). Our weighted average interest rate on long-term debt (excluding commercial paper and the revolving component of the TELUS International credit facility) was 4.18% at December 31, 2017, as compared to 4.22% one year earlier. Aside from Short-term borrowings of $100 million, commercial paper of $1,140 million (US$908 million) and the utilized revolving component of the TELUS International credit facility of $197 million (US$157 million), all of our debt was on a fixed-rate basis.

During 2018, we may issue senior Notes to refinance maturing debt 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 10.7 Financing, debt requirements and returning cash to shareholders*.

LONG-TERM DEBT PRINCIPAL MATURITIES AS AT DECEMBER 31, 2017
($ millions)



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, 2017, 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, 2017, 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, 2017, and certify TELUS' annual filings with the 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 controls over financial reporting as of December 31, 2017.

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 2017. The adoption of IFRS 15, *Revenue from Contracts with Customers*, required the implementation of new accounting processes, which changed the Company's internal controls over revenue recognition, contract acquisition costs and financial reporting. We have completed the design of these controls and they have been implemented as of December 31, 2017. We do not expect significant changes to our internal control over financial reporting due to the adoption of the new standard.

5 Discussion of operations

This section contains forward-looking statements, including those with respect to average revenue per subscriber unit (ARPU) growth, wireless loading and retention spending, high-speed Internet 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. See *Caution regarding forward-looking statements* at the beginning of this MD&A.

5.1 General

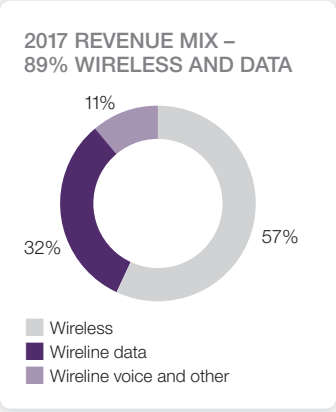
A significant judgment we make is in respect of distinguishing between our wireless and wireline operations and cash flows (and this extends to allocations of both direct and indirect expenses and capital expenditures). The clarity of such distinction has been increasingly affected by the convergence and integration of our wireless and wireline telecommunications infrastructure technology and operations. The continued build-out of our technology-agnostic fibre-optic infrastructure, in combination with converged edge technology, has significantly affected this judgment, as has the commercialization of fixed-wireless telecommunications solutions. It has become increasingly impractical and difficult to objectively and clearly distinguish between our wireless and wireline operations and cash flows, and the assets from which those cash flows arise. As at December 31, 2017, we do not currently aggregate operating segments, and thus our reportable segments as at December 31, 2017, are also wireless and wireline. Segmented information in *Note 5* of the Consolidated financial statements is regularly reported to our Chief Executive Officer (CEO) (our chief operating decision-maker).

Selected annual information

Years ended December 31 ($ in millions, except per share amounts)	**2017**	2016	2015
Operating revenues	**13,304**	12,799	12,502
Net income	**1,479**	1,236	1,382
Net income attributable to Common Shares	**1,460**	1,223	1,382
Net income per Common Share			
Basic earnings per share (basic EPS)	**2.46**	2.06	2.29
Diluted	**2.46**	2.06	2.29
Cash dividends declared per Common Share	**1.97**	1.84	1.68

At December 31 ($ millions)	**2017**	2016	2015
Total assets	**29,548**	27,729	26,406
Current maturities of long-term debt	**1,404**	1,327	856
Non-current financial liabilities[1]			
Provisions	**152**	57	55
Long-term debt	**12,256**	11,604	11,182
Other long-term financial liabilities	**224**	166	150
Total non-current financial liabilities	**12,632**	11,827	11,387
Deferred income taxes	**2,500**	2,107	2,155
Common equity	**8,221**	7,917	7,672

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: Combined wireless revenue and wireline data revenue represented approximately 89% of consolidated revenues in 2017 (87% in 2016 and 86% in 2015).

Total assets: Growth in Total assets includes increases in Property, plant and equipment and Intangible assets, which increased by a combined $1,198 million in 2017 and a combined $1,107 million in 2016. These increases resulted primarily from our ongoing investments in broadband networks, business acquisitions and purchases of wireless spectrum licences. 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 used by financing activities*.