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**Responding to the New Environment: A Call for Comments  
Review of Canadian Communications Legislative Framework,  
Broadcasting and Legislative Review Panel**

**Comments of Telesat Canada**

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## Introduction

This review of Canadian communications legislation comes at a critical time for the satellite industry. Canada was an early pioneer in satellite communications and earth observation, and today continues to have certain world-leading industrial capabilities in the sector. However, the space industry is changing at an unprecedented pace and is under increasing pressures from a number of trends, including over-supply in global satellite communications capacity from both over investment in conventional communications satellites and technological disruption by new satellite architectures. Notwithstanding the pressures it presently faces, the Canadian space sector can remain competitive, viable and relevant in the decades ahead. For this to happen, however, the Canadian space industry – like its foreign competitors – requires strong support from government. A key element of this support is ensuring that the domestic regulatory framework applicable to Canadian satellite operators is streamlined, constructive and flexible and supports the interests of the industry internationally.

The new low earth orbit (LEO) non-geostationary satellite orbit (NGSO) constellations that Telesat and others intend to deploy are geared to bridge the “digital divide” by ensuring high capacity global broadband connectivity at affordable rates. The constellations are technically and commercially ambitious and will compete in an intensely competitive global marketplace. In order to succeed in this environment, it is critical that the Canadian legislative and regulatory framework ensure that:

- (i) Canada maintains and defends international spectrum rights, including Canada’s priority NGSO satellite filings and satellite spectrum allocations and protections;
- (ii) Canadian regulation is flexible, streamlined and no more burdensome than regulation governing foreign competitors; and
- (iii) Canadian regulators have the tools required to engage in market-based spectrum reallocations.

Without a forward-looking regulatory framework that embraces these fundamental requirements, Canada will lose the “New Space” race to countries that recognize the promising developments in the space sector and the potential it has to eliminate the digital divide and foster economic growth and high quality job creation.

## Overview of Telesat

***Telesat is a Canadian success story, having grown to become the fourth largest fixed-satellite services provider in the world.***

During its more than 50 years in business, Telesat has been a ground-breaking innovator operating at the forefront of the satellite industry. It launched the world's first domestic commercial geostationary satellite orbit (GSO or GEO) satellite in 1972. With an initial mandate to serve the needs of Canadians, Telesat brought essential, innovative and highly reliable satellite services to every part of Canada, including its most remote and rural areas. Over time the company has evolved into a diversified, global satellite services company, with an unparalleled reputation for innovation, technical and operational expertise, and customer service. Telesat has become one of Canada's most successful exporters of technology-based services and it continues to be a major force in the development of the Canadian space industry and an essential catalyst in fostering Canadian technological innovation and economic growth.

Presently, Telesat is the world's fourth largest fixed-satellite services (FSS) operator, providing reliable and secure satellite communications services to broadcast, telecom, corporate and government customers. The company's advanced voice, data, video and IP networking services are delivered to private sector and government users around the world through a global fleet of 17 satellites. Telesat also operates a global teleport and terrestrial infrastructure that is fully integrated with its fleet operations. Through this combination of space and ground assets, Telesat's communications solutions support the most demanding requirements of sophisticated satellite users throughout the world. The satellite communications market is highly capital intensive and operators need to make sizable investments to ensure their service offerings are competitive. In this regard, Telesat has invested more than C\$5 billion in its state-of-the-art fleet and ground facilities, including roughly C\$2.5 billion over the last 10 years alone. Telesat is widely respected for its ability to design, provision, implement and manage comprehensive, end-to-end, state-of-the-art, satellite-based communication networks, including in harsh and remote environments, for governments and commercial satellite users around the world. The company's deep technical expertise and customer-oriented culture pervade its Ottawa-based Consulting Engineering Group (the world's leading technical advisor to satellite operators and governments around the world) and Research & Development Lab, which provide Telesat with industry-leading depth and breadth of engineering and development expertise.

Headquartered in Ottawa, with offices and facilities around the world, Telesat and its subsidiaries employ approximately 450 people, approximately 350 of which are located in

Canada. Almost 70 percent of Telesat's staff is employed in its engineering and other technical departments. Telesat's engineering and technical staff average over 18 years of service with the company and many hold advanced degrees in mathematics, physics and aeronautical engineering. In addition, Telesat has a network of more than 100 Field Service Representatives under contract across North America who operate and maintain remote satellite communication infrastructure for Telesat and its customers. Telesat continues to invest heavily in its personnel and is currently aggressively hiring in order to support its growth plans, including its planned state-of-the-art non-geostationary satellite orbit (NGSO) satellite constellation.

### **Industry Trends and Developments**

***The global satellite communications services industry is under significant pressure from excess supply globally and weakening demand in certain key markets and segments.***

Over the past several years, the satellite industry has been undergoing a significant and transformative change. As communications services providers around the world seek to adapt their networks to fast changing technological developments and consumer behavior, providers are adding an unprecedented amount of new communications infrastructure capacity (*e.g.*, fibre, terrestrial wireless, satellite). This dramatic increase in supply has resulted in a decline in prices for satellite transmission services. These pricing declines are putting significant financial pressure on satellite services providers, like Telesat.

Demand for satellite communications services in traditional markets is also under pressure. Although transmission of video services has long been the single largest source of demand for communications satellites, the multi-channel video services market has been disrupted by consumers increasingly moving to Over-the-Top (OTT) video streaming services (*e.g.*, Netflix), which has resulted in a decrease in subscribers for cable and satellite TV providers.

Demand for satellite services also has been adversely affected by sluggish conditions in a number of other traditional market segments, including the energy and natural resource sector and services to government users. Lastly economic malaise or political turmoil in a number of regions, including certain countries in the Middle East and Latin America, have prejudiced demand for satellite communications services at the same time as there is a substantial increase in satellite supply.

***Although demand for traditional services is under pressure, there is surging global demand for broadband internet services, and satellite operators face a compelling strategic imperative to develop new architectures to meet this demand.***

Although traditional sources of demand for satellite services are facing headwinds, global demand for high capacity broadband services is buoyant as individuals, businesses and governments consume surging amounts of data. This trend of exponential growth of demand for broadband services is expected to accelerate as emerging technologies (e.g., the Internet of Things, connected cars, broadband to planes and ships) take root and gain wide scale acceptance.

In order to capture this explosive demand, the satellite industry is collectively and overwhelmingly focused on developing the next generation of high throughput, broadband satellite architectures to bring users ubiquitous high bandwidth capacity at a cost per bit that is more competitive with terrestrial-based networks, like fibre and future terrestrial 5G networks. This will be achieved through new and innovative space-based technologies and processes on advanced satellites operating roughly 36,000 kilometers above earth in geostationary orbit as well as in satellite constellations operating in non-geostationary orbits (e.g., LEO satellites that are roughly 1,000 kilometers above earth). Specifically, advanced LEO constellations are being designed to reduce signal latency, provide more resilient, distributed and secure network services, and expand capacity at reduced rates throughout the entire world. Although LEO satellite constellations have been considered in the past, new communications, manufacturing and computing technologies combined with low cost, reusable launch vehicles, have given fresh impetus across the space sector to this type of network architecture.

***LEO satellite constellations are widely recognized as key to bridge the digital divide.***

Leveraging new technologies and cost structures, a number of new LEO satellite constellations have been proposed to address the digital divide and connect the 4.2B people worldwide that are unconnected.<sup>1</sup> In Canadian, alone, data prepared by the Canadian Radio-television and Telecommunications Commission (CRTC) indicates that 16% of Canadian households and many major highway corridors in Canada are underserved.<sup>2</sup>

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<sup>1</sup> Open Statement from the Broadband Commission for Sustainable Development to the UN High-Level Political Forum, “Ensuring that No one is Left Behind”, <https://broadbandcommission.org/Documents/publications/HLPF-July2016.pdf> .

<sup>2</sup> CRTC Communications Monitoring Report 2018, Retail Fixed Internet Sector and Broadband Availability, <https://crtc.gc.ca/eng/publications/reports/PolicyMonitoring/2018/cmr2018-internet.pdf> , p. 21 and <https://crtc.gc.ca/eng/internet/band.htm> .

Current technologies also cannot economically bridge the digital divide. Fibre and microwave backhaul to remote, low-density areas are high cost, while current geo-stationary satellites cannot satisfy latency requirements of Internet protocols. LEO constellations, in contrast, at approximately 1,000 km above the earth, can achieve fibre-quality latency. Moreover, large reductions in satellite manufacturing and launch costs are dramatically reducing the costs of large constellations of small satellites, at the same time as advancements in key technologies including electronic/phased array antennas, onboard digital processing, optical communications, artificial intelligence, machine learning and manufacturing automation provide the technical basis for New Space LEO NGSO infrastructure.

In the face of these developments, LEO has been recognized as a key technology for bridging the digital divide. Facebook, for example, has stated that LEO satellite technology “will be an important enabler of the next generation broadband infrastructure, making it possible to bring broadband connectivity to rural regions where internet connectivity is lacking or non-existent.”<sup>3</sup> Elon Musk, CEO of SpaceX, is planning to offer worldwide high-speed, low latency, low-cost broadband services to areas of the world where these services are unavailable today, using a “Starlink” constellation of thousands of LEO satellites.<sup>4</sup> Closer to home, the Canadian Digital Industries roundtable, discussing next generation broadband networks acknowledged the latency challenge of current GEOs and the promise of LEOs stating “Right now, satellites delivering internet require an orbit that is a great distance from the earth, leading to high latency (delayed) connections that pose challenges for certain uses. Satellites do have potential though, and Low Earth Orbit (LEO) satellite constellations ... show promise.”<sup>5</sup>

### **Telesat’s LEO Constellation – Affordable Fiber Quality Connectivity Everywhere**

In light of rapidly changing market conditions and technologies, Telesat undertook a wide-ranging strategic review of its satellite architectures and service model to enable it to capture the tremendous growth in the broadband services market.

Telesat has observed firsthand how its customers and other satellite users (broadcasters, telcos, enterprise and government users, and individual consumers) are overwhelmingly moving to IP-based services, demanding ubiquitous, high throughput internet connectivity at the lowest possible price. Bringing low cost, high performance, secure and resilient broadband

<sup>3</sup> <https://www.wired.com/story/facebook-confirms-its-working-on-new-internet-satellite/>

<sup>4</sup> <https://arstechnica.com/information-technology/2016/11/spacex-plans-worldwide-satellite-internet-with-low-latency-gigabit-speed/>; <https://www.geekwire.com/2018/game-elon-musk-says-spacexs-prototype-internet-satellites-working-well/>

<sup>5</sup> Canada’s Economic Strategies Tables Report, Digital Industries Chapter, <https://www.ic.gc.ca/eic/site/098.nsf/eng/00024.html> .

internet solutions to market is paramount, ideally on a platform that is flexible and allows the network operator to respond effectively to the ebbs and flows of network usage while maintaining high overall utilization.

As a result of these trends, Telesat has concluded that an advanced LEO constellation is the best satellite architecture to meet the company's overriding strategic objective of securing a long-term, differentiated and sustainable competitive advantage in the delivery of high capacity broadband services on a global basis. As has been the case over Telesat's 50-year history, it must develop and bring the most innovative solutions to market if it is to continue to prosper and grow. For this reason, Telesat has developed and obtained patents for a highly advanced, high throughput, global LEO satellite constellation and, importantly, has been proactive in securing international and domestic rights to the scarce radio frequency spectrum that is essential for the operation of such a constellation.

Telesat's LEO constellation is being designed to deliver state-of-the-art broadband connectivity everywhere. Core design requirements of the constellation are that it must support high throughput, low latency, flexible and focused low cost capacity, global land and ocean connectivity, unmatched resilience, and plug and play functionality. The initial commercial constellation is expected to comprise 292 advanced satellites with approximately 8 Tbps of sellable capacity globally, and a further expansion of the commercial constellation to 512 satellites is envisioned. Telesat launched a Phase I LEO satellite in 2018 which is being used to conduct performance tests, commenced a risk management phase involving two potential supplier teams in summer 2018 to finalize the constellation design, and is scheduled to contract with the prime contractor in mid-2019, begin launching fully capable satellites in 2021 and be in service in 2022.

The proposed constellation will blanket Canada and the rest of the world with high-speed broadband coverage. In Canada, Telesat's LEO constellation will be capable of providing every unserved or underserved household, business and institution with access to resilient fibre-like connectivity, and of covering all transportation routes – on land, at sea, and in the air. The Gen 1 constellation, with 292 satellites, will support 1,500 Gbps over Canada, sufficient to provide 1.5 M households with 25Mbps/5Mbps service and 750K households with 50 Mbps/10 Mbps broadband service. The Gen 2 constellation will increase the available capacity over Canada to 2,200 Gbps.

In addition to resolving the digital divide in Canada and establishing Canada as a leader in New Space technology, Telesat's LEO constellation offers numerous other benefits to Canada, including indigenous and rural and remote inclusion and development, Canadian R&D,

innovation and IP, maintenance and growth of the job base (representing approximately 1,000 high quality direct jobs alone), foreign direct investment in space and ground segment manufacturing, and stimulus for economic growth in health, education, agriculture, resource, tourism and other sectors.

### **Building an advanced LEO constellation is a massive undertaking**

The development, deployment and successful operation of a large LEO constellation is a massive undertaking, from a technology, regulatory and financial perspective. In regards to investment, a constellation of this nature requires billions of dollars in capital investment. To successfully obtain this funding, investors and lenders will need a high degree of confidence in the technology underpinning the network as well as an operator's ability to access the radio frequency spectrum needed to offer a competitive broadband service offering.

### **The global satellite marketplace is and will remain intensely competitive**

Telesat is not alone in its recognition that an advanced LEO satellite constellation is the best architecture to capture the strong demand for broadband services. More than half a dozen other companies – including some of the world's largest aerospace companies – have announced plans to deploy their own LEO constellations that would be competitive with Telesat's initiative. Given the stakes and potential rewards, this will be a highly competitive endeavor and not all planned constellations will receive the funding and support – or access to spectrum – required to move forward and succeed.

### **A supportive, flexible and streamlined Canadian regulatory regime is critical**

Governments in which leading satellite operators are located have recognized the need to have regulatory frameworks and policies that support and promote the competitiveness of their domestic operators. For example, the recent U.S. Space Policy Directive – 2, entitled Streamlining Regulations on Commercial Use of Space, identifies the importance of ensuring “regulations ... promote economic growth; minimize uncertainty for ... investors, and private industry; ... and encourage American leadership in space commerce”.<sup>6</sup> Similarly, the U.K. Space Agency in its Civil Space Strategy stated that, “It is also important that the Agency ensures that

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<sup>6</sup> U.S. Space Policy Directive – 2, Streamlining Regulations on Commercial Use of Space, May 24, 2018, <https://www.whitehouse.gov/presidential-actions/space-policy-directive-2-streamlining-regulations-commercial-use-space/>.

the international regulatory environment for orbit and frequency allocations facilitate growth of U.K. markets.”<sup>7</sup>

The regulatory policies applicable to Canadian-licensed satellite operators can and do have a direct impact on their competitiveness in both domestic and global markets. This has been clearly recognized by the Innovation, Science and Economic Development Canada (ISED and formerly Industry Canada) in a 2012 Consultation document where it stated that “[if] operators choose to be licensed by other countries, under what they may perceive to be a more attractive licensing regime, ISED would lose a key instrument to influence the implementation of these capabilities. It is therefore essential that Canada develop an updated, attractive satellite licensing framework.”<sup>8</sup>

The need for a constructive and flexible regulatory regime in Canada is even more urgently required today. NGSO systems have the potential to deliver ubiquitous, high speed, low latency, secure, and affordable broadband communications to underserved areas, including in rural and Northern Canada and throughout the rest of the world. Delivering on the promise of that potential will require a massive, unprecedented investment in technology development, satellite procurement, construction, and deployment. Given their scale and complexity, the operating and financing environments for NGSO systems will be very different from those of GSO systems. NGSO constellations will involve large numbers of spacecraft orbiting in different planes, with the result that the possibility of inter-system frequency interference (known as “in-line events”) with other systems operating in the same frequencies will be high. On the financial side, operators will necessarily have to implement a global business model in order to recoup the massive capital investment required to deploy a large NGSO constellation. These technical and financial challenges suggest that there will be significant coordination and operational hurdles for the relatively few successful NGSO system proponents that will ultimately realize the goal of serving the new global NGSO markets. That NGSO global market will also be an intensely competitive environment, not only between competing NGSO systems, but also between NGSO and GSO services, and with fibre, DSL, cable and terrestrial wireless.

The following regulatory requirements are essential to maintenance and growth of Canada’s space sector in this environment:

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<sup>7</sup> U.K. Space Agency: Civil Space Strategy 2012-2016, page 20, [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/286219/uk-space-agency-civil-space-strategy.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/286219/uk-space-agency-civil-space-strategy.pdf).

<sup>8</sup> Industry Canada, Consultation on the Licensing Framework for Fixed-Satellite Service (FSS) and Broadcasting-Satellite Service (BSS) in Canada, page 1, [https://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/consultation-FSS-BSS-mar2012-eng.pdf/\\$FILE/consultation-FSS-BSS-mar2012-eng.pdf](https://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/consultation-FSS-BSS-mar2012-eng.pdf/$FILE/consultation-FSS-BSS-mar2012-eng.pdf).

- (1) Maintenance and defence of international spectrum rights, including harmonized global or regional satellite spectrum allocations and protections and protection of Canada's global priority Ka-band rights in LEO
- (2) Streamlined and flexible regulation that does not impose unnecessary burdens and make Canadian GSO and NGSO service offerings uncompetitive
- (3) Market-based compensation for any potential reallocation of spectrum

### ***Maintenance and defence of international spectrum rights***

The business case for new satellite networks and NGSO constellations that will support cost-effective ubiquitous broadband service rests on access to sufficient spectrum. Satellite spectrum must be sufficient to support ubiquitous deployment of end user terminals as well as more limited numbers of gateway earth stations. Satellite spectrum allocations and protections must be globally or regionally harmonized, as satellite beams do not stop at national borders and funding for new satellite constellations like Telesat's LEO is based on a global business case. Finally, Canada's priority international rights to NGSO spectrum must be maintained. While satellite constellations like Telesat's LEO are being designed to address some inter-system interference with other NGSOs using the same frequencies, international priority spectrum rights are key to ensuring that an NGSO like Telesat's LEO will have effective access to sufficient spectrum.

### ***Streamlined and flexible regulation that does not impose unnecessary burdens and make Canadian GSO and NGSO offerings uncompetitive***

Canadian satellite offerings compete in a highly competitive *global* marketplace - competition that is only expected to intensify with the deployment of new LEO constellations.<sup>9</sup> This is very different from Canadian terrestrial telecommunications service providers, which compete solely with Canadian-based infrastructure or resellers of services provided over this infrastructure. In order for Canadian-licensed satellite operators to compete effectively for Canadian and other customers in the global satellite marketplace, Canada must not impose unnecessary regulatory obligations on Canadian licensees, including costly regulatory obligations that do not apply to foreign-licensed operators.

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<sup>9</sup> In Canada, alone, there are more than 90 foreign-licensed satellites (including four foreign-licensed Telesat satellites) that have been authorized to provide service in Canada. (See: <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf02104.html> )

Unfortunately, it is the case today that Canadian-licensed satellite operators are subject to Canadian coverage, public benefits and fees obligations that undercut their ability to compete with foreign-licensed operators. Canadian-licensed commercial satellites are, for example, generally required to support full Canada coverage, while Canadian licensed commercial NGSO systems must be capable of providing uninterrupted service throughout Canada on a 24/7 basis. Standard licence conditions also require Canadian-licensed satellite operators to direct a percentage of revenues to improving connectivity in Canada.<sup>10</sup> Foreign licensed operators have no similar obligations under Canadian or foreign regulation.

Canadian satellite and earth station licence fees are also significantly higher than the licence fees imposed by other jurisdictions. Regulators in other jurisdictions typically base licence fees on the costs of administering the licences (or associated coordination activities) and levy no fees for non-commercial developmental satellites. In the U.S., for example, the Federal Communications Commission (FCC) sets satellite and earth station licence fees annually to recover its costs of administering the licences.<sup>11</sup> Canadian satellite and earth station licence fees vary significantly between satellites and earth stations, but are generally substantially higher than fees levied by other licensing jurisdictions and bear no relationship to the costs of administering the licences.<sup>12</sup> Furthermore, satellite spectrum fees orders in Canada fail to distinguish between commercial and developmental satellites.<sup>13</sup> High Canadian satellite licence fees undermine the competitiveness of Canadian satellite operators in Canada and

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<sup>10</sup> CPC-2-6-02, Licensing of Space Stations, Issue 4, June 2017, Annex B and C. (<http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf01385.html#sC>) European, Australian, and New Zealand regulators do not impose full domestic coverage obligations. The U.S. regulator, the Federal Communications Commission does not impose coverage obligations on GSO FSS satellites and has proposed to eliminate this requirement for NGSO FSS satellites. U.S., European, Australian and New Zealand regulators also do not impose connectivity or other “public benefits” obligations as a condition of satellite licensing.

<sup>11</sup> In the Matter of Assessment and Collection of Regulatory Fees for Fiscal Year 2018, Report and Order, MC Docket No. 18-175 (August 29, 2018), <https://docs.fcc.gov/public/attachments/FCC-18-126A1.pdf>.

<sup>12</sup> In 2018, for example, the FCC annual licence fee for a GSO satellite was US\$127,859 and for an NGSO system was US\$122,775, while the earth station fee was US\$325. In Canada, the annual licence fee for FSS satellites is \$120/MHz of licensed spectrum. Thus for a GSO FSS satellite or NGSO FSS system licensed to use 2 GHz of spectrum the annual fee is \$240,000; if the satellite or system is licensed for 4 GHz of spectrum, the annual licence fee is \$480,000. Over the life of a satellite, the discrepancy between Canadian and U.S. fees is very substantial. In the case of earth stations, Canadian licence fees are based on telephone channel equivalencies. While this approach results in low licence fees for earth stations with very limited throughput, annual licence fees for a gateway earth station can be in the many tens of thousands of dollars. (The FCC does, unlike ISED, charge application fees. Application fees are also set annually by the FCC to recover its costs of processing each type of application.)

<sup>13</sup> ISED has also recently announced that Canadian fees will be adjusted annually based on changes in the Consumer Price Index, due to application of the *Service Fees Act*. ([http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/h\\_sf01713.html](http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/h_sf01713.html)) Such an adjustment makes no sense for fees that bear no relationship to administrative or other costs.

elsewhere, while the absence of a developmental satellite licence fee framework militates against satellite research and development activities in Canada.<sup>14</sup>

### ***Market-based compensation for reallocation of spectrum***

Terrestrial operators are seeking access to vast amounts of new spectrum, including spectrum that is heavily utilized by satellite operators and their customers for the provision of critical communications services. Satellite operators and their customers have also invested billions of dollars in the space and ground segment infrastructure used to support existing services – sunk investment that will be stranded if the spectrum is reallocated. Accordingly, any reallocation of satellite spectrum must address and protect incumbent satellite operators and their customers and should be based on clear and cogent evidence that the reallocation is required for a higher value use. The best – and likely only means – to ensure this is the case, is to use a market-based approach for reallocation of spectrum.

Although ISED has repeatedly endorsed the removal of barriers to secondary markets for spectrum authorizations, ISED's current Spectrum Policy Framework for Canada states that "displaced spectrum users will be responsible for all costs incurred as a result of any reallocation of spectrum by the Department."<sup>15</sup> This position is wholly inconsistent with the central policy objectives of promoting and protecting investment in communications infrastructure and ensuring that spectrum is being put to its highest value use. A higher value user should be willing to compensate incumbent spectrum users for all transition and sunk investment costs. Moreover, satellite spectrum reallocation without compensation critically impairs the incentive to invest in communications infrastructure by depriving operators of the opportunity to achieve a return on significant investments made on such infrastructure.

### **Legislative Proposals**

The flexible regulatory toolkits provided by the current *Radiocommunication Act* and *Telecommunications Act* have generally allowed ISED and the CRTC to adapt Canadian regulation to address economic and technological change. Accordingly, substantial amendments to the existing legislative framework are not required. That being said, identification of core policy objectives and guiding principles in the *Radiocommunication Act* is

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<sup>14</sup> While Canadian earth station licence fees affect services using both foreign and licensed satellites, high earth station licence fees handicap the deployment of cost-effective satellite services in Canada.

<sup>15</sup> Spectrum Policy Framework for Canada, DGTP-001-07 (June 2007), page 8, [https://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/spf2007e.pdf/\\$FILE/spf2007e.pdf](https://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/spf2007e.pdf/$FILE/spf2007e.pdf) .

appropriate at this juncture to ensure that Canadian regulators have the direction required to support Canadian New Space activities.

***Clear and focused legislative direction on Canadian radiocommunication policy objectives***

While the *Telecommunications Act* identifies the objectives of Canadian telecommunications policy and the Governor in Council has issued a direction to the CRTC on implementation of these objectives<sup>16</sup>, the *Radiocommunication Act* contains limited policy guidance. It requires the Minister to take “into account all matters that the Minister considers relevant for ensuring the orderly development and efficient operation of radiocommunication in Canada” and provides that the Minister “may” have regard to the objectives of Canadian telecommunications policy as set forth in the *Telecommunications Act*.<sup>17</sup>

In the absence of legislative direction, ISED has issued a Spectrum Policy Framework for Canada (the SPFC).<sup>18</sup> This policy, which was last updated in 2007 following the Telecommunications Policy Review Panel Report in 2006 and the issuance of the Telecommunications Policy Direction, identifies a single policy objective – to maximize the economic and social benefits that Canadians derive from the use of the radio spectrum frequency spectrum resource. The SPFC also contains a lengthy list of “enabling guidelines”. Inclusion of a pared down version of these guidelines in the *Radiocommunication Act* would provide important legislative direction to spectrum management practices in Canada.

Specifically, while ISED has consistently acted to maintain and defend Canada’s spectrum resource interests internationally, this critical activity should be expressly recognized in the *Radiocommunication Act* as an objective of Canadian radiocommunication policy in the following terms:

- Canada’s spectrum resource interests should be actively advanced and defended internationally

In addition, the following objectives or guidelines for Canadian radiocommunication policy should be expressly identified in the *Radiocommunication Act*:

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<sup>16</sup> Direction to the CRTC on Implementing Canadian Telecommunications Policy Objectives, SOR/2006-355 (the “Telecommunications Policy Direction”)

<sup>17</sup> *Radiocommunication Act*, section 5.

<sup>18</sup> *Supra* at fn. 15.

- Regulatory measures, where required, should be minimally intrusive, efficient and effective and support Canadian investment and innovation. Economic measures should not deter economically efficient entry or promote economically inefficient entry; non-economic measures should be implemented in a symmetrical and competitively neutral manner to the greatest extent feasible
- Spectrum management practices, including licensing methods and associated fees, should minimize the administrative burden
- Spectrum management and policy should rely on and support the efficient functioning of markets to the greatest extent feasible
- Spectrum should be made available to support the provision of a full range of high quality radiocommunication services to all Canadians, regardless of location

### ***Radiocommunication Licence Fees***

At present, there is no limitation in the *Radiocommunication Act* on the radio and spectrum licence fees that may be prescribed by regulation or imposed by the Minister by condition of licence. In the result, Canadian satellite and earth station licence fees are out of step with fees in competing licensing jurisdictions and undermine the competitiveness of Canadian-licensed operators. Competing licensing jurisdictions establish annual licence fees to recover the costs of administering the associated licences. Legislative direction requiring the spectrum manager to ensure that fees are assessed annually, where appropriate, relative to administrative costs and fees of competing foreign-licensed operators would assist in addressing this concern.

### ***Use of secondary markets for spectrum reallocation***

As spectrum demands change and spectrum may need to be repurposed, it is imperative to ensure that Canada's spectrum manager has all of the tools required to ensure that spectrum is allocated and reallocated fairly and efficiently in the public interest. When spectrum reallocation is being considered, reliance on secondary markets to establish the highest value use of the spectrum and appropriate compensation for incumbent spectrum users is an important tool to facilitate the achievement of the objectives of Canadian radiocommunication and telecommunications policy. The current *Radiocommunication Act* appears to provide ISED with authority to permit secondary spectrum market transactions for this purpose. Should, however, there be any doubt as to ISED's authority to rely on secondary market transactions for spectrum reallocations, the *Radiocommunication Act* should be amended to confirm the ability of the Canadian spectrum manager to facilitate secondary markets for spectrum authorizations.

### ***Telecommunications Act Amendments***

Under the *Telecommunications Act*, rates for telecommunications services offered by facilities based telecommunications carriers are regulated unless the CRTC determines that the rates should be forborne from regulation. Telesat services were deregulated some time ago pursuant to the current forbearance provision. Given the importance of streamlined regulation and marketplace changes since the current *Telecommunications Act* was promulgated, consideration should be given to changing the default regime to unregulated rates. Under this approach, a showing of substantial market power would be required to trigger rate regulation.

Consideration should also be given to eliminating section 28(2) of the *Telecommunications Act*. The section provides that “Where a person who carries on a broadcasting undertaking does not agree with a Canadian carrier with respect to the allocation of satellite capacity for the transmission by the carrier of programs, as defined in subsection 2(1) of the *Broadcasting Act*, the Commission may allocate satellite capacity to particular broadcasting undertakings if it is satisfied that the allocation will further the implementation of the broadcasting policy for Canada as set out in subsection 3(1) of the Act.” The section is a carry forward from the *Railway Act* and to Telesat’s knowledge has only be considered twice. In the present marketplace, there is no apparent basis for singling out the carriage of broadcasting by satellite for special treatment.

### **Conclusion**

Telesat appreciates the opportunity to provide comments to the Panel in support of its important mandate. A forward-looking legislative and regulatory framework is imperative at this critical juncture for the Canadian satellite industry.