2018 Federal Pre-Budget Submission

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Executive Summary

Telesat is a leading global satellite operator providing reliable and secure satellite-delivered communications solutions worldwide to broadcast, telecom, corporate and government customers. Headquartered in Ottawa, Canada, Telesat employs 450 highly-skilled employees, 80 percent of them in Canada with the balance in offices and facilities around the world. Telesat owns and operates a fleet of 15 state-of-the-art satellites with two new and two prototype satellites under construction. Telesat is also developing a next generation broadband Low Earth Orbit constellation of hundreds of satellites with commercial operations beginning in 2021.

Telesat has been operating at the forefront of the satellite industry for almost 50 years and shares in Canada's rich history as an early pioneer in the space sector. Today, Canada's space sector continues to have certain world-leading industrial capabilities in the global sector. However, there are a number of factors at work, including over-supply in global satellite communications capacity from both over investment in conventional communications satellites and technological disruption by new satellite architectures that are placing downward pressure on pricing for satellite communications services and, as a result, significant financial pressure on satellite operators as well as the companies that manufacture satellites and their component parts. These factors, along with a lack of meaningful support from the government, are eroding Canada's position in the global market and compelling some of Canada's leading space companies to reorient themselves away from Canada to take greater advantage of spending and investment by foreign governments as well as the larger space ecosystems that exist outside of Canada.

The Canadian space industry has long been a source of innovation and economic growth in Canada and, notwithstanding the pressures it currently faces, can remain competitive, viable and relevant in the decades ahead. For this to happen, the Canadian space industry – like its overseas competitors – requires strong support from government. As such, Telesat recommends to the Government of Canada that it: invest in a Made-in-Canada satellite broadband communications solutions; prioritize the satellite/space industry for investment; invest in Canadian companies and research institutions to support the development and commercialization of new and innovative advanced technologies for the future; create and maintain a level playing field by enacting policies and regulations that foster a competitive Canadian space industry; and, increase the adoption of commercial procurement models to innovate and expedite government procurements.

Recommendations

Telesat is pleased to submit its recommendations, in response to questions posed, to the House of Commons Standing Committee on Finance as part of the 2018- pre-budget consultations.

Question 1: What federal measures would help Canadians to be more productive?

The expansion of rural broadband connectivity transcends the partisan fray and is prioritized by governments of all stripes for a simple reason – there is a broad consensus that the more people are **connected** to reliable internet the more **productive** and **competitive** they are.

As the Government laid out in the *Connecting Canadians Fund*: "Increasing high-speed broadband coverage can help unlock the tremendous potential of our country's rural and northern regions and ensure that Canadians can make the most of the digital economy no matter where they live. High-speed Internet access is essential infrastructure for today's digital economy, as it enables Canadians, businesses and institutions to access information, services and opportunities that would otherwise be out of reach."

Satellites have always been prominent in delivering broadband services to remote areas of the country. Satellite internet speed and performance have been improving with each federal broadband program launched and have been successfully delivered due mostly to improvements in local infrastructure, transmission system technologies, and satellite design.

Telesat is launching new satellites in 2018 (Telstar 18 VANTAGE and Telstar 19 VANTAGE), which have tremendous increases in throughput and bandwidth capacity. The signals from the Telstar 19 VANTAGE satellite will blanket Canada's eastern Arctic region, providing access to high-speed, highly secure broadband coverage, anywhere, anytime, with enough capacity for many years to come. This satellite will vastly enhance consumer, business and government internet services, essentially bringing a southern Canada user experience to the North. Transmission costs have also dramatically fallen to a point equal to or even lower than the cost to provide equivalent terrestrial services in rural, northern and Indigenous communities and particularly if the current government subsidization of terrestrial systems in these areas was provided to satellite systems. It is also important to note that Canada and Canadian's needs for bandwidth will continue to grow for the foreseeable future and will require additional investments over time.

Though the government is in the midst of distributing investment from the *Connecting Canadians Fund*, there is wide recognition that there will be many in rural, northern and Indigenous communities either without connectivity or inadequate capacity.

Recommendation 1:

Telesat recommends that the Government of Canada invest in a Made-in-Canada satellite broadband communications solution that will enable the provision of cost-effective, high-speed broadband access which will create economic growth and increase productivity everywhere in Canada, particularly in northern, remote, and Indigenous communities.

Question 2: What federal measures would help Canadian businesses to be more productive and competitive?

Canada's satellite industry has long been a source of innovation and economic growth in Canada, creating many highly-skilled personnel with well-paying jobs. Canada is at a pivotal point – the right government investment in Canadian satellite companies and technologies will enable Canada to be a world leader. Without support, the sector will continue to shrink and Canada's role as a leader will diminish.

Over the past couple of years, the "Canadian" in major Canadian satellite companies has diminished significantly. Space companies are driven by business opportunities and investment. Canadian firms have reoriented themselves away from Canada (in large part the United States) to take advantage of financial incentives and investment from other jurisdictions, even to the extent of being acquired.

Canada has made modest investments in space-based imaging, weather, and other observation systems. However, for decades it has not made any investments in satellite communications and broadband systems and the Canadian companies that deliver these critical capabilities. Yet satellite communications *is* the dominant sector, essential for commercial service delivery, government and military communications, ultra-secure, seamless global communications and more. Overall, the investment is well below the significant direct and indirect support other governments provide to their domestic satellite/space sector. For example, the government of the United Kingdom had made it clear that space forms a core part of its technology drive and is investing £2 billion per year in the sector. Foreign government investments such as these **make Canada less competitive, less productive, and less innovative.** This results in fewer jobs, lower revenues and reduced capacity to reinvest.

Where the government can make these investments through procurement, years of delays results in millions of dollars of private sector investment in developing technologies, and capabilities being wasted. One example is the Enhanced Satellite Communications Program – Polar. On its current trajectory, with the current government procurement process, it will be 18 years from conception to operation in 2027. This is not a complex program. It is a program for which the commercial equivalent would be delivered in approximately three to four years – from conception, to design, build, launch and operation. Without it, Canada's army, navy and air force, operating north of 65-degrees latitude, have no real-time communications. As such, Canada cannot control unmanned aerial vehicles, monitor NORAD encounters with foreign aircraft and vessels, communicate directly with ships, guide search and rescue activities and more in this vulnerable region.

Recommendation 2:

Telesat recommends that the Government of Canada prioritize the satellite/space industry for investment and use by government, business and the general public for satellite-related services and/or acquisitions to increase competitiveness and export opportunities. For instance:

- Use Canadian commercial capabilities, services and expertise first where possible, as other countries have done (e.g. United States, United Kingdom, France, etc.), particularly in matters of national security, public safety and protection of data. The Canadian government will reap significant direct and indirect benefits from innovation, job creation and economic growth. This will make the sector more innovative and competitive globally.
- Develop a whole of government long-term space policy (Canada's New Space Policy) and investment plan. This would prioritize investment in Canadian satellite and space companies. Canada is one of the few countries that has a spectrum of space capabilities, including the ability to conceptualize, consult, design and operate satellite systems. This should be supported, invested in and exploited to maximize Canadian potential on the world stage.
- Accelerate the implementation of the Enhanced Satellite Communications Program – Polar, identified as funded within the 20-year window of Canada's New Defence Policy. This

should be one of the first programs out of the gate to provide mission critical capabilities to the Canadian Armed Forces and our allies operating north of the 65th parallel.

Recommendation 3:

Telesat recommends the Government of Canada invest in Canadian companies and research institutions to support the development and commercialization of new and innovative advanced technologies for the future. This includes:

- Establishing a Space Supercluster under the Innovation Supercluster Initiative, which moves to extract "space" from "aerospace" where it is currently overshadowed by the fixed and rotary wing aviation sector.
- Provide government support by developing and funding a defined set of programs specific to the satellite/space sector which support the full spectrum of innovation and business development, from research and development, prototyping and pilot projects, to pre-commercialization and full commercialization. This should include government as an early adopter of these "Made-in-Canada" solutions and services.
- The new, immediate space race is the development of Low Earth Orbit Constellations which will provide seamless, ultra-secure high-speed, low/no latency communications from one location to any other location in the world. These constellations are being developed and deployed as early as this year and will be operational by 2021. These constellations rely on technologies that are not yet fully commercialized. The Government can play a strong role in the success of Canadian efforts happening now and reap rewards from direct and indirect benefits from new space jobs and export of innovative technologies, enabling of economic growth and productivity.

Recommendation 4:

Telesat recommends that the Government of Canada create and maintain a level playing field by enacting policies and regulations that foster a competitive Canadian space industry. This includes:

- Creating and defending a domestic regulatory framework that positions the Canadian space industry for success, eliminates onerous regulatory burdens; and prioritizes Canadian competitiveness.
- Defending Canada's international spectrum rights.
- Ensuring a level-playing field exists for Canadian and foreign licensees applying for access to Canadian market.
- Enforcing International Telecommunication Union (ITU) rules for coordination of satellite deployment and services. This will become increasingly challenged as hundreds, if not thousands of Low Earth Orbit satellites are deployed in constellations around the world in the next five to 10 years.

Recommendation 5:

Telesat recommends that the Government of Canada increase the adoption of commercial procurement models to innovate and expedite government procurement.

- Long-term "Fee for service" or "lease to own" contracts almost completely de-risk procurement for government, compared to the traditional route of acquiring an asset and then operating the asset. For example, this is commonly used by broadcasters and telecom providers, to provide services to their customers. Not only has this proven cheaper in the long run, it can free up billions of dollars on a cash basis, expedite delivery, eliminate risk of ownership, launch failure, and costly decommissioning.

Conclusion

If the Government of Canada follows through with the above actions and recommendations which will contribute to long-term, stable, domestic satellite/space industry growth, the Government and Canadians will benefit from stimulating innovation, growing jobs, economic growth, enabling new businesses and enhancing competitiveness for existing Canadian firms.

Canada also needs to expedite and increase its level of procurement in the satellite/space sector to ensure it has the capabilities it needs to efficiently operate government, deliver services to Canadians and fully protect domestic interests and sovereignty.

Failure to invest will further jeopardize a sector which is losing capacity and global leadership.