

## **Operating context**

Canada has a rich space heritage and an industrial base with niche capabilities—in space operations, satellite communications, space robotics, space-based radar, optical science instruments, and value-added earth observation (EO) and geospatial services.

### **Impacts of the COVID-19 pandemic**

The Canadian Space Agency (CSA) is in regular communication with the space sector to gain a better understanding of the impacts of the COVID-19 pandemic on the sector. Key concerns raised by firms to date include:

- 1) reduction in the ability to seek, develop and close new business opportunities;
- 2) drying up of investment opportunities (specifically raised by start-ups); and,
- 3) supply chain delays and disruptions.

Going forward, the CSA will maintain engagement with the space sector to monitor impacts through the end of the pandemic and the economic recovery period, in an effort to help space sector firms are maintained as are their capabilities.

### **New applications, players and commercial opportunities**

Many federal departments and agencies rely on space-based data and applications to deliver their mandates, and many others expect to do so in the near future. The RADARSAT satellites deliver EO data to monitor agricultural productivity, track ice in the North, detect pollution on our waters and, critically, provide the Canadian Armed Forces with imagery to support their mission. Satellites also monitor our environment and support science and evidence-based decision-making on climate change, water and resource management, and disaster management.

Going forward, new opportunities are on the horizon. Around the world, space agencies are set on returning to the Moon and pushing to Mars. Canada involvement in the International Space Station (ISS) is continuing to 2024. Canada is participating in the Lunar Gateway—a major NASA-led effort to return humans to the moon and set the stage for further exploration to Mars—through its contribution of the next-generation Canadarm3. Disruptive technologies have changed the economics of building, launching and operating spacecraft, thus opening the frontier of space to new and lucrative commercial business activities. Launch costs are starting to fall and mass production of small satellites (up to 1,000 kg) is being explored, bringing the promise of cheaper, more frequent access to space that much closer to reality.

### **The international agenda**

For countries like Canada with smaller space programs, activities are often carried out in partnership with other space-faring nations, to share costs and leverage capabilities to create systems and satellites that can tackle some of the most pressing global issues such as climate

change. To maximize those benefits, the CSA collaborates internationally through partnerships and international committees, such as the Global Space Exploration Committee and the Committee on Earth Observation Satellites. The CSA also works closely with NASA and the European Space Agency (ESA) to leverage space investments and maintain open access to European markets for Canadian space companies and academia. Targeted investments in key science and technology capabilities and flight heritage or demonstration opportunities ensure that the Canadian space sector remains relevant in a dynamic international context. Most recently, Canada, alongside a group of like-minded space-faring nations, signed the Artemis Accords, which are designed to guide the safe and sustainable exploration and use of outer space.

To fully develop its growth potential and seize opportunities to join international space projects, the Canadian space sector keeps pace with a fast-evolving context. In line with the Innovation and Skills Plan, the CSA supports the development of people, science and innovative technologies while offering demonstration opportunities to help Canada's industry maintain and enhance its current competitive edge.