



Submission to the Standing Committee on Science and Research:

Study on Canada's Dual Use and Defence Research Needs Submitted by Universities Canada

June 2026

Summary of recommendations

To fully leverage the university research ecosystem into federal priorities and realize the ambitions of Canada's Defence Industrial Strategy, Universities Canada recommends that the federal government:

1. Facilitate the transfer of technology from universities to Canadian small and mid-sized businesses to scale dual-use innovation and keep economic benefits in Canada.
2. Leverage university land, infrastructure and research security expertise to collaborate on the development of secure research facilities alongside industry partners.
3. Support secure, scalable, unclassified research environments to realize the full ambitions of the Defence Industrial Strategy.
4. Align university training with defence needs through expanded co-op programs, internships and embedded fellowships to strengthen Canada's pipeline of skilled talent.
5. Establish clear and predictable pathways for university engagement with defence priorities, supported by standardized security templates and streamlined onboarding, to strengthen connections between universities, industry and government.

Context: Safeguarding democracy and sovereignty

In an era of geopolitical uncertainty and rapid technological change, Canada must invest in its security, sovereignty and prosperity. Canada has set an ambitious course, committing to invest five percent of our GDP in defence and security by 2035. However, spending alone does not equal capability; ships, satellites and cyber-defence systems are only as effective as the talent and technology behind them.

Canada's universities are a core part of this domestic capacity. In 2025, the higher education sector performed an estimated \$19 billion in research and development, accounting for 33 percent of Canada's total R&D expenditures.¹ Canada relies more heavily on its post-secondary sector for research and innovation than any other G7 country. As Canada works to strengthen its defence and security capabilities, this research capacity should be viewed as a strategic asset. The opportunity now is to strengthen the connections between universities, industry and government so that Canadian discoveries translate into Canadian technologies, companies and sovereign capabilities.

As integrated research and talent hubs, universities offer the country's most scalable platform for rapidly expanding defence talent, innovation and sovereign capability without building new systems from scratch. Regardless of size or specialization, universities serve as focal points for research activity, talent development and knowledge mobilization within their regions, making them essential partners in advancing Canada's defence and sovereignty objectives.

¹Gross domestic expenditures on research and development, by science type and by funder and performer sector (x 1,000,000), <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=2710027301>





The R&D powerhouse: Basic and applied research synergy

Canada's defence, security and sovereignty objectives depend on a strong research and innovation ecosystem. Basic and applied research are not competing priorities; they reinforce one another, particularly in dual-use technologies. Many of today's strategically important technologies, including artificial intelligence, quantum technologies, advanced materials and autonomous systems, emerged from decades of foundational research before reaching commercial or defence applications. Sustained investment across the full research continuum is therefore essential to maintaining Canada's technological sovereignty and ensuring that future capabilities are developed domestically rather than imported.

Universities play a unique role within this continuum. They conduct the discovery research that underpins future innovation while also partnering with government and industry to translate promising technologies into real-world applications. By strengthening the connections between discovery, commercialization and procurement, Canada can accelerate the development of sovereign capabilities while retaining talent, intellectual property and economic benefits at home.

Integrating dual-use innovation and empowering SMBs

As the government implements the BOREALIS initiative, dual-use innovation must be embedded as a core design principle. Taking inspiration from the U.S. DARPA model, Canada must actively identify civilian applications for military research and support technology transition. Dual-use innovation addresses critical defence capability gaps while advancing technologies that support wider national security priorities, such as food security, critical infrastructure protection and disaster responses, like drones and microsatellites supporting wildfire management.

Crucially, the Defence Industrial Strategy (DIS) represents a massive opportunity to facilitate the transfer of technology from universities to Canadian small and mid-sized businesses (SMBs). The DIS can act as a powerful anchor for Canadian innovation by creating domestic markets for Canadian defence products, helping SMBs attract private capital and ensuring that intellectual property (IP) and economic benefits stay in Canada.

Closing the talent gap and retaining global talent

The Canadian Armed Forces currently face a shortfall of more than 14,000 personnel,ⁱⁱ with the deepest gaps in advanced technological fields. Canada competes globally to attract top talent in these areas, but the greatest challenge is retention — particularly when stronger commercialization opportunities exist abroad. We must build those opportunities here in Canada.

To address these shortages, we must align university training with defence needs through expanded co-op programs, internships and embedded fellowships. For example, programs in artificial intelligence and quantum computing at the University of Toronto and Simon Fraser University, aerospace engineering at Carleton University and specialized manufacturing at Dalhousie University contribute to Canada's defence and security capacity by developing expertise in strategically important fields. We must also support our veterans by broadening initiatives like the Workforce Alliances to create clear pathways into high-demand defence research and technology careers.

ⁱⁱDuval-Lantoin, C (2024) Time to Rethink Military Recruitment. Canadian Global Affairs Institute. <https://www.cbc.ca/news/politics/military-retention-program-defunding-1.7536509>





A distributed ecosystem and research security

While the proposed Defence Innovation and Secure Hubs (DISHs) provide essential infrastructure for classified work, their high cost, specialized focus and geographic constraints mean they cannot be the sole drivers of our industrial strength. Canada requires a distributed approach with broader pipelines that allow universities and industry to collaborate at scale in secure, unclassified environments.

Specialized institutions such as École de technologie supérieure, Polytechnique Montréal and the Royal Military College demonstrate that institutional size is not always indicative of capability, particularly in engineering and applied research. Ensuring broad participation will be critical to fully leveraging Canada's talent base and advancing national priorities. While classified facilities will play an important role, Canada must also maintain secure and scalable pathways for unclassified research and collaboration. Overly restrictive participation models risk limiting contributions from new innovators and reducing the diversity of expertise required to address emerging defence and security challenges.

Furthermore, strategic areas like Arctic sovereignty depend on sustained, unclassified partnerships with Indigenous and northern communities, which could be constrained inside restrictive DISH environments. Research activity in the Arctic is itself an expression of Canadian sovereignty, strengthening our presence, partnerships and understanding of the North. It is strategically important that Canada identify, support and elevate Arctic research projects as part of its broader defence and sovereignty agenda.

For example, Wilfrid Laurier University supports more than 50 research sites across Arctic regions, including projects developing sensor technologies to improve ice road planning and resilience. Its leadership in Arctic research demonstrates that strategically important contributions to Canada's sovereignty can emerge from institutions of all sizes across the university sector.

Finally, Canadian universities are well-equipped to manage the security needs of defence partnerships. Canadian universities now operate under strong research security frameworks that are leading internationally, applying safeguards fully aligned with federal guidance. Participation in defence research remains about enabling choice, not imposing direction, ensuring that academic freedom and open inquiry are preserved while preventing the misuse of sensitive knowledge.

Conclusion

Canada's sovereignty rests on three commitments: the money we invest, the people who serve and the innovation we develop. Universities are where those three meet. By aligning universities with federal defence initiatives, Canada can expand its skills pipeline, support small businesses, strengthen Arctic sovereignty and develop the capabilities necessary for long-term security and prosperity.



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About Universities Canada

Universities Canada represents 97 universities across the country. We are a membership organization that provides universities with a unified voice in higher education, research and innovation. Our member universities are located in communities across Canada, serving over 1.4 million students.

