



Universities Canada's submission to the Standing Committee on Industry and Technology:

Defence Industrial Strategy

Strengthening Canada's Defence Industrial Strategy: The strategic role of universities in national innovation and security

In an era of geopolitical uncertainty and rapid technological change, Canada's security, sovereignty and prosperity depend on our capacity to innovate at home.

By working with Canadian universities and building on their existing strengths in research and talent, the Defence Industrial Strategy (DIS) can deepen our alliances and strengthen our sovereignty while fueling innovation and economic growth.

To achieve this, Universities Canada recommends:

- Leverage the full capabilities of Canada's universities to support the Defence Industrial Strategy.
- Adopt a capability-driven, dual-use technology approach.
- Use initiatives like BOREALIS to close Canada's industrial gap by strengthening pathways from university labs to Canadian firms.
- Leverage granting council programs for speed and scale.
- Create a national window for university-developed IP and SME access.
- Align defence innovation with talent and skills pipelines.

Universities are essential contributors to national sovereignty and defence.

Canada's universities are the largest, single contributors to national R&D and a critical component of national security infrastructure — developing the science, people and partnerships that turn defence priorities into operational capability.

We combine discovery with research that delivers real results. We work in partnership with Defence Research and Development Canada (DRDC), other federal departments and industry. These collaborations have advanced capabilities in underwater monitoring, Arctic research, quantum, artificial intelligence, space and biotechnology — capabilities that matter for sovereignty, continental partnerships and readiness — capabilities vital to sovereignty and economic competitiveness, while expanding relationships with our allies.

Equally important, universities are where technology and society meet. By leveraging university talent, research and innovation, we will accelerate practical solutions, expand the skills pipeline, support small businesses in defence technology and spread opportunity across regions — delivering a truly national effort to reinforce Canada's economy and sovereignty.

Canadian universities perform 35 per cent of the country's total research and development. The success of the Defence Industrial Strategy (DIS) will depend on effectively drawing on this deep reservoir of talent, knowledge and research capacity. Strengthening engagement





with the sector would expand the home market for Canadian technologies, foster co-development with industrial partners and build a robust, future-ready skills pipeline.

Defence innovation must leverage the strengths of both academia and industry. Using initiatives such as BOREALIS will help translate discovery into greater commercialization and industrial adoption while creating quality jobs and expanding a durable skills pipeline.

Dual-use research: Bridging defence and the economy

Dual-use innovation ensures every defence dollar delivers multiple benefits — strengthening national security while advancing technologies that improve life for Canadians, from drones supporting wildfire response to AI tools enhancing emergency communications and transportation safety. Universities are already centres of the development and application of near-term dual-use technologies in fields such as advanced materials, communications, security, AI, quantum, aerospace and autonomous systems — technologies that increasingly depend on university leadership to ensure they are effective, trusted and ethically deployed.

The DIS should avoid using rigid lists of research areas that qualify for engagement or funding. If technologies are ruled out too early, promising solutions can be artificially excluded. The path forward is to start from clearly framed capability needs while keeping the aperture to solve the problem wide enough for unexpected solutions, including earlier-stage enabling research where necessary. BOREALIS, in particular, should be nimble and engage multidisciplinary teams to address capability gaps. Some problems will require foundational science to unlock later integration; others are ready for rapid prototyping. Universities can mobilize their extensive resources, including its researchers and pipeline of talent, to ready defence technologies to address today's security concerns, while advancing the foundational concepts that will help deter tomorrow's threats.

Canada can also learn from successes of the U.S. DARPA model, which includes deliberate considerations for potential civilian benefits in program design, encouraging open publication and patenting of unclassified results, flexible commercial IP rights for researchers and enabling practical paths for spin-offs and technology transfer. This approach ensures that innovative ideas move efficiently from concept to application.

Catalyzing innovation and economic impact

Universities are seasoned at deliverable-oriented research and understand deadlines — particularly through extensive, long-standing partnerships with industry and DRDC.

BOREALIS can help close Canada's industrialization gap by strengthening pathways from university labs to Canadian firms and scale-ups. A major barrier to effective technology transfer between universities and Canadian partners is that many innovative SMEs lack affordable access to testing and product-readiness facilities, making it difficult to advance their cutting-edge technologies.

In contrast, large — often foreign — firms are better positioned to absorb and commercialize new patents even where there may be uncertain returns on investment. Supporting SMEs through targeted measures will help them compete and scale. BOREALIS and the Defence Industrial Strategy can create an “anchor customer effect” — whereby government procurement commitments provide guaranteed initial demand that de-risks private investment and accelerates technology maturation — by using agile, challenge-based procurement to create an initial home market for Canadian solutions.

Canada should also build on proven strengths and provide a national window that can link





university research and technology transfer offices with private-sector partners nationwide. This would break down regional silos, giving businesses and investors clear, streamlined access to university-developed IP.

As part of the Defence Industrial Strategy, such a platform could be connected to BOREALIS so teams can move seamlessly from opportunity identification to secure testing and adoption.

Leveraging ISED and the granting councils for quality, speed and scale

Universities are key strategic partners and ready to adapt their processes and develop new partnerships to advance the DIS and meet DND's needs. Canada can mobilize quickly by leveraging existing instruments that academic and industry researchers know and trust. By working with ISED, DND/DRDC and agencies such as the granting councils and the NRC, the government can adapt existing programs to include defence-relevant streams. For example, adapting the NSERC CREATE program or establishing dedicated interdisciplinary research chairs focused on defence-related challenges would build on proven models of industry-academic collaboration. The Canada Foundation for Innovation could also be an effective vehicle to build secure infrastructure and support skills development.

Fostering people, skills and partnerships

To effectively bolster our defences and ensure our sovereignty, Canada will require thousands of Canadians to be trained in dual-use technologies such as AI, quantum and biotechnology. Building on universities' successes in partnering with DRDC/DND, Canada can grow its talent pipeline and retainment by expanding co-ops, internships, embedded fellowships, joint labs and service contracts in priority areas aligned with the Canadian Armed Forces' skills needs. Providing experiential learning opportunities will allow students to gain valuable career experience and build a skilled labour force that can help meet Canada's defence needs.

Establishing a central point of contact to expedite partnerships, training opportunities and research activities will help expand these opportunities for students and industry, especially SMEs who may not have the resources or capacity to normally facilitate experiential learning.

Summary of recommendations:

1. Leverage the full capabilities of Canada's universities to support the Defence Industrial Strategy.

The success of the Defence Industrial Strategy will depend on leveraging the vast research and talent capacity found at Canadian universities. Strengthening connections between academia and industry will help accelerate practical solutions, create quality employment opportunities across the country and expand a more effective skills pipeline.

2. Adopt a capability-driven, dual-use technology approach.

The DIS should define research areas in a robust and expansive way that permits multidisciplinary, capability-driven research. Creating narrow areas that qualify for engagement or funding may limit research and prevent unexpected solutions including earlier-stage enabling research.

3. Use initiatives like BOREALIS to close Canada's industrial gap by strengthening pathways from university labs to Canadian firms.

Canada can close its industrialization gap through initiatives like BOREALIS by improving technology transfer from university labs to Canadian firms and scale-ups. This will also





require lowering barriers for innovative SMEs who may lack affordable access to testing and product-readiness.

4. Leverage granting council programs for speed and scale.

The government can deliver new funding through proven delivery paths by expanding current programs, such as NSERC CREATE to include defence-relevant streams or by creating dedicated, interdisciplinary research chairs focused on defence-related challenges. Maximizing engagement through granting council mechanisms can broaden access to research talent or by creating dedicated, interdisciplinary research chairs focused on defence-related challenges.

5. Create a national window for university-developed IP and SME access.

Canada should create a national window that can connect university research and technology transfer offices, which would help breakdown regional silos and allow businesses, particularly smaller enterprises, and investors clearer access to Canadian-developed IP. Additionally, Canada can derisk private co-investment by creating a “demand signal” or “anchor customer effect” by using challenge-based procurement to create an initial home market for Canadian-developed technologies and solutions.

6. Align defence innovation with talent and skills pipelines.

Build and retain the talent pipeline by leveraging and expanding continuing education and experiential learning opportunities offered by Canada’s universities to help bridge the gap between theory and practice. Establish a central point of contact to expedite partnerships, training opportunities and research activities.



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Universities Canada is the national voice for Canada’s universities, representing 97 institutions that educate over 1.4 million students and employ 400,000 people. Through teaching, research, and community engagement, Canada’s universities transform lives, strengthen communities, and address some of the world’s most pressing challenges. Canadian universities are vital stabilizers and catalysts within their communities.

