

Lux North: Building Canada's Strategic Deep Tech Engine

Introduction

Imagine a venture capital engine in Canada that drives cutting-edge innovation for both commercial markets and national security – a “Lux North” modeled after the deeptech-focused Lux Capital in the United States. Lux Capital itself is known for **“making strategic investments to protect America's economic security”**¹ through science-and-technology ventures. A Canadian counterpart would channel capital into *dual-use technologies* (those with civilian and military applications), defense innovation, and strategic deeptech – from AI and cybersecurity to drones and space – all with the aim of bolstering national resilience. This vision is ambitious and forward-looking, but it is also grounded in a practical imperative: Canada must build capacity at the intersection of technology and national security or risk falling behind our allies and adversaries.

In the following sections, we explore why Canada needs a “Lux North,” how other countries are investing in dual-use and defense tech, where Canada's gaps lie, and what a viable path forward could look like. The tone is visionary but pragmatic – reflecting both the excitement of breakthrough innovations and the hard realities of policy and market constraints. By the end, we'll outline steps toward making this vision a reality, and issue a soft call to action for policymakers, investors, and partners to help shape this new national capability.

Why Canada Needs Its Own Defense-Tech Catalyst

In an era of geopolitical uncertainty and rapid technological change, the line between economic competitiveness and national security has blurred. Modern military and security strength depends on emerging technologies like artificial intelligence, advanced robotics, quantum computing, biotechnology, and autonomous systems – many of which originate in commercial startups. A dedicated Canadian catalyst for defense and resilience tech would ensure we harness these innovations for our national interest. Several factors underscore the urgency:

- **Global Threats and Technological Rivalry:** Russia's war in Ukraine has vividly demonstrated how quickly new tech solutions can tip the scales. Almost overnight, a wave of small tech firms and startups began supplying drones, satellite intel, and AI tools to Ukraine's defense, showing that *“a new wave of SMEs can be formed and will need to be integrated into existing defence structures”* in a crisis². Meanwhile, great power competitors are investing massively in strategic tech. China, for example, poured money into its emerging technology sector and now dominates about 70% of global commercial drone production². If Canada does not build a homegrown base of critical tech, we risk dependence on foreign suppliers (some potentially adversarial) for the tools of national resilience.
- **Allied Expectations and National Resilience:** As a NATO member and G7 country, Canada is under increasing pressure to contribute to collective security innovation. NATO allies have agreed that a

significant share of defense spending should go toward innovation and emerging technologies ³. NATO launched a €1 billion Innovation Fund in 2023 to invest in dual-use deeptech startups across member states ⁴. Twenty-four allies have already committed to this one-of-a-kind venture fund, but **Canada remains on the sidelines – “depriving itself of these investment opportunities” for its high-tech and defense sector** ⁵. In other words, while our closest partners are pooling capital to back the next generation of security tech, Canada has yet to fully join in. A “Lux North” could position Canada as a contributor and beneficiary in this allied innovation ecosystem. Investments in defense innovation would not only strengthen NATO’s capabilities but also yield domestic benefits like jobs, intellectual property, and a more resilient economy ⁶.

- **Bridging Civil and Military Innovation:** Many of Canada’s strategic challenges – protecting Arctic sovereignty, securing cyber infrastructure, responding to natural disasters and pandemics – require dual-use solutions. Technologies that serve military needs often spur commercial applications, and vice versa. Yet Canada currently lacks a systematic mechanism to connect its vibrant tech startup scene with national security needs. A dedicated fund could bridge this gap, directing entrepreneurial energy toward problems of national importance. It’s a way to ensure **Canada’s strong capabilities in AI, robotics, cybersecurity and other fields are “leveraged for defence applications”** rather than remaining untapped ⁷.
- **Economic Opportunity and Talent Retention:** Global investors are waking up to the fact that defense and security are *big business* in the 21st century, not a niche backwater. The U.S. has seen an explosion of venture-backed “national security startups” valued in the billions, from data analytics firms to drone manufacturers. If Canada doesn’t provide a platform for these kinds of ventures, our best innovators will take their ideas to more receptive markets. A *Lux North* offers a chance to keep talent and IP at home. By funding Canadian companies that build world-class defense or resilience technologies, we also open doors to global markets (since other democracies need these solutions too). In short, this is about positioning Canada to both defend itself and compete economically in a world where technology leadership confers strategic advantage.

The Global Landscape: How Others Invest in Dual-Use Tech

To appreciate what a “Lux North” could achieve, it’s instructive to look at how other countries and investors are tackling dual-use and defense innovation. Over the past decade, defense-related venture funding has moved from the fringes to the mainstream globally. A few snapshots of the landscape:

- **United States – A Flourishing Defense Tech Ecosystem:** The U.S. leads by a wide margin. Decades ago it created In-Q-Tel, a not-for-profit VC firm to fund tech for the CIA and intelligence community ⁸. Today, multiple U.S. military branches run accelerator programs (e.g. AFWERX for the Air Force, Army xTech) to fast-track startup solutions into the field ⁹ ¹⁰. Perhaps most critically, private venture capital in the U.S. has embraced defense and dual-use startups as high-potential investments. The sheer size of the U.S. venture market is unparalleled ¹¹. Defense-focused VC funding for dual-use startups **doubled between 2019 and 2022**, and since 2021 the Department of Defense has poured over \$130 **billion** into emerging tech firms via contracts and programs ¹². Silicon Valley stalwarts like Andreessen Horowitz have launched dedicated funds (e.g. the American Dynamism fund) to invest in “founders and companies that support the national interest” across aerospace, defense, public safety and more ¹³. Established deeptech VCs such as Lux Capital – an early backer of companies like Anduril Industries (AI-powered defense) – explicitly seek out startups

that can **“reboot the arsenal”** of democracy and protect economic security¹. The result is a vibrant pipeline of U.S. companies at the intersection of commercial tech and national security, from autonomy and space launch to cybersecurity and biotech. Many are now scaling rapidly, backed by both private money and government contracts.

- **Allies in Europe and Beyond:** Other Western nations are adapting similar tools. The United Kingdom established a **National Security Strategic Investment Fund (NSSIF)** in 2018 as a government-backed venture fund under the British Business Bank, with an initial £85 million (~\$157M CAD) to invest in cutting-edge security tech¹⁴. Australia’s government recently stood up a \$15 billion AUD (\$13.4B CAD) **National Reconstruction Fund**, earmarking a portion for defense capabilities and related sectors¹⁵. Australia also launched an Advanced Strategic Capabilities Accelerator to fund and fast-track promising tech for its military¹⁶. Meanwhile, as noted, NATO’s multinational Innovation Fund is deploying €1B to support startups developing dual-use technologies across allied countries⁴ – a recognition that venture investment is now critical to collective defense. Beyond dedicated funds, many defense primes (Lockheed Martin, RTX formerly Raytheon, etc.) have corporate venture arms investing in startups, and allied governments are streamlining procurement to work with innovative smaller firms. In short, the global trend is clear: **blending private-sector innovation with public defense needs is now standard practice** among leading nations. These countries are not relying solely on traditional contractors or in-house R&D; they are casting wider nets to the startup world and putting serious money behind it.

- **Israel – A Pioneering Model of Dual-Use Innovation:** It’s worth highlighting Israel, given its reputation as the “Startup Nation.” Much of Israel’s tech prowess has dual-use origins, spun out from elite military units into commercial ventures. Israel’s ecosystem is unique, but Canadian investors have taken note – for example, Toronto-based AWZ Ventures operates funds that back Israeli security and intelligence technology startups, explicitly aiming to **“strengthen national resilience and independence”** through such investments⁷. The Israeli model shows how a focused national strategy can produce world-leading companies in cybersecurity, drone tech, AI and more, which serve both defense and global markets. Canada can learn from Israel’s integration of talent between defense and entrepreneurship (though our scale and context differ). At minimum, it underlines that *strategic tech investment can yield both security and prosperity*, a dual goal Canada now aspires to.

In summary, Canada’s allies and peers are actively marrying technology entrepreneurship with national security imperatives. They are doing so through venture capital mechanisms, accelerator programs, and public-private partnerships. Canada cannot afford to be an outlier in this movement. The concept of a “Lux North” – a homegrown venture initiative for dual-use deeptech – directly responds to what is becoming a global best practice.

Gaps in Canada’s Innovation Ecosystem

If the case for a Canadian defense-tech venture catalyst is strong, we must also acknowledge the challenges. At present, the country faces several gaps and obstacles in building this capacity:

- **Lack of Dedicated Funding Mechanisms:** Unlike the U.S., U.K., and others, Canada *“does not currently possess a government-funded venture group for national security needs”*⁸, nor any dedicated private-sector fund of significant scale focused on defense innovation. There have been preliminary steps – for instance, the federal Business Development Bank of Canada (BDC) launched a \$200M

Deep Tech Venture Fund in 2019 to invest in hard technology startups. However, that fund was abruptly shut down just a few years into its 12-year mandate, **“a major blow to Canada’s commitment to deep tech”**. The early cancellation, attributed to broader organizational restructuring and losses at BDC, left a void in patient capital for emerging technologies. It highlights the danger of half-measures; deeptech ventures require long-term support, and inconsistency from major institutions can undermine nascent companies.

- **Fragmented and Small-Scale Efforts:** Canada does have some players in the dual-use tech space, but they remain fragmented and modest. A boutique VC firm, One9 Venture Partners, was founded in 2020 to bridge private capital with military tech innovations (co-founded by a former special forces operator and a tech entrepreneur). One9’s first fund – ambitiously targeted at \$50 million – ultimately raised only \$10 million (with one major LP anchoring it) ¹⁹. Despite that, One9 demonstrated proof of concept by backing companies like Florida-based **Tomahawk Robotics** (a drone control tech firm that sold for \$120M USD) and Utah-based **Strider Technologies** (an AI strategic intelligence startup that raised \$55M Series C) ²⁰. This caught the attention of larger investors. In April 2025, One9 was **acquired by Kensington Capital Partners** – a sign that mainstream Canadian investors see potential in defense tech ²¹ ²². Yet, as Kensington’s Rick Nathan noted, at the time of this deal *“there are not any other VC funds in Canada dedicated exclusively to defence tech... there is stuff here, it’s just not focused, and it’s not that much.”*²³ In addition to One9, there’s AWZ (focused largely on Israeli tech) and a few accelerators or angel groups, but no cohesive national strategy linking them. The ecosystem is nascent and under-capitalized.

- **Cultural and Market Hesitancy:** Part of the challenge is cultural. Historically, Canadian investors and even government officials have been skittish about defense-related investment. Canada’s tech community has excelled in areas like SaaS, fintech, and AI for commercial uses, but “military tech” was often seen as a niche or even frowned upon in some circles. This is changing – especially as innovations in areas like encryption, space, or biotech are recognized as dual-use – but the legacy of risk aversion remains. Glenn Cowan, One9’s founder, observed that raising a defense-focused fund in Canada was a “tough lift” in part because *“Canada is a tough market for this sector”* ²⁴. On the government side, the bureaucracy has tended to favor established defense contractors and low-risk procurement processes, making it exceedingly difficult for startups to win contracts or even get timely feedback. Stakeholders widely acknowledge that **Canadian defense procurement is “highly dysfunctional”** for new entrants – painfully slow timelines, complex regulations, and an extreme aversion to risk that leaves little room for trying novel solutions ²⁵ ²⁶. In short, both the supply of capital and the demand signal from government have been weak, creating a chicken-and-egg problem for defense startups. Those who persevere often have to seek U.S. or international customers early on.

- **Brain Drain and Security of Supply:** The absence of a strong domestic dual-use tech sector means Canada relies on foreign vendors for many advanced capabilities – from surveillance drones to cyber tools – and Canadian innovators often move abroad. This raises concerns about sovereignty and resiliency. During crises (whether military or natural disasters), we may find ourselves at the back of the line for critical technologies developed elsewhere. Furthermore, without domestic options, Canada’s military and security agencies depend on allies for key tools, which works well in peacetime cooperation but may not guarantee access in all future scenarios. Developing a Canadian base of strategic technology isn’t about autarky, but about contributing to allied innovation and ensuring we aren’t left helpless or irrelevant in the domains that matter.

The good news is that these gaps are increasingly recognized. Canadian officials have begun expanding programs like **IDEaS (Innovation for Defence, Excellence and Security)**, which offers R&D grants and challenges to startups and researchers ²⁷. Canada hosts the NATO DIANA innovation accelerator's North American office in Halifax and has seen Canadian firms succeed in NATO tech challenges ²⁸. And as noted, private investors are slowly warming up – especially in light of global events that have underscored the importance of security tech. All of this sets the stage for a more concerted effort to build what has been missing: a true Canadian hub for dual-use venture investment, i.e., *Lux North*.

Charting a Path Forward for “Lux North”

How do we go from concept to reality? Creating a Canadian Lux Capital equivalent focused on dual-use and deeptech will require intentional design and collaboration. Here is a feasible path forward, blending vision with practical steps:

- 1. Secure Anchor Support (Public-Private Partnership):** A viable Lux North will likely need a hybrid funding model. The federal government should strongly consider acting as an anchor LP (limited partner) or sponsor to jump-start the fund – much as the U.S. government kickstarted In-Q-Tel. Canadian experts have explicitly called on **Canada to join allies in establishing a not-for-profit defense VC fund** to “*help streamline defence tech investments and shape R&D to better meet the needs of the Canadian Armed Forces (CAF)*”, ideally with public funding and direct coordination with DND ²⁹. Government involvement can de-risk the endeavor for other investors and send a powerful signal that national security innovation is a priority. At the same time, private capital and management expertise are crucial – the fund should be run by seasoned venture investors and technologists, not government bureaucrats. A partnership model (potentially structured as an independent not-for-profit VC firm with government funding commitments) would combine the best of both worlds: mission-driven focus with agile, market-oriented decision-making.
- 2. Set a Clear Strategic Mandate:** Lux North must have a well-defined mission that guides its investments. This mandate should align with areas of strategic importance for Canada's resilience and security. It's not about chasing any cool tech for its own sake, but targeting *key domains* where innovation is needed for national strength. These might include: cybersecurity and encryption (to protect digital infrastructure), intelligence and data analytics (to make sense of threats in real-time), autonomous systems and robotics (for defense, disaster response, Arctic monitoring), space and satellites (communications and Earth observation in Canada's vast territory), energy and climate resilience technologies, advanced materials (for everything from armor to batteries), and biotech/health security (for pandemics, battlefield medicine, etc.). The fund's thesis should explicitly emphasize **dual-use**: it will back companies that can service civilian markets at scale *and* meet defense or public-sector needs. This dual-market approach is crucial for commercial viability – the civilian side provides broader customers and revenue, while the government side provides strategic validation and early adoption. By focusing on dual-use deeptech, the fund supports national resilience without depending solely on defense budgets for returns.
- 3. Leverage Canada's Strengths – and Network Globally:** Canada brings some unique assets to the table. We have world-class AI researchers, a strong cyber security talent pool, reputable quantum computing and photonics labs, and a thriving biotech sector. A Lux North initiative should integrate with these innovation clusters (Toronto/Waterloo for AI, Montreal for AI/quantum, Ottawa for security, the West for space and robotics, Atlantic for ocean tech, etc.). Building partnerships with

universities, incubators, and existing innovation programs will help generate deal flow. At the same time, Canada should not go it alone. Co-investment and exchange with allied funds and startups will multiply the impact. Lux North can syndicate deals with U.S. or European venture firms on promising dual-use startups, ensuring Canadian participation in global innovations. It can also help bring foreign defense-tech startups to Canada (for example, via partnerships with NATO's fund or Israel's ecosystem), to base some operations here and contribute to our economy. In essence, Lux North can act as **Canada's node in a global network of defense innovation**, both tapping into and contributing to allied technology developments.

4. Patient Capital, Agile Processes: By design, the fund must be willing to embrace longer development timelines than a typical VC. Deeptech and hardware-centric startups can take many years to reach maturity – whether it's a novel materials company or a quantum sensor startup. Canada's earlier attempt showed that a traditional 10-year fund horizon is often too short for deeptech ³⁰. Lux North should structure itself for patience: possibly a 15+ year fund life or an evergreen model, with staged investments that support companies through the "valley of death" (the early period where revenue is not yet flowing). Additionally, the fund managers should work closely with DND and public agencies to speed up testing and adoption of new tech. This might mean setting up a sandbox where startups can interface with military users, or having liaisons that help navigate procurement. Fast-tracking security clearances for entrepreneurs, creating flexible contracting vehicles for pilot projects, and using defense innovation programs (like IDEaS or NATO DIANA) to inject non-dilutive funds are all tactics to reduce friction. The goal is to give startups supported by Lux North a smoother path from lab to deployment, which in turn increases their commercial attractiveness. We cannot change all of government overnight, but a dedicated effort to **"find ways of accelerating contracting for smaller tech purchases"** would make a huge difference ³¹. This requires advocacy by the fund and its supporters at the highest policy levels – to ensure that when the technology is ready, bureaucracy won't be the showstopper.

5. Foster a Culture of Strategic Innovation: Beyond money and process, there's a softer but vital task: changing mindsets. Canada needs to celebrate and encourage innovators who tackle national challenges. A Lux North could serve as a focal point for a new community of mission-driven entrepreneurs, investors, and mentors. By highlighting success stories (for example, if a Canadian startup builds a technology that both sells globally and gets adopted by the CAF, or if it protects critical infrastructure), we can demonstrate that working on "national resilience" isn't just patriotic – it's good business. The government, for its part, should actively signal that it welcomes non-traditional players. This might include more open competitions, challenge programs, or even just public statements that *taking calculated risks on new tech is necessary* for our security. As one policy analysis urged, leaders in Ottawa must "shift the prevailing normative aversions to defense investments" and foster a more **patriotic sentiment towards national defence** in the business community ³². In practical terms, if pension funds, banks, and large industrial companies in Canada see that investing alongside a defense-tech fund is both socially valuable and potentially profitable, they are more likely to come onboard as partners or LPs. Nothing succeeds like success – so as early wins come (and they will, given the right support), we should amplify them to build momentum and normalize the idea of Canada as a hub of strategic innovation.

By following these steps, the vision of Lux North can move from idea to implementation. It won't happen overnight, but the blueprint is emerging. Within a few years of concerted effort, one could imagine a self-sustaining Canadian fund (or family of funds) that routinely backs 10-20 promising dual-use startups

annually, with a pipeline flowing from university labs, military tech problem statements, and entrepreneurs drawn to a sense of mission. Those startups would have pathways to test and sell their solutions domestically (with DND, Public Safety, etc.) and internationally through alliances. Over time, this would seed a robust sector of “national resilience” tech companies in Canada, generating both economic returns and strategic capabilities.

Conclusion: Toward a More Resilient Future

The creation of a “Lux North” – a Canadian dual-use deeptech venture catalyst – is about more than one fund or a handful of startups. It represents a strategic choice about Canada’s future. Do we want to simply consume the innovations of others and hope they have our back in times of crisis? Or do we want to be contributors, builders, and shapers of the technologies that will secure our way of life in the coming decades? By investing in defense innovation and strategic tech at home, Canada can punch above its weight: strengthening our national security, energizing our economy, and supporting our allies all at once.

The vision is bold but attainable. We have the talent, we have the need, and examples around the world show us it can be done. What’s required now is the will to act – to break old silos and bring together the people and resources that can launch Lux North. For policymakers, this means creating the policy space and perhaps the initial capital to get started. For investors and industry leaders, it means recognizing the opportunity in front of us and stepping forward to lend expertise (and yes, funding) to a new generation of Canadian deeptech ventures. For the innovators and entrepreneurs, it’s a call to aim high and tackle problems that truly matter to the country and the world.

This is a project of years, not months, but the sooner we begin, the sooner we will see results. A Canadian Lux North will not materialize overnight – but with each early investment, each successful prototype, and each public-private collaboration, we will be building something enduring: a national capability to innovate for our own resilience.

Call to Action: *If you are a policymaker intrigued by this vision, consider how policy or pilot programs could support a defense-tech fund. If you are an investor, reach out to peers and discuss pooling capital for strategic tech – the market signals are promising. If you are an entrepreneur or researcher, connect with national security stakeholders and make your case; many problems are waiting for clever solutions. Canada’s future prosperity and security can go hand in hand. By acting now to shape a Lux North, we can ensure that the next wave of world-changing innovations includes Made-in-Canada solutions that keep our nation strong, safe, and free.* ²⁹ ⁵

¹ ¹³ **Top VC funds investing in dual-use & defense technology** – OUTLANDER

<https://outlander.vc/fieldguide/top-vc-funds-investing-in-dual-use-defense-technology/>

² ⁴ ⁸ ⁹ ¹⁰ ¹¹ ¹² ¹⁴ ¹⁵ ¹⁶ ²⁵ ²⁶ ²⁷ ²⁹ ³¹ ³² **Venture Capital Financing and Canadian Defence** - Canadian Global Affairs Institute

https://www.cgai.ca/pp_venture_capital_financing_and_canadian_defence

³ ⁵ ⁶ ²⁸ **Embracing Innovation to Strengthen Canada’s Leadership in NATO** | CDA Institute

<https://cdainstitute.ca/embracing-innovation-to-strengthen-canadas-leadership-in-nato/>

⁷ ¹⁹ ²⁰ ²¹ ²² ²³ ²⁴ **Kensington acquires One9 to establish a defence tech VC platform** | BetaKit

<https://betakit.com/kensington-acquires-one9-to-establish-a-defence-tech-vc-platform/>

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