

Securing Canada's Technology Sovereignty

BALSILLIE SURVEY 2025

Report produced by the Balsillie School of International Affairs under the
Technology Governance Initiative funded by the Balsillie Family Foundation

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“Rapid technology innovations continue to impact all areas of international affairs. Good governance and effective policy supporting these innovations are critical for national resilience and the strength of the international system. I believe that the research expertise in Waterloo Region, led by the Balsillie School of International Affairs, will bring solutions to these challenges.”

Jim Balsillie

Philanthropist and Founder

Balsillie School of International Affairs & Balsillie Family Foundation



“The Balsillie Survey provides critical policy-related feedback that is crucial for achieving Canada's technology sovereignty. The survey draws a convergence of reflections from industry, policy and research communities which, if addressed, will greatly support Canadian industry. We are grateful to our students, partners and the Balsillie Family Foundation for supporting this initiative.”

Ann Fitz-Gerald

Director

Balsillie School of International Affairs

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EXECUTIVE SUMMARY

The *Balsillie Survey* will be an annual research survey conducted by the Balsillie School of International Affairs (BSIA) as part of the Technology Governance Initiative. *Securing Canada's Technology Sovereignty* serves as the inaugural survey on Canada's innovation ecosystem, which comes during a time of significant political and geopolitical transition. By examining the convergence between industry, policy and research, the purpose of this survey is to provide a critical platform for Canada's top technology stakeholders to offer policy-related feedback, generating essential empirical data and analyses for both the policy and research communities. After receiving 36 complete and reliable responses from Canadian stakeholders, the 2025 survey serves as the inaugural "temperature check" on Canada's innovation ecosystem during a critical transition toward the federal government's mandate for "Canadian-made" solutions. Canada currently maintains a profound "innovation paradox" where Canada champions global research excellence, while simultaneously failing to translate success into domestic market leadership.

Demographically, the survey captured a wide breadth of expert perspectives, with over 60% of respondents occupying senior leadership roles (C-suite, board or senior management) and over half possessing more than 15 years of experience within their sectors. The information and communications technology (ICT) sector represented the largest targeted group of responses (44.44%), while "other" (47.2%) maintained the most participants overall. The survey data contains no clear consensus on the accuracy of Innovation, Science and Economic Development Canada's (ISED's) current sector classifications, with 27.78% of respondents finding them "Not Accurate at All" for reasons including the failure to capture horizontal enablers such as artificial intelligence (AI) and cybersecurity. Conversely, 19.44% of respondents found them to be highly accurate, while most people (41.67%) reported slight accuracy in the categorization.

The survey results generally reveal a technology landscape characterized by common frustrations with current federal strategies and classifications, as well as contrasting satisfaction with Canada's technology governance including substantial investments made in AI and the subsequent bolstering of Canada's domestic computing power. Notably, a significant majority of stakeholders (61.11%) reported facing major barriers in moving innovations from research to the market, with some citing a risk-averse culture where domestic enterprises hesitate to adopt local start-up solutions. Additionally, only a mere 5.56% of respondents agree with the effectiveness of current federal policy tools, with some responses describing current actions as siloed, risk-averse and overly focused on early-stage research rather than commercial scaling. Furthermore, nearly 30% of participants found Canada's regulatory framework to be "unclear" or "very unclear," with some describing it as a hodgepodge of reactive, "feel-good regulations" that add administrative bloat without technical substance.



KEY FINDINGS

- **Procurement gap:** Many stakeholders identified the federal government’s failure to act as a first-paying anchor customer and the corresponding need for more effective procurement strategies to prevent issues such as “brain drain” to other countries.
- **Regulatory fog:** Some responses reported that fragmentation across provinces and federal domains create significant uncertainty for building sovereign, auditable systems.
- **Importance of trust:** An overwhelming 80.56% of participants view public trust as “Very Important” to technological success, determining innovation outcomes.
- **Statistical significance:** Chi-square tests — statistical analysis revealing the strength of association between survey responses and their demographic information — confirmed that industry stakeholders are statistically more critical of policy tools than those in academia, reflecting a profound disconnect between research inputs and economic outcomes.
- **Classification dissonance:** Industry sectors like ICT report much higher frustration with outdated government categories than more established sectors such as Ocean Tech.

RECOMMENDATIONS

Governmental priorities

- Creating a central innovation agency or crown corporation, tasked with focusing, tracking, and driving a national research and technology strategy.
- Pursuing stable and cooperative economic partnerships internationally, as part of trade diversification efforts away from the United States.

Industry interests

- Streamlining and prioritizing domestic procurement of Canadian-made goods and technologies.
- Strategically monetizing intellectual property (IP) and scaling nationally critical industries, such as clean energy.

Public concerns

- Fostering greater entrepreneurial innovation and trust in the Canadian economy, through the promotion of fairer, less concentrated markets.
- Greater civil society involvement in the oversight and governance of emerging technologies such as AI.

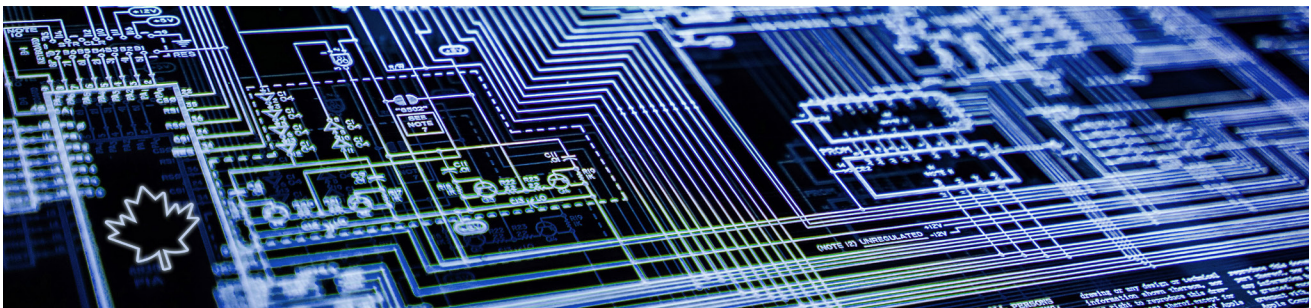


INTRODUCTION: A LOOK AT CANADA'S TECHNOLOGY ECOSYSTEM

The Canadian technology industry is a vital and evolving part of the nation's economy, characterized by its innovative capacity across various fields. While ripe with economic potential, the present Canadian innovation ecosystem remains hindered by lagging productivity and a fragmented governance landscape. Currently, the federal government classifies the tech industry into six subsectors: ICT, life science industries, ocean technologies, clean technologies, hydrogen/fuel cells and nanotechnologies.¹ However, the survey data suggests that the accuracy of these classifications lacks consensus in capturing ISED's shifting priorities, reflecting a lack of attention to rapid technological and industrial developments. Emerging technologies are essential to keeping Canada efficient and competitive while good technology governance is crucial to achieving the government's mandated priorities, such as to become an energy superpower in both clean and conventional energies.² This report therefore arrives at a crucial juncture, as the nation shifts from former Prime Minister Justin Trudeau's policies toward a new mandate under Prime Minister Mark Carney, characterized by a more urgent focus on national technology and "Canadian-made" solutions.

Since the mid-2020s, the role of Canadian technology in economic sustainability has become a focal point of contention, as trade uncertainties and shifting geopolitics pressure traditional "business-as-usual" models. This survey addresses these concerns by centring on technology governance in an era where lagging productivity has historically hampered Canada's national prosperity. As global forces push Canada toward greater autonomy, this survey explores how policymakers, industries, researchers and others can collectively strategize and determine what guiding principles should be utilized for implementation. By gathering perspectives and potential solutions from a range of actors, this research aims to fill critical gaps in understanding by cultivating a national conversation regarding Canada's unified future in technology governance.

This survey sought to understand the critical challenges confronting Canada's technology governance landscape. In doing so, it used the existing priority technology industries identified by ISED as the survey basis. The survey responses highlight, among others, persistent barriers such as insufficient private sector investment, risk-averse-gearred public funding streams for technologies, weak talent retention and vulnerabilities in domestic IP ownership as some of the critical challenges.





ICT: As the largest tech sector, ICT contributes 5.7% to Canada’s GDP, accounting for 26.8% of service exports.³ The industry is heavily weighted toward services, with software and communications comprising roughly 90% of the sector’s GDP and employment. However, a significant 40% pay gap in software engineering between Canadian and US tech hubs continues to drive a brain drain of talent.⁴

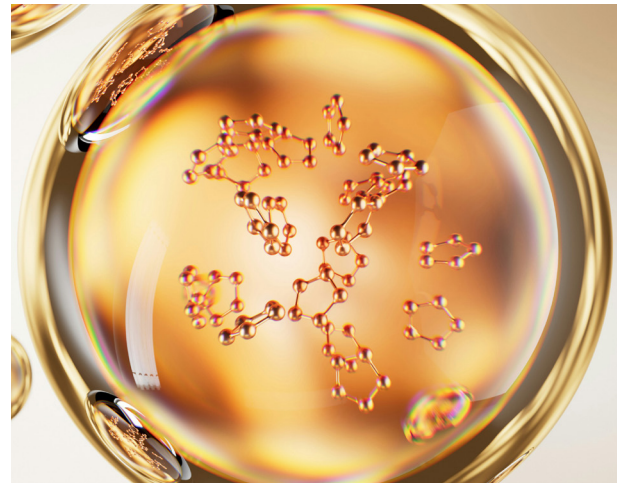
Clean Technology (cleantech): This sector contributes approximately 3.5% (C\$73 billion) to Canada’s GDP.⁵ While Canada is home to 12 of the world’s top cleantech organizations, most of private investment goes to the United States.⁶ Thus, firms are susceptible to a chronic “valley of death” between the research and development (R&D) and commercialization stages due to a lack of domestic private investment compared to other Organisation for Economic Co-operation and Development (OECD) countries.⁷



Hydrogen and Fuel Cells: Canada is a key player with North America holding a 47% global market share.⁸ Hydrogen vehicles offer distinct technical advantages in the Canadian context, including superior cold-weather performance and refuelling times of mere minutes compared to hours for battery-electric vehicles. However, expansion is hampered by a geographic bottleneck, with refuelling infrastructure largely concentrated in British Columbia and Quebec.⁹



Nanotechnology Industries: Canada ranks fifth in global nanotechnology patenting, with current research focuses on medical applications, such as synthetic biology for targeted drug delivery in cancer treatments.¹⁰ Despite this, nanotechnology has the second-lowest adoption rate among advanced technologies in Canada, with homegrown IP habitually acquired by foreign entities.



Ocean Technology: Canada ranks 10th globally on MIT’s Blue Technology Barometer for ocean sustainability, with the rapidly expanding “blue economy” projected to grow US\$3 trillion by 2030.¹¹ While excelling in maritime robotics and smart port ecosystems,¹² firms struggle with long development cycles that deter venture capital, leaving companies reliant on public grants.¹³

Life Sciences: While Canada possesses a world-class contract research sector, it grapples with a fragmented health system that lacks data interoperability.¹⁴ Although 93% of primary care physicians now use electronic medical records, the system remains an amalgamation of paper and digital files that hinders efficient data exchange and innovation scaling.¹⁵



METHODOLOGY

Survey Design

This study used a mixed qualitative/quantitative survey approach, distributing an annual online survey that was shared with industry associations, selected civil society, scholars and government officials across the country. The survey questions were drawn from a thorough literature review based upon ISED's 2015 technology priorities (ICT, clean energy, ocean technology, nanotechnology, life science technologies and hydrogen fuel cells). The survey questions were divided into three sections: informed consent statement; industry information; and nine technical survey questions. The 2025 survey took about 20 minutes to complete. The bulk of the questions resulted in quantitative data, generally ranging from “strongly agree” to “strongly disagree”; however, all questions offered additional text boxes, so respondents could optionally elaborate on their answers. All the quantitative questions required a response, while supplementary text-box answers were voluntarily provided by many survey participants.

Data Collection

The survey was offered in English and distributed online via Qualtrics, containing responses from participants including Canadian tech industry associations such as Communitech, Canadian Council for Innovators, and Northguide. The BSIA communicated directly with selected companies, civil society organizations, government officials and academics to raise survey responses. The BSIA's social media account on LinkedIn was also used as a channel for sharing the survey to broaden the response base. Those who participated in the survey were required to complete the BSIA's Informed Consent Form — reviewed and approved by Wilfrid Laurier University's Research Ethics Board (#9274). All quotes from the survey used in this report have been anonymized to maintain the confidentiality of our participants unless indicated otherwise.

Sample Selection

The targeted participants for this survey were any stakeholder members within the following Canadian sectors (or similar areas in relation to technology governance): ICT, life science technologies, cleantech, environment and ocean technology, hydrogen and fuel cells, and nanotechnology. There was not an official screening process for survey participants aside from BSIA researchers using their own discretion to identify any obvious signs of disingenuity or inapplicability in the provided survey responses from all survey participants. If a participant's submitted responses were clearly (at face value) deemed to be inapplicable to the purposes of the survey, then they were omitted from the data and analysis. After screening out 23 incomplete responses from targeted stakeholders, 19 cases of fraud and two participants outside the scope of this study, the survey received completed and reliable responses from a total of 36 respondents. Once a participant's answers were collected and accepted, the assumption was that they were a qualified stakeholder in their indicated area(s) of expertise.



Limitations

The survey was primarily targeted at English-speaking recipients and formulated in English, leaving gaps in outreach to non-English and especially French audiences, particularly in Quebec. By the nature of its very purpose, this survey attempts to provide a high-fidelity snapshot of various expert perspectives rather than flawlessly representing Canada's entire technology community. While it was more difficult for some researchers to respond to particular technological issues compared to industry voices, this showcases the relative dearth in resources and capacity otherwise experienced by other groups compared to industry and government respondents. This limitation may have reduced the likelihood of survey completion, as respondents may have either felt uncomfortable commenting on technology governance areas or did not have time to respond. Together, these factors may have lowered response rates and contributed to gaps in demographic data and results.

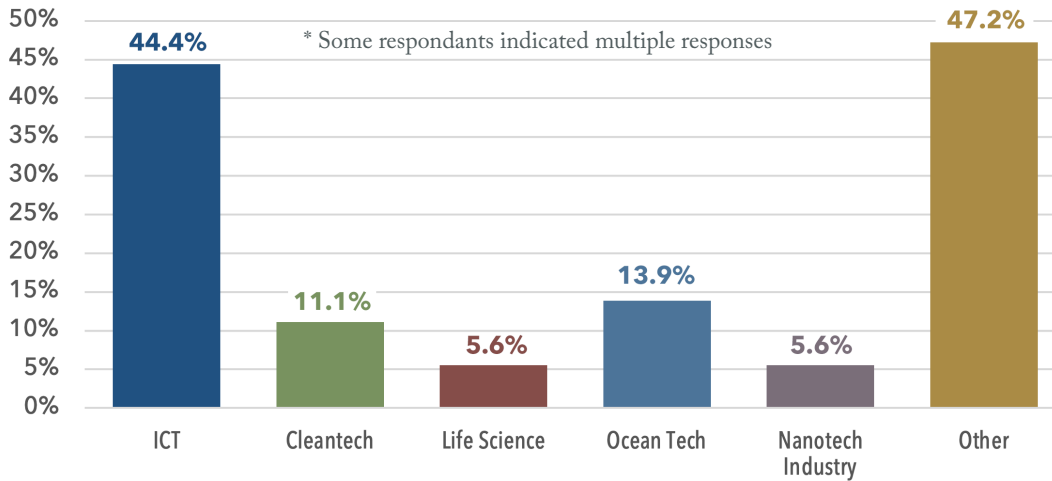
The relative industry-focus of the survey, centring questions concerning industry competitiveness and government-industry policymaking was partly a product of question design and the overall interest in Canadian technology governance, with technical knowledge behind technologies largely in the custody of companies. This focus may have contributed to greater responses from industry participants (52.78%), compared to government (16.67%), civil society (13.89%) and academic (38.89%) actors respectively. However, research perspectives from civil society and academia collectively (52.78%) participated at an identical rate to industry stakeholders (52.78%).



SURVEY RESPONSE DEMOGRAPHICS

Figure 1: Sector Information

Which Sector(s) Do You Work In?



Most respondents indicated they were from the ICT sector (44.44%) as well as other (47.2%), which included groups such as automotive, national security, international relations, climate and nature, supply chain management, critical minerals, robotics, education, economics and innovation policy design. The fewest respondents were in life science technologies (5.56%), ocean technologies (5.56%) and the nanotechnologies industry (5.56%). The responses also highlight a certain degree of sectoral convergence with 11.11% of respondents working in multiple overlapping sectors.

The BSIA collected survey responses from a wide range of stakeholders including affiliates from the Government of Canada; numerous private corporations such as Compusult Limited; various educational institutions such as the University of Ottawa, York University and the University of Waterloo; independent research hubs such as the Vector Institute; policy consultancies; non-governmental organizations such as Amnesty International; and intergovernmental organizations such as the United Nations.

Figure 2.1: Stakeholder Type (Aggregate)

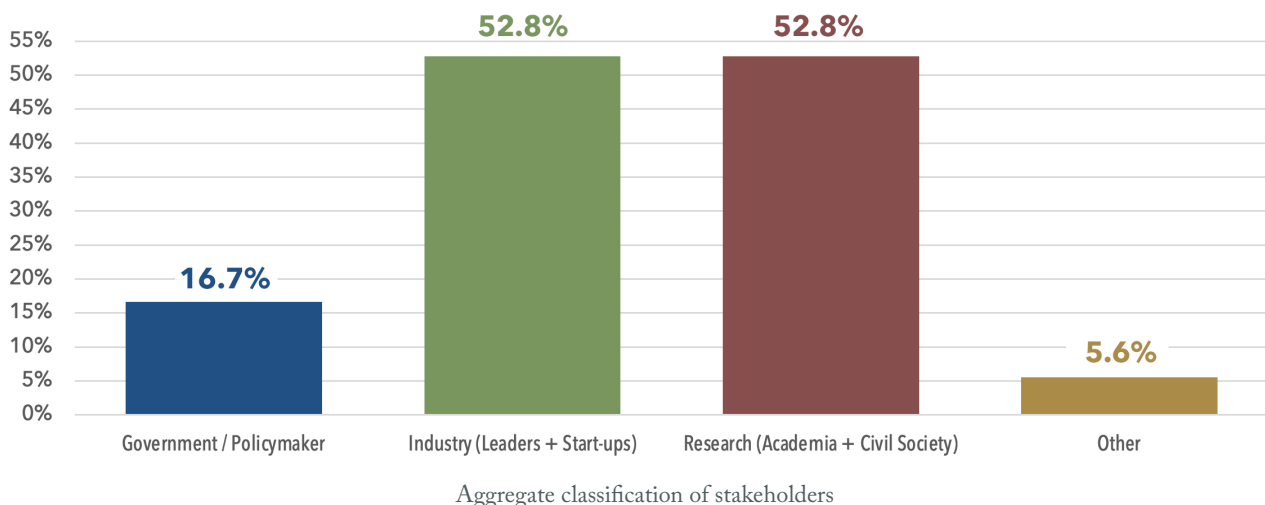
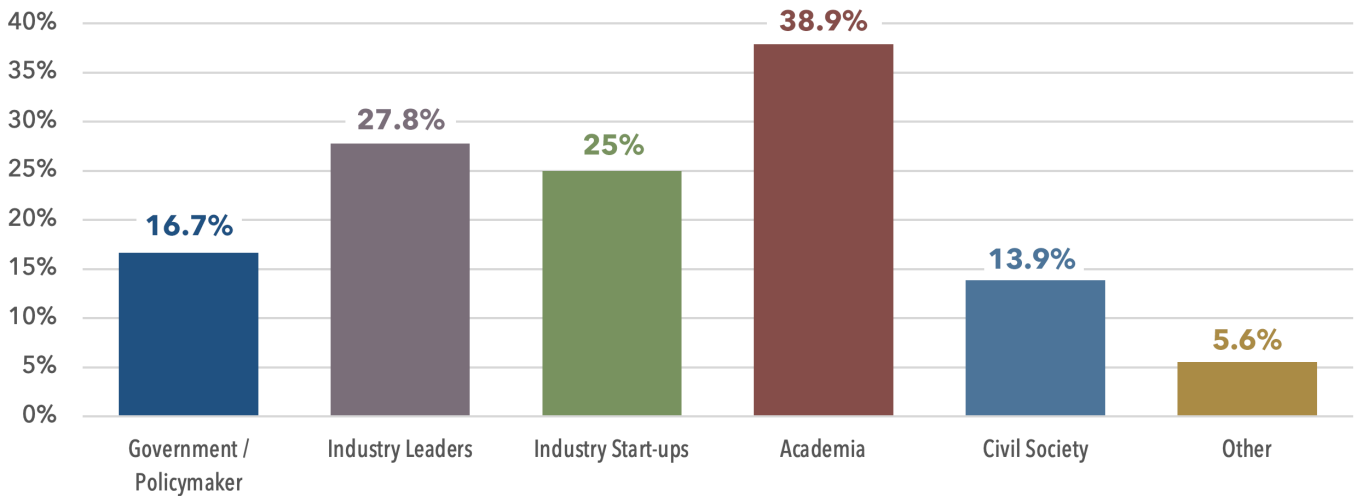


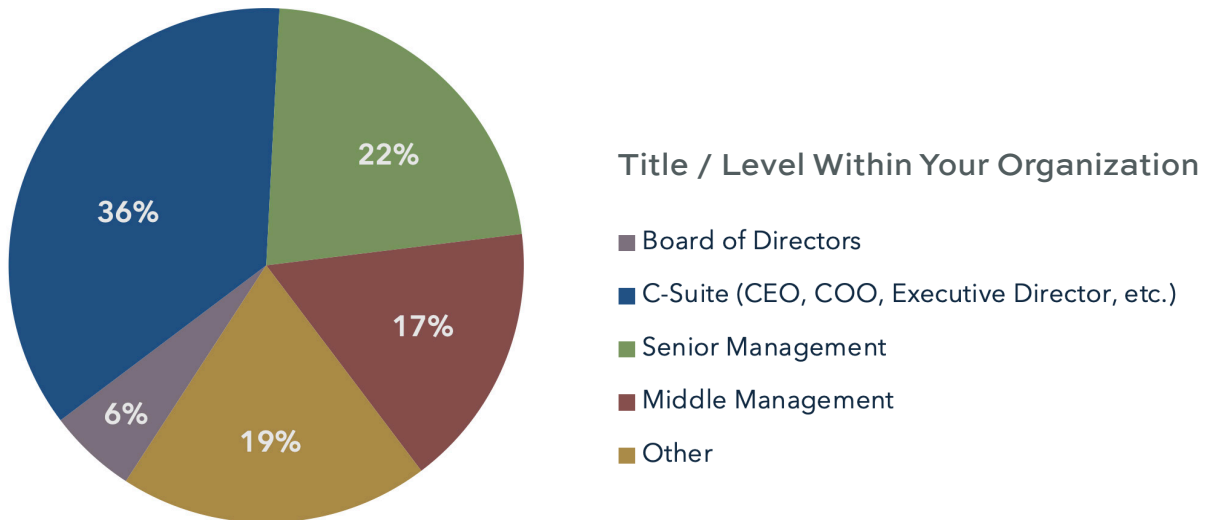
Figure 2.2: Stakeholder Type



* Some respondents indicated multiple responses

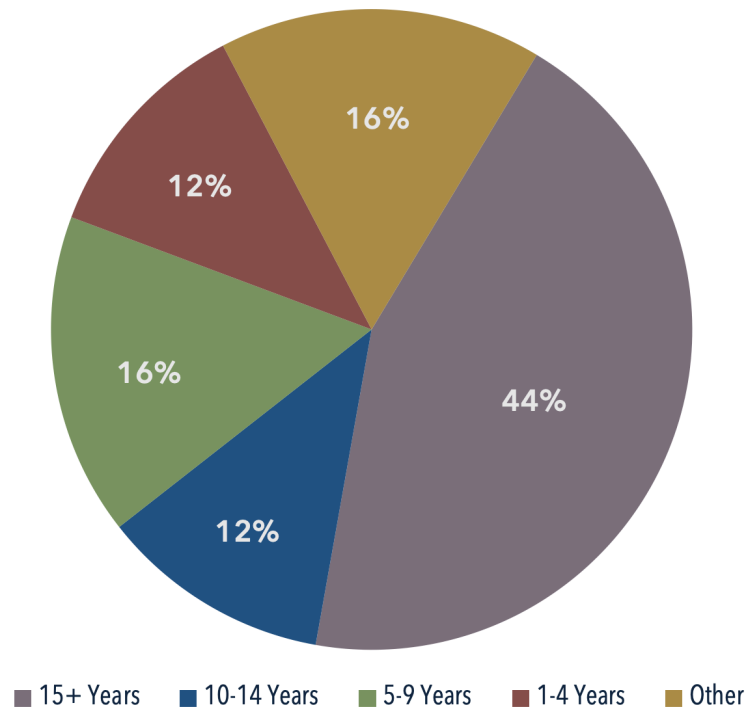
Industry leaders (27.78%) and start-ups (25%) comprised 52.78% of total responses, demonstrating the wide range of industry voices among the survey’s response base. Participants in research (52.78%) also matched this figure with 38.89% from academia and 13.89% from civil society respectively. 16.67% of respondents were from government/policymakers, while all outliers identified as other, overlapping between more than one of the stakeholder groups and representing 5.56% of survey responses.

Figure 3: Title/Level



Over 60% of survey respondents indicated that they occupied at least a senior leadership role in their sector, including working in senior management (22.22%), C-suite positions (36.11%) and serving on the board of directors (5.55%). 16.67% of responses came from middle management positions while 19.44% of respondents were employees. This proportion of high-level responses underscores the breadth of expert-level feedback collected from the survey.

Figure 4: Years of Experience within Sector(s)



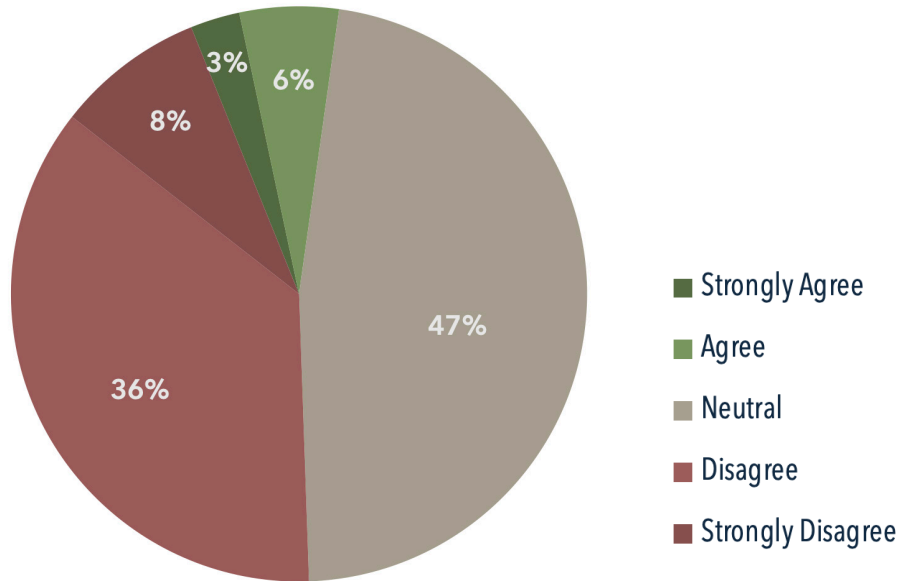
The majority of survey participants indicated possessing deep knowledge within their sectors with over half of respondents holding over 15 years of work experience (52.78%). An additional 13.89% of respondents had 10–14 years of experience, 19.44% had 5–9 years of experience, and the remaining 13.89% had 1–4 years of experience. Interestingly, none of the respondents reported having less than a year of work experience, demonstrating reasonable familiarity with the areas they work within.



KEY FINDINGS

Figure 5: Federal Policy Tools

To What Extent Do You Agree That Current Federal Policy Tools Effectively Support Innovation in Your Sector?



Only 8.34% of responses agreed (5.56%) or strongly agreed (2.78%) with the effectiveness of current federal policy tools supporting innovation. By comparison, 44.44% expressed disagreement (36.11%) or strong disagreement (8.33%), while the remaining 47.22% remained neutral. Many stakeholders notably highlighted the demand for the federal government to move beyond subsidies to act as a first-paying anchor customer through procurement policy reform to better support domestic solutions. Others also called for resolving funding concerns, barriers to commercialization and bias. Some respondents highlighted support from government programs such as the Scientific Research and Experimental Development Tax Credit Program (SR&ED) and the Industrial Research Assistance Program (IRAP) for enabling effective AI R&D and helping to cultivate top talent. Most respondents remained neutral, stating they were unaware of specific policies or felt that the current system was moderately effective with some gaps.

“As the largest procurement agency in Canada, the federal government’s policy should be to procure products and services from truly Canadian owned and operated suppliers and also to report monthly its success rate at achieving procurement of Canadian goods and services. Canadian goods and services does not mean American and other foreign companies that aren’t 51% or more owned by Canadian citizens resident in Canada.”

— Paul Mitten, C-suite in ICT, ocean technology and robotics



“Current federal policy tools are insufficiently tailored for commercialization barriers in advanced materials and climate-positive manufacturing. There is a persistent disconnect in translating research excellence into market leadership; programs are siloed and risk-averse, exacerbating the Canadian Innovation Paradox.”

— Tobias Deacon, C-suite in critical minerals and manufacturing

“The biggest barrier remains ‘first-customer’ risk. Federal government procurement programs (like Innovative Solutions Canada, or a lack thereof in critical sectors) are often not fast, flexible or large enough to act as the crucial anchor client that validates and scales an enterprise-grade cybersecurity solution like ours.”

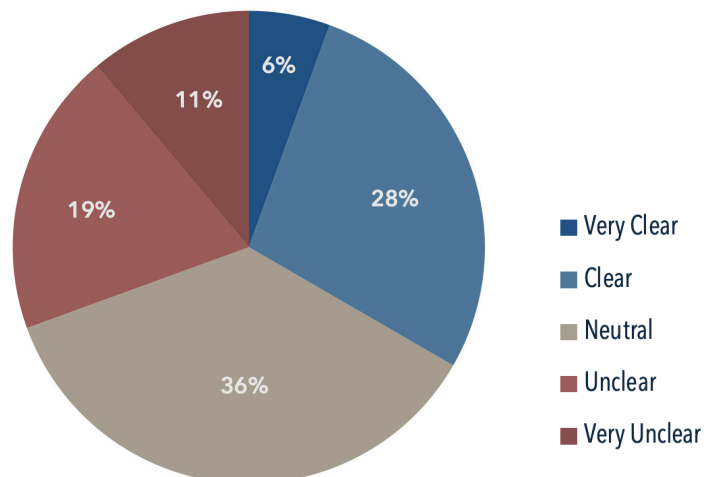
— Rakesh Raghupathi, C-suite in ICT

“While there are a number of programs from SR&ED tax credits, to IRAP grants, they tend to focus on early stage scale-ups as opposed to scaling, commercialization or ownership. We are very good at inventing in Canada, but not very good at keeping what we invent. 87% of our IP is foreign-owned. In Q1 2025, of C\$920 million in VC [venture capital] funding in Canada, 80% was American VC. The United States did almost US\$100 billion in the same period. We simply have no digital sovereignty. We need a sovereignty act to protect the IP in Canada, before we can do anything else.”

— Ryan Williams, board of directors member in policy development around innovation, trade and open economic systems

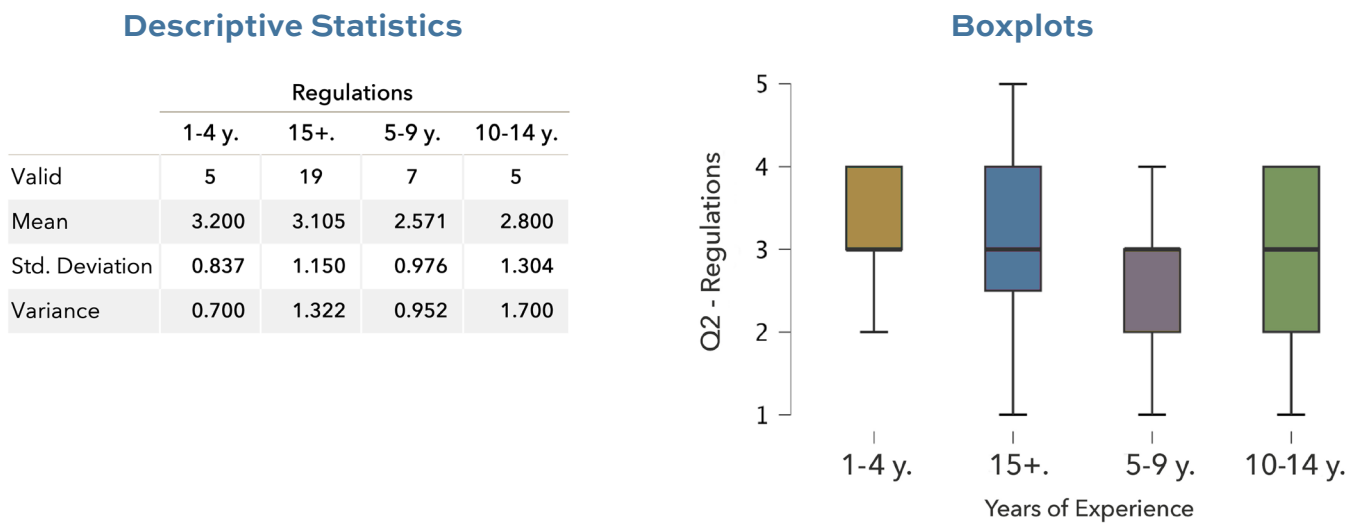
Figure 6: Regulations

How Would You Rate the Clarity of Canada’s Current Tools to Effectively Support Innovation in Your Sector?



While a third of respondents are satisfied with the clarity of Canada’s current regulatory framework, over 30% find it unclear (19.44%) or very unclear (11.11%), suggesting significant regulatory uncertainty among survey participants. Some respondents described a fragmented hodgepodge of political announcements and feel-good regulations that reactively add an undue administrative burden without technical substance along with a lack of harmonized national standards for authorization, consent and data sharing. Others shared satisfaction with the clarity of the regulatory framework for academic research and international collaboration purposes.

Figure 7: Regulations (JASP Analysis)*



*JASP is an open-source statistic program.

This boxplot shows the average and range of how clear the regulations appear to survey participants across different experience levels, ranging from very unclear to very clear. Respondents with 15+ years of experience had the widest range of opinions. While some found regulations clear, others are more cynical. Respondents with 5–9 years and 10–14 years of experience have the lowest average clarity scores (Means 2.57 and 2.80). The frustration with issues such as administrative bloat and feel-good regulations is seemingly most pronounced among those who have spent about 5–14 years in their respective area.

“Canada is generous on innovation funding but the system can feel confusing...the biggest hurdle is clarity and proof.... All this takes time, of course, and it's not always clear (especially for beginners) what is expected. That said, Canada’s system is built to support genuine problem-solving. If you speak its language, it will meet you halfway.”

— Robert Muggah, C-suite in international relations, AI and climate



“Much of the regulatory framework is chasing buzzwords that mean very little at a technical or application level. Compliance is very easy to the point of [being] meaningless but adds significant administrative requirements. We are essentially bureaucratizing the sector through poorly conceptualized ‘feel good regulations.’”

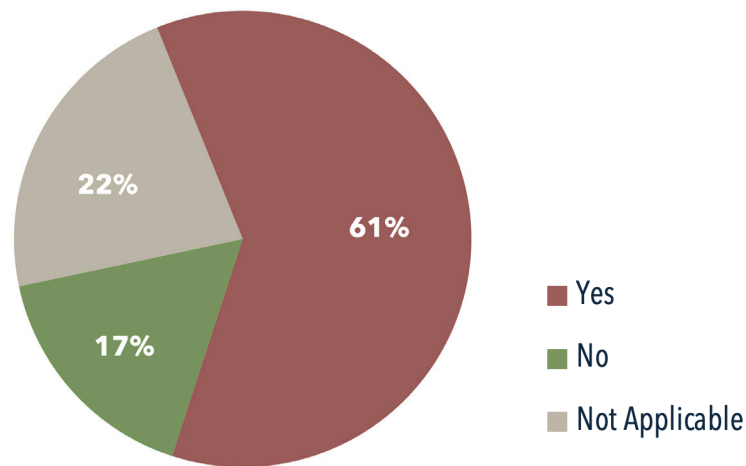
— Anonymous, middle management from the Department of National Defence

“Clarity is not the problem. The problem is that regulations are weak and include poor privacy protections including data privacy – oversight, transparency and disclosure obligations – researcher data access and protections – competition mechanisms and enforcement – accountable mechanisms.”

— Renee Black, C-suite in ICT research

Figure 8: Barriers

Does Your Organization Face Barriers in Moving Innovations from Research to Market?



A strong majority (61.11%) of participants confirmed facing barriers, supporting the BSIA’s earlier observation of a persistent innovation-to-market gap in the Canadian ecosystem. Notably, various technological as well as cultural barriers were listed, such as the pervasive risk-averse culture hindering domestic enterprises from investing in local start-ups. The failure to retain domestic IP away from foreign buyers, commercialization, risk-averse procurement strategies, insufficient access to large-scale venture capital, lack of government investments and brain drain to the United States due to higher salaries, were also among the common barriers listed by respondents. Conversely, some responses reported no barriers, suggesting that certain niche areas may have more established customer bases than others.



"Canadian policy is designed to promote low performing domestic oligopolies and foreign branch plants. There are no adequate policy levers to move research to Canadian innovation. The current policy accelerates the movement of Canadian research to foreign innovation."

— Jim Hinton, C-suite in various sectors

"The most significant barriers in AI adoption are usually culturally driven, as opposed to technology barriers. One of the highest barriers to AI adoption in business processes is a combination of institutional inertia and closed thinking, e.g., 'we don't do it that way.'"

— Anonymous, C-suite in ICT

"The two primary barriers are securing the first enterprise design partner (the 'Canadian Cold Start') and access to large-scale, deep-tech B2B venture capital.... Canadian enterprises, particularly in regulated sectors, are risk-averse regarding adopting mission-critical infrastructure from early-stage domestic start-ups. This forces us to focus heavily on the US market prematurely, leading to a 'brain drain' of the commercial success and IP."

— Rakesh Raghupathi, C-suite in ICT

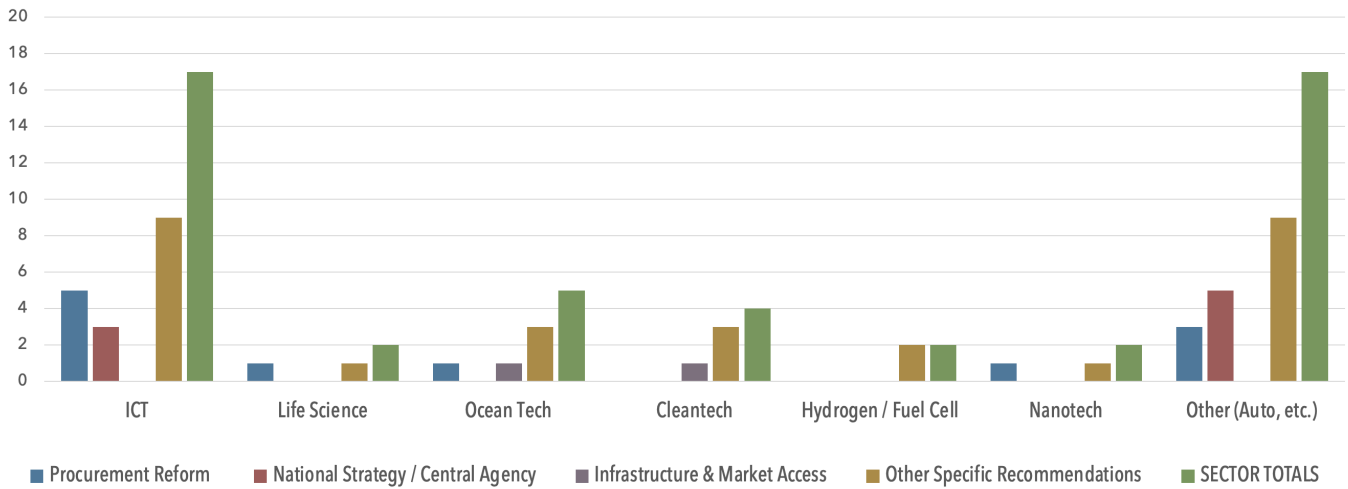
"Among the many reforms that need to be introduced, a particular area of focus should be on trade secrecy. Currently, the government has focused on research security through a paternalistic, government-heavy approach. It would be more efficient to just extend trade secret protection to innovators, effectively delegating some enforcement powers to protect secret information to those actors themselves. Also, as things stand, there are no restrictions on research partnerships under the policy's eligibility criteria if it does not involve federal government funding, which does not address malicious conduct by adversaries who recruit and fund researchers through private or provincial funding. The compliance burdens of research security also create potential disincentives to do work within academia using federal grants. This is all the more reason why the federal government must take seriously the idea of codifying a trade secret law."

— Matt Malone, Assistant Professor, University of Ottawa



Figure 9: Government Alignment

What Actions Should Federal and Provincial Governments Take to Better Align Their Strategies for Technology Governance in Your Sector?



Many participants called for reform away from a heavy research focus toward domestic procurement-led growth and scale-up with government acting as anchor customers; a more unified national strategy and support system through a single window or centralized research hub to resolve intergovernmental friction; reforming programs such as SR&ED to align with commercial milestones; and improving infrastructure and market access and capabilities. Others suggested prioritizing international cooperation, especially in the Global South as well as refining focuses on more direct outcomes through an increasingly mission-oriented approach.

“It feels like there are a lot of disjointed places to seek support, rather than singular hubs that can offer intergovernmental coordination and guidance to start-ups. This makes it challenging to know where to look for support and access mentorship from early ideation stages to funding rounds, market development, etc.”

— Anonymous, employee in ICT

“Governments should:

1. Establish integrated commercialization pathways combining funding, standards support and collaborative pilot infrastructure,
2. Champion data interoperability and AI-powered value chain integration, and
3. Incentivize SME [small and medium-sized enterprise]-led partnerships for mission-driven, climate-positive solutions.”

— Tobias Deacon, C-suite in critical minerals and manufacturing



“Rather than the peanut-butter approach, spreading funding thinly over every corner of the sector, Canada and the provinces will have to be more strategic and place larger, long-term bets and provide support for a few champions. Other countries are taking this approach, picking their local winners and losers, and if Canada doesn't do the same, then we will not end up with globally competitive companies in the space of quantum computing.”

— Anonymous, senior management in ICT

“The focus must shift from research to procurement and scale-up. Action 1: anchor customer program (federal and provincial), fund the adoption of Canadian-made, commercially ready cybersecurity solutions.... Action 2: regulatory sandbox for AI and data governance. Action 3: align SR&ED with commercial milestones.”

— Rakesh Raghupathi, C-suite in ICT

“The first step is sovereignty: we need to protect Canadian technology, data and IP, so that public dollars build Canadian companies, not foreign ones. Provinces can continue funding incubators and research hubs, but they should be tied to a national commercialization strategy that keeps ownership in Canada. Second, we need a C\$100 billion sovereign innovation fund, a co-investment vehicle that... gives founders a Canadian alternative to selling out when foreign buyers come calling.”

— Ryan Williams, board of directors member in policy development around innovation, trade and open economic systems

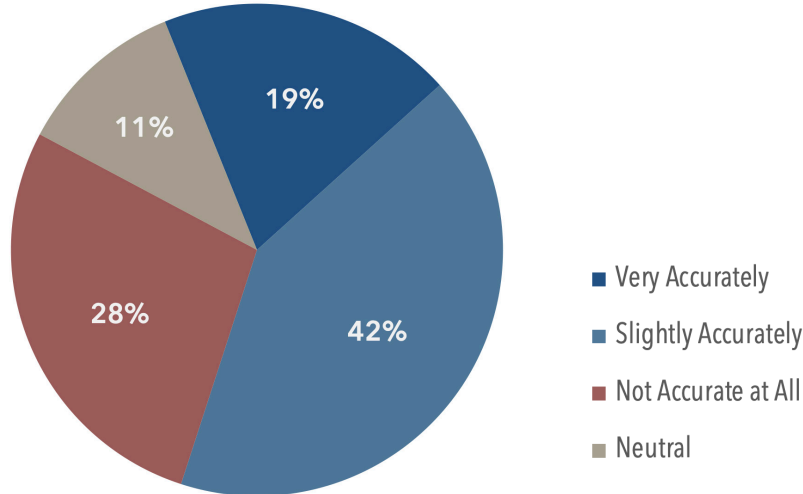
“Develop a clear consumer-first policy agenda that seeks to empower people to make informed decisions and that contributes to breaking down barriers in digital markets. A key focus must be moving toward a world where Canadian institutions, organizations and people are able to move away from increasingly unaccountable companies. This can include through innovations such as open protocols, which can help to break out of surveillance-based advertising models and into smaller and more decentralized models of technology. Doing so requires policy innovation, including in competition. More competitive digital markets, where consumers can vote with their feet, can help rebalance what has become an increasingly abusive relationship.”

— Renee Black, C-suite in ICT research



Figure 10: Sector Categories

How Accurately Does the Current ISED Categorization of Technology Sectors Apply to the Work of Your Organization?

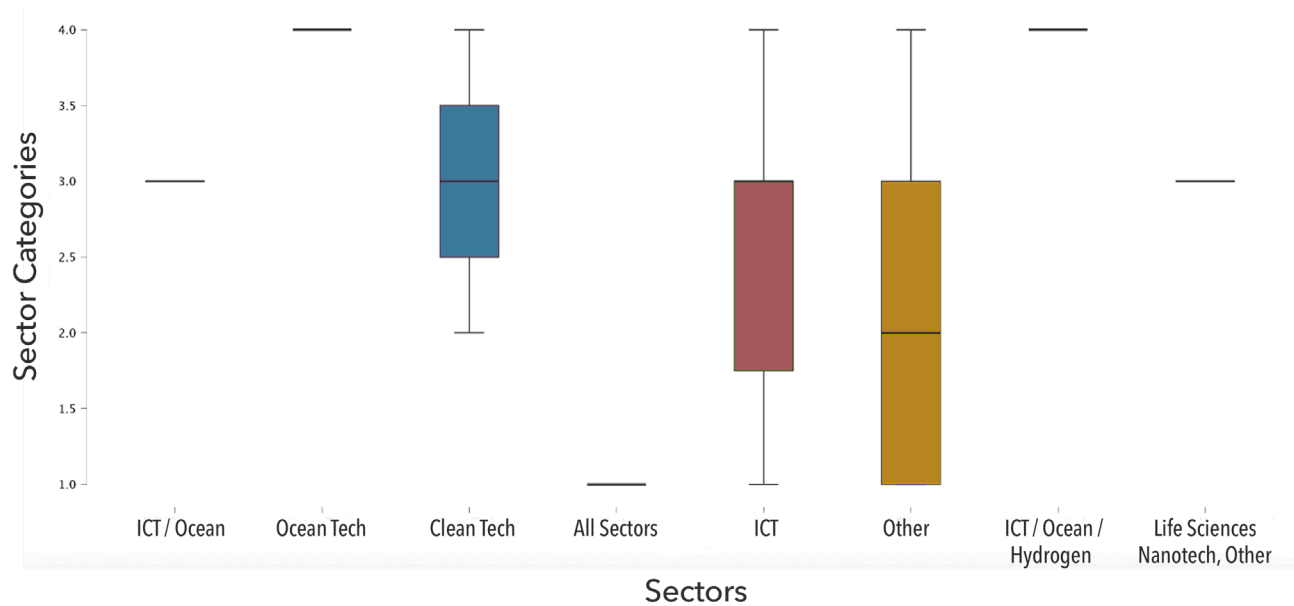


The survey revealed minor support regarding ISED’s categorization of technology industries with only 19.44% of respondents finding them to be highly accurate and 41.67% only reporting slight accuracy. 27.78% of participants criticized the accuracy of the ISED categories, and the remaining 11.11% stayed neutral. Numerous respondents commented on the outdated organization of ISED’s industrial categories, with divisions based on product type rather than the value created. Also, the excessively vertical organization of industries that omit horizontally intersecting enablers of innovation such as AI and cybersecurity is missing the rapid evolution of cross-sector, material-led solutions. Notably, while some participants agreed with the accuracy of ISED’s categories for primary alignment, it was still criticized for being too wide and vague, missing many critical modern subsectors and dual-use technologies. Some reported blind spots included manufacturing, smart and critical minerals, space technologies, digital trust and the intangible economy.

Figure 11: Sector Categories (JASP Analysis)

	ICT / Ocean	Ocean Tech	Clean Tech	All Sectors	ICT	Other	ICT / Ocean / Hydrogen	Life Sciences, Nanotech, Other
Valid	1.000	2.000	3.000	1.000	12.000	15.000	1.000	1.000
Missing	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Mean	3.000	4.000	3.000	1.000	2.583	2.133	4.000	3.000
Std. Deviation		0.000	1.000		1.084	1.060		
Minimum	3.000	4.000	2.000	1.000	1.000	1.000	4.000	3.000
Maximum	3.000	4.000	4.000	1.000	4.000	4.000	4.000	3.000





While the responses as a whole do not show a single overwhelming pattern, the boxplots demonstrate that the ICT sector has a much lower average (2.58) and wider spread of frustration than ocean tech (4.0) on a scale of 1 to 5 (“not accurate at all” to “very accurate”). This supports the qualitative theme of a horizontal gap where many software-heavy industries feel missed by outdated and reactive organization efforts.

“ISED categories miss rapidly evolving cross-sector material-led solutions. ‘Advanced/smart materials’ and ‘critical minerals to product’ innovation flows are not reflected – excluding key climate, health and AI-driven manufacturing opportunities.”

— Tobias Deacon, C-suite in critical minerals and manufacturing

“Very accurate for primary alignment but misses critical modern sub-sectors....Cybersecurity/digital trust is a crucial, distinct vertical that should be explicitly listed. Cybersecurity is an infrastructure layer that demands specific policy, procurement and talent strategies separate from general software development.

While Canada supports AI research (PCAIS [Pan-Canadian Artificial Intelligence Strategy]), the governance and regulatory compliance layer needs explicit recognition....

None of the listed categories are redundant, but their weight should reflect current economic impact. For instance, while nanotechnologies and ocean technologies are important, cybersecurity and AI governance are arguably more immediate.”

— Rakesh Raghupathi, C-suite in ICT

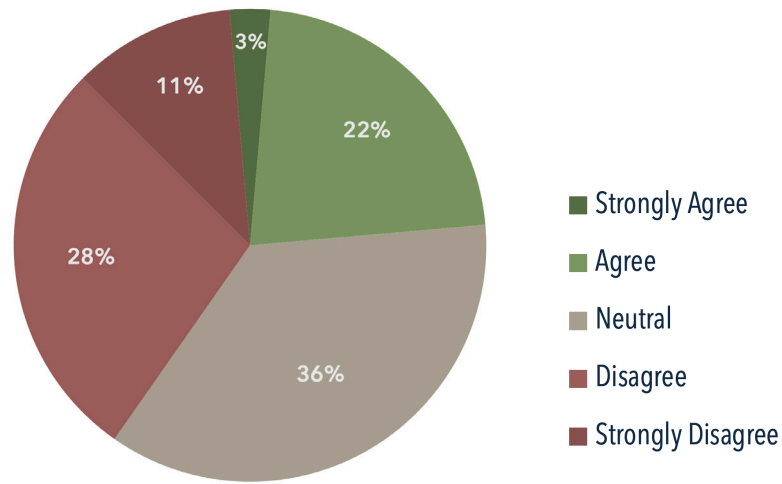


"ISED needs a new category: the "intangible economy," that includes AI, data, cloud, IP commercialization and digital services. That's where Canada's growth and competitiveness will come from, and right now, our policy tools and definitions haven't caught up."

— Ryan Williams, board of directors member in policy development around innovation, trade and open economic systems

Figure 12: Sector Priorities

Do You Agree with the Current Tech Sector Priorities of the Federal Government?



On top of most respondents staying neutral (36.11%), over 38% disagreed (27.78%) or strongly disagreed (11.11%) with the federal government's current technology sector priorities. However, only 25% of responses indicated agreement (22.22%) or strong agreement (2.78%), demonstrating a lack of confidence in the federal government's current strategic vision among survey respondents. Various critics described current priorities as being too fragmented and descriptive rather than strategic, such as through funding being spread too widely rather than focusing on a few key areas at a time to become globally competitive.

"Agree....2025 priorities cluster around AI cybersecurity, semiconductors and quantum, with ongoing work to modernize the legal framework for data and AI. While promising, the rules are not yet settled, and we know that delivery can be slow. Canada's main privacy-and-AI bill died with the January 2025 prorogation, so the federal approach leans on interim measures like voluntary codes while a new legislative path is considered. Cyber capacity gaps flagged by the Auditor General such as slow coordination and limited tools also underline execution risks, even though Ottawa has said it intends to fix them. Put simply, the direction is clear, but turning strategies and budgets into fast, simple adoption still depends on proactive timelines, easier procurement and sustained follow-through."

— Robert Muggah, C-suite in international relations, AI and climate



"Far too wide and vague, they need to be much better focused. Canada is a relatively small country; we need to decide what we want to be good at and focus on a few things. Where is automotive? This sector uses half the robots in the world, is the most complex large-scale manufacturing industry, with EVs [electric vehicles] using batteries, computing, sensor technologies, embedded AI, electric motors. A country loses the automotive industry and many of the priority sectors will fall by the wayside."

— Roger Boyd, employee in international relations

"I don't agree with the current tech sector priorities of the federal government because they don't match the scale or structure of the challenge Canada faces. Right now, Ottawa organizes technology under categories like ICT, life science, ocean, cleantech, hydrogen and nanotech. But these are industries, not strategies. What we need is a policy framework built around sovereignty, venture capital and competition, not just sector labels. Canada's digital economy, AI, fintech, data centres, e-commerce and cloud services, already drives over C\$100 billion a year, yet we have almost no protection for it. Over 87% of our innovation is foreign-owned. In Q1 2025, nearly 80% of Canadian venture capital came from US funds, meaning we're funding growth abroad, not at home. We can't fix this by adding more categories. We fix it by building an ecosystem that:

- Asserts sovereignty: by protecting Canadian data, IP and digital infrastructure
- Establishes domestic venture capital, so we can scale and own our own companies
- Creates real competition by breaking up monopolies and opening closed markets so Canadian innovators can grow

The government's current priorities are fragmented and descriptive. They say what exists, not what we're building toward. If we want to double business R&D by 2030 and stop being a nation that invents but doesn't own, our priorities have to shift from funding sectors to funding sovereignty and scale."

— Ryan Williams, board of directors member in policy development around innovation, trade and open economic systems

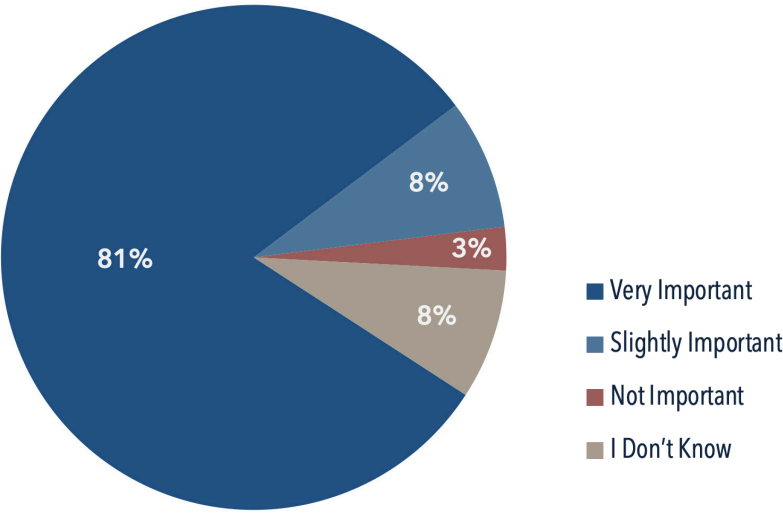


"I do not agree or disagree. However, these tech priorities must be rights-informed to ensure human rights are not violated. For instance, there is a tendency for tech companies to interfere with the exercise of the right to privacy, particularly in the use of people's private information. Additionally, there should be a balance between profit and humanity motifs. Technology ultimately must serve human needs, improve life for all and provide access for all. For instance, there are many moral and legal issues in relation to AI that have not been fully considered."

— Anonymous, senior management from Amnesty International

Figure 13: Public Trust

How Important is Public Trust to the Success of Technology Within Your Sector?



An overwhelming 80.56% of responses considered public trust to be very important, supplemented by 8.33% indicating that it is slightly important. Only 2.78% of participants considered public trust unimportant while the remaining 8.33% stayed neutral. Many stakeholders noted the importance of trust for ensuring the long-term adoption and success of technology, enabling industrial autonomy, maintaining control, determining whether innovation scales or fails and to ultimately advance the economy. Conversely, public trust was described as unimportant by one participant, for the lack of a role that the public plays in shaping technology. Some responses noted that trust in Canada is currently being hindered by fear and a lack of public control over frequently used technologies.



"Trust is key to turning promising pilots into real-world impact. SecDev's systems touch sensitive networks and high-stakes data, so the tolerance for error is low. Adoption depends on demonstrable safety, accuracy and accountability, all of which needs to be proven based on independent benchmarks, with reproducible methods, known error rates and safeguards against misuse. Governance matters just as much, especially privacy-by-design, secure-by-default architectures, auditable logs, role-based access and rapid incident response.

Trust also reduces the friction of growth. Clear documentation, third-party certifications and explainable models shorten security reviews, speed-up integrations with legacy stacks and limit bespoke assurances. Human-in-the-loop workflows and routine red-teaming are key since they can signal a commitment to continuous improvement, not black-box claims. For communities, trust means fewer false positives and for regulators, smoother compliance. For (prospective) investors, trust is key for predictable execution and lower risk."

— Robert Muggah, C-suite in international relations, AI and climate

"Public trust is the single most important factor – it is the currency of the digital trust sector. Our sector is 'digital trust,' which is built entirely on the confidence of our clients (enterprises) and their users (the public). For enterprises (our clients): our clients rely on us to prevent security breaches and maintain regulatory compliance. If a user's sensitive data is leaked due to an authorization failure, the enterprise loses reputation, faces massive fines (GDPR [General Data Protection Regulation], PIPEDA [Personal Information Protection and Electronic Documents Act]) and loses client contracts. Our success is directly proportional to their trust in our ability to be zero-trust compliant and auditable.

For the public (end users): the public needs to trust that when they interact with a digital service (health, banking, government), only authorized actions are performed on their data, whether by a human, a service or an AI model. Control core is the technology that enforces this public trust by ensuring granular access. Without a high degree of trust in the underlying security infrastructure, digital innovation and AI adoption will face consumer and legislative backlash, stalling the entire tech economy."

— Rakesh Raghupathi, C-suite in ICT



“People must be confident that the information they provide through their participation in our programs and campaigns will not be misused, leaked, sold or otherwise compromised.”

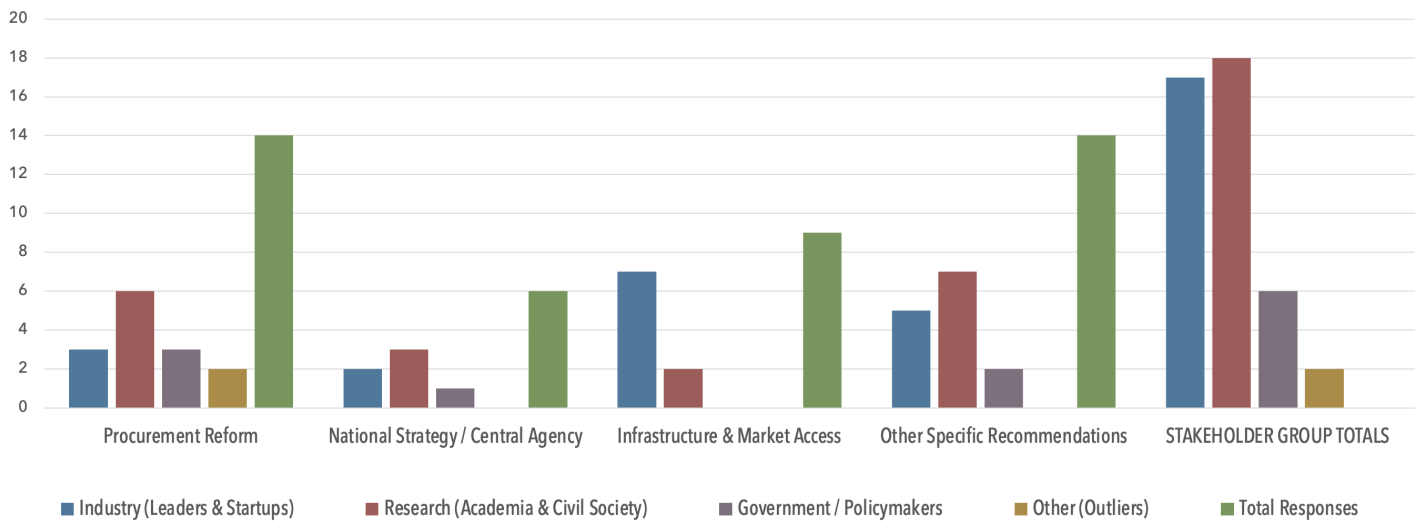
— Anonymous, senior management in policy and advocacy research

“Public trust is indispensable as it determines whether innovation scales or fails. Trust converts technical progress into practical, systemic impact. In our field, digital tools must operate within transparent, auditable and rights-respecting frameworks. When people trust the technology, they share data, rely on automated systems and accept digital outcomes as legitimate. Without that trust, even sophisticated systems remain pilots or policy experiments. For law, trade and digital infrastructure, trust is the operating license – it allows innovation to move from laboratory to institution, from prototype to public service.”

— Barry Appleton, C-suite in ICT, life science technologies and nanotechnologies industry

Figure 14: Strengthening Innovation

What Types of Cross-Sector or International Partnerships Would Most Strengthen Your Industry’s Innovation Ecosystem?



Various responses shared similar sentiments about prioritizing strategic rather than symbolic international alliances that help build sovereignty and commercialization. Suggested allies included North American partners such as the United States and Mexico but also toward alternative democratic allies including Japan, South Korea and the European Union, by reducing trade barriers. While some responses suggested that Canada should separate itself from old alliances in certain industries and develop more of an open



mind toward working with economic winners such as India and China, others stressed the importance of fostering strategic alliances with nations that share Canada's democratic values and technological standards. Survey participants also noted the need for more cross-sector partnerships between industry, academia, government and civil society.

"Strongest impact would come from partnerships that bridge upstream mineral extraction, advanced processing and downstream manufacturing – linking critical minerals, advanced materials, cleantech and AI supply chains. International collaborations should focus on dual-use R&D, joint standardization and open commercial data."

— Tobias Deacon, C-suite in critical minerals and manufacturing

"Canada's cyber sector will grow fastest when government, industry and community groups build together. This can be facilitated by creating shared testing spaces where new tools are tried in real conditions and move on a simple path with clear timelines. It can be accelerated by leveraging universities as talent pipelines. Where appropriate, cloud providers, telecoms and security firms can be engaged to offer secure labs, sample data and practice drills. Templates for privacy and software security can be simplified and standardized so that small companies can pass reviews without heavy paperwork. All this could speed-up validation, lower costs and speed-up deployment.

Internationally, Canada should trade trust as much as tech. Canada should proactively partner with others that recognize one another's security and privacy checks, share threat intelligence in open formats, and co-fund testing hubs for AI safety and industrial systems. Canada can also make it easier for experts to move/migrate (e.g., fast visas and short exchanges, especially now from South Asia and the United States) and set up export desks that match Canadian firms with pre-approved pilots abroad. The payoff includes greater trust, fewer duplicate audits and Canadian tools becoming the default choice in key markets."

— Robert Muggah, C-suite in international relations, AI and climate



“Strategic partnerships between legal institutions, technology developers and international standards bodies would most strengthen our innovation ecosystem – particularly collaborations that link law, data governance and AI assurance frameworks across trusted jurisdictions such as the European Union, United States and Commonwealth partners. Our sector sits at the intersection of law, technology and international trade. Innovation in this space depends on harmonizing legal accountability with technological capability. Partnerships that bring together law firms, universities, AI labs, courts and regulators can co-develop standards for algorithmic transparency, cross-border data flows and digital trade compliance.

Internationally, alignment with partners pursuing rights-based AI governance – like the European Union’s AI Act and OECD frameworks – would help Canada and its firms build globally interoperable systems that are lawful, auditable and trusted. Domestically, collaboration between public institutions and Canadian tech firms can anchor digital infrastructure and ensure domestic IP and data stay within Canadian control. In short, the most valuable partnerships are those that fuse legal design with technological innovation – turning principles of fairness and accountability into scalable, exportable Canadian strengths in the global digital economy.”

— Barry Appleton, C-suite in ICT, life science technologies and nanotechnologies industry

“The auto industry, with electric vehicles, is becoming the epicentre of so many innovations across more and more sectors. It’s the greatest cross-sector partnership. Partner with the Chinese manufacturers, offer them local production/market access deals.”

— Roger Boyd, employee in international relations

“International procurement opportunities via CEUT [Canada-European Union Tariff] will be great when they start up because they give us the opportunity to scale.... Not sure university collaboration is going well. That’s not to say we need more collaboration. We need better collaboration. Universities do not pull their weight in research collaborations. They are slow, bureaucratic and almost always significantly behind the state of the art. We need some radical action to ensure our universities actually step up to the plate.”

— Anonymous, middle management from the Department of National Defence



"The partnerships that would most strengthen Canada's innovation ecosystem are those that build sovereignty, scale and competition not dependency.

- First, cross-sector partnerships between universities, SMEs and large firms must focus on commercialization and co-ownership of IP, not just research collaboration. Right now, too many partnerships end when the paper is published.
- Second, international partnerships should be strategic, not symbolic. Canada should prioritize alliances within Fortress North America: deepening collaboration with the United States and Mexico on digital infrastructure, AI governance and critical technologies, while also forging bilateral innovation compacts with Japan and South Korea to shift investment and supply chains away from China. These nations share our democratic values and technological standards. China does not.
- Third, we need capital partnerships, not just trade ones. That means co-investment agreements between sovereign funds. For example, matching US or Japanese venture capital with a Canadian sovereign innovation fund that keeps intellectual property and headquarters here.
- Finally, cross-sector collaboration must extend to regulators and industry. If we want innovation to scale, competition law, privacy and AI governance need to move at the same speed as technology itself."

— Ryan Williams, board of directors member in policy development around innovation, trade and open economic systems

"Partnerships between universities and start-ups/scale-ups. AI development is capital intensive and often academia does not have the means to fund. Meanwhile, private organizations are hiring people from academia. If there isn't a way for federal investment, AI developments will only benefit private enterprise rather than the country."

— Anonymous, middle management in clean technology



ANALYSIS

Figure 15: Overall JASP Analysis

Stakeholder Type		Federal Policy Tools					Total
		1	2	3	4	5	
Startup	Count	0.000	3.000	3.000	0.000	0.000	6.000
	% of total	0.00%	8.33%	8.33%	0.00%	0.00%	16.67%
Leader	Count	0.000	5.000	1.000	0.000	0.000	6.000
	% of total	0.00%	13.89%	2.78%	0.00%	0.00%	16.67%
Academia	Count	2.000	2.000	7.000	1.000	0.000	12.000
	% of total	5.56%	5.56%	19.44%	2.78%	0.00%	33.33%
Gov / Policy	Count	0.000	1.000	2.000	0.000	0.000	3.000
	% of total	0.00%	2.78%	5.56%	0.00%	0.00%	8.33%
All Groups	Count	1.000	0.000	0.000	0.000	0.000	1.000
	% of total	2.78%	0.00%	0.00%	0.00%	0.00%	2.78%
Gov / Ind / Civ.	Count	0.000	0.000	0.000	0.000	1.000	1.000
	% of total	0.00%	0.00%	0.00%	0.00%	2.78%	2.78%
Startup / Civ.	Count	0.000	0.000	0.000	1.000	0.000	1.000
	% of total	0.00%	0.00%	0.00%	2.78%	0.00%	2.78%
Gov / Ind / Other	Count	0.000	1.000	0.000	0.000	0.000	1.000
	% of total	0.00%	2.78%	0.00%	0.00%	0.00%	2.78%
Leader / Start	Count	0.000	0.000	1.000	0.000	0.000	1.000
	% of total	0.00%	0.00%	2.78%	0.00%	0.00%	2.78%
Other (Cons)	Count	0.000	0.000	1.000	0.000	0.000	1.000
	% of total	0.00%	0.00%	2.78%	0.00%	0.00%	2.78%
Civil Society	Count	0.000	1.000	0.000	0.000	0.000	1.000
	% of total	0.00%	2.78%	0.00%	0.00%	0.00%	2.78%
Civ / Academic	Count	0.000	0.000	1.000	0.000	0.000	1.000
	% of total	0.00%	0.00%	2.78%	0.00%	0.00%	2.78%
Other	Count	0.000	0.000	1.000	0.000	0.000	1.000
	% of total	0.00%	0.00%	2.78%	0.00%	0.00%	2.78%
Total	Count	3.000	13.000	17.000	2.000	1.000	36.000
	% of total	8.33%	36.11%	47.22%	5.56%	2.78%	100.00%

Chi-Squared Tests

	Value	df	p
X ²	82.048	48	0.002
N	36		

Nominal

	Value*
Phi-coefficient	NaN
Cramer's V	0.755

*Phi coefficient is only available for 2 by 2 contingency Tables



Stakeholder Type	Federal Policy Tools					Total
	1	2	3	4	5	
ICT / Ocean	0	1	0	0	0	1
Ocean Tech	0	1	1	0	0	2
Clean Tech	0	2	1	0	0	3
All Sectors	1	0	0	0	0	1
ICT	1	4	7	0	0	12
Other	1	4	8	2	0	15
ICT / Ocean / Hydrogen	0	0	0	0	1	1
Life Science, Nanotech, Other	0	1	0	0	0	1
Total	3	13	17	2	1	36

Chi-Squared Tests			
	Value	df	p
X ²	55.309	28	0.002
N	36		

Nominal	
	Value*
Phi-coefficient	NaN
Cramer's V	0.620

*Phi coefficient is only available for 2 by 2 contingency Tables

Title	Federal Policy Tools					Total
	1	2	3	4	5	
Employee	1	1	4	1	0	7
C-Suite	1	6	5	1	0	13
Senior Mgmt	0	1	7	0	0	8
Middle Mgmt	1	4	1	0	0	6
Board	0	1	0	0	1	2
Total	3	13	17	2	1	36

Chi-Squared Tests			
	Value	df	p
X ²	30.009	16	0.018
N	36		

Nominal	
	Value*
Phi-coefficient	NaN
Cramer's V	0.457

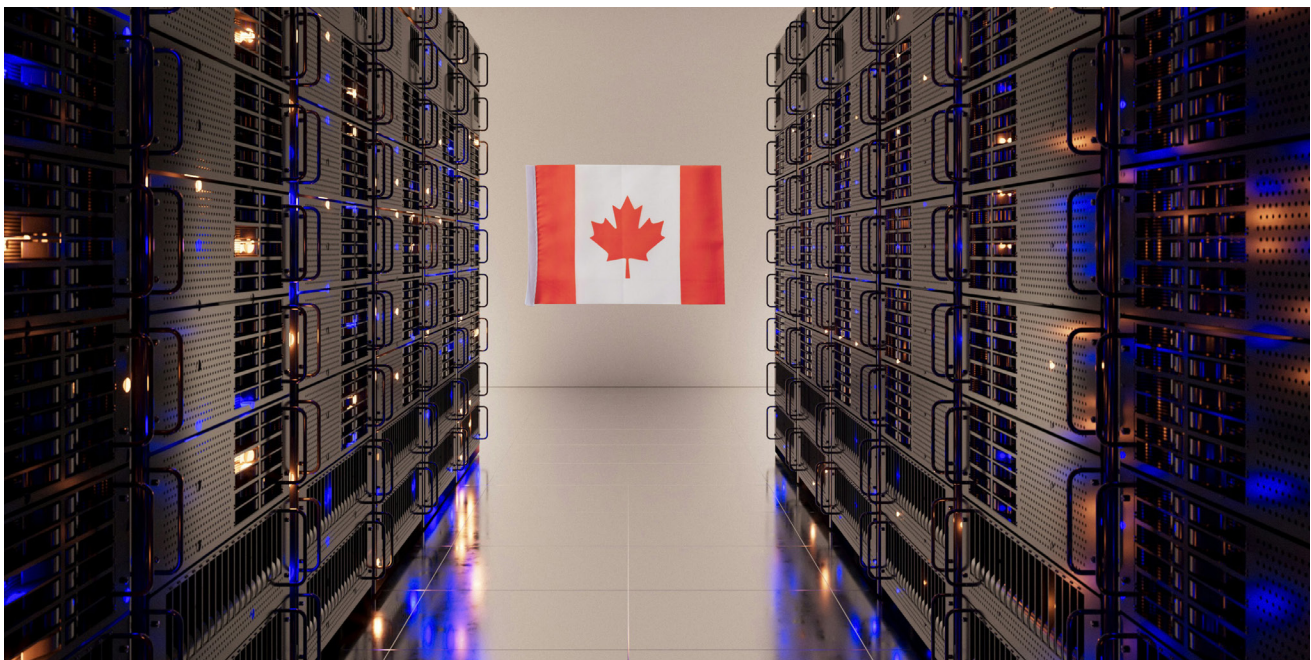
*Phi coefficient is only available for 2 by 2 contingency Tables

The survey team carried out an evaluation of the responses through statistical analysis to understand if a respondent's demographic information had any notable influence on their opinions throughout the survey. Regarding federal policy tools, chi-square tests yielded statistically significant results when testing the relationship between responses and a participant's stakeholder group ($p = 0.002$), level ($p = 0.018$)



and stakeholder group ($p = 0.002$). However, this was not the case when tested with a respondent's years of experience. This demonstrates the statistical significance in the difference in answers between various stakeholder groups, sectors and levels of personnel, meaning that the variances in perceptions between stakeholder groups such as industry and academia or sectors like ICT and nanotechnology industries are not due to chance. Through the chi-square test, the strength of association between two variables can be measured by the value of Cramer's V. A high Cramer's V value of 0.755 indicates a strong association between a stakeholder's role and their level of policy satisfaction, showing that industry stakeholders are generally more critical of current policy tools compared to other groups like academia, based on the survey results.

The statistical analysis shows there is a clear difference in sentiment between industry stakeholders and researchers. The industry segment, comprised of leaders and start-ups, generally exhibited a more critical tone toward federal policy tools, with greater focus on procurement reform, capital scaling and funding concerns. For academia and civil society, respondents tended to remain more neutral on their policy suggestions and critiques. While half of the participants were from the ICT sector, the results tended to heavily lean toward concerns in areas like AI governance, data residency and the intangible economy rather than more specific issues in sectors such as hydrogen and fuel cells, nanotechnology industries, life sciences or clean technology. Collective survey responses also reveal a profound disconnect between Canada's research inputs and its economic outcomes, as stakeholders tended to highlight Canada's shortcomings in successfully translating research excellence into academic output while failing to achieve market leadership. Although some participants acknowledged the strength of early-stage support, the qualitative and quantitative data reveal a critical need for governance to pivot toward more market-shaping activities.



Three common themes for participants were calls for tangible action (the need to see more government action over administration), more domestic ownership (the need for more government ownership of AI infrastructure rather than succumbing to foreign control) and procurement reform (calls for procurement as the primary lever to move research to innovation to provide faster and bolder contracts to domestic scale-ups). There is mounting frustration with over bureaucratization and a lack of strategic action in Canada's technology ecosystem. There are calls to reform procurement strategies. Plus, there are noted aspirations to see Canada close its gaps in domestic ownership.

The quantitative weight and qualitative depth of these responses indicate that many stakeholders are unsatisfied with the government's current strategies and classifications of technologies. Repeated calls for administrative simplification and unburdening, more sovereign funds and procurement reform provide the empirical foundation for a more interventionist and mission-oriented economic strategy that Canada should consider adopting and enacting.

"If the government want to improve Canada's technology governance, they need to focus on a greater level of procurement of Canadian products and services, and financial support for the R&D and marketing of new innovations and technologies to help Canadian companies, especially SMEs become competitive technology leaders and maintain competitiveness in both domestic and international markets. The government also needs to be open to a higher level of risk when taking on and assessing new innovations and technologies."

— Anonymous, senior management in policy and advocacy research

"While Canada has made progress in supporting technology development, it continues to lag in governing the intangible assets that drive the knowledge economy, such as data, intellectual property and digital infrastructure for global research collaboration. Canada's current frameworks often overlook the critical role of transnational knowledge flows, especially in areas like diaspora politics, foreign influence and digital governance. To strengthen its technology governance, Canada should prioritize the protection and mobilization of IP generated through international academic partnerships, improve regulatory clarity around digital diplomacy and invest in tools that support qualitative research translation. Greater cross-sector and international collaborations, particularly with actors in the Global South, will be essential for ensuring Canada's innovation ecosystem remains relevant, inclusive and globally connected."

— Dawit Y. Kebede, Ph.D. student, BSIA



“Harmonize inter-provincial data access: invest in policy and technical infrastructure to harmonize data residency, sharing and consent rules between provinces. This is a critical business enablement function for our clients in health and finance, where fine-grained authorization is the technical key to solving this legal complexity.

Procurement for scale: overhaul the procurement process to be faster and bolder in granting large, multi-year contracts to domestic scale-ups. A C\$10 million anchor contract from a Canadian ministry is worth hundreds of millions in global validation.

Tax policy for retention: create tax incentives specifically for retaining highly compensated, deep-tech engineering talent to counter the severe pull of US salaries and retain the IP creators in Canada. The central challenge in Canadian technology governance is its risk management philosophy. Canada is excellent at managing research risk (funding academic work) and talent risk (immigration). However, Canada is chronically unable to take commercialization risk and adoption risk in its own backyard.

The final comment is this: if the Government of Canada genuinely wants global champions in its priority sectors (like cybersecurity and AI), it must first be their most demanding, highest-value and most reliable first customer. This one policy shift would be the most effective action to convert Canada’s strong foundation of research into a resilient, globally leading economy.”

— Rakesh Raghupathi, C-suite in ICT

“The federal government should strengthen, not weaken, the regulatory capacity of the federal civil service. This regulatory capacity is especially important as the United States has become an authoritarian country that has repeatedly threatened to annex Canada. This entails strengthening digital expertise in house instead of relying upon external consultants and industry for regulatory knowledge. Another recommendation is to look to other countries with expertise in regulating digital issues, including Australia and Brazil.”

— Natasha Tusikov, Assistant Professor, York University



"Canada's technology governance is outdated and reactive. We're trying to regulate a twenty-first-century digital economy with twentieth-century laws. Right now, we have no unified framework protecting Canadian data, intellectual property or digital infrastructure. Instead, we rely on patchwork directives, like the Treasury Board's automated decision-making rules, that leave massive gaps in accountability and transparency.

We need a Digital Sovereignty Act that clearly defines how data, cloud services, AI systems and IP are governed, stored and owned within Canada. That means ensuring our health, financial and public data cannot be accessed under foreign laws like the US CLOUD Act. Governance should not just be about regulation; it should be about ownership and trust. When over 75% of our cloud and AI infrastructure is foreign-controlled, Canadians lose both. If we want to protect privacy, security and economic independence, we need a governance model that moves from compliance to control where Canada doesn't just use technology, it owns it."

— Ryan Williams, board of directors member in policy development around innovation, trade and open economic systems

"We need our own AI, data centres, not be reliant on American corporations. We need AI policy and research focused on governance of AI to protect our future generations to come. We need to invest in utilizing and upskilling the workforce to use AI to be competitive in the world labour market."

— Anonymous, middle management in higher education



CONCLUSION

The results of the *Balsillie Survey 2025: Securing Canada's Technology Sovereignty* underscore that Canada's current trajectory of technology governance is unsustainable if it wishes to remain a globally competitive economy. Ultimately, securing Canada's path to technology sovereignty requires a fundamental shift from being a nation that invents for the world, to one that builds for itself. By aligning federal procurement with domestic innovation, protecting Canadian IP and integrating public trust as an essential currency of economic advancement, Canada can move past its outdated and uncoordinated classifications of rapidly growing and increasingly important technology industries. The transition from a fragmented maze of subsidies to a unified strategy will ensure that Canadian-made creations stay owned and operated by Canadian entities, effectively securing Canada's economic future in an increasingly uncertain world.

RECOMMENDATIONS

Based on the survey and literature review conducted by the BSIA's research team, the following recommendations should be considered by Canadian policymakers:

Establish a centralized national innovation agency¹⁶

Canada should create a central innovation agency or crown corporation tasked with focusing, tracking and driving a unified national research and technology strategy. Survey participants noted that current support is often disjointed, making it difficult for industry start-ups to seamlessly navigate intergovernmental coordination. A centralized organization would help resolve intergovernmental friction, moving away from government fragmentation.

Diversify international economic partnerships¹⁷

To strengthen national resilience and global relevance, many respondents want to see Canada pursue stable and cooperative economic partnerships internationally as part of a broader effort to diversify trading partners. Stakeholders offered contrasting views on this, with some recommending prioritizing strategic alliances within "Fortress North America," other democratic allies such as Japan or South Korea as well as open-minded partnerships with economic winners in the Global South such as India, Brazil and China.

Overhaul domestic procurement¹⁸

The federal government should streamline and prioritize the domestic procurement of Canadian-made goods and technologies to act as a crucial anchor customer for the economy. First-customer risk was noted as a significant barrier to the nation's economic growth, which could be mitigated through an anchor contract from a Canadian ministry. Procurement should be viewed as a primary policy lever to move research into the market, granting faster, bolder and more flexible contracts to domestic scale-ups rather than defaulting to foreign competition.



Enact a Digital Sovereignty Act for IP protection¹⁹

Canada lacks a clear comprehensive framework defining how data, AI systems and IP are governed and stored within its borders. Currently, the majority of Canadian venture capital comes from American sources, often leading to a brain drain of commercial successes and IP. One response suggested the creation of a C\$100 billion sovereign innovation fund to provide stakeholders with a Canadian alternative to more competitive foreign buyers. This would help ensure that public R&D dollars are spent building companies that stay owned and operated in Canada, moving away from the current model of apathetic compliance.

Promote fairer and more competitive markets²⁰

Canada should foster greater entrepreneurial innovation by promoting fairer, less concentrated markets through the modernization of competition policy. Stakeholders suggested that the Competition Act should explicitly include innovation and data markets, with lower thresholds for identifying market dominance to prevent detrimental acquisitions of Canadian start-ups. By removing barriers in digital markets and encouraging open protocols, Canada can deter unaccountable monopolies and empower consumers to create a more competitive economy.

Formalize civil society involvement in governance²¹

Canada needs more involvement from actors in alternative groups such as civil society as their participation is essential for the oversight of emerging technologies, especially AI. The government should therefore move beyond top-down mandates and create room to include civil society and citizen assemblies in the oversight of technologies such as AI and biotech, ensuring that technology serves human needs while remaining rights-informed.



END NOTES

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- ⁵ Export Development Canada, “EDC’s 2024 Cleantech Report,” Export Development Canada, 2024, <https://www.edc.ca/en/about-us/news/edc-cleantech-report-2024.html>.
- ⁶ Jared Lindzon, “Canada is falling behind on cleantech as capital and companies flee south,” Betakit, June 30, 2023, <https://betakit.com/canada-is-falling-behind-on-cleantech-as-capital-and-companies-flee-south>.
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- ⁸ Precedence Research, “Hydrogen Fuel Cells Market,” last updated January 15, 2025, <https://www.precedenceresearch.com/hydrogen-fuel-cells-market>.
- ⁹ Optiom, “The Future of Hydrogen Fuel Cell Vehicles in Canada: A Sustainable Alternative to EVs,” January 13, 2025, <https://www.optiom.com/the-future-of-hydrogen-fuel-cell-vehicles-in-canada-a-sustainable-alternative-to-evs>.
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