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Summary of the Fonds de recherche du Québec Forum on Dual-Use Research

Tuesday, February 10, 2026, in Québec City

Québec's Chief Scientist, Rémi Quirion, and the Vice-President of Research and Scientific Director of the Nature and Technologies Sector at the Fonds de recherche du Québec (FRQ), Janice Bailey, invited key defense stakeholders in Québec and Canada, as well as stakeholders from Québec's research ecosystem, to engage in a proactive discussion on the challenges and opportunities associated with dual-use research (civil and defense) as major investments in defense are anticipated. This first dialogue allowed the 127 participants[1] to discover new areas of expertise and forge new connections.

The FRQ's mission is to support and promote excellence in research and the training of the next generation of researchers. It aims to increase Québec's research and innovation potential by promoting programs that think outside the box, break down barriers, and address the four societal challenges identified by the FRQ following a consultation: sustainable development—including the impacts of climate change and digital transformation—demographic shifts and population aging, entrepreneurship and creativity, and science and society. The FRQ has thus developed various initiatives based on a cross-sectoral approach as a powerful lever for finding innovative solutions, or on intensifying interactions between science and society. Among these is participatory research, which integrates citizens into the research process. These initiatives help strengthen the social acceptability of research conducted in Québec.

A need to strengthen Québec's scientific and economic sovereignty and security. In an international environment marked by geopolitical instability, research is becoming a strategic bargaining chip, and Québec must continue to leverage its scientific excellence to maximize both its civilian and military benefits, particularly in strategic fields such as energy, aerospace, artificial intelligence, critical minerals, security, maritime affairs, and the North. Dual-use research, already active in Québec, has the potential to develop the entire value chain—from basic research to commercialization, from our resources to applications—thereby strengthening our sovereignty and security.

Supporting excellence in basic research, in addition to short-term applied research, is essential to sovereignty and security. The collection of evidence, the advancement of knowledge, Québec's world-class talent, and commercialization are crucial to sustainable innovation. Research and innovation are now economic drivers for territorial, technological, and economic sovereignty, and a bargaining chip with our international partners.

No sustainable innovation can emerge in isolation. Dual-use research relies on several elements: support for basic research, training the next generation of researchers, establishing strong and lasting partnerships, integrating communities and civil society, and ethical and

[1] See the box on page 3.

collaborative governance. It requires the development of an integrated, interdisciplinary, cross-sectoral, and collaborative research ecosystem involving all stakeholders, built on public-private partnerships and the next generation of researchers.

Sustainable funding for the FRQ's existing research networks to further mobilize and integrate existing strengths. Québec already possesses globally recognized expertise in research and innovation to address defense and security challenges. As the only organization dedicated to funding basic research in Québec, the FRQ plays a central role in structuring sustainable interdisciplinary, intersectoral, and inter-level collaborations within research consortia, with significant leverage. The FRQ is also a key player in supporting the training of the next generation of researchers in certain strategic areas of dual-use research.

A new generation trained within this integrated ecosystem. Training the next generation of researchers, professional and technical staff, and innovators is essential to accelerating knowledge transfer and strengthening Québec's capacity to develop sustainable solutions that address society's priority needs. By fully integrating into an interdisciplinary, cross-sectoral, and collaborative research ecosystem, this next generation will help support innovation in a context marked by growing ethical and strategic challenges.

A dialogue for the social acceptability of dual-use research. Dual-use research raises legitimate questions within the research community and more broadly in society. The social acceptability of dual-use technologies is a driver for promoting economic development, sovereignty, and the priority needs of Québec. Trust, which develops over the years, and proven partnership processes are at the heart of collaborations among the various stakeholders.

Mutually beneficial research. Defense investments must benefit society. The internet and GPS are examples of civilian applications of research initiated by the defense sector. Ethical reflection and dialogue between the research and innovation community and society are essential. For example, security and defense developments in the North must enable First Nations and Inuit to address their self-determined priority needs. Thus, investments in dual-use research must be long-term, beginning with mutually beneficial research co-developed with the First Nations and Inuit present in this territory.

Outlook. This forum marks the beginning of an ongoing dialogue aimed at better integrating the various stakeholders—from basic research to commercialization, communities, citizens, industries, and diverse expertise—to steer research toward mutually beneficial outcomes and ensure the social acceptability of dual-use technologies. Formalizing collaborative practices, particularly through shared platforms, would help accelerate basic research leading to mutually beneficial dual-use technologies (civilian and military). Such platforms would serve as secure spaces conducive to the emergence of innovations aligned with Québec's strategic priorities. Participants expressed a desire to continue these discussions at future thematic events, and the FRQ to launch a call for ideas to further identify research opportunities to pursue.

Appendix: Detailed Summary of the Forum

Introduction

Québec's Chief Scientist, Rémi Quirion, and the Fonds de recherche du Québec (FRQ) invited key players in the defense sector in Québec and Canada, as well as stakeholders from Québec's research ecosystem, to discuss dual-use research (civil and defense). The event brought together 127 people from diverse backgrounds and fields of expertise.

Area	Number of people
University, *including representatives from FRQ research groups (CEISCE, CEN, CIRRELT, ReSMIQ, CHU Sainte-Justine, RQM)*	45
Québec government ministries (*MEIE, MES, MRIF, MRNF)*	21
Québec organizations *(FRQ, Conseil de l'Innovation, Investissement Québec, Société du Plan Nord, Génome Québec)*	22
Canadian Government Departments and Agencies *(National Defence, Public Safety Canada, Office of the Chief Science Advisor of Canada, Economic Development Canada, Innovation, Science and Economic Development Canada, NSERC, Mitacs)*	11
Diplomacy	5
Collegial	2
Next generation of students	4
Québec Industrial Research Center *(CRITM, CRIAQ, Optonique, Prima Québec)*	4
Canada Research Centre *(NRC, Defence Research and Development Canada)*	2
First Nations and Inuit	2
Innovation	1
Health Network	1

Through this proactive approach, the FRQ aims to provide an opportunity to better understand research opportunities, network, foster collaboration, and ensure that Québec teams take full advantage of opportunities as major federal announcements are expected, as well as on the international stage.

Innovation relies on excellence in basic research and the training of the next generation of researchers. The strategic clusters supported by the FRQ are already conducting several projects related to defense and dual-use applications, which are still relatively unknown.

The FRQ is banking on collaboration to boost Québec's competitiveness on the international stage, from basic research to commercialization, with the support of the innovation trio (Innovation Council, Investissement Québec, Office of the Chief Scientist). Through this forum, the FRQ is calling for ideas to identify research and innovation priorities that could then be funded by provincial and federal governments.

Interview 1 – Geopolitical Context in Canada and Québec: Highlighting Dual-Use Research

Global conflicts are on the rise; they are complex and draw on knowledge from numerous disciplines: technology, economics, psychology, the environment, communication, and health. An innovation can have a civilian purpose while simultaneously serving military strategies—what is known as dual-use research. Research conducted in the Canadian Arctic is an example of this: certain international research projects, although carried out under legitimate themes of climate change study, can also serve strategic and military objectives. Science thus becomes a geopolitical tool.

Research is fragmented, and the industrial, military, and academic sectors remain siloed. It is essential to establish an integrated research ecosystem, spanning from basic research to commercialization, supporting multidisciplinary approaches to common issues, secure data-sharing spaces, joint evaluation committees, the training of the next generation with hybrid profiles to bridge the language gaps between different sectors, and a capacity for foresight. Dual-use research also requires an institutional ethical framework that upholds democratic values and collective security. The NATO Defense, Security, and Resilience Bank, designed to structure a transatlantic ecosystem based on ethical principles, presents an opportunity to position Montreal as a strategic hub.

Panel 1 – A Favorable Context for the Research Ecosystem

The current geopolitical context, while complex, is creating favorable momentum for strengthening Québec's dual-use research ecosystem. Since the defense market is highly niche, civilian applications are essential to the economic viability of companies and to technological sovereignty. The federal government is rolling out several programs to support companies in these new markets. Integrating research, industry, and Indigenous knowledge is vital to developing relevant solutions and ensuring Québec's sovereignty. Reliable data is crucial. Basic research and the training of the next generation of researchers, as well as professional and technical staff—particularly in strategic fields such as energy, aerospace, artificial intelligence, critical minerals, security, and the North—are indispensable for sustaining sustainable and competitive innovation: research is becoming a currency of exchange with our international partners.

Recent crises, such as the pandemic, have demonstrated Québec's ability to work across sectors, adapt its research networks, and mobilize quickly to address major challenges. Given the current geopolitical instability, it is therefore necessary to further break down barriers in research by strengthening ties between academic, government, and industrial sectors, as well as with First Nations and Inuit communities, in order to ensure the sustainable mobilization of the entire value chain and maximize economic, social, and strategic benefits for Québec. The goal is to develop an integrated, interdisciplinary, cross-sectoral, and collaborative research ecosystem for the co-creation and development of knowledge.

Panel 2 – The FRQ: A Catalyst for Partnerships in Impact-Driven Research

Basic research is a driver of innovation and is essential for the development, transfer, and commercialization of dual-use technologies (civil and military). Québec already possesses

globally recognized expertise in research and innovation to address defense and security challenges. As the only organization dedicated to funding basic research in Québec, the FRQ plays a central role in structuring sustainable interdisciplinary, intersectoral, and inter-level collaborations within research consortia, with significant leverage. Better alignment of requirements related to the research framework (ethics, intellectual property) would facilitate multiple collaborations. Furthermore, it is suggested that basic research funding be paired with every research grant awarded to companies to ensure sustainable innovation capacity and attract a greater number of researchers.

The FRQ is also a key player in supporting the training of the next generation of researchers in certain strategic areas of dual-use research.

Dual-use research, however, raises legitimate concerns regarding the offensive aspects of certain technologies, particularly among international early-career researchers or the SSHAL research community, which is less exposed to this type of research. It is therefore important to maintain an open dialogue that respects academic freedom and the diversity of viewpoints, to ensure the acceptability of dual-use technologies within the research community and society. Indeed, the social acceptability of dual-use technologies is a key driver for promoting economic development, sovereignty, and the priority needs of Québec.

Words from Chief Innovator Luc Sirois

The Québec research community is distinguished by a strong ethical foundation and a deep commitment to academic freedom—essential pillars for addressing the challenges of dual-use research, which has the potential to play a key role in Québec's economic development.

In the "innovation trio," Luc Sirois highlights the importance of the first pillar—fundamental research—a strength in Québec that must stand out through the quality and impact of its work. Regarding the second pillar, innovation, Québec is gradually losing its lead despite undeniable innovative potential, particularly because private investment in R&D is not keeping pace with other nations. The third pillar, commercialization, aims to transform research results into tangible benefits for industry and society. In the context of dual-use research, this stage is more crucial than ever. Several mechanisms already exist—the RSRI, Axelys, and the CCTTs—but we must now strengthen the ties between these actors and streamline their collaborations.

In summary, research has become a true strategic asset, and Québec must continue to leverage its scientific excellence to maximize its benefits.

Interview 2 – Strengthening the capacity of political and health authorities to prevent and manage major crises through science and innovation

After a crisis, the expertise developed tends to be lost, and lessons learned are not sufficiently applied. To better prevent crises, we must take full advantage of periods of calm: working across sectors, having time, and relying on a solid and sustainable network. The PRÉCRISA network, funded over eight years, is a good example. It offers a neutral space, a meeting place for the public sector, the research community, and citizens, with the latter integrated into the governance structure.

The network's structured dialogue space has proven effective in mobilizing quickly in response to emerging threats: mapping expertise, identifying blind spots, and coordinating efforts. This has fostered connections and established rapid-response processes. The network has developed and made available a citizen partnership charter. Such discussion forums could address society's perception of dual-use research, given that this research is intangible for many.

Panel 3 – Inspiring Partnerships for Research Projects Rooted in Their Environment

Deploying innovative partnerships requires bringing together the entire ecosystem—the research community, government research organizations, various levels of government, large corporations, and small and medium-sized enterprises (SMEs), as well as society—to fill the missing links in the innovation chain. The most significant challenges remain technology transfer, building trust, securing sustainable funding, and the ability to test and then deploy solutions at scale, particularly for SMEs.

Dual-use research requires strengthening existing expertise within the innovation cycle. It is important to better communicate needs and to build on existing structures—notably the FRQ's basic research clusters, CCTTs, and RSRIs—whose collaborative practices are already well-established, rather than creating new ones. It is also important to ensure stable and sustainable funding for these structures to foster a long-term climate of trust. These structures will help accelerate the adoption of dual-use technologies by fostering dialogue among researchers from different fields, as well as between basic and applied research and commercialization. This increased understanding of the realities and constraints of each link in the innovation chain will enable the creation of strategic partnerships and the emergence of research that is truly promising for Québec. Moreover, the Valcartier Research Centre, one of the main research centres of Defence Research and Development Canada (DRDC), represents a strategic opportunity that the Québec research community would do well to capitalize on in the coming years. Public-private research partnerships and collaborations with government research centers offer opportunities to provide new experiential learning environments for graduate students across all fields, including the ethical and legal aspects of dual-use research.

Panel 4 – Challenges and Opportunities for Dual-Use Research in the North

Research in the northern context is more necessary than ever, both to understand the profound changes taking place in the North and to ensure Canada's security and sovereignty. Strategic themes for dual-use research in the North (energy, climate change, and the development of technologies adapted to the northern context) must contend with certain logistical challenges (e.g., travel, extreme environmental conditions, lack of suitable infrastructure, access to data) and the lifecycle of infrastructure (civil and military) in the North. Furthermore, these strategic themes are not always aligned with the priorities of First Nations and Inuit living in the northern territory, such as health, well-being, and food security. Thus, dual-use research must be long-term and viewed as mutually beneficial, co-developed with the First Nations and Inuit in these territories, and yield tangible benefits for them in their priority areas. This essential co-development—beginning in the earliest stages of project ideation—takes time. The expertise developed through the Canada-Inuit Nunangat-United Kingdom Arctic Research Program (CINUK)

can be applied to dual-use research. Short videos are also available online to train emerging researchers and researchers in working with First Nations and Inuit.

Closing Remarks

In conclusion, the forum on dual-use research highlights a shared conviction: no innovation, no sustainable progress can emerge in isolation. Dual-use research—or, more broadly, mutually beneficial research—can only flourish if deep connections between disciplines, sectors, stakeholders, and communities are collectively forged. This also requires the development of public-private partnerships and the training of the next generation of researchers.

Supporting basic research, offering interdisciplinary training, providing sustainable funding for existing research infrastructure and networks, building trust, and fostering truly strategic partnerships: these are the levers that will enable Québec's ecosystem to achieve a sustainable capacity for innovation.

This forum marks the beginning of an ongoing dialogue aimed at better integrating communities, citizens, industries, and diverse expertise to steer research toward mutually beneficial outcomes and ensure the social acceptability of dual-use technologies. It is therefore necessary to strengthen our collective capacity to work together and to foster intersectoral, interdisciplinary, and inter-level collaboration by building on existing structures and expertise. In this way, Québec will not only be able to seize the opportunities presented by dual-use research and showcase them, but above all, develop solutions that strengthen its sovereignty, resilience, and impact.

This forum was a first step. Participants expressed a desire to continue this discussion and networking at other targeted events and to draw on ideas to further identify research opportunities to be seized.