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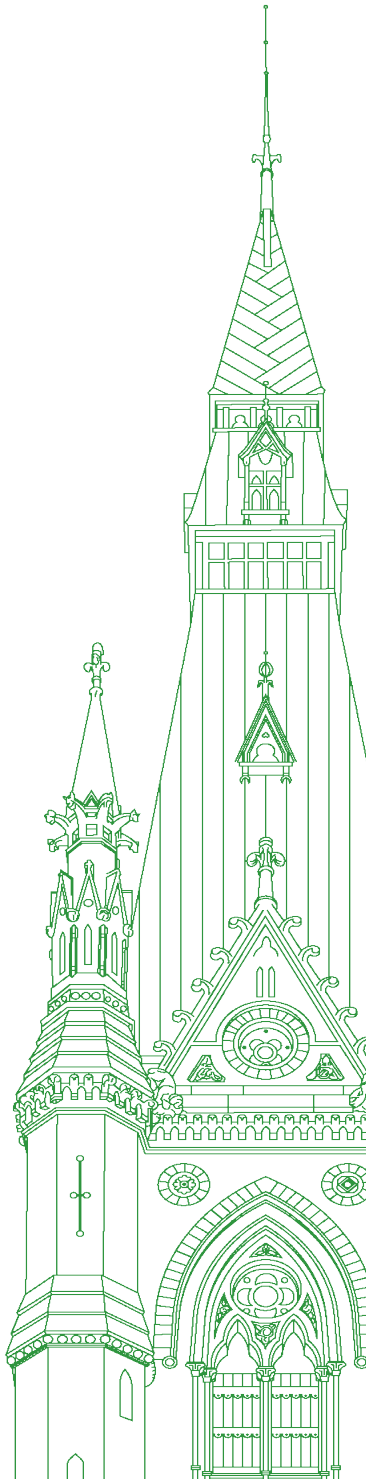

Chair: Salma Zahid

Standing Committee on Science and Research

Wednesday, November 19, 2025

● (1630)

[*English*]

The Chair (Salma Zahid (Scarborough Centre—Don Valley East, Lib.)): I call this meeting to order.

Good afternoon, everybody. Welcome to meeting number 16 of the Standing Committee on Science and Research. The committee is meeting to study private sector investment in research and development in Canada.

I would like to make a few comments for the benefit of the witnesses and the members.

Please wait until I recognize you by name before speaking. For those participating by video conference, click on the microphone icon to activate your mic and please mute yourself when you are not speaking. For those on Zoom, at the bottom of your screen you can select the appropriate channel for interpretation: floor, English or French.

I remind you that all comments should be addressed through the chair.

For this panel, I would like to welcome our four witnesses.

Thank you all for appearing before the committee.

Today we are joined by the Canadian Chamber of Commerce, represented by Liam MacDonald, director, policy and government relations.

We are also joined by the Canadian Vehicle Manufacturers' Association, represented by Brian Kingston, president and chief executive officer.

Also with us is RXN Reaction Hub, represented by Dr. Morgan Lehtinen, executive director.

We are also joined, via video conference, by the Vector Institute's Cameron Schuler, chief commercialization officer and vice-president, industry and innovation, and Roxana Sultan, chief data officer and vice-president, health.

I have just one comment. I think all the members were informed by email that Roxana Sultan has requested that she appear with her camera off and with audio only, and I have granted that request, so Ms. Sultan will appear before the committee with her audio only.

[*Translation*]

Maxime Blanchette-Joncas (Rimouski—La Matapédia, BQ): I have a point of order, Madam Chair.

[*English*]

The Chair: Please go ahead, Mr. Blanchette-Joncas.

[*Translation*]

Maxime Blanchette-Joncas: Madam Chair, I would like to know if you sent an email to consult us about the authorization you granted to the person who wants to testify before us anonymously.

[*English*]

The Chair: Yes, the email was sent out.

[*Translation*]

Maxime Blanchette-Joncas: Did you consult committee members before giving your approval?

That's my question, Madam Chair.

[*English*]

The Chair: The email was sent out just to inform. I did not receive any objections to it.

[*Translation*]

Maxime Blanchette-Joncas: Madam Chair, here is my question. Did you consult us—the members of the committee—before approving the attendance of an unidentified person at a committee meeting?

[*English*]

The Chair: Yes, that's what I'm telling you. An email was sent out to all the members and no objections were received, so I granted that.

[*Translation*]

Maxime Blanchette-Joncas: Madam Chair, here is my question. Did you ask our opinion before approving this decision?

● (1635)

[*English*]

The Chair: That's what I'm repeating: An email was sent out to all the members with the information that she will be appearing only with audio. No objections were received and no emails were received in response to my email, and that's why I granted the permission.

[*Translation*]

Maxime Blanchette-Joncas: I'm sorry, Madam Chair. I think there's been a misunderstanding. It may be due to the interpretation.

My question is the following. Did you approve the witness's request to attend the meeting anonymously before obtaining the approval of committee members?

[*English*]

The Chair: I will re-emphasize that she is not appearing anonymously. Her name will appear. It's only that she will keep her camera off. She is not appearing anonymously. The email was sent out. If there were any objections, the members should have written to me.

[*Translation*]

Maxime Blanchette-Joncas: Madam Chair, I would just like to know why you didn't ask for our permission or why you didn't consult committee members before making this decision.

[*English*]

The Chair: Usually the information is sent out that a person has requested to appear by audio only. This information is sent out to the members, and if any members have a problem, then they should respond and request an opportunity to consult or talk.

In future, if there is something like that, please respond by email or call me to let me know that there is an issue with this, and then we will take due consideration of your concerns. Okay?

[*Translation*]

Maxime Blanchette-Joncas: I don't quite understand, Madam Chair. You make a decision and then you present us with a fait accompli. You're telling us that, in the future, we'll have to respond to you if we're uncomfortable or if we disagree with your decision after you've made it.

I don't think that's a good way to work together as a committee. It also affects the committee's credibility. You make decisions that involve us without even consulting us, without even asking for our agreement. I don't think that's how to approach teamwork, Madam Chair.

I would therefore ask you, in the future, to be transparent, considerate and respectful of your colleagues. You should ask for our opinion before making decisions that affect us and before approving this kind of request.

[*English*]

The Chair: I believe in transparency, and I always work in collaboration with all the members on this committee. That's why we sent out the email to give information to everybody, which she had requested, that no one objected to it.

MP Noormohamed, go ahead.

Taleeb Noormohamed (Vancouver Granville, Lib.): Madam Chair, for the benefit of everyone here—correct me if I'm wrong—this is a decision that is taken by the chair, but you had informed everyone prior and given everyone opportunity to object if they had a problem. Is that correct process-wise, just so that we're all on the same page?

The Chair: Yes. That's correct.

Taleeb Noormohamed: Okay, so I'd love to understand, if possible, what the objection is here.

The Chair: MP Blanchette-Joncas, go ahead.

[*Translation*]

Maxime Blanchette-Joncas: Madam Chair, I believe my colleague is trying to provide me with an explanation, but for me, this is not an objection, it is a matter of principle and transparency.

In terms of transparency, normally, when decisions are made that involve other people, those people are consulted because it could have an impact on them—including me, in this instance.

The issue I am raising is not that this person wants to attend a meeting in this way, but that we were informed after the decision was made.

I am not trying to ambush you right now. I want to understand how things work and try to bring some healthy credibility to the committee, because you decided to approve this request and then ask us if we disagreed. I can't see myself expressing any disagreement that would then lead us to inform the person that they can no longer attend the committee meeting, when you've already approved their request.

I think the way to do things transparently and consistently is to ask people if they approve of a decision before announcing it. If we go back on this decision, it will undermine the credibility of the committee. We also need to consider how this person will perceive the situation. This is what I am requesting going forward, unless you tell me that there is a rule or a way of working that says we do not need to be informed or consulted.

So I have a few questions for you, Madam Chair: if we had expressed disagreement, how would we have proceeded? Would we have acted according to the outcome of the vote? If one person had expressed disagreement, would it still work or not? Would the unanimous consent of committee members be required? Would a vote be required?

Madam Chair, this is the first time I've been in this kind of situation, and I'd like to understand how it has to be managed.

● (1640)

[*English*]

The Chair: Thank you, MP Blanchette-Joncas.

Before I made any decision, as the chair, an email was sent out to all the members of this committee. If anyone had an objection, they should have informed us. As chair, it is my duty to call the meetings. It is within my power to have the agenda set. However, information was sent, as it was requested by one of the witnesses, to all the members. Before making a decision, I sent out the information to everyone.

If, in future, there is any objection to anything, you should respond to me by email or, please, call me.

Yes, go ahead.

[*Translation*]

Maxime Blanchette-Joncas: Madam Chair, perhaps I fail to understand the mechanism, and maybe I'm the only one.

Granted, you did send an email, but you stated in that message that you had already approved the request. That's what I'm struggling to understand. How can you ask a person if they agree when the decision has already been made? That's what I'm trying to understand going forward.

[*English*]

The Chair: I will talk to you separately. We have witnesses present here, and I think we should start the meeting.

We will have this discussion. For future purposes, we will look into this. Is that okay?

[*Translation*]

Maxime Blanchette-Joncas: Madam Chair, I believe it is important for all my colleagues in attendance to fully understand the rules so that everyone is aware of this way of doing things. It's important that you clarify the procedure to follow going forward.

Is this standard practice for the committee? Could you clarify the situation? Can the clerk help shed some light on the procedures? Is there a rule or procedure of which I'm unaware, but that I would like to delve into to fully understand how the committee works? Based on my experience as a member of this committee for the past four years, I must say this is the first time I've encountered such a situation. At this point, I find the situation quite uncomfortable. We have always acted with a great deal of transparency and respect. What I am seeing today is that the way things are done is changing, and I do not believe that this is the right way to achieve respectful and healthy collaboration. We need to ensure that we, as a committee, can truly be comfortable with the way we work.

Today, I have to tell you that the way you want to curtail this debate makes me somewhat uncomfortable. I'm simply trying to ask questions about the procedure. On two or three occasions, I asked you to confirm that you had made the decision before informing us. You don't seem to want to answer. I'm not looking for a confrontation between us, but the evidence is right in front of me. So, it's not just a matter of trying to buy time, but of saying that we need to set the record straight to prevent this kind of situation from happening again. Despite my attempts, I see that you don't want to answer so that all the members of the committee have the same information. That is also what equality means: everyone must be informed of the situation so that we all have the same information. Today, I wonder if my colleagues would like to receive the same information by email, or if they would like to take a little time out of the committee's meeting. Once again, I'd like to thank the witnesses who've joined us today for their understanding.

That said, we don't have an agenda for today's committee meeting. So it would be impossible to have that kind of discussion.

Do you think it would be possible to clarify the situation today?

[*English*]

The Chair: In future, we'll make sure that you are consulted and that everyone is consulted, but in my capacity as chair, I have the power to make some decisions.

MP Mahal, please go ahead.

Jagsharan Singh Mahal (Edmonton Southeast, CPC): Madam Chair, if you start a new precedent of consulting each member, I think it will take additional time away from the committee. We might not be able to do what the committee was designed to do in terms of its rightful purpose. The moment you send a notice, I believe it's on the members to raise objections if they have them.

I understand the concerns of my colleague, and I share them in part, but this is not the right platform to discuss those concerns.

The Chair: Yes. If any member wants to discuss anything in regard to the process by which the meetings are held, they should please feel free to get in touch with me by email or telephone.

I will make sure that in future I inform everyone in advance.

MP Rana, please go ahead.

● (1645)

Aslam Rana (Hamilton Centre, Lib.): Thank you, Madam Chair.

I think you did your due diligence. If someone doesn't like something, or they have some objections, they can respond to the email. If they don't respond, it means they're okay with it and we're on the same page.

I think we should move forward, please.

The Chair: Thank you.

I think we have heard the concerns, and I apologize.

MP Baldinelli, please go ahead.

Tony Baldinelli (Niagara Falls—Niagara-on-the-Lake, CPC): This is just a quick process question, Madam Chair. I'm hoping that we will have a full hour with these four witnesses who have been waiting patiently and that we can get to them—

The Chair: First let me start. After that, we'll see what the resource situation is.

I really want to apologize to the witnesses for the delay. Sometimes this happens in the committee. Welcome to all of you.

We will now proceed to five-minute opening remarks from the witnesses.

We will start with Mr. MacDonald from the Canadian Chamber of Commerce.

Please go ahead. You have five minutes.

[*Translation*]

Liam MacDonald (Director, Policy and Government Relations, Canadian Chamber of Commerce): Thank you for the opportunity to appear before you today on behalf of more than 400 chambers of commerce and boards of trade, and over 200,000 businesses of all sizes, sectors, and regions across Canada.

Research and development is foundational to modern economies. Strong R and D ecosystems drive innovation, enable new technologies, improve existing ones, enhance productivity, and strengthen competitiveness across entire value chains. The benefits extend far beyond individual firms. Indeed, R and D generates knowledge spillovers, fuels long-term growth and supports the creation of high-quality jobs.

Yet Canada's economy is at a crossroads. Global competitors—particularly the United States—are rapidly expanding incentives to spur business investment. At the same time, geopolitical uncertainty, supply chain pressures, and shifting global markets are reshaping the environment in which Canadian companies operate. Innovation leadership is increasingly tied not only to economic performance, but to national resilience and sovereignty.

[*English*]

However, Canada continues to lag behind its international peers in R and D spending. In 2023, Canada spent about 1.8% of its GDP on R and D, which is second-last in the G7 and below nearly two-thirds of OECD countries. We spend an average of 2.7% of GDP on R and D. Persistent underinvestment constrains productivity, innovation and long-term growth—challenges that are already reflected in growth forecasts of about 1% in the years ahead.

This competitiveness challenge is sharpened by recent U.S. policy developments. The U.S. has repeatedly moved with speed and scale, most recently through the One Big Beautiful Bill Act, which extended full expensing for machinery, equipment and R and D.

Canada's slow response to past U.S. reforms contributed to a prolonged stagnation in non-residential business investment, which remains below 2014 levels. To avoid falling further behind, bold, coordinated federal action is needed to strengthen tax competitiveness, drive private sector R and D, accelerate technology adoption and position Canada for long-term resilience.

Budget 2025 includes several positive measures, such as early changes to the scientific research and experimental design incentive, or SR and ED, funding for talent attraction, sovereign public AI compute infrastructure and enhanced venture and growth capital. While these are welcome steps, the competitiveness gap facing Canadian businesses remain substantial, especially relative to U.S. innovation incentives.

To close this gap, the Canadian Chamber recommends action in three priority areas.

First is strengthening Canada's tax competitiveness. We recommend offering a productivity and investment tax credit modelled on Ontario's enhanced 15% credit and the Atlantic investment tax credit to support new buildings, machinery, equipment and software. We also recommend permanently extending the accelerated investment incentive to allow full and immediate expensing of machinery and equipment. Permanence would give businesses long-term certainty to anchor production, innovation and R and D in Canada.

Second is modernizing Canada's R and D commercialization and intellectual property incentives. To do this, we recommend accelerating long overdue SR and ED reforms, implementing a pre-approval process, expanding eligibility to commercialization and digital innovation, and indexing expenditure limits to inflation. We also recommend implementing a national patent box regime that provides a preferential tax rate on income derived from IP developed and commercialized in Canada—a proven tool in jurisdictions such as the U.K., Belgium and France.

Third is building the workforce that Canada needs to support R and D growth and technology adoption. To do this, we recommend conducting a national needs assessment to align training with labour market demand and ensuring fast, predictable foreign credential recognition for in-demand occupations.

We thank the committee for undertaking this timely and important study. Strengthening private sector R and D is essential to our long-term competitiveness and growth.

I look forward to your questions and to continuing the discussion.

● (1650)

The Chair: Thank you, Mr. MacDonald.

Now we will proceed to Mr. Kingston from the Canadian Vehicle Manufacturers' Association.

Please go ahead. You have five minutes.

Brian Kingston (President and Chief Executive Officer, Canadian Vehicle Manufacturers' Association): Thank you, Madam Chair.

Committee members, thanks for the invitation to appear here today.

The Canadian Vehicle Manufacturers' Association, or CVMA, represents Canada's leading manufacturers of light- and heavy-duty motor vehicles. Our membership includes Ford, General Motors and Stellantis. Those companies have been operating in Canada for over 100 years and they're responsible for most of the auto production in Canada, having built over 100 million vehicles since 1945—the earliest records that we have. They're also the largest employers in the auto manufacturing sector, supporting 20,000 jobs, the majority of which are unionized.

Automakers are among Canada's largest private sector investors in research and development. In-house research spending by automakers in Canada topped $898 million in 2024, according to Statistics Canada, and that's up from $830 million in 2023 and is quadruple the $210 million spent a decade earlier.

CVMA members are constantly innovating with investments in electrification, autonomous driving and connectivity. Ford, GM and Stellantis have recently made investments in Canada, specifically for R and D, over the past decade. I'll give you three examples of some of the activity under way right now.

Ford operates three connectivity and innovation centres—one in Ottawa, one in Waterloo and one in Oakville. These have grown to 500 positions since 2017. It's all part of a $500-million investment by Ford into Canadian R and D operations.

In 2021, GM announced the opening of the Canadian Technical Centre McLaughlin Advanced Technology Track in Oshawa, which supports engineering, development and testing of advanced software and technologies. That institute employs more than 1,300 engineers and software developers across four locations in Ontario.

In Windsor in 1996, Stellantis opened the Automotive Research and Development Centre, or ARDC. That was a $30-million investment and the first partnership of its kind with a Canadian university linking the auto sector to academia. The total research spend there now is over $1 billion. There are six road-test simulators, proprietary software development and a range of R and D support facilities.

More recently, as part of Stellantis' multi-billion dollar investments in Canada, the ARDC is becoming the first battery lab in North America. That will add an additional 650 skilled engineering jobs to support electrification.

We welcomed budget 2025 and the SR and ED program enhancement that was included there. Increasing the expenditure limit to $6 million will make a tangible difference for companies that are considering R and D investments in Canada.

However, I'd like to leave the committee with a recommendation here today. There is an important component of auto R and D that is at risk right now, and it's due to CBSA changes to temporary vehicle import letter processes. The temporary import letter provides a mechanism for automakers to bring vehicles into Canada for testing and then return them to the United States. There is uncertainty right now around that program. Any delays, administrative burdens and new costs that are added to importing these vehicles for testing will put at risk Canada's role as a location of choice to do R and D in the automotive sector.

We've had months of engagement with CBSA, and no options have been presented to manufacturers for review and input. The current process is set to expire at the end of December, and at this point, there's simply not enough time for manufacturers to introduce a new process, so we're asking for an extension to the way that vehicles are currently imported into Canada. We have to make sure that the administrative burden is minimized and that there is an adequate transition time for any sort of new process that the CBSA introduces.

With that, I thank you for the opportunity to be here and I look forward to your questions.

● (1655)

The Chair: Thank you.

That was less than five minutes.

We will now proceed to Dr. Morgan Lehtinen, representing RXN Reaction Hub.

Please go ahead. You have five minutes for your opening remarks.

Morgan Lehtinen (Executive Director, RXN Reaction Hub): Madam Chair and committee members, thank you for the invitation to speak on this important topic.

Before we discuss how to promote more private sector investment into university research, I'd like to pause and rethink the question itself, because invention is not innovation. What leaves a university lab is an invention, an idea unconstrained by real-world requirements. Universities excel at generating these breakthrough discoveries. Canada is globally recognized for this strength. However, the private sector invests in innovation—technologies that have been validated, de-risked and ready to scale.

In the sectors I represent as the executive director of Reaction Hub—a scale-up and commercialization hub for chemical technologies and processes that span natural resources, energy, critical minerals and advanced materials—those real-world constraints are substantial. These are energy, safety, labour, environmental impacts, economics and physical scale. Universities are not designed to apply these constraints, and nor should they be expected to function as industrial innovation agencies.

This is the gap where so many Canadian technologies stall. The question is not how we grow private sector investment into emerging innovations from Canadian universities. The question is how we better prepare university inventions to become private sector investable innovations. There's no shortage of researchers eager to commercialize their work. Such national programs as i2I, or invention to Innovation, and Lab2Market are building the crucial talent pools, transferable skills and awareness, but interest in education alone is not enough. To advance innovation and enable the scale-up of Canadian technologies in Canada, I have three recommendations.

The first recommendation is to establish a standardized national framework for technology validation. Canada lacks a consistent, evidence-based way to assess the commercial feasibility of early-stage technologies. Without a shared framework, researchers, investors, industry and regulators often operate without clear communication, specifically around risk mitigation and potential incentives. That disconnect is a major contributor to what we all talk about as the valley of death.

Canada already has an international standard, ISO 14076, the environmental techno-economic assessment, or eTEA. Reaction Hub was one of two Canadian contributors on the ISO standards committee. These eTEAs translate scientific inventions into metrics that matter for economic and industrial decision-making. To accelerate the adoption, federal programs like IRAP, NSERC, ISED and NRCan can fund qualified providers to do eTEAs, integrate them into federally funded research and commercialization programs and expand existing training programs so that researchers can apply them themselves early.

The second recommendation is to facilitate early and structured engagement between universities in the broader innovation ecosystem. Innovation happens within a community of stakeholders, not within a single institution, so we must establish these consistent practices for engaging partners earlier to limit late-stage surprises due to insufficient analysis, poorly planned commercialization projects or incorrect budgeting practices. Establishing these new KPIs and reporting metrics for funding programs that promote this early engagement between academic researchers and ecosystem partners can help align incentives and minimize unforeseen roadblocks.

The third recommendation is to fund national programs that connect fragmented provincial innovation efforts. Across Canada, government investments are often under-leveraged, because our funding programs operate in regional silos. National mandates delivered through provincial frameworks often lead to duplicated programs, gaps for the mid-stage of development, barriers to accessing infrastructure across the different provinces and a patchwork of funding strategies that make national coordination difficult. We need true connection funding, programs that link research outputs from universities to pilot facilities, demonstration sites, service providers and industry partners across the country. These programs should build on experienced agencies and existing infrastructure, not create new layers of competition. Since ecosystems generate retained operational knowledge, each subsequent project an ecosystem works on advances more efficiently and with lower risk than the last.

To end off, Canada is a world leader in invention, but invention alone does not build companies, industries or national competitiveness. This is a global challenge. If Canada wants to lead, we must evolve our systems to enable innovation by, one, preparing inventions to scale; two, supporting the ecosystems that de-risk them; and three, aligning our national policies with the full commercialization pathway.

Current estimates suggest that more than $275 trillion would be needed to reach net zero by 2050 with existing technology development systems, a sign that our models of innovation are not working fast enough. In a moment of nation building, we can strengthen our domestic supply chains and build critical infrastructure, but we can also build the processes and policies that turn Canada's research excellence into a global competitive advantage.

● (1700)

Thank you, and I look forward to your questions.

The Chair: Thank you.

We will now proceed to Madam Sultan, chief data officer and vice-president for health at the Vector Institute.

Ms. Sultan, you have five minutes for your opening remarks. Please go ahead.

Roxana Sultan (Chief Data Officer and Vice President, Health, Vector Institute): Honourable Chair and esteemed members of the committee, thank you for inviting the Vector Institute to speak on this important topic today.

You've heard from other witnesses about challenges in Canada's research ecosystem and how these challenges impact private sector investment in research and development. We would like to focus on a specific actionable solution that's delivering measurable results right now: the capacity to translate research into real-world application across industries.

Canada possesses extraordinary AI research strength. We are home to global pioneers, leading universities and AI institutes, and breakthrough discoveries that have shaped the entire field, yet there has been a translation gap between innovative AI research and direct impact for Canadian companies and their customers. While the global AI adoption rate for business is 34%, Canada lags at 26%. We've fallen from fourth to eighth place in the Tortoise global AI index, and we risk continuing that trend.

To address the gap, the Vector Institute has demonstrated leadership through the creation of a dedicated AI engineering capability that bridges fundamental research and business application. This isn't traditional tech transfer: It's a fast-follow capability that can rapidly translate breakthrough research into deployable solutions while managing implementation risks.

Vector's AI engineering team consists of scientists and technical professionals who understand both cutting-edge research and business problems. They can define how an AI breakthrough can solve real-world challenges and help Canadian companies implement the technology safely and effectively.

Vector's private sector partners derive return on investment through direct access to Vector's AI research innovation and its ability to rapidly convert academic outputs into practical applications that can be deployed to drive measurable improvements in quality and efficiency. A recent Deloitte study commissioned by the Vector Institute reveals that for every federal dollar invested in AI, there was $10.64 in private sector investment in Canada. That's not a theoretical future return; it's happening right now. Last year, close to 80% of start-up and scale-up companies that participated in Vector's industry programming reported new or improved products, services or processes as a result of their engagement.

Here is why such results matter for private sector investment: Canadian companies need confidence to invest in AI. Vector serves as a trusted partner in a context where business leaders recognize that they need AI capabilities but lack the expertise to deploy and evaluate AI solutions. Vector helps companies navigate from research to implementation while maintaining the highest standards for safety and governance.

The Vector Institute has also observed that government and public sector adoption as a first customer for Canadian AI start-ups and scale-ups can help demonstrate that AI advancements can be trustworthy, beneficial and Canadian-controlled. What we are hearing from our ecosystem is that Canada needs to double down on its investments in this translation capability to continue driving private sector investment and measurable returns on that investment.

This can be summarized as follows.

First, Canada can prioritize sustained funding for research-to-application translation capabilities, not just fundamental research. The distinction between fundamental and applied research is increasingly irrelevant in AI: Commercial breakthroughs often emerge from fundamental discoveries within months.

Second, Canada can support not-for-profit institutions that can work across sectors. Here in Ontario, organizations like the Vector Institute, the Creative Destruction Lab and Mitacs generate economic returns because they bridge academic research and private sector applications.

Third, Canada can consider AI adoption requirements in government procurement and funding transfers. When government demonstrates confident, transparent AI adoption, it builds public trust that enables broader business adoption and strengthens the retention of Canadian start-ups and scale-ups as they build their markets.

Canada's AI ecosystem gave us a head start in the global AI competition, but we risk squandering that lead unless we rapidly increase AI adoption rates. Vector has proven that responsible research-to-application translation creates measurable economic impact through increased AI adoption by Canadian firms. That adoption leads to increased productivity. We stand ready to ensure that this trend continues and that Canadian AI capacity makes its way into Canadian firms.

● (1705)

Thank you, and we welcome your questions.

[*Translation*]

Maxime Blanchette-Joncas: Madam Chair, I have a point of order.

I must admit that I'm quite uncomfortable with the situation we've just experienced.

I would like to share with committee members and those listening to us the content of the email sent by the committee clerk on November 13, which I mentioned at the beginning of the meeting.

The email informed us that Ms. Roxana Sultan would be testifying remotely before the committee at today's meeting and that her testimony would be given without a video camera to prevent images of her from appearing on the Internet. He announced that the chair had agreed to this request and specified that the witness's sound quality would be tested before the meeting. He then asked committee members to share their concerns with the chair and send her their comments.

Madam Chair, as a member of this parliamentary committee, I am unable to identify the person who just spoke. I think that the people who are here today and those who are listening to us can also hear that the voice was altered and sounds robotic. The credibility of the committee is currently at stake. This makes me very uncomfortable. Going forward, are we to accept that witnesses need not identify themselves?

After hearing testimony, we must draft reports and present them to the House of Commons. Madam Chair, I understand that you wanted to make a rather exceptional accommodation. However, I repeat that the committee's credibility is at stake if we hear testimony from people we cannot identify. Is this real testimony? Can it be included in a report by the Standing Committee on Science and Research that will be presented to the House of Commons and then to the government?

I would like to hear my colleagues' opinion on this matter. Doesn't this situation undermine the committee's credibility and the way people perceive the committee and the democratic institution it represents?

I don't know what led this person to take that step. I am willing to respect it, but I would still like to understand the situation, which seems to be causing quite a bit of discomfort, judging by the behaviour of several people I can observe in the room today.

[*English*]

The Chair: Please give me time to discuss this.

● (1705)

_____(Pause)_____

● (1705)

The Chair: Thank you, MP Blanchette-Joncas, for your concerns. I just want to let all the members know that two tests were done before her testimony today. One was yesterday, which was done with the video, and before the meeting, it was done without the video. Just to make sure that everyone is comfortable, I will suspend the meeting for a few minutes and we will ask her to turn her camera on. The proceedings will be paused and everyone can verify, and then she can turn the camera off and we can go into the round of questions. That's the resolution I have.

Mr. Blanchette-Joncas, please go ahead.

● (1710)

[*Translation*]

Maxime Blanchette-Joncas: Madam Chair, I want to make sure I fully understand the situation. Is there a procedural rule for that? I've been a parliamentarian for the past six years, and this is the first time I've encountered such a situation. I'm not trying to make this personal. Rather, I want to avoid setting a precedent.

Madam Chair, I'm speaking to you. I would like you to listen to me and respect me. From what I can see, that doesn't seem important.

Hello, Madam Chair. I'm here. Are you listening to me?

[*English*]

The Chair: Yes, I hear you.

[*Translation*]

Maxime Blanchette-Joncas: Thank you very much.

When you speak to me, I listen. It's a matter of respect. I had questions to ask and I was speaking to you, but you weren't listening to me. I find that disrespectful. I understand that you have questions for the clerk, but you must listen to me first.

I know you're looking for a solution. I'm looking for one too. Is there a procedural rule that governs such a situation? Can people appear before the Standing Committee on Science and Research anonymously? Has that been validated and verified? That's more or less what I understand from the information I have.

I don't know what you want to do now. Do you want to suspend the meeting? Why suspend it? I think it's about transparency. You said earlier that transparency was important. I think it is important. The people who are listening to us and have confidence in this committee and in Parliament—our democratic institution—need to know what's going on. I'm concerned that you're contemplating going in camera. That way, people would no longer be able to follow what is going to happen. That would not be transparent.

I would like you to clarify this situation. I'm still in the hands of the clerk. I know you're having discussions with him. This is a new situation, and I rely on your good faith in the hope that you will find a positive outcome so our committee can maintain its credibility.

[*English*]

The Chair: Thanks for the issues you have raised. Let me consult with the clerk, and I'll get back to you.

I'm suspending the meeting for a few minutes.

● (1710)

_____(Pause)_____

● (1730)

The Chair: I'm calling the meeting to order.

I want to clarify that we have verified the identity of the witness who is appearing by audio only. There have been instances where it has been done in the past to accommodate. We have to make sure that all the witnesses are accommodated. If there are any security concerns or any risks for them, it is our responsibility to accommodate them. I am very clear that everything is okay and we should proceed with the meeting. If anyone has problems, you can challenge my ruling.

MP Noormohamed.

Taleeb Noormohamed: Thank you, Madam Chair.

I'll be very brief in my comments and they really pertain to the conversation that we've been having.

There have been studies, as you note, in the past. In fact, at the request of my friend from the Bloc, my colleague, Monsieur Lemire, there was an entire study done on sport where witnesses all appeared anonymously or appeared after being verified without their faces on the screen. The witness we're talking about is somebody who I asked to appear. She's one of the most accomplished leaders in AI. She's an incredibly accomplished scientist, the kind of woman who I think a lot of young women look up to as a role model in the sciences, in fields that have historically been dominated largely by men.

I'm interested in what she has to say. She's clearly identified who she is. I think we have to be sensitive to a world in which people are deeply concerned about why their features appear on the Internet. There's a reason why my kids don't appear on the Internet; there are lots of folks out there who can do some very unsavoury things. I don't know what her reasons are. It's not for me to say.

It's not for me to say, but I would say that if we want to have the ability to have the best folks appear at these committees, we're going to have to find ways to make sure they are comfortable giving their testimony. To Monsieur Blanchette-Joncas' point, we have to be comfortable that we're getting testimony from the people who we think we're getting. Clearly, we know who she is.

I can tell you that I have had dinner with her. She is an extremely intelligent, real person with lots of good things that I want to hear her say, and I think others do. I think these are the types of conversations that would give pause to others who may want to come and testify because nobody wants to have their reasons for doing something litigated, when in fact what we want is their testimony.

The Chair: Thank you, MP Noormohamed. I just want to clarify that we have verified it, and I will be proceeding with the meeting. If anyone has any problem, you can challenge my ruling.

Please go ahead, MP Blanchette-Joncas.

[*Translation*]

Maxime Blanchette-Joncas: Madam Chair, for all our sakes, would it be possible for you or the clerk to explain the situation? Are there any rules or procedures around this situation? Is there some ambiguity here? I understand that attempts are currently being made to find accommodations and reach a decision.

A small group of individuals in the room were able to identify the person, who was appearing anonymously. Again, as I mentioned earlier, I respect that—whether it was for security reasons or other reasons unknown to me.

My colleague Mr. Noormohamed seems to have information that I do not possess. I appreciate him sharing that information with the committee. Will that ensure the full credibility of this testimony? I doubt it. That's why I insisted on this point. Once again, the committee's credibility is at stake.

We committee members were able to identify the person. However, the public—that is to say the vast majority of people listening to us—will not have the same experience. The public will not know how we managed to identify this person through the camera lens.

That's what I'm concerned about today. I fear that some kind of precedent may be set. I also understand that there seems to be some procedural ambiguity and that accommodations are being made on a case-by-case basis in an attempt to clarify matters.

I am trying to determine whether or not we can retain the testimony or whether it will be possible to postpone it. If other witnesses return before the committee in the future, how should we proceed?

Personally, I would like us to take a moment to discuss this situation so that we can move on, either during committee business or at a meeting of the Subcommittee on Agenda and Procedure.

Thank you.

● (1735)

[*English*]

The Chair: Thank you, MP Blanchette-Joncas.

I think I have clarified everything in public to everyone that we have verified their identity. There have been instances and it is our duty to accommodate people if they do not want to appear through the video for security or any other reasons. It is my ruling that this is in order and we will proceed with the round of questioning. If anyone has a problem, please, you can challenge the ruling of the chair.

Can I proceed with the round of questioning?

An hon. member: Agreed.

The Chair: We will have one round of questions of five minutes each and we will start with MP Baldinelli.

Please go ahead. You have five minutes for your round of questioning.

Tony Baldinelli: Thank you, Madam Chair.

Thank you to the witnesses for being with us this afternoon.

I'm going to start with Mr. MacDonald.

Yesterday, the Council of Canadian Academies published a report entitled “The State of Science, Technology, and Innovation in Canada 2025”. The report says that “Canada's longstanding poor productivity performance has reached crisis levels, compromising the standard of living for people in Canada.”

If you look at the government's own budget document, on page 37, it says, “Investment pulled-back in the first half of the year as businesses delayed or cancelled projects. Private sector forecasters expect investment weakness throughout 2025”.

Also, on page 53 of the budget, it says, “If Canada's productivity growth had matched the U.S. from 2017 to 2023, the median income of a family with one child would be nearly $11,000 higher”.

Has the government acted with enough urgency to address and begin resolving the productivity crisis in Canada?

Liam MacDonald: We believe there are some good items included in budget 2025 that I spoke about, like the SR and ED reforms and accelerated investment incentive. We do think that more could be done on that end.

Specifically, with the accelerated investment incentive, we would want to see that made permanent. It's great that it's being extended for a few years, but that still brings with it some uncertainty when businesses are investing. Is it going to be extended again, or will it disappear? These are investments that are over multiple years, so they need that certainty over a long horizon.

You're right to speak about the gap in productivity with the U.S. A capital investment per worker is almost half in Canada what it is in the U.S., and that's definitely part of it, so we need to look at what we can do to incentivize that investment. Targeted credits that I've spoken about certainly are part of it. There is red tape reduction, which the government is moving on, and we're happy to see that and we hope to see that continue.

Tony Baldinelli: I'm going to move on to Mr. Kingston.

Thank you for appearing, Brian.

You had spoken in your opening remarks about the difficulties the CVMA is encountering with the CBSA. As one of the largest R and D investors in Canada, you had talked about $898 million in 2024 alone and $830 million in 2023. We're seeing the tangible investment dollars, yet there are always government and bureaucratic obstacles that stand in the way.

How long has this temporary import letter issue been going on? Have they indicated to you that it could be resolved quickly?

Brian Kingston: No, it's been going on for months, and we've been engaged with the CBSA constantly. This all has to do with the implementation of the new customs and revenue management, CARM, system, which has caused serious problems. Despite trying to find a solution, none has been presented, and—I really want to underline this—it puts R and D in Canada at risk if we can't do a relatively simple thing, which is move vehicles back and forth across the border.

● (1740)

Tony Baldinelli: Can you verify that you did say CARM? It's the problems with CARM, and CARM has been a disaster since its implementation.

We did a study at our international trade committee, and we had indicated to the government that it should not proceed until it was time and until it was actually ready. It's never proven to be ready, and importers and exporters like yourselves, the vehicle manufacturers, are facing the consequences because of it.

I want to move on.

We had a discussion the other day about the government's role on the EV mandate and its pausing its decision. Quickly, firms such as Tesla can exceed the 20% threshold, while the Big Three have indicated to the government they're unable to meet that threshold by 2026, so they have to buy credits.

How much have the Big Three already paid to companies such as Tesla in investments to purchase credits?

Brian Kingston: If the federal government does not repeal the EV mandate immediately, automakers that build in Canada and undertake R and D in Canada will be on the hook for over $3 billion in credit purchases. As of today, over $1 billion has already been committed.

Tony Baldinelli: It has been committed to Elon Musk. This government is empowering and enriching Elon Musk at the expense of jobs here in Canada, because that's another signal to these Big Three. Why would they invest in Canada? You've already got the tariffs in place. This is just another indication to them that they should leave Canada, and shame on them for that.

The Chair: Thank you.

We will now proceed to MP Noormohamed for five minutes.

Taleeb Noormohamed: This is one of those committee days where I think we're all just going to look back and shake our heads.

Voices: Oh, oh!

Taleeb Noormohamed: Welcome to our witnesses. Thank you for bearing with us.

Given that we have very limited time for this round, I'll split my time with MP Jaczek. I'll also apologize in advance to my friend Mr. Kingston that I won't have any time to ask him questions.

I have one question I'd like to ask you, Ms. Sultan. You know, one of the things we were speaking about with Cam Linke from AMII earlier this week was how we get the private sector to be more actively engaged in early-stage activity and early-stage investments, particularly from innovators and innovation coming out of some of our AI institutes. I wonder if you could share from your standpoint what you want to see from private sector early-stage investors to help support and bolster some of the work that government is already doing in terms of the investments we're making to support the AI sector.

Roxana Sultan: Obviously, our focus at the Vector Institute is really about how we create the right conditions to drive that private sector investment. There are obviously no concerns around a lack of research excellence here in Canada, but it's really a translation and confidence issue with three specific root causes.

First, we do have a cultural risk aversion combined with a lack of trust. We've seen polls indicating that 51% of Canadians are concerned about generative AI and misinformation. The Office of the Privacy Commissioner of Canada's public opinion research on privacy issues showed that 83% of Canadians have privacy concerns when using AI tools. These concerns translate directly into business hesitation. When business leaders lack confidence in AI safety and governance frameworks, they delay investment.

Second, we know that there is insufficient research into application infrastructure. The Vector Institute has observed that promising research areas in AI shift multiple times per year. Traditional university hiring cycles and government grant structures simply cannot respond to that pace. The Vector Institute has built a fast-follow capability through its AI engineering team, which specializes in extracting value from research in a practical manner. Most Canadian firms lack that talent bridge between breakthrough research and business implementation. In order to de-risk and to drive confidence, we need to bridge that more effectively.

Third, the demonstration effect from government cannot be understated. When only 26% of Canadian companies adopt AI versus 34% globally, it reflects a lack of confidence. The more government can demonstrate confident, transparent AI adoption in its own operations and in the sectors it funds, the more private sector confidence can follow. We can drive that investment to continue to move up. Government itself can really be the proof of concept that shows AI can be trustworthy and Canadian-controlled, or it can facilitate market access for AI start-ups and scale-ups in Canada to create a pathway to securing their first institutional customer.

● (1745)

Taleeb Noormohamed: Thank you.

The Chair: Please, go ahead.

Hon. Helena Jaczek (Markham—Stouffville, Lib.): Thank you, Madam Chair.

I apologize; because of all the commotion, I'm not quite sure whether this came from Mr. MacDonald or Dr. Lehtinen. There was a reference to Canada learning from other jurisdictions, specifically the U.K. and Belgium.

I think it was you, Mr. MacDonald. Could you elaborate on specifically what they are doing that we should be doing here?

Liam MacDonald: That was a reference to a patent box regime that those countries have. Essentially, a patent box is a preferential tax treatment for intellectual property that's developed and then commercialized in Canada. It's preferential tax treatment for the revenue that's earned from that intellectual property. The goal is to incentivize more intellectual property assets. We know that's one area in Canada where we lag quite a bit behind international partners. We have quite a large trade deficit in IP.

That's essentially the logic of a patent box. There was a study done in the U.K. after they introduced theirs. They were able to measure an increase in assets with the companies that have used it.

Hon. Helena Jaczek: Thank you.

Dr. Lehtinen, you were nodding. Do you agree that this would be an asset for us?

Morgan Lehtinen: Yes. When looking at how we protect, keep and allow the IP that we've developed here to flourish, it's a combination of learning from others and adding measures that can support that. Then, adding to that, it's ensuring that the ecosystem is able to foster an environment that's ready to scale.

It's a mixture of policy and people.

The Chair: The time is up. If you want to send something in writing, that would be great.

We will go to MP Blanchette-Joncas for five minutes.

Please go ahead.

[*Translation*]

Maxime Blanchette-Joncas: Thank you, Madam Chair.

Before I begin my turn, I'd like to know how we will proceed for the rest of the meeting. A second hour is scheduled for the meeting, and other witnesses may be waiting for us.

Can you tell us how we will proceed?

[*English*]

The Chair: After your five minutes, we'll suspend. Then we'll go to the next panel.

[*Translation*]

Maxime Blanchette-Joncas: Thank you very much.

I'd like to thank the witnesses for being here today. I would also like to thank them for their understanding with respect to this somewhat unique situation.

Ms. Lehtinen, both Canada and Quebec excel in research. We have many people with potential. However, developing that potential requires support. As you yourself said, the marketing and industrialization of our discoveries are not keeping pace.

Can you explain the reasons to which you attribute Canada's chronic inability to translate its scientific breakthroughs into economic benefits?

[*English*]

Morgan Lehtinen: Thank you for the question. It's a very important one.

As you mentioned, we have difficulty translating those inventions to innovation. I'll speak specifically from the chemical and clean-technology sector, which I represent. Bringing those to market is extremely expensive. You need multiple and diverse expertise, from the scientists to the engineers to the industry adopters, and the wraparound business expertise. Additionally to that, there's this valley of death because of the complexities that go in.

I think what we need to do to ensure that we can translate those to economic benefit—I mentioned this in my recommendations—is create a national framework to be able to speak the same language so that we can validate and de-risk the technologies earlier. The private sector adopters are feeling more comfortable. They're able to get the dollars into those technologies and move them along.

That's also coupled with critical infrastructure. The facilities—the laboratory, the piloting scale and the demonstration space you need—differ along the entire commercialization pathway. For example, our facility has over 200,000 square feet. We have physical infrastructure to bring those technologies to market with piloting and demonstration bays and being able to work with other organizations across the country.

[*Translation*]

Maxime Blanchette-Joncas: Thank you for giving us more details, Ms. Lehtinen, but I think I have the answers to my questions.

Canada says it wants to be the world leader in innovation. However, what is in the latest budget? Cuts are being made to research through a 2% reduction in the budget of the three granting agencies. Scholarships have not been increased or indexed to support young researchers and current research.

Personally, I have a hard time understanding that. I have a plant at home. If I don't water it, do you think it's going to be able to grow?

● (1750)

[*English*]

Morgan Lehtinen: We need to have continued investment into bringing those technologies through. That's where connection funding to strengthen the service providers and ecosystem partners who are there would further facilitate and move these through.

[*Translation*]

Maxime Blanchette-Joncas: Ms. Lehtinen, I see a total contradiction between the government's measures and the messages it conveys. On the one hand, we're told that we want to be the best, and on the other hand, we're not providing the support we need to be the best.

We also note something else. Rather than helping people here who have a lot of potential, we are helping very talented people elsewhere. According to the latest budget, the government wants to invest $1.7 billion to attract foreign talent. However, the people here who do research, such as yourself, work in terrible conditions. Canada is not at the same international level as other countries in terms of the calibre of its laboratories and research centres.

Having discussed this subject with the researchers, I fear that all this is just a communication effect. We believe that universities, including high-prestige ones, will roll out the red carpet to welcome foreign researchers, who will come here for a few years and then leave. They might take a little safari photo from our labs and a few selfies, then post them on social media. Universities will get good press. Afterward, the government will hold press conferences about how Canada welcomes the best researchers in the world. Everyone will be patting themselves on the back.

Don't you think the message the government is sending breaks the chain that makes it possible to go from research to market, as you do so well, strengthen research and develop the entire ecosystem?

[*English*]

Morgan Lehtinen: To your point, we need to ensure we're developing and putting the energy, investment and policies into building and having the existing research centres, universities, professors, innovators and the ecosystem there to take them to the next phase. To your comments on needing to strengthen the ecosystem, we do that by ensuring we have efficiencies in connecting with each other and then having these strategic funding programs—

The Chair: I'm sorry for interrupting, but the time is up. If there is anything you would like to add by responding in writing, that would be great.

With that, this panel comes to an end.

I want to thank the witnesses for appearing and for your patience in dealing with some administrative matters. I really want to apologize for that.

With that, the meeting is suspended for a quick turnover to the second panel.

I'm suspending the meeting.

● (1750)

_____(Pause)_____

● (1800)

The Chair: I call the meeting to order.

I would like to make a few comments for the benefit of the witnesses and all the members.

Please wait until I recognize you by name before speaking. For those participating by video conference, click on the microphone icon to activate your mic. Please mute yourself when you are not speaking. For those on Zoom, at the bottom of your screen you can select the appropriate channel for interpretation: floor, English or French. All comments should be addressed through the chair.

I would now like to welcome our witnesses for the second panel. I'm sorry for the delay.

I would like to welcome Dr. Gerry Wright, professor, Michael G. DeGroote Institute for Infectious Disease Research, McMaster University, by video conference; Dr. Kyle Briggs, entrepreneur in residence, Faculty of Science, University of Ottawa; Kevin Dahl, the director for ElevateIP Alberta; and finally, from Réseau des CCTT, Aurélie Licois, director of research and innovation, and Nancy Déziel, chairman of the board of directors.

Welcome to all the witnesses. You will each have five minutes for your opening remarks.

After that, because of the time, we will have one round of questioning. Members will each have six minutes. The different parties can let me know who will be participating in the round.

With that, we will go to our first witness.

Dr. Wright from McMaster University, please go ahead.

Dr. Gerry Wright (Professor, Michael G. DeGroote Institute for Infectious Disease Research, McMaster University, As an Individual): Thank you very much and good afternoon, Madam Chair and honourable members. It's nice to see you again and to be here as a Canadian academic working in the life sciences.

I am a professor of biochemistry and biomedical sciences at McMaster, where I've led a research team focused on antibiotic resistance and antibiotic discovery since 1993. I have advised industry, government and not-for-profits on antibiotic innovation for over 25 years. In 2016 I also co-founded a spin-out company called Symbal Therapeutics, which advanced an antibiotic discovery we made in my lab for further drug development.

If you look back at innovations in biotechnology over the past few decades, it shows that most originate from university research. Successful global biotech, agricultural and pharmaceutical industries exist because of basic research conducted in academic labs. It's not surprising that the regions that are particularly known for biotech commercialization, such as Boston or California, are located near thriving research-focused universities.

Unlike other areas of technology, advances in the life sciences often require extensive and very specialized infrastructure that is usually well beyond the reach of a single entrepreneur or small start-up. This is why you don't see biotech starting in someone's garage. They need access to equipment that is often very costly and otherwise inaccessible. As a result, universities provide unique spaces to nurture new discoveries that are suitable for commercialization. We're really fortunate in Canada that the Canada Foundation for Innovation provides the resources to acquire and support the infrastructure that drives discoveries and innovations, such as the one that we made in my lab, which allowed us to spin out Symbal Therapeutics.

However, transferring research from universities to start-ups or through licensing deals can be quite difficult. Canada in particular struggles in this area, especially in the life sciences and biotechnology sectors. Canada does not have a program that offers non-dilutive seed funding to support the creation of biotech start-ups stemming from university discoveries. While programs like the NRC's IRAP are very helpful, they are not well suited for early-stage start-ups that lack initial capital, such as those arising from universities.

The SBIR, the small business innovation research program in the United States, provides successful examples of competitive seed grants for small start-ups, helping them generate enough data to attract private investment. A similar program in Canada would not be very costly and would significantly boost the emergence of new biotech start-ups. I note that several of the Ph.D. and post-doctoral fellows I have trained in my lab at McMaster are now working in the U.S. for companies funded through the SBIR. I would love to see them join Canadian start-ups.

Similarly, high-risk private capital is limited in Canada. Some of the reasons for this are, as I'm sure you know, cultural. There's just more tolerance for risk in biotech in the United States and Europe, for example. But some of this scarcity comes from a growing expectation from these investors that projects be significantly derisked before investment. This needs additional funding.

My experience with Symbal Therapeutics is worth considering. With funding from the CIHR, we discovered a molecule produced by a fungus that we collected in Kejimkujik National Park in Nova Scotia that blocks antibiotic resistance. The report on this discovery was published in the prestigious journal Nature. We even made the cover. We were unable to secure funding in Canada to continue its development. We did manage to access services through the NIH, the National Institutes of Health, in the United States, which provided in-kind pharmacological studies at no cost. This sufficiently reduced the risks of the project, enabling us to secure funding for a start-up. However, this was through partners in Boston, not Canada.

We are again trying to develop some discoveries made in my lab, but we're facing exactly the same challenges we did several years ago when we started this.

Finally, another gap in the process is a shortage of business talent with biotech start-up experience in Canada. This is one of the reasons we turned to Boston partners for Symbal.

To support a thriving Canadian biotech start-up ecosystem, I encourage the committee to consider the following. First, increase the funding for life sciences research by raising the budgets of the CIHR and NSERC. Second, create a made-in-Canada SBIR-like program to offer competitive, non-dilutive funding for biotech start-ups. Three, foster an environment that encourages and rewards more private risk capital and cultivates related entrepreneurial talent.

With such investments, Madam Chair, there is a genuine opportunity to expand this sector and ensure that discoveries that are made in Canada can actually stay in Canada and be developed by Canadians.

Thank you very much.

● (1805)

The Chair: Thank you.

We will now proceed to Dr. Briggs, entrepreneur in residence in the Faculty of Science at the University of Ottawa.

Please go ahead. You have five minutes.

Dr. Kyle Briggs (Entrepreneur in Residence, Faculty of Science, University of Ottawa, As an Individual): Thank you, Madam Chair, vice-chairs and committee members, for the invitation to speak to you on commercializing innovation emerging from publicly funded research at Canadian universities.

To briefly introduce myself, I'm a physicist and the entrepreneur in residence at the University of Ottawa. I was the CEO of Northern Nanopore Instruments, a nanotechnology start-up built from my Ph.D. research that we sold in the fall of 2023. I'm now the author of the CanInnovate blog on innovation policy and, alongside TJ Misra and David Durand, the co-author of the simple agreement for innovation licensing framework, or SAIL, and the co-founder of the SAIL initiative, through which we aim to streamline how new technologies get from lab to market.

The value of research follows a power law distribution, in that a small minority of new technologies eventually create most of the economic value, but it's impossible to reliably predict which ones will succeed or be valuable when the research is transferred to the private sector. Because of this impossibility, it's more important to make sure we don't miss the valuable minority than it is to make sure that every attempt is successful. It follows, then, that the most effective strategy for commercializing research successfully is to invest relatively small amounts of capital early in almost everything. Mostly, Canada doesn't do this.

Attempts to commercialize research have failure rates above 90%, but the successes create more than enough value to offset the cost of those failures. Countries that invest well have three things in common: The public sector funds innovative start-ups before they have revenues, usually favours new start-ups over existing companies as vehicles of innovation arising from research and is willing to let previously funded projects fail when necessary. This approach to funding serves to de-risk innovative companies to the point that they can attract private sector investment and ensures that valuable technologies don't slip through the cracks.

Ironically, systemic risk tolerance in the Canadian public sector mostly prevents it from funding pre-revenue companies in this way. Because of the long timelines involved, Canadian VCs can't address this gap. We have to reframe how we evaluate and manage risk. We have to understand that most investments will fail and that this is acceptable as long as the combined return over time is positive. While it may be true that our public sector has become too risk-averse, I argue that investing in almost everything is in fact less risky, or is at least more likely to produce a positive outcome.

Another element common to effective commercialization elsewhere is harmonized innovation policy. The United States has the Bayh-Dole Act, for example, which guides how universities transfer technologies to the private sector. In Canada, we lack even an attempt at national coordination. Senator Colin Deacon's office recently found 134 different innovation funding programs at the federal level alone, and the tri-council agencies provide no top-down guidance on how universities should manage research IP. As a result, every institution has a different IP policy, licensing negotiations with most research institutions are slow, no two licences are alike and there's no standard for data collection on licensing or on outcomes.

To address these challenges, my colleagues and I developed SAIL. SAIL is a licence framework designed to support harmonized and streamlined Canadian tech transfer from research institutions to start-ups. After consulting with a national community of innovation stakeholders, we based the design of SAIL on six axioms of tech transfer specific to Canada's unique challenges. It asks universities to play the role of first investor in research commercialization and rewards them with a predefined amount of convertible debt in exchange. With legal advice, the framework can easily be amended to support a variety of start-ups more efficiently and effectively than by building a new licence each time.

We're also working to adapt a risk-tolerant funding mechanism that has been highly successful in the U.K., where it created an estimated seven dollars of economic value for every dollar of input. The model uses venture philanthropy delivered through a public-private partnership, combining public funds with private donations and university contributions to create a charitable investment fund that reinvests all returns to ensure that it's self-sustaining. Variations on this model have been implemented at a handful of Canadian research institutions, most notably the UCeed fund in Calgary, and we propose to implement it at the national level.

Policies to promote and grow private sector investment and research can only be effective if we increase the pool of investable, innovative companies. To do that, we have to first build a better bridge from lab to market. I recommend, first, that Canada embrace strategic risk-taking by deploying public funding toward pre-revenue start-ups, thus commercializing Canadian research by trialling venture philanthropy delivered as a public-private partnership with a national scope. Second, I recommend that Canada nationally harmonize a Canada-first approach to management of the IP arising from publicly funded research.

Thank you, distinguished members of the committee, for your time. I look forward to your questions.

● (1810)

The Chair: Thank you, Mr. Briggs.

Now we will proceed to Mr. Dahl for five minutes. Please go ahead.

Kevin Dahl (Director, ElevateIP Alberta): Thank you for the opportunity to appear here before the committee.

My name is Kevin Dahl. I'm the director for ElevateIP Alberta, an ISED-funded program working to increase the quality and quantity of the intellectual property that powers Alberta's start-up ecosystem. Our program resides within Innovate Calgary, which is a wholly owned subsidiary of the University of Calgary.

ElevateIP doesn't operate just in Alberta: It's a national program delivered in partnership with recipients across Canada, including New Ventures BC, North Forge, Communitech, MAIN and Springboard Atlantic.

Together we have created programs and partnerships that empower start-up companies to take control of their intellectual property, which has resulted in over 800 IP strategies being developed and over 1,600 new IP applications being filed by Canadian companies to date. We were pleased to see a commitment to renew ElevateIP in the 2025 federal budget.

Canada has no shortage of world-class ideas. What we lack is the ability to consistently turn those ideas into Canadian-owned intellectual property and ultimately into prosperity for Canadians.

For too long, we've measured innovation by how much we spend on research and development, but innovation is not defined by inputs; it's measured by outputs, meaning the patents we secure, the data we safeguard and the companies we build here at home. If we want stronger private sector investment in R and D, we need to shift from treating R and D as a cost to treating it as an investment class—so how do we shift these mindsets?

Canadian firms invest in research every day, yet all too often the resulting IP ends up owned and commercialized outside our borders. We need incentives that reward IP creation, protection and commercialization in Canada. Programs like SR and ED should continue to support research, but we also need to strengthen IP literacy, IP valuation and IP strategy support for businesses of all sizes.

We've seen how impactful this can be through the ElevateIP program, which has helped start-ups and scale-ups understand and secure their IP early. When start-ups know how to protect their ideas globally, they build stronger companies with broader freedom to operate and more private capital follows.

We also need to put more emphasis on bridging academia and industry. Canada's universities are global leaders in research, but too much knowledge remains stuck at the discovery stage. We must continue to strengthen the bridge between academic research and industrial commercialization. That includes modern partnership-ready industry engagement programs, more co-funded research models and clearer pathways that help researchers turn discoveries into investable ventures.

Across Canada, partnerships through ElevateIP have shown that when IP frameworks are clear and transparent, collaboration increases and companies invest more confidently in R and D because they know how that value can be shared.

Finally, we need to build a capital market that values intangibles. Today, the most valuable assets in the global economy are not factories or heavy machinery: They are intangibles like patents, software, data and know-how. The reality today is that over 90% of the market value of the S&P 500 stems from intangible assets, yet too many Canadian financial systems still treat these assets as invisible. If we want more private investment, we need capital markets that can see and value these intangible assets as driving modern growth. That means IP-based valuation models, IP-backed lending tools and expanding early-stage investment funds like UCalgary's UCeed program, which the committee heard about earlier this week, to help anchor those high-value IP portfolios in Canada.

We know this works. In Alberta and Canada more broadly, when companies strengthen their IP position in global markets, investors take notice. R and D increases not because government subsidizes risk but because intellectual property becomes a bankable asset.

In closing, if we want more private investment in Canadian innovation, we must build an ecosystem that rewards ownership, collaboration and recognition of intellectual value. We have the talent and we have the research strength. Now we must ensure that the value of that work stays here in Canadian companies and on Canadian balance sheets, creating Canadian jobs. That's how we move from being consumers of other nations' innovations to becoming exporters of our own. That's how we turn research into resilience and ideas into prosperity.

Thank you. I look forward to your questions.

● (1815)

The Chair: Thank you, Mr. Dahl.

We will now proceed to Madame Déziel.

Please go ahead. You will have five minutes for your opening statement.

[*Translation*]

Nancy Déziel (Chairman of the Board of Directors, Réseau des CCTT): Madam Chair, members of the committee, thank you for giving the network of college centres for the transfer of technology, or CCTTs, the opportunity to present its point of view and contribute to the work of this committee.

My name is Nancy Déziel, and I am the chairman of the board of directors of the CCTT network. With me is Aurélie Licois, director of research and innovation.

The CCTT network represents 59 specialized centres across Quebec. Together, these centres cover over 100 areas of expertise, such as advanced manufacturing, wood processing, mining, renewable energy, agri-food, health, cybersecurity, artificial intelligence, quantum computing, clean tech, telecommunications, defence, aeronautics and aerospace.

The CCTTs act as a driver of innovation focused on the needs of businesses and public organizations. They have a regional presence and a variety of sectoral specializations. They also play a role in risk minimization, which makes applied research, innovation and the adoption of new technologies and processes accessible to businesses and target sectors. CCTTs are key players in the applied research and innovation ecosystem throughout Quebec and Canada.

CCTTs stimulate private sector engagement in research by providing access to cutting-edge research infrastructure and equipment, offering technical training and customized support, and adopting a pragmatic approach to keeping intellectual property in Canada.

The impact of our model is clear, and our numbers speak for themselves. Here is what the CCTTs consisted of in 2023-24. There were 2,300 professional, scientific and technical experts working for businesses; 13,750 projects carried out each year in partnership with 6,000 businesses, mainly SMEs; 18,000 students involved in its activities; 935 interns; $192 million in sales, $68 million of which comes from the private sector and organizations in the targeted sectors; 325 businesses created; 240 patents, invention disclosures and licences; 648 processes created or improved; and 1,048 new products developed, an increase of 42% over the past three years.

Canada is facing major political and socio-economic challenges and is trying to use scientific and technological advances to stimulate the economy and identify solutions to the issues we are dealing with. Continued support for applied research and innovation capacity in our companies is essential.

Following the announcement of the last budget, in terms of massive investments and defence capabilities, CCTTs are positioned as key players for applied dual-use research, meaning technologies developed in a defence context that can be adapted and transferred to public use. Cybersecurity, telecommunications, energy and processing are all areas that can have a tangible impact on Canadian businesses and encourage private investment.

Despite the significant contribution of colleges and CCTTs to innovation, led by the businesses and SMEs at the heart of our economy, they receive less than 4% of federal research funding from the three granting councils.

Furthermore, while budget 2025 recognizes the fundamental importance of research and innovation to the economy, it contains no additional investment in the main vehicle for funding college and CCTT applied research, which is the college and community innovation program of the Natural Sciences and Engineering Research Council of Canada, or NSERC.

Without additional funding for the program, meaning a return to 2023 funding, and without explicit and intentional measures to mobilize applied research and technology transfer led by colleges and CCTTs, we anticipate losses in innovation and support capacity. That will jeopardize the ability of businesses and SMEs to innovate, increase their productivity and diversify their markets.

To avoid undermining the unique ability of CCTTs to contribute to the success of our businesses and our economy, we propose three recommendations.

First, the government needs to permanently increase investment levels in the college and community innovation program by adding $108 million, which was done previously. As part of these investments, the government should address the existing funding inequities between CCTTs and technology access centres in Quebec and technology access centres in the rest of Canada.

Second, the government needs to work with the granting councils to ensure full eligibility of CCTTs to federal innovation-focused research and innovation programs at intermediate levels of maturity to the point of commercialization.

Third, the government needs to mobilize and increase funding for applied research infrastructure as a driver of innovation, focused on industry needs and commercialization needs, and strategic industrial strategies, including in the defence, energy, digital and critical materials sectors.

Canada has immense potential. To fully realize it, we need to strengthen the link that transforms knowledge into growth through applied research and technology transfer.

We are prepared to work in partnership with universities, businesses and governments.

● (1820)

Thank you for your attention.

[*English*]

The Chair: Thank you.

We will now proceed with our rounds of questioning for six minutes each.

We will start with MP DeRidder. Please go ahead.

Kelly DeRidder (Kitchener Centre, CPC): Thank you, Madam Chair. I'm going to split my time this evening with my colleagues.

My question is for Dr. Wright.

Waterloo region is home to some of the best biomedical engineering minds on the planet. We invent in the region, but too often we watch someone else commercialize, manufacture and capture the jobs and the wealth.

From your experience, what are the biggest systematic barriers—like high taxes, inflationary pressures or slow approvals—that are pushing biotech commercialization and our talent to the U.S. instead of keeping it here in Canada?

Dr. Gerry Wright: Thank you for that question. I'm a proud alumnus of the University of Waterloo, so I understand it.

That is a big problem. I think a lot of it is, frankly, due to a lack of risk capital in the country here.

Also, as I stated in my proposal, in the case of biotechnology, where other areas have flourished is where there has been access to non-dilutive risk capital that you can get access to before the private sector will be ready to invest. That gap is, I think, one of the biggest challenges we're facing here in Canada, and we have to find a way to get through it.

Kelly DeRidder: Thank you so much.

I'm going to cede my time.

Vincent Ho (Richmond Hill South, CPC): My questions will be for Mr. Briggs.

As you know, the Liberals passed their costly credit card budget just this week. I'm going to read directly from page 281:

> While U.S. business investment has grown steadily, Canada's has remained close to its 2015 levels.

It's also no coincidence that the Liberal government was first elected in 2015.

I'm going to continue quoting:

> Canada's growth has been held back by weak productivity associated with low investment in business capital—particularly in machinery, equipment, and intangible assets like intellectual property.

Do you think that's the result of failed government policy in the last 10 years?

Dr. Kyle Briggs: I'm going to echo my colleague in saying that one of the key issues holding back Canadian innovation and investment in innovation is this valley of death, this difficulty in accessing risk capital to get technologies to a point where the private sector can invest.

There are numerous examples to draw on. We heard about the SBIR earlier. There are successful examples in France. The U.K. was one I mentioned earlier. The role of the public sector and the impact of public sector funding is highest when it is invested early in the pre-revenue stages of getting things to the point where business can invest.

In terms of business investment in innovation, there are also knock-on effects on the competition side: There is nothing that motivates incumbent firms to innovate quite like many hungry startups starting to take their market share when they are enabled to get to that point.

I really do think that the core of the issue is what my colleague said earlier, which is a lack of risk-tolerant funding for that first stage of innovation to get across the valley of death, as it is called, and enable the creation of firms that both motivate investment from incumbents and enable innovation to get out of the lab.

● (1825)

Vincent Ho: Thank you.

Kurt Holman (London—Fanshawe, CPC): Thank you.

Thank you to the witnesses who have come forward to the committee today.

My question is for Mr. Dahl, but before I ask the question, I'll give a brief overview.

In our meeting of November 3, Jim Balsillie, founder and chair of the Centre for International Governance Innovation, was quoted as saying:

> When I last appeared before this committee in March 2023, I focused on Canada's failure to adopt a framework to own, control and commercialize IP from this publicly funded R and D, and I recommended building institutions and capacity for the knowledge-based and data-driven economy. Since then, there hasn't been a single new policy or institution created to meet the need for strategic reorientation.

Mr. Dahl, in your view, what are the most significant risks Canada faces if we continue without establishing the institutions for the knowledge-based and data-driven economy he recommended?

Kevin Dahl: I'm familiar with some of Mr. Balsillie's comments, as we've worked in partnership with some of the organizations that he chairs and has created.

As I highlighted in my speech earlier, the opportunity is now. Other countries are looking at ways to value intangible assets to create the institutions that you mentioned.

Also, as I mentioned in my speech, we did see a commitment to re-up the ElevateIP program, along with the Innovation Asset Collective and the NRC's IRAP assist program, so I think that we are looking to establish some of those institutions and some of those solutions to respond to the challenge that we have today, but the work is not done. We need to continue.

Kurt Holman: Thank you.

Is that my time, Madam Chair?

The Chair: You have 20 seconds.

Kurt Holman: I yield my time.

The Chair: We will now proceed to MP Rana for six minutes. Please go ahead. You have six minutes.

Aslam Rana: Thank you, Madam Chair, and thank you to all the witnesses for being here with us to discuss this very important topic of private sector investment in science and research and development in Canada.

My question is for Dr. Wright.

Thank you very much for being with us today.

You are from McMaster University, a little portion of which is in my riding of Hamilton Centre. Last week, I visited the medical and nuclear department of your university, and you guys are doing a fabulous job.

What are the biggest challenges Canadian researchers are facing when trying to commercialize their pharmaceutical research and bring it into the private sector?

Dr. Gerry Wright: Thank you very much for that, and I'm glad that you enjoyed visiting with Minister Joly. It was really great to have you here.

I think, as you're hearing, that there's a common theme, which is that one of our biggest challenges is a lack of risk funding that can move these discoveries from the laboratory. These are all very early-stage discoveries, so we need to de-risk them significantly in order to move them forward.

As you've heard from my colleague from the University of Ottawa as well, a big challenge is a lack of non-dilutive funding to move these discoveries towards commercialization. If we find a solution to that—and there are great models out there to follow, so we don't have to reinvent the wheel here—I'm confident that we will be able to move the needle in this area very significantly, to the benefit of all Canadians.

Aslam Rana: Thank you.

Could you please discuss the importance of a private sector investment in the pharmaceutical space? Are there any safety considerations for not investing in Canadian pharmaceutical companies?

● (1830)

Dr. Gerry Wright: Well, we've seen what happens if no Canadian companies are working in this area. We saw that during COVID-19. We end up being not on the leading edge of new discoveries and not being on the receiving end of new discoveries either.

We're seeing this now in the pharmaceutical industry in antibiotics, for example. Those are the risks that we face. We face a lack of access to new drugs if we don't help build this area.

Aslam Rana: Can you speak to how Canada's approach to commercializing health research and attracting private sector investment differs from the approaches of other countries and jurisdictions you have seen or worked with?

Dr. Gerry Wright: As I testified, I think one of the big differences in areas like Europe and the United States is in this valley of death. As you've been hearing, there's no good way to bridge that valley of death in this era. To do that requires non-dilutive funding, usually coming from governments or, as we've heard, potentially from philanthropic areas or agents who might be able to help move this forward. I think it is absolutely vital for us to be successful in this area.

Aslam Rana: Dr. Briggs, do Canadian universities and research institutes have the right culture to encourage commercialization? If not, what changes are needed to ensure that the researchers are committed to turning their innovations into market-ready products?

Dr. Kyle Briggs: One of the themes I touched on was harmonization or fragmentation of policies.

One of the barriers to post-secondary commercialization is that we don't have a harmonized approach to managing the intellectual property arising from publicly funded research. Every institution handles this in a very different way. They all have different models of licensing. All of this contributes to friction in the early stage, the phase of the commercialization process when we're missing this risk-tolerant funding.

That's the core of one of the recommendations that I made, which is to harmonize the approach and to have granting agencies provide active guidance on how universities should be managing the intellectual property arising from the research that they're funding.

Aslam Rana: Commercialization often involves risks and failures. How can Canada create an environment that encourages risk-taking among investors and researchers without compromising safety in their productions?

Dr. Kyle Briggs: It's a good question. I think the core of it is to reframe how we think about risk, the KPIs that we're using to measure these things.

Currently, most of the programs that are interested in supporting commercialization, both at the institutional and the public sector level, try to pick winners. They try to evaluate the success or failure on an individual project basis. I think to be successful in commercializing research—which, as you mentioned, has this very high failure rate—we need to think about aggregate impact. We need to think about risk at the level of an entire portfolio of projects, as opposed to individual projects.

Les Deeptech in France is a good example. It's a relatively new initiative that's deploying three billion euros over 10 years, aiming to create 500 new deep-tech companies every year over that time. They're targeting a 2% success rate, accepting that 98% will fail and that the 2% that succeed will more than pay for all of those failures.

That's the kind of portfolio-level thinking that needs to happen in order to be able to address this here.

Aslam Rana: Do you think Canada should focus more on directly funding commercialization projects or on creating incentives for private sector investments?

The Chair: I'm sorry for interrupting, but time is up for MP Rana. If you can respond to this question in writing, that would be great.

We will now proceed to MP Blanchette-Joncas for six minutes. Please go ahead.

[*Translation*]

Maxime Blanchette-Joncas: Thank you, Madam Chair.

I'd like to welcome the witnesses who are with us today.

My first question is for you, Ms. Licois and Ms. Déziel, from the network of college centres for the transfer of technologies, or CCTT. I would like us to address the notorious issue of structural inequity that penalizes Quebec and directly hinders its ability to innovate.

I want to talk more specifically about the funding that some technology access centres in Quebec receive through the Natural Sciences and Engineering Research Council of Canada, or NSERC. Their funding does not seem to be equivalent to the funding received by research centres outside Quebec. I would like you to explain that to me briefly.

Aurélie Licois (Director, Research and Innovation, Réseau des CCTT): As it happens, there has been structural inequity since the technology access centres program was instituted in 2012. The annual amount granted to technology access centres in the Canadian provinces is $350,000, compared to $100,000 for those in the province of Quebec.

There are currently 68 technology access centres in Canada, and 29 of them are supported by CCTTs, or college centres for the transfer of technologies. Quebec has almost half of Canada's technology access centres. With 29 centres and a discrepancy of $250,000 per centre, the funding gap is $7 million per year.

I'll let you add up the total amount since the program's inception in 2012. A quick calculation leads to a $90-million difference.

● (1835)

Maxime Blanchette-Joncas: Ms. Licois, you mentioned $90 million, but that's not counting inflation and the economic benefits it could generate in the communities.

Have you been able to quantify the economic impact?

Aurélie Licois: We haven't calculated it, but, as you say, any decrease in financial support in the communities necessarily has an impact on support and on the centres' ability to support businesses in their region or across the province.

Maxime Blanchette-Joncas: Ms. Licois, what are the arguments for the discrepancy?

This has actually been going on since 2012. Maybe they don't understand when you tell them that in French, or they don't want to understand, or they want to continue to penalize Quebec.

What do they tell you when you criticize the unfairness and structural inequities?

Aurélie Licois: The Natural Sciences and Engineering Research Council of Canada is very aware of the inequity. A working committee is currently looking at the possibility of reducing or eliminating the inequity. Its work is under way.

In the most recent budget, as you saw, there was no reinvestment in applied research. As a result, the solutions sought by the working committee will necessarily be diminished. If they find solutions, other inequalities will inevitably arise.

Maxime Blanchette-Joncas: I'm trying to understand the temporary or partial solution they were imagining. Accreditation at a technology access centre takes five years. They offered to give you $300,000 in the first two years, but only $100,000 in the other three years.

I heard that the federal government was relying on the fact that your centres already had the support of the Government of Quebec. That's why it limits the amount it gives you. Is that true?

Aurélie Licois: Not entirely. Of course, the CCTTs have an operating budget in Quebec, but it's not connected to an NSERC grant. It's an operating budget for an organization, not funds that go towards a project like the technology access centres.

Maxime Blanchette-Joncas: Okay. I'm trying to understand why the federal government limits its funding amount. Is it because you're too innovative or because the network is too developed? What rational arguments can explain the inequity?

Aurélie Licois: Since the program's inception, there has been no explanation for the inequity. That's the problem. There has been inequity since 2012, and it has been repeatedly mentioned every year for the past 12 years. A working committee is rethinking the entire technology access centre program, including its objectives. It is planning a complete overhaul, including funding, as well as a potential decoupling of some emerging technology access centres from more mature ones. All discussions are on the table at the committee.

Maxime Blanchette-Joncas: Ms. Licois, in its last budget, Canada said that it wanted to be a “world leader in innovation”. You're an innovator.

Aurélie Licois: Yes, absolutely.

Maxime Blanchette-Joncas: Doesn't this federal policy, which has been directly impeding you since 2012, as you said, send the opposite message, that the government is hindering innovation?

● (1840)

Aurélie Licois: The technology access centres are a program in and of itself. There is a broader program, the college and community innovation program. The CCTTs still have access to it, as do the other technology access centres in Canada, and they receive the same amount.

Any reduction in the amount invested in applied research impedes innovation, whether in Quebec or in the rest of Canada.

Maxime Blanchette-Joncas: We agree on that.

If you could send a clear message to the government telling it what you hope from it in the short or medium term, what would you say?

Aurélie Licois: We would love to see an increase in funding. As you know, in 2023, the college and community innovation program received $108 million in funding, which will expire on March 31, 2026. That will be a significant loss and will certainly reduce the centres' ability to innovate as well as help and support businesses in their innovations. Therefore, we would like to see, at the very least, an increase in funding.

Maxime Blanchette-Joncas: Thank you, and congratulations on your excellent work.

Aurélie Licois: Thank you.

[*English*]

The Chair: I'd like to thank all the witnesses for their important testimonies. I'm sorry we had to cut the time short, but the previous panel went late.

With that, this panel comes to an end. On behalf of all the members, I once again want to thank the witnesses for appearing before the committee.

Is it the will of the committee to adjourn the meeting?

Some hon. members: Agreed.

The Chair: The meeting is adjourned.