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• (1105)

[English]

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

Welcome to meeting number 39 of the Standing Committee on Science and Research. We are meeting today to have a briefing session with the president of the National Research Council.

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

For those on Zoom, at the bottom of your screen, you can select the appropriate channel for interpretation: floor, English or French. I would like to remind witnesses that the committee members may ask questions in either French or English. If you will need interpretation, please take a moment now to prepare your earpiece and select the listening channel you need in advance to take full advantage of the time allocated for questions and answers. I remind you that all comments should be addressed through the chair.

I would like to welcome our witnesses for today.

We have witnesses from the National Research Council of Canada. We are joined by Mr. Mitch Davies, president; Dr. Julie Lefebvre, vice-president of emerging technologies; Dr. Ibrahim Yimer, vice-president of transportation and manufacturing; and Dr. Shannon Quinn, secretary-general.

Welcome to all of the witnesses. You will have five minutes for your opening remarks, and then we will get to the rounds of questioning.

The floor is yours. Please go ahead.

Mitch Davies (President, National Research Council of Canada): Thank you, Madam Chair, for the invitation to appear today before the committee on behalf of the National Research Council of Canada to discuss our mandate and activities.

I'd like to begin by acknowledging that the NRC's work takes place across Canada on the unceded traditional and current territories of the first nations, Inuit and Métis people. We recognize that indigenous peoples have been innovators since time immemorial. We understand that innovation is enriched by diverse ways of knowing.

[Translation]

The NRC was created by the National Research Council Act. It's a government agency that reports to Parliament through the Minis-

ter of Industry. Its mandate is to conduct, support and promote scientific and industrial research of interest to Canada.

[English]

Since its founding in 1916, the NRC has played a central role in building and contributing to Canada's research and innovation system. Over the decades, the NRC has helped launch several major Canadian science organizations, including the Canadian Space Agency, the federal granting councils and others. The NRC has produced breakthroughs and solutions that have improved Canadians' lives and supported industrial development in many sectors that form a significant part of our economy today.

Our work today continues to play a role in the industries of tomorrow, including AI and quantum, life sciences and advanced manufacturing, to mention a few. As Canada's largest federal research and innovation organization, the NRC advances scientific and technical knowledge, supports business innovation and industry development, and delivers on areas of national priority.

For the fiscal year 2025–26, the NRC's total expenditures were over \$1.9 billion, while the total revenue was \$222.3 million, reflecting strong collaboration with industry and government partners.

[Translation]

We survey our clients and partners on an annual basis. In our most recent survey, 95% of respondents said that the NRC had helped them achieve results.

Our research covers four major areas, which are detailed in our 2024-2029 strategic plan: quantum and digital technologies; health and biomanufacturing; climate change and sustainability; and support for foundational research.

[English]

Within these priority areas, our work supports issues that we hear about and that Canadians are interested in, of course, such as housing, defence, quantum technologies and artificial intelligence, among many.

Through the industrial research assistance program, which has been in existence for over 75 years, the NRC supports Canadian SMEs in developing new technologies, products and services that drive innovation and industrial development. The NRC IRAP supports close to 10,000 businesses every year, sustaining over 13,000 jobs across Canada. The IRAP consistently supports businesses that go on to achieve strong revenue growth, job growth and the creation of long-term value.

The NRC's scientific expertise, long-standing collaboration with the Department of National Defence and strong connections to SMEs position us to support Canada's defence industrial strategy. The Government of Canada committed \$996.2 million to the NRC to support defence research and innovation initiatives, such as the drone innovation hub and the NRC IRAP's defence industry assist initiative, which will help SMEs develop defence and dual-use technologies.

[Translation]

More than a century after its creation, the NRC continues to advance national research and innovation priorities, thereby contributing to Canada's prosperity and sovereignty in a complex world.

[English]

Thank you, Madam Chair. My colleagues and I look forward to answering the committee's questions today.

The Chair: Thank you.

With that, we will get into our first round of questioning. It's six minutes each.

We will begin with MP Baldinelli for six minutes.

Please go ahead.

Tony Baldinelli (Niagara Falls—Niagara-on-the-Lake, CPC): Thank you, Madam Chair.

Thank you to the witnesses for being here this morning.

Mr. Davies, thank you, in particular. It's good to see you again.

My first question is going to revolve around the comprehensive expenditure review.

The NRC's 2026-27 departmental budget mentions that it is planning the following spending reductions: over \$95 million in 2026-27, \$127 million in 2027-28 and over \$190 million in 2028-29. Further, it's anticipated that these spending reductions will involve a decrease of approximately 510 full-time-equivalent jobs by 2028-29.

Regarding the job reductions taking place, when will the jobs be impacted? Is it over the course of the next several years, or are you starting those job reductions now?

• (1110)

Mitch Davies: Thank you for the question.

The reductions at NRC, in terms of head count, are already under way. We provided notices to 180 employees some time ago, earlier this year. In fact, we're far enough along that we've also been able to find 24 positions in other parts of the council for some of those

people, which we're grateful to be able to do. Some people have begun to exit the NRC as a consequence of that first phase.

Over the course of the next year, we will proceed to provide notice and information to the remaining employees affected by our overall 510 reductions. Those reductions will take place over the—

Tony Baldinelli: Mr. Davies, is this in any particular area? What specific jobs are at risk or have been lost in certain departments? Can you detail where those job losses have taken place?

Mitch Davies: There are two significant areas that are important in the way we've approached the reductions.

First off, we used our strategic planning—which was already well under way and quite robust across the council—to make clear decisions about areas of research that are strong and have merit but that may not be at critical mass or as aligned with our plan. We made decisions to reduce there and to focus our areas of research so we can have maximum impact. We want research excellence to persist at the council, so we've had to make some choices. This means that areas of work the council carried for many years have been discontinued.

We will also be reducing our overall corporate internal services and providing efficiencies. That will be a very significant part of our reduction program.

Overall, our purpose here is to focus, unambiguously, on the country's priorities and to use our strategic plan, which is quite robust, to come up with solid answers on what we should offer as an organization, going forward.

Tony Baldinelli: Could you share with us the specific departments within the NRC that are impacted the most—the job complements in certain areas? What research bodies are being particularly impacted? If you could share that with the committee, it would be good.

I also want to go to the departmental plan, where it talks about the use of artificial intelligence. The plan says, "To strengthen internal capacity, the NRC is deploying enterprise-grade generative AI tools to improve efficiency".

What companies is NRC working on AI with?

Mitch Davies: Thanks for the question.

We have a significant and deep capability in AI. We've been working in AI for over 30 years.

Our approach was to unlock the internal capability of our research centre to drive what our AI strategy for adoption would be. I don't think every organization is positioned the way we are, with the amount of expertise we have. What we've done is build an approach that's very responsible, which means we've built an environment for using AI at the protected B level in terms of security, so our information is staying on our own systems. It's not going out to the general Internet. We're able to ensure that we're adhering to the government information security standards that the standards people would expect of us when we're using AI.

Another thing is building tools that actually fit our role. Because we're in the research business, we have a lot of internal data that needs to be used to train AI models for very specific purposes. We have a lot of experts who can unlock that opportunity. That's what we describe when we're talking about using our own approach to AI. You bring in the models, but then you build your own internal usage, which is very carefully designed so that you're not going out to the general Internet.

Tony Baldinelli: On those models you're bringing in, are they Canadian companies that you're using, like, for example, Cohere? What companies are you partnering with?

Mitch Davies: We do work with Cohere and know them well. We work with them on projects in the responsible AI area, for example, but quite frankly, you need to make available AI models from a variety of sources to have a robust approach.

The question is how you make them available to your workforce so that you're also responsible for where information goes and how you're employing those models. The other thing is that you have to add expertise to the use of the models, because they obviously have issues.

• (1115)

Tony Baldinelli: Quickly, in the short time I have, could you also share with the committee, with us, who those AI models are? Also, the government will be launching its AI strategy later on today, in my understanding.

Did the NRC have any input into the consultation process when they were seeking input from the public and stakeholder groups? Did they seek input from the National Research Council in the development of the AI strategy?

Mitch Davies: Within the ISED portfolio, we obviously work closely with many officials in the department who are involved in the formation of such strategies. I don't think it would be a case where the NRC would seek to be involved as a matter of public consultation. I mean, we are positioned to be able to contribute our capability and our advice. We work very closely with our colleagues in ISED on all matters related to AI, responsible AI—

Tony Baldinelli: ISED—

The Chair: I'm sorry for interrupting. The time is up for MP Baldinelli. Maybe you can come back to that in the second round.

We will now proceed to MP Nathan for six minutes.

Please go ahead.

Juanita Nathan (Pickering—Brooklin, Lib.): Thank you, Madam Chair, and, through you, I want to thank all the witnesses today.

For my first question, Canada has made progress in increasing participation by women in science, technology, engineering and mathematics, but representation remains uneven in certain advanced research and technology sectors. What has the NRC learned about attracting and retaining women in research and scientific leadership positions, particularly in fields such as advanced manufacturing, artificial intelligence and emerging technologies? What do you see as opportunities for future progress or growth?

Mitch Davies: The question is very important, because obviously we aim in our plan for inclusive innovation: that means our workforce reflecting Canada and also the way we work reflecting diverse communities and different interests in Canada. Those two things are fundamental.

I can report to the committee that in terms of the availability of women in the fields where we would recruit for our expertise, we exceed the labour market availability at this current time at the NRC, and that's been the case for some time. I don't want to say that as if that means that things are over. We also have to look at how people move and how their careers develop and keep a very close eye on different communities as they experience the NRC and the workplace in the NRC. This is very important.

We have over 90 nationalities in the NRC's workforce—a very diverse workforce—and this is something built up over many years of our recruitment in various fields. I would also say that at NRC we have a very strong representation of women in very serious areas of engineering, as well as science, because we have a lot of engineering talent as well as scientific talent. This is something that contributes greatly.

You'll see in many of the experts we're profiling regularly in various fields of construction research a lot of very significant and very well-accomplished women who are playing key roles in working in research in areas of construction, where, in fact, even the industry itself may well be working on representation. I think our research team is actually very strong and is reflecting well the Canadian population and the talent that's available.

We're seeing that in the recruitment we're undertaking. We have astoundingly high-quality people from all walks of life and diverse backgrounds come to us and want to work with the organization. We're very pleased with that.

Juanita Nathan: Thank you for that.

In your opening remarks, you did mention that innovation is enriched by diversity. In your answer, you're talking about recruiting in diverse communities. Can you talk a bit about how these recruitments happen? Also, are you particularly targeting newcomers, indigenous innovators or people from under-represented groups? How do you recruit them?

Mitch Davies: The council has had targets specifically in areas where we need to achieve labour market representation. A particular area where we're still striving and still have more work to do is in the recruitment of indigenous persons to join the NRC organization. We have made progress, but we still need to work to close the gap in terms of labour market availability.

We are also working very hard to have more persons with disabilities join the NRC. It's an area where we have a continued gap in labour market availability and in our workforce.

Those are two areas of focus, and we have set targets for those. We're quite intentional about following up and developing ways to reach out and be proactive in order to actually close these gaps. We put a lot of active work into it, but I would say that it remains a work-in-progress.

In terms of racialized Canadians, we've seen the most recent survey, which is new, and it has given us a challenge, as Canada has changed and the composition of the Canadian population is changing. We would have been exceeding our labour market availability in the previous survey, but now we have a small gap to close. I'm actually quite confident that we will do so.

Quite frankly, this cascades down through the organization through accountabilities to me in terms of our performance, and we have a pretty strong program to monitor what we're doing on an ongoing basis.

• (1120)

Juanita Nathan: Very good. Thank you so much.

Canada's innovation economy depends not only on breakthrough discoveries but also on ensuring that students, apprentices, technicians and early-career researchers can participate in turning those discoveries into real-world solutions.

How is the NRC working with colleges, universities and industry partners to ensure that young Canadians gain the skills and hands-on research experience needed to participate in these emerging sectors, such as AI, advanced manufacturing, clean technologies and quantum computing?

Mitch Davies: I would highlight that the NRC has maintained a very strong program of student recruitment, in the neighbourhood of 500 students every year, and we will continue to meet that goal even when we're making changes to our operating budget. We are sensitive that the organization can't be cut off from the talent pipeline. We need to continue to renew the workforce.

Just as an example, we were talking earlier about AI. The way we're achieving the progress that we're achieving at the council is by hiring students to come in and work on AI projects, because they come in with the skills we need. The way you make progress in AI is by hiring younger people who are actually familiar with it and comfortable with it. They're learning this. They're very en-

thused. They're happy to join an organization like ours, which offers so many dynamic opportunities.

That's actually what we've done. We've hired students to work on a whole range of summer projects on AI advancements that we can adopt and that can become actual systems at the NRC.

This is just one example, and we do that quite intentionally. Having students, co-ops and post-doctoral fellows come to join the NRC is a very important part of our talent plan. We're very heartened, because there are a lot of really smart, capable people in the country. It makes our job challenging, because we have to select the best among them to join the NRC.

Juanita Nathan: Thank you for that.

As my final question, how is the NRC helping to ensure that opportunities in Canada's innovation economy are accessible to young people across the country, including those from smaller communities and—

The Chair: I'm sorry for interrupting. Your time is up. Maybe you can come back to that in the next round. Thank you.

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

Please go ahead.

[*Translation*]

Maxime Blanchette-Joncas (Rimouski—La Matapédia, BQ): Thank you, Madam Chair.

Mr. Davies, does the National Research Council of Canada play a strategic governance role in the sectors it identifies on its own to be priorities?

[*English*]

Mitch Davies: I'll just use one example to illustrate it: aerospace. It's an area of industrial capability in which Canada is unique among a very few nations, in that we can actually achieve what we do industrially in aerospace. NRC has been involved from the very beginning of that industry, and we are still involved. We continue to have very deep connections. For example, in Quebec, in Aéro Montréal, we are at the table. We're participating as a member of that ecosystem.

In fact, I think what distinguishes the NRC in particular is that we take a seat with industries. We sit at their tables, so we know what their needs are and we're meeting their needs. We consider it part of our way of working, and it has served us well over many decades.

[Translation]

Maxime Blanchette-Joncas: Okay, I'll give you some specific examples.

Thank you for the example you gave.

In your 2024-2029 strategic plan, one of your research priorities is health and biomanufacturing. The government created the pharmaceutical and life sciences sector task force. Is the National Research Council represented on this task force?

[English]

Mitch Davies: We are a departmental corporation within government. I believe that body is composed of folks from industry itself in order to draw in their views. We have an ability to bring our views directly to Health Canada in fulfilling that role. I don't feel, in any way, that there's any impediment keeping us from influencing what direction they might take. If they seek our views or if we have things to offer, we will certainly do so. I imagine they also reserve the places in such things for people who may not have the direct access, as an organization inside government, to influence policy.

I think that's how—

• (1125)

[Translation]

Maxime Blanchette-Joncas: Your answer then, Mr. Davies, is that you don't participate on that task force.

[English]

Mitch Davies: Not in a direct way.... We don't take a seat there.

[Translation]

Maxime Blanchette-Joncas: Okay.

Another of your strategic priorities is climate change and sustainability. The government has created a net-zero advisory body. Is the National Research Council part of that advisory body?

[English]

Mitch Davies: We are not directly on that body. It would be the same sort of rationale.

Our role is known. The technology areas we work in, the research we work on and the partnerships we have are reflective of our capability to deliver solutions. I wouldn't say that policy is something we don't have a concern in, but it's obviously not our direct responsibility. We need to be there to respond to what the country needs and to develop the solutions required. Perhaps it's just the difference between policy and being a science-performing organization working hands-on to find solutions.

[Translation]

Maxime Blanchette-Joncas: Mr. Davies, of course, another of your strategic priorities is digital and quantum technologies. The government introduced Canada's national quantum strategy and an advisory council on artificial intelligence. Does the National Research Council of Canada participate in this advisory council and these strategic groups?

[English]

Mitch Davies: My colleague might need to add something, because she's been in quantum at the council for a long time.

In that case, the NRC was very much involved in the instigation as well as the work in the ecosystem that led to the national quantum strategy. If I would say anything, it's that we had a privileged place to shape it, to try to influence it and to draw its importance to government.

We're obviously delivering on many components of it. We have significant funding to deliver to the community. We also have a very strong relationship with Quantum Industry Canada and all the players in the industry. We feel we are playing an integral role—which we should, as Canada's national lab in this area.

[Translation]

Maxime Blanchette-Joncas: That calls for some clarification, Mr. Davies, because it's not clear.

The National Research Council of Canada describes itself as an accelerator powering innovation in Canada, but the government is creating sector-specific advisory structures that don't include the NRC.

How can you advance innovation if you don't participate in committees tasked by the government to examine these issues and come up with strategies?

[English]

The Chair: I'm sorry for interrupting.

There is an interpretation issue. Can we please check? There is no interpretation.

Monsieur Blanchette-Joncas, can you please say a few words?

[Translation]

Maxime Blanchette-Joncas: It was a good question, Madam Chair. It's too bad that you interrupted me.

[English]

The Chair: It's going well now.

I'll restart the clock. Please go ahead.

[Translation]

Maxime Blanchette-Joncas: Thank you very much.

So, Mr. Davies, let's pick up where we left off.

You are working on strategic priorities, the government is creating advisory bodies, but you don't participate in them. Can you tell me why?

[English]

Mitch Davies: I'll expand in this regard because it relates to my previous answer.

We are co-chairing, with ISED, the body inside the government that is overseeing the strategy. The point is that for external consultation, which involves outside organizations and individuals, the government has created a structure. We don't need to recreate our role inside government by also being on the outside body. In fact, we would take up a place. It is best for the broader community to have a chance to influence policy-making and implementation. We don't feel, in any way, it would be additive to our being very intricately involved inside the system on what is happening with the national quantum strategy.

[*Translation*]

Maxime Blanchette-Joncas: You're working on strategic priorities that are also being looked at by advisory bodies. Don't you think it's important for them to take your expertise into account as well?

[*English*]

Mitch Davies: The national quantum strategy entirely benefits from the expertise of the council because we are part of the government. Notwithstanding being a council and a departmental corporation, we are completely integrated with ISED in terms of providing advice—just as any other department would be—on the development of and actual pursuit of the goals of the strategy. I would certainly emphasize that, from the very beginning—when this thing was a nascent idea—right up to today, we've felt completely involved in every way we should be.

We're delivering as well. We have a lot of work to do in deploying the funding and working with partners to make this a reality out there, beyond the policy. We deliver through our expertise and our connections with industry and academia.

• (1130)

The Chair: Thank you.

We will now proceed to MP Ho. He has joined us virtually.

MP Ho, you will have five minutes. Please go ahead.

Vincent Ho (Richmond Hill South, CPC): Thank you, Madam Chair.

Thank you, President Davies, for appearing again today.

The National Research Council is supposed to be Canada's flagship science and industrial research organization. Its mandate should be excellence, commercialization, productivity and real-world innovation, yet across the federal research ecosystem, DEI requirements have now become embedded in grants, hiring of chairs, reporting and institutional compliance.

The Canada research chairs program now has top-down government-mandated equity targets and says that universities that miss them by the year 2029 will lose their chair allocations. Essentially, the federal government is threatening to withdraw research funding to Canada's universities if they don't meet their DEI targets by 2029. Federal research programs also expect applicants to demonstrate DEI commitments in the design and implementation of their research.

President Davies, should the first test for federal research funding be scientific excellence and commercial potential in the national interest?

Mitch Davies: For our part, excellence in research is fundamental. It's core to our strategy, and it's core to how we conduct the work we do as a science-performing organization.

The issue also is that our workplace should be representative of the country. Also, we have to design work that actually represents diverse needs and interests across the country, so I think that—

Vincent Ho: Okay, but—

Mitch Davies: —inclusion and diversity really come into how we do our business and the environment we create for people in our business. These two things can happen at the same time.

Vincent Ho: According to this March 2026 policy, the Canada research chairs program says that institutions that miss their 2029 equity targets will lose chair allocations. It seems to suggest that universities will lose funding for not meeting government-mandated top-down DEI policies and that universities will lose more research chair funding for each DEI target that they don't meet.

Does that mean federal resource funding is now conditioned not only on merit but also on whether universities hit these DEI targets?

Mitch Davies: I would defer the matter of policy for science granting council funding and so forth to the responsible minister. Beyond our own activities, I don't feel I'm positioned to comment directly on a question of policy and its implications for other organizations.

Vincent Ho: That is a policy that is in place. It's from the National Research Council website.

Mitch Davies: It's not a National Research Council policy that you're referring to.

If it's regarding federal granting councils and research grants from NSERC, SSHRC or CIHR, that's not something over which we have responsibility. Again, I would say you'd have to ask that of the policy department and the minister responsible.

Vincent Ho: This past year, 37 out of 38 Canadian universities dropped in global rankings. How do you continue justifying the lack of merit-based hiring when Canada's universities are facing a collapse in their reputations?

Mitch Davies: On the part of the question that I perhaps would answer, I would say one would have to look in a very nuanced fashion at what's moving in university rankings and do pretty in-depth analysis to figure out what it means.

I feel quite confident to say that the reputation of Canada's research universities is outstanding. The country has now, to its credit, multiple international awards and significant recognition in areas that are well known. I would leave how the rankings are composed or what they mean to experts in direct academic research.

Vincent Ho: The Canada research chairs program targets 50.9% women or gender equity-seeking groups, 22% racialized individuals, 7.5% persons with disabilities and 4.9% indigenous peoples. Those are the quotas that determine access to federal research allocations. I'm curious to know who decided those percentages.

Mitch Davies: Again, I would not comment on the design and implementation of policies that are not in our care. I don't think that would be responsible.

I appreciate the question. Obviously, I'd have to leave that for the minister responsible.

Vincent Ho: When one of the other members asked you a question about DEI, you were able to answer it, so I find that kind of puzzling.

For the purpose of hiring and funding, how does the NRC define a woman?

• (1135)

Mitch Davies: On this question, when people apply, they will self-identify. We accept that within the scope of the self-identification, obviously. There are many topics that are quite sensitive, such as people who self-identify as having a disability. This all relates to their lived experience and how they're deciding to fill out a questionnaire, and we accept that.

The Chair: Thank you.

The time is up for MP Ho. We will now proceed to MP Deschênes-Thériault for five minutes.

Please go ahead.

[*Translation*]

Guillaume Deschênes-Thériault (Madawaska—Restigouche, Lib.): Thank you, Madam Chair.

I want to thank the witnesses for being with us today.

The NRC's industrial research assistance program is accelerating growth in a number of Canada's small and medium-sized enterprises, or SMEs, particularly through a range of innovation and funding services. SMEs sometimes lack the means to conduct research and development projects, so they enter partnerships, especially with college-level institutions.

An example of this in my riding is Innov, the applied research and innovation division of the New Brunswick Community College, which focuses on bioeconomy. This centre partners with SMEs engaged in projects that are sometimes funded by the industrial research assistance program. In my region, this is producing really interesting results.

I'd like to hear what you have to tell us about this program's importance, but also about the importance of encouraging collaborative ties between SMEs and centres like Innov, at the New Brunswick Community College.

[*English*]

Mitch Davies: Thank you, Madam Chair.

On the industrial research assistance program, there are two things I would emphasize. One is that the program provides contributions to organizations in cases where those organizations can provide a demonstrable value to the clientele of IRAP. There are instances where colleges, polytechnics and organizations that have a lot of applied research orientation are getting support. Further, we have a program that provides active referrals to technology access centres across the country to ensure that the small businesses we work with get the best help, particularly in the system that's been built.

Quite frankly, there are a number of institutions that do exactly what the member referred to. These are also institutions at the community level that do local economic development and, often, orient their programs to meet the needs of local business. We're very pleased to fund and support this system through our IRAP network, which is across the country. It's not only in the cities. We can meet needs that are very diverse, from province to province or region to region.

[*Translation*]

Guillaume Deschênes-Thériault: That brings me to my next question.

You mentioned the importance of supporting research and innovation across the country, including in rural and regional communities. We have highly advanced centres of expertise in major urban areas, but in the regions, companies are also innovating and researchers are also making important advances.

When you implement your programs and support research and innovation by our SMEs, how do you ensure that these programs support companies and sectors in rural regions as well?

[*English*]

Mitch Davies: Through 76 years of building up IRAP—which I would say is at the heart of the question the member raised—the most important thing is that the people we've hired come from the places they go to serve. They're business people who've worked in those communities. They understand their clientele's needs, and they've decided they want to give back. It's an amazing institutional innovation in and of itself—bringing in these people to support economic development and innovation, in particular.

Also, they don't just sit in an office. They move around, get out into the country, go across Canada and find many projects and businesses worth supporting in places people may not have heard of but that are doing important things—building up businesses and growing. Ambition is not something exclusively defined by being in a given place. Wherever it is, we want IRAP to be there to serve it.

I would also say, regarding the changes we're making, which is something someone might ask.... Will we ensure that the network remains robust and strong across the country? The answer is yes.

[Translation]

Guillaume Deschênes-Thériault: Last month, the external advisory panel on the creation and dissemination of scientific information in French published its report. It contained a whole series of recommendations for strengthening the French-language research ecosystem, particularly where innovation is concerned.

How do you see your council's role in implementing recommendations to strengthen this research ecosystem?

• (1140)

Julie Lefebvre (Vice-President, Emerging Technologies, National Research Council of Canada): If I understand correctly, there were a number of recommendations. One of them, for example, concerned publications in French. I can tell you a number of things.

First, in our case, for those of us working for the National Research Council of Canada, we can communicate in the language we choose. In fact, publications and communications are in our language of choice.

For reasons related to scientific integrity, because scientific reports are extremely difficult to translate, they are left in their original language and summaries or excerpts are translated later on. Apart from that, we work very—

[English]

The Chair: Thank you. Time is up.

We will now proceed to MP Blanchette-Joncas for two and a half minutes.

Please go ahead.

[Translation]

Maxime Blanchette-Joncas: Mr. Davies, through its government, Canada says it wants to be a world leader in innovation. Can you explain to me how you intend to achieve that objective, knowing that about 510 positions were cut in the last budget, that annual reductions in subsidies and contributions will eventually amount to about \$200 million, and that certain activities are going to be recalibrated.

Can you name other countries that have managed to become world leaders in innovation by cutting back on research and innovation?

[English]

Mitch Davies: I think, in this case, there are two goals the government has put in place.

One is fiscal responsibility, obviously ensuring at the macro level the fiscal health of the country. They've asked large federal organizations, organizations such as ours, to make a contribution by coming up with very solid, very clear priorities and making some choices.

I would say that I'm comfortable that our strategic plan, as we defined it, can be delivered with the resources that are being made available, even taking into account some reductions and choices we've had to make. In fact, I would say that we've also benefited from the resources that have been added to our ability to deliver for Canada through the defence industrial strategy. As I mentioned, it's close to a billion dollars in new funding.

In our case, I think that connection between innovation, defence and industrial development is very strong, and it has been strong—

[Translation]

Maxime Blanchette-Joncas: I get the speech, Mr. Davies. Just to remind you, my question concerned countries.

So what country is capable of becoming a world leader in innovation after cutting back on research and development?

[English]

Mitch Davies: I wouldn't be able to speak comprehensively to the state of every country's situation from a budgetary perspective and their outputs. We, as the NRC, have strong capability, and we will continue to offer it to support overall system and industrial development—

[Translation]

Maxime Blanchette-Joncas: Okay, Mr. Davies, all is good.

[English]

Mitch Davies: —as well as private sector investment, which we want to see increase.

[Translation]

Maxime Blanchette-Joncas: Could you give the committee a province-by-province breakdown, especially for Quebec, of the positions to be affected and the cuts to be made? I'd also like a breakdown of the planned budget reductions affecting research centres, grants and contribution programs, academic collaboration and projects involving small and medium-sized businesses.

[English]

Mitch Davies: We would be pleased to present information as to the impact on locations and where the jobs that would be reduced are located. We have that information, and we would be pleased to provide it.

As far as the impact in a programmatic sense is concerned, obviously without running the experience of how, let's say, IRAP will support activities or other programs, our collaboration programs, we can't really predict exactly how that will influence, particularly, regional distribution. However, as for our workforce, we do know where those jobs are affected and can provide that information to the committee.

The Chair: Thank you. Time is up.

We will now proceed to MP Mahal for five minutes.

MP Mahal, please go ahead.

Jagsharan Singh Mahal (Edmonton Southeast, CPC): Thank you, Madam Chair.

Thank you to all the witnesses for being here.

The government talks a lot about dual-use technology, but without a clear definition almost anything can be labelled as dual use.

I want to start my questioning with President Davis. How does the National Research Council determine which projects actually support national defence needs?

Mitch Davies: I think the first point is that what the Department of National Defence and the Canadian Armed Forces actually would have an interest in supporting or acquiring is their business, and that's a strong signal. Actually, that's what defines what would be used in the context for defence for Canada, and we take that quite seriously.

Dual use is a question of whether that product, service or technology could have a civilian use as well. Of course, that's defined by the market space. It's also defined by whether that product could be actually provided for a defence purpose and then made available under appropriate regulations for other markets. There are many cases where both can happen.

I actually think, from a commercial point of view, the market you want to see for these companies to really be strong and robust over time needs to have, to the extent it can, a *sui* and a dual purpose. A good example is our aerospace industry, which has had a very strong focus on civilian and now has an opportunity to move into defence, which actually provides strong, robust support to an industry in which it's very hard to realize technology programs. Having defence as an anchor will actually reinforce the strength of that industry, I imagine, in Canada.

• (1145)

Jagsharan Singh Mahal: Despite the explanation you gave, I believe it would, obviously, be beneficial for Canadians and for people at large to know if there are concrete definitions to figure out what the criteria are, how the government is going to define “dual use” and which projects are going to be used for national defence.

Anyway, I will move to my next question. How many National Research Council-supported defence technologies have been procured or deployed by the Canadian Armed Forces thus far?

Mitch Davies: Madam Chair, I couldn't answer that with a single number without having undertaken some significant work to get a solid answer. We have many projects that support the Canadian Armed Forces and DND over many decades, so I can't answer that—

Jagsharan Singh Mahal: I appreciate that you won't have a list of projects. Can you name five items that have been given so far to the Canadian Armed Forces?

Mitch Davies: If it's a question of the council working on a project for the Canadian Armed Forces and having realized the objectives of the project, there are many. I would give you one example, but could give you further examples. I am happy to provide those to the committee.

In fact, one of the projects for which we most recently received an international award was for the autonomous flight of a helicopter in multi-use airspace. We won the top international award for the technology work we did. That's a project that was supported by DRDC.

There are many examples. I could give you a very long list of such projects where we've advanced technology—

Jagsharan Singh Mahal: Has that been deployed by the Canadian Armed Forces as of now?

Mitch Davies: Autonomy in that form—a helicopter flying in airspace that's very active—is something that's being deployed and tested in a robust way. At some point, these technologies will be in use, but they have them with us because we have to ensure that they're robust and actually will deliver.

Aerospace technology doesn't arrive in a matter of months. It's something that has to be developed to a very high standard. It needs to be very robust to be deployed in the field. That's what our expertise is.

Jagsharan Singh Mahal: We're running out of time, so let me ask a final question before the bells ring.

If a project receives NRC support but never reaches Department of National Defence procurement or Canadian Armed Forces operational use, does the NRC consider that a success or a failure?

Mitch Davies: I think that pursuing very ambitious technology itself brings a reward. It advances the skills and capabilities of our teams. In many cases, we can actually develop potentially patentable technologies in the course of doing that. Whether it's ultimately taken up and put into use is not necessarily the sole way you define success. I actually think there's a lot that's gained in the learning process of attempting things that are very challenging. In fact, most things that are very challenging can have a high failure rate as a consequence of being really complex stuff that we're trying to do. Yes, there's a benefit.

The Chair: The time is up for MP Mahal.

We will now proceed to MP McKelvie for five minutes.

Please go ahead.

Jennifer McKelvie (Ajax, Lib.): Thank you, Madam Chair.

That question leads really well into what I wanted to ask.

The committee has talked a lot about modernizing federal research and about a shift towards more mission-driven, mission-oriented research. I'm a big fan of that because I do think sometimes that we should be doing less, better. We should be identifying strengths, and we should certainly be identifying priorities, especially as we're embarking on this new venture around nation building and some of the work we're doing around defence.

What do you see as some of the strengths of the National Research Council that you can really build upon? What should some of these missions be? This is a question I love to ask academics at the dinner table. You get a very wide range of ideas, such as, for example, quantum computing. I ask, “What do you want to use the quantum computer for?” A great example is a secure transmission across the country from one end to the other. Something that Canada has always been known for is communication. That is an example of what we want that computer for.

Another example is that Canada is a leader in biotechnology and can be a leader in the new and emerging field of synthetic biology. A question would be, “What would you want to use those technologies for?” A great example would be mRNA technologies for autoimmune diseases, of which, in some cases, Canadians have some of the highest rates—for example, multiple sclerosis.

What do you think some of these missions are that we should be undertaking? How is the National Research Council at the forefront and ready to lead? How can you work better with the academic community and others to get there?

• (1150)

Mitch Davies: Thank you for the question.

The first thing I want to share with the committee is that the NRC established challenge programs somewhere around seven or eight years ago to very much do exactly what you said. The NRC's expertise needs to be combined with the best expertise outside the NRC. We define program areas that are missions for the country, and then pursue them over seven years. It's long-term work, with focus and intention, to get to outcomes. Those programs are approved by our minister in order to give them the sense that we're aiming for things the country needs and that are relevant.

I'll give you an example very much related to what you said.

A new program we're launching, which is under way now, is quantum internetworking. It's a new challenge program. It's been supported as a consequence of the defence industrial strategy. It's to do exactly what was mentioned: design the technology layer needed to move a quantum state across long distances and to essentially build quantum networks for the future.

Canada has everything from an ingredients point of view. We need to realize this, but we also need to tie it all together. That's what the program's intention is. That's why it's seven years. That's why it's not just us. It's us with academics and companies, all working together. This has been built into the NRC's tool box over the last decade of change and reform at the NRC, and it puts us in the exact right role. We can now deliver this sort of thing for Canada in a unique way.

Jennifer McKelvie: Thank you.

Something being undertaken right now is the defence industrial strategy and BOREALIS to better look at connecting defence with the academic community, other government departments and, I believe, the NRC.

How are you engaged in BOREALIS? In particular, what role are you playing in the new DISHs—the defence innovation secure hubs?

Mitch Davies: We put staff in the joint project office to support the development of BOREALIS right at the beginning, at the conceptual stage of how BOREALIS will achieve its objectives. We've made ourselves part of that. We need to do this because we're the largest federal research and development organization, and we want to make sure everything we have available can support the goals that are part of the government's plan for BOREALIS.

As investments and choices are made as to the DISH portfolio, you will see the NRC working very closely with whoever is chosen, particularly if they are ecosystem or academic organizations. In fact, I hope we have prior existing relationships that are very strong. The challenge programming I talked about has brought us a lot closer to one another, so we're well positioned to deliver. The important distinction is that we are a capability of talented people. We also have a connection to small and medium-sized businesses that's very robust. It's almost not something you can replicate. We're offering those capabilities and assets to what the government is trying to achieve with BOREALIS.

I think we're there. There will obviously be further decisions made on how it will be structured and how it will work. We'll play a part in that, to the extent that we can be useful.

Jennifer McKelvie: My last question is—

Oh, there's no time.

The Chair: The time is up.

We will now start our third round with MP Holman for five minutes.

Please go ahead.

• (1155)

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

Thank you to the witness here today.

Mr. Davies, it has been reported that Canada has entered a recession. This is quite a concern for me because the London region, including London—Fanshawe, the riding I represent, has a 9.2% unemployment rate, the highest in Canada. Along with that, economists have repeatedly warned us about Canada's long-standing productivity challenges.

Given that the NRC's mandate includes supporting innovation and commercialization, how do you measure whether NRC investments are actually improving Canada's economic competitiveness and productivity?

Mitch Davies: If we're talking about the economy, the most important role over at the NRC that's very direct and that we can measure is the support we provide to small and medium-sized businesses. I mentioned that in my opening comments—the 10,000 companies we help every year. The question is this: What happens to them when they receive their help? How do they follow up?

We have strong KPIs to track what goes on. We have a 33% growth rate of the companies we work with. Over the last year, there was 13% growth of employment. That is an area that has recently trended down. I think that reflects some of the uncertainties and economic questions that you've raised. Essentially, companies are working on internal work, but they are not necessarily expanding their workforce. It's an area where we want to see opportunity at the growth and employment levels in the companies we work with. We track it very closely. In fact, you can look at it over a long period of time and see what it is that IRAP achieves.

The other statistic that's important is that the companies that IRAP supports are, more or less, 80% of the companies that raise the greatest equity, subsequent even to working with us. The question is whether we are choosing wisely whom to work with. I believe we have pretty strong evidence that we are. Those companies scale, become more significant, add more employment and become real exporters for Canada. We have to build from small businesses to get there. Those are the companies that will move the needle on the productivity that we're looking for in the long run.

We have to focus on the day-to-day in dealing with those companies and doing our job well in deploying the funds we have. Whether that all adds up at the global level to high productivity.... I think we're contributing, but there are a lot of other things that have to go well.

Kurt Holman: Can you point to specific examples where NRC-supported research has translated to measurable economic growth, private sector investment or job creation here in Canada?

Mitch Davies: Once again, I think the key data are some of the things I've said to this point. I would also say that IRAP's economic analysis—which they've done—validates that we get about a five-dollar return on every dollar that's invested through the program and that it supports 13,000 jobs.

I don't want to quote specific companies, but I think pretty much any company that 10 years ago you didn't know who they were and now you know who they are, likely, in most cases, worked with IRAP in the very early stage when the support they received was pivotal to whether they could proceed or not. In some cases, if they couldn't have turned to us at a stage where it's the highest risk, where people stepping in to invest is very risky.... I think it's a program that does a lot to set us up to have opportunity to grow.

There's a whole question about what you need to sustain capital, to sustain the growth process and to have the right support for that and the right system. These are questions that you could ask other folks who come before the committee. I think the question is on how IRAP is very much focused on doing its job well, as part of this overall system, to create opportunities for very small firms to grow and then make real gains in the time they work with us.

Kurt Holman: Canada is often recognized for world-class research, yet we frequently struggle to turn that research into Canadian companies, Canadian intellectual property and Canadian jobs.

How much NRC-supported research ultimately remains in Canada as economic activity, rather than being commercialized or acquired elsewhere?

Mitch Davies: Other KPIs that the council tracks relate to our contribution to intellectual property. The work we do that we contribute to and create in our labs adds to Canada's overall tool box. We put around 200 new patents in place every year. We have 1,800 patents in our portfolio, over 500 of which are actively licensed.

Our trend of who we're licensing with is reflecting more Canadian institutions and Canadian licensing. Pretty much 80% of it will be placed in a Canadian business that can take the work we do and actually make something of it in our country.

We, as a research performer, in actually holding and developing IP for Canada, contribute to the kinds of issues that have been raised in the question.

• (1200)

The Chair: Thank you.

Time is up for MP Holman. We will now proceed to MP Rana for five minutes.

Please go ahead, MP Rana.

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

Thank you to all the witnesses for their valuable time.

Being a Hamiltonian, I'm really interested and would love to know about the role the National Research Council is playing with McMaster University to establish a southern Ontario innovation hub in Hamilton, which is the home of Canada's largest steel industry.

Mitch Davies: The opportunity to support the change under way in manufacturing technologies for the automotive sector is significant for Canada. It means shifting towards electrification as the main energy source, and that's actually a change to the entire vehicle.

We recognize the very significant strength of McMaster in this area. They have great, very deep research and connectivity with large automotive companies and a lot of very solid research performance that we can measure. We decided we would create a collaboration centre with McMaster to take our strengths and their strengths and combine them. We fit well with them in that our goal is to support the tiers 1, 2 and 3 suppliers in the supply chain that also need to pivot and see their technologies advance as part of this change in electrification for transportation.

Working side by side with McMaster, I think we can accomplish more. We can also optimize. We can bring our equipment into their facility. They have their equipment there, and we can use what the CFI has supported over the years and what the NRC has and make them work together. We owe it to the country that these things are connected so that we can have a bigger impact, so we're quite excited about the opportunity to work with McMaster very closely. They're a very strong player in the field.

Aslam Rana: I'm pretty sure my colleague from southern Ontario, Mr. Baldinelli, will be interested, too, in knowing how the NRC is playing a role in shifting our traditional heavy steel industry towards advanced manufacturing and automation.

Mitch Davies: The NRC would have contributions in terms of our research work in advanced manufacturing, automation, robotics and areas of this nature. In response to this question, I would refer to NRCan, which has the Canmet lab at McMaster. It has a very integral role in the steelmaking industry in the region. We're there to support whatever NRCan will need from us to support the programs it's delivering to the steel sector.

We've divided this space in a way that it has built up a lot of competency and research strengths over the years, and we wouldn't want to replicate it. We want to find out where we can be an additive to what it's already doing, because it has a very significant presence. I think our being in McMaster in the new southern Ontario innovation hub will be very good to support synergies between us and NRCan in this regard as well.

We're trying to address the needs of our automotive sector, which is where we're very much focused.

Aslam Rana: The government has committed \$962 million over eight years to renew the NRC's facilities. How much has been spent, which facilities have been renewed and what new research capacity has been unlocked?

Mitch Davies: I can report that at the moment—and this would be funding related to the defence industrial strategy, as well as the renewal of NRC facilities—we have close to \$1.2 billion of capital renewal projects under way right now.

Last fiscal year, we delivered 256% more procurement for these projects than we did the year before. The NRC is in a building phase that it hasn't ever had in its history. We are delivering, and we're delivering at speed. We have a large portfolio of projects under way. Many of those are still in flight. I could provide information on the list of projects. We publish this, so Canadians can find it if they look on our website for the areas we're investing in.

It's all of our facilities. Here, at the Ottawa airport, we're renewing our wind tunnel. We're renewing our facilities for advanced manufacturing. We're renewing our biotechnology facilities. Across the council, it's actually a very significant time to build.

• (1205)

Aslam Rana: The NRC launched 74 international projects and co-chaired Eureka. It's the first time a non-European country has led this position. How do those partnerships translate into concrete, long-term benefits for Canadian companies and workers?

The Chair: Give a 10-second answer.

Mitch Davies: Our co-chairing Eureka with Germany is the first time a non-European country has co-chaired and the first time there have been co-chairs. This is the largest public innovation network on the planet. It means that our SMEs work with SMEs that are part of the European countries and also beyond. They work together. They're combining their strength and then they grow together. It's a big win for our SMEs.

The Chair: Thank you.

We will now proceed to MP Blanchette-Joncas for two and a half minutes.

Please go ahead.

[*Translation*]

Maxime Blanchette-Joncas: Mr. Davies, have you met with the Minister of Industry since she took office in April 2025?

[*English*]

Mitch Davies: I certainly have. I've met the minister and I've also participated in a number of events. The minister has announced matters that relate to the council.

[*Translation*]

Maxime Blanchette-Joncas: What did you discuss?

[*English*]

Mitch Davies: I wouldn't share the topics discussed between me and the minister. Part of my role is supporting her, and the discretion one has to have, of course, as an official supporting their minister is quite appropriate. I wouldn't reveal the details of our discussions.

[*Translation*]

Maxime Blanchette-Joncas: So you're paid with taxpayers' money but your advice on helping the public is confidential. Is that right?

[*English*]

Mitch Davies: We might provide information, advice and support for a minister. We also do that—

The Chair: I apologize for interrupting. The bells are ringing. A vote has been called. I need unanimous consent from the members if they would like us to continue for another 20 minutes.

Is everyone okay with that? The bells have just started. They will be 30-minute bells, so we will go for 20 more minutes.

Some hon. members: Agreed.

The Chair: Thank you.

Please go ahead, MP Blanchette-Joncas.

[Translation]

Maxime Blanchette-Joncas: Thank you, Madam Chair. By some strange coincidence, interruptions always seem to happen when it's my turn to speak.

Mr. Davies, I understand that your discussions are confidential, but did you discuss your strategic plan?

[English]

Mitch Davies: The discussions I've had with the minister have been focused on specific files that are quite important. In one case, the discussion now is a matter of where we see our plan publicly to move forward with the Canadian photonics fabrication centre. As the minister took on her responsibilities, I was there to explain what we were doing and about potential plans, but I wouldn't go beyond that in sharing the nature of our discussion.

[Translation]

Maxime Blanchette-Joncas: I'm trying to get to the bottom of a big mystery, but I'll need your help. The government says it wants to strengthen its scientific autonomy, its sovereignty—a word that gets thrown around a lot these days—its industrial autonomy and its technological sovereignty. However, I have a hard time understanding how all that will get strengthened by downsizing the largest federal research agency in Canada.

[English]

Mitch Davies: I think the important job for us is to deliver the goal that's been described, which is to maximize opportunity in Canada to take our best ideas and see them realized. Everything we do will be focused on that.

In making choices about specific programs and some areas of research, we've made strategic decisions on areas where we think we'll have the biggest impact. I think we can live with restraint and make decisions that make sense, but also still contribute on a large scale. In some cases, some of the smaller programs we may have retained have been discontinued, but I think we've made choices that relate to the goal of building up industrial development, because we have used our strategic plan to guide our process.

The Chair: Thank you.

The time is up for MP Blanchette-Joncas.

[Translation]

Maxime Blanchette-Joncas: I think I still have 25 seconds left, Madam Chair, because of the interruption.

[English]

The Chair: Okay. We restarted the clock after we talked about the bells, so go ahead.

[Translation]

Maxime Blanchette-Joncas: Thank you.

Mr. Davies, I want to know which research sectors would have received more resources if not for the federal government's cuts. What would the NRC have done back then that it can't do now?

[English]

Mitch Davies: Our strategic plan, which preceded the approach of the government to seek reductions to the comprehensive expenditure review, stood intact before and it stands intact after. In fact, it guided the decisions that we made.

In a long-term research organization, you have many areas where researchers will build up areas of expertise—

• (1210)

The Chair: I'm sorry. The time is up for MP Blanchette-Joncas.

[Translation]

Maxime Blanchette-Joncas: I'd like a written answer, Madam Chair.

[English]

The Chair: Quickly, if you can, answer in four or five seconds, please.

Mitch Davies: What we then have to do is make choices about areas we'll retain and that will be maintained and areas where we have a strong relationship with our strategy, and I think we have done so with integrity. We've shared those choices. Anything we did was to a level where we had excellence, but whether it was relevant to the plan was—

The Chair: Thank you.

[Translation]

Maxime Blanchette-Joncas: Madam Chair, can you ask him to give us a written answer? I read the strategic plans, but they don't tell us anything about the consequences of these cuts.

[English]

Mitch Davies: We'd be happy to provide further information. Absolutely.

The Chair: Thank you.

We will now proceed to MP Au for five minutes. Please go ahead.

Chak Au (Richmond Centre—Marpole, CPC): Thank you.

Because of my background in the higher education field, I am concerned about the declining ranking of Canadian universities internationally. That's why I have some questions on those issues.

It has been explained that it is not because our universities are doing poorly. It's that our competitors are doing better and are faster than us at investing in research and development.

Do you have any data on how our investment in university research compares to that of our competitors, such as South Korea, China, Singapore and Germany?

Mitch Davies: I would refer the member's question to ISED. I think they would be best placed to provide very robust information comparing Canadian support for research and development in all forms. That's their job. They're responsible for science policy. It's not something that we have a direct responsibility for.

I appreciate the question all the same, but it would be best addressed to them.

Chak Au: Do you agree that as a country we fall behind in terms of research and development in comparison to other countries?

Mitch Davies: From the statistics I'm familiar with in the various roles I've had.... For a period of time, I worked in science policy. Obviously, Canada's role in research and development overall and the level of research and development comparatively have been lower in some cases than they are in comparative countries. Public research and development support has been strong. Higher education research and development support has been very strong on a per capita basis in Canada for many decades. That's why we have great universities today.

I think there is also a question about private research and development. That's the research development undertaken by businesses. Unfortunately, the trend in that has been declining over the years. Obviously, that's concerning when it comes to long-term industrial development and growth relative to our competitors. There is a lot in those trends that we have to look at and take seriously to figure out what we do to respond.

There has been some recent movement in research and development in the private sector in the most recent statistics. Again, it's not something I'm following directly, so I'd refer you to Statistics Canada or ISED to get more information on it.

Chak Au: According to my research, South Korea invests about 5% of its GDP in research and development, Germany invests 3.1%, China invests 2.6% and Singapore invests 2.1%. Canada invests only 1.7%, so we are actually behind other countries. Because of that, we have insufficient investment in research and development, and the fact is that, increasingly, our universities have had to rely on foreign sponsorship or investment in our research. The concern is that, in many cases, the benefits of the research will go to the foreign countries or the sponsors overseas. We are actually sponsoring our competitors because the benefits of the results would accelerate their research.

The Chair: Please provide a 15-second answer.

Mitch Davies: Building up industrial capability and capacity, private sector research and development, and being able to anchor the ability of our talent and our ideas to be followed up on in Canada is an important goal. There is a lot of work to do to achieve that objective, but it is important.

The Chair: Thank you.

We will now proceed to MP Eyolfson for five minutes.

Please go ahead.

• (1215)

Tony Baldinelli: Madam Chair, I have a point of order with regard to the schedule.

With the impending vote that we will leave for shortly, by the time we come back, you will have to give us a 10-minute grace period to return, which will probably bring us to after one o'clock. What is the will of the committee? Is it to suspend and come back, or is it the intent to end the meeting and adjourn at 1 p.m.?

The Chair: We have 22 minutes before the vote starts. By the time the vote finishes, I don't think we will be able to start the meeting before one, so we will adjourn the meeting.

Thank you.

We will proceed with MP Eyolfson.

Doug Eyolfson (Winnipeg West, Lib.): Thank you, Madam Chair.

Thank you to all the witnesses.

For Mr. Davies as a representative of the NRC, on a completely unrelated note to anything, I do miss that daily noon chime that you used to broadcast.

On a more serious note, my background is medicine, particularly emergency medicine. I practised that for 25 years.

I do know that when we talk about dual-use technology, there has been a lot of technology invented in both ways: in the civilian research sector that has benefited military in regard to medicine and biosciences, and also much in military techniques and research. Much of what we know about management of trauma is research that was brought up during the practices of the Vietnam War. To this day, we operate in the emergency room with many of those principles.

With this newest thrust on developing dual-use technology, how much of this is in regard to the biomedical sciences with potential for use in fields of medicine?

Mitch Davies: Thank you for the question.

I'd say that NRC's history in this regard is quite strong. If you think about the role that the NRC played in World War II in military matters, that extended subsequently to technologies such as stapling for surgery. These are things that cross over from the military battlefield and become something that is generally diffused as a part of our health system.

Today's version of that is equally important, though. What are we doing now? I'll give a couple of examples.

In the defence industrial strategy, we have a new challenge program that's been launched on biomedical countermeasures. What this means is that the forces need us to rapidly respond with countermeasures to threats they may face in the field. That same rapid response translates to pandemic response and meeting needs for Canada. We're happy that we've had a strong signal from the surgeon general of the Canadian Armed Forces to work closely with us to support programs in the biomedical area.

Secondary is the diagnostic medicine in the field. For an emergency doctor, sepsis is a very big concern in the emergency room. NRC has technology that's now been deployed with academic partners where we've been able to identify sepsis on a much faster time scale—which is relevant to being able to do something—using remote diagnostics microfluidics technology. The opportunities for military deployment in remote of this kind of rapidly deployed lab-on-a-chip microfluidic technology also can relate to things that we need in our civilian emergency rooms to support our health care needs. We think the opportunity to use this agenda to advance things that will help in the health care system is actually quite significant in that area.

Doug Eyolfson: Thank you.

I did not know that was being developed. That is valuable. We know now that in sepsis, which often identifies subtly in the emergency department, mortality goes up with every hour that we delay diagnosis and treatment. That does sound very valuable.

When we talk about responses to potential terrorist threats, the chances are small of these chemical, nuclear and biological terrorism threats. Is there ongoing research right now as part of the strategy for mitigating these kinds of threats?

• (1220)

Mitch Davies: Thank you for the question.

The NRC has very strong expertise in field-deployable nanosensors, which are aimed very much at detecting this kind of biohazard in the very small amounts. That would be deployed, obviously, by the armed forces if they're potentially concerned about risk, and it is also something that can be deployed for civilian purposes to protect populations.

Yes, we have experts in that. I think that's another area that can continue to be advanced, particularly as we're making significant investments in defence. It will have a benefit more generally as well. Yes, we have that kind of work going on at the council.

Doug Eyolfson: Thank you. That's very useful.

How much more time do I have, Madam Chair?

The Chair: You have 15 seconds.

Doug Eyolfson: With that, I will thank the witnesses for their answers and for coming.

The Chair: Thank you.

We will now proceed to MP Baldinelli, please, for two and a half minutes.

Then we will end the panel with the Liberals for two and a half minutes.

Tony Baldinelli: Thank you, Madam Chair.

Quickly, according to the National Research Council Act, under subparagraph 5(1)(c)(vii), the mandate of the NRC includes using its powers to do “researches, the object of which is to improve conditions in agriculture”.

Over the past several weeks, the Standing Committee on Agriculture and Agri-food has heard researchers, industry leaders, community reps and even provincial governments all deliver the same urgent message: Closing our agricultural research and development centres and experimental farm sites will cause long-term irreversible damage to Canada's agricultural research capacity, food security and food production.

Did the government ever consult NRC on this? What was your reaction to the closure of these sites?

Mitch Davies: Madam Chair, through you, I would share that the NRC has a research centre in Saskatoon that is very strongly focused on crop design.

The NRC's history in agriculture goes back to supporting the invention of canola, a multi-billion-dollar industry. We still see this as a key role. It's part of our strategy, going forward, to support agri-food in the areas of crop design, remote food systems and protein agriculture. This is under way. We've supported that through a challenge program over the last number of years.

It's a very high priority for NRC to stay focused on the agri-food economy as a big part of Canada's contribution to feeding the world, which we think is a very important thing. Of course, it's in our strategy, and we've maintained our support for that research—

Tony Baldinelli: Thank you for what you're doing in that regard.

What are your thoughts on the government's closure of these sites?

Mitch Davies: Through you, Chair, I would restrain my comments to what the NRC is doing. Of course, institutions that make decisions can come and provide information, in their own respect, on how they make those choices. I think those are questions better addressed to them. Thank you.

Tony Baldinelli: Quickly, also with regard to the mandate, subparagraph 5(1)(c)(v) talks about “the standardization and certification of the scientific and technical apparatus and instruments for the Government”.

Does that include things such as the national building code? Is that under the purview of the National Research Council?

Mitch Davies: The NRC serves as the secretariat for the system that creates the national building code, which is then put in place, from a legal point of view, by the provinces and territories, which have a responsibility to enact the regulations.

Tony Baldinelli: How does that—

The Chair: I'm sorry. The time is up, MP Baldinelli.

Tony Baldinelli: I just wanted to ask this: Could you provide to the committee how the process works? Are there provincial committees that feed in? Are there union representatives? Who sits on those boards?

If you could share this, that would be awesome.

The Chair: Thank you.

We will now end this panel with MP Rana for two and a half minutes.

MP Rana, please go ahead.

Aslam Rana: Thank you, Madam Chair, again.

Dr. Davies, government committed \$100 million over five years to the NRC's AI program, with over 325 projects launched in the first year alone.

What does that look like for small and medium-sized businesses on the ground?

Mitch Davies: Thank you for the question.

The AI assist initiative, which is part of the IRAP offering, is under way. We've been able to support AI firms that fit our profile in advancing very significant technology development. We are part of building an industry with advanced capability in AI in many areas. We've been able to see many companies through their development cycle with really significant support. Now that there is, as of today, an AI strategy with a broader set of initiatives.... A number of these small and medium-sized businesses are well positioned to participate in the broader strategy the government has now launched.

I think we've made the best use of IRAP's connections across the country. We have a very strong idea of who can benefit from this support. We've been able to deploy that funding, to very good effect, among the firms we work with.

• (1225)

Aslam Rana: The NRC results report flags talent retention as a key risk, as you compete directly with both the private sector and universities.

What has the NRC done, and what can be done by the federal government, to keep Canadian researchers and their IP from going out of the country?

Mitch Davies: Our goal is to hire the best people we can. We also have to find the profile of people who want to work in our environment. If you want to work on research full time—to be committed and focused on that, beyond your academic work—we offer a great environment. Whether we could provide the kind of compensation you'd get if you joined a start-up that will grow.... We might not compete on that basis, but if you want to work long term in research for the public good and see a benefit to your country, we're the perfect place to go. We've seen some people we hired go and join a start-up, obviously. That's good. If they contribute to our country, that's fine. In fact, that kind of fluidity between NRC and start-ups in the ecosystem is something we want to encourage.

We always have to ensure that our workplace is outstanding. If we look at what our people think about working at NRC—whether we support them and whether it's a well-run organization.... If we do that well, our mandate is very exciting. Hopefully, they're going to stay with us, but we have to really focus, as management, on making sure our workplace is world class.

The Chair: Thank you.

Aslam Rana: Thank you very much for your valuable time.

The Chair: With that, on behalf of all the members of this committee, I want to thank you for appearing before the committee and for the important work you are doing.

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

Some hon. members: Agreed.

The Chair: The meeting is adjourned.

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