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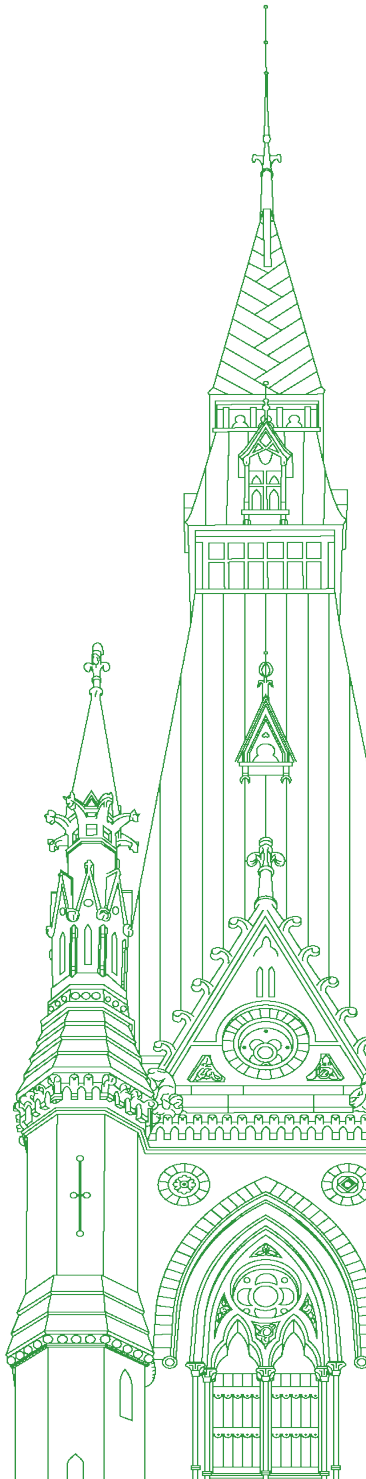

Chair: Mr. Lloyd Longfield

Standing Committee on Science and Research

Thursday, April 27, 2023

● (1100)

[*English*]

The Chair (Mr. Lloyd Longfield (Guelph, Lib.)): I call the meeting to order.

Happy Thursday morning to everyone. Welcome to meeting number 40 of the House of Commons Standing Committee on Science and Research.

Today's meeting is taking place in a hybrid format, pursuant to the House order of June 23, 2022. Members are attending in person in the room and remotely using the Zoom application.

I'll give a special welcome to Sébastien Lemire from the Bloc, who is joining us this morning as a sub. It's always good to see you in the room.

We are going to continue our study on support for the commercialization of intellectual property.

I would like to make a few comments for the benefit of our witnesses and 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 mike, and please mute yourself when you are not speaking.

For interpretation for those on Zoom, you have the choice at the bottom of your screen of floor, English or French. For those in the room, you can use the earpiece and select your desired channel. I remind you that all comments should be addressed through the chair.

For members in the room, if you wish to speak, please raise your hand. For members on Zoom, please use the “raise hand” function. The clerk and I will manage the speaking order as best we can. We appreciate your patience. We'll try to keep our eyes on members who are on Zoom.

In accordance with our routine motion, I'm informing the committee that all witnesses have completed the required connection tests in advance of the meeting. Thank you to our interpreters for helping us through all of that.

I'd like to welcome our witnesses. We have—

Mr. Dan Mazier (Dauphin—Swan River—Neepawa, CPC): I have a point of order, Mr. Chair.

The Chair: Let me welcome our witnesses, and then I'll take a point of order, if you're okay with that. Thanks.

We have three groups being represented this morning.

We have, as an individual, Neil Desai, senior fellow, Centre for International Governance Innovation. As an individual, we have Anne-Marie Larose, former president and chief executive officer of Aligo Innovation. From Copibec, we have Christian Laforce, executive director, and Gilles Herman, vice-chair.

We now have a point of order from Mr. Mazier.

Mr. Dan Mazier: Thank you, Chair.

I'm still waiting on responses from the University of British Columbia and the University of Calgary from March 21 in reference to revenue licensing for intellectual property and the percentage of intellectual property.

I'm informing the committee. I don't know how to get that. We would like that by the weekend.

On March 23, we also asked the department for tracking on patent data, and data from the technology transfer office. Could we get that by the end of the week? How does this all work?

The Chair: We'll make the request. The clerk can see what we can do. Thanks for the reminder.

I know the analysts are preparing reports in the background. We want to make sure we have all of the information available that we're expecting. The clerk will check into that for us.

Thank you.

● (1105)

Mr. Dan Mazier: Thank you.

The Chair: We now have three openings statements of five minutes each.

We'll start with Neil Desai, please.

Mr. Neil Desai (Senior Fellow, Centre for International Governance Innovation, As an Individual): Mr. Chair and members of the committee, thank you for the invitation.

You've already heard from the chair of the Council of Canadian Innovators and the CEO of the Innovation Asset Collective. These are organizations with which I'm affiliated, so I'll aim to make my comments additive.

It's worth framing our discussion by stating that we're at an important juncture for Canada's economy vis-à-vis the global economy. Canada's competitiveness has dwindled for multiple generations, while our cumulative public investments in "innovation" are among the highest in the OECD. It would be easy to chalk these results up to inferior researchers and entrepreneurs or to a culture of complacency, but these would be gross oversimplifications. I'm a firm believer that we must understand and evaluate the incentive structures if we're truly to tackle this matter, which is so important to maintaining Canada's standard of living.

Canada's innovation economic incentive structures, largely driven by our public investments, have not been focused on commercializing Canadian inventions by Canadian-headquartered companies to the benefit of all Canadians. Let's look at some of the largest innovation investments Canadian taxpayers make: our university research granting councils, the scientific research and experimental development tax credit, and the industrial research and development program. These multi-billion dollar annual investments are highly focused on discovery, research and development. We also have to count the subsidies to our universities and colleges since talent is so fundamental to the development of new technologies and growing innovative companies.

These investments and our other vast public innovation investments have led to incredible scientific discoveries and technologies. However, the widespread economic benefits to Canadians haven't resulted, and I ask why.

Again, I point to the structural considerations. Their program guidelines do not enable commercialization activities such as intellectual property strategies, demonstration pilots, clinical trials, and global sales and marketing activities. An innovation ecosystem that focuses so heavily on the upstream investments in R and D without back-end commercialization focus from Canada, and that has an economy open to foreign direct investment, is ripe to having those investments leak out to the benefit of foreign firms and jurisdictions. While I'm supportive of an open economy, I have to question the logic of our public sector using taxpayers' dollars to attract FDI in Canada's tech sector without ensuring those foreign investments will lead to commercialization activities from within Canada and contribute to our bottom line.

For Canadian firms that still choose to commercialize their inventions from within Canada, we also have to consider the structural barriers to scaling. I would especially highlight tax disincentives to scaling Canadian technology companies, such as the jump from small business taxes to corporate tax rates, personal tax rates and the taxation of stock options—an important, long-term incentive tool used by growth companies.

Beyond these general considerations, I would have you consider some of the subsector-specific challenges and opportunities.

In my sector, cybersecurity, leading jurisdictions realize that a growing domestic industry is not only a driver of prosperity but also integral to the security and sovereignty of their citizens and country. As such, they get to know their innovative firms intimately and in a structured fashion. They leverage non-tariff barriers such as national security considerations to ensure their domestic firms understand the acute threat landscape. They leverage their procurement regimes strategically to co-develop solutions with their vetted companies to address the challenges domestically that can subsequently be exported. They do this in a fashion that is compliant with their international trade obligations.

I believe we learned through the pandemic that domestic capacity—in both R and D and commercialization in strategic sectors like vaccines—drives security, sovereignty and prosperity concurrently. However, this takes foresight, meaningful public-private engagement and the leveraging of public resources in a strategic fashion. I believe Canada's cumulative public investments in innovation are sufficient to achieve this. The structures need to be aligned to incentivize Canadian companies investing heavily in R and D to start, scale and operate from within Canada.

I thank you for this opportunity and look forward to unpacking these remarks and drilling down into specific recommendations throughout our conversation today.

Thank you.

The Chair: Thank you very much, Mr. Desai.

We'll now move to Anne-Marie Larose, former president and CEO of Aligo Innovation.

[*Translation*]

Ms. Anne-Marie Larose (Former President and Chief Executive Officer, Aligo Innovation, As an Individual): Hello everyone, members of the Standing Committee on Science and Research.

I am delighted to meet with you this morning to discuss a subject I am passionate about and a sector in which I have worked concretely and actively over the past 20 years: support for the commercialization of intellectual property, or IP, that is the product of public research.

I was the president and CEO of Aligo Innovation, one of the three companies working on the commercialization of public university research before the creation of Axelys. Aligo was owned by ten of the 18 universities in Quebec.

The thoughts and information I would like to share with you this morning are found in a brief I co-wrote with Brigitte Lespérance. That brief, in 2020, proposed a reform of the structure for commercializing research in Quebec, based on two of the four commercialization companies having successfully united by creating Aligo, in a context in which the universities and the Quebec government had initiated discussions for reviewing the model for commercializing university research in Quebec.

I would like to talk to you this morning, more specifically, about the commercialization of intellectual property, or IP, free of third party rights, also called "orphan IP". "Free of third party rights" is understood to mean that the IP is not subject to commercial rights granted to companies, which is generally the case when the research is funded or co-funded by private partners. In that situation, the commercial development partner is already present.

In these brief remarks, I would like to highlight a few issues, obstacles and factors for success in maximizing the socioeconomic benefits of IP.

An initial point concerns the technology transfer process, which is long and complex. It calls for a vision and long-term measures, and patience and resources that universities do not necessarily have.

We have to recall that about 10 to 15% of invention disclosures will be commercialized by transferring the IP. Seven to ten years, or even more, may pass between an invention disclosure and the first royalties from a transfer.

The example of Stanford University is instructive. With 500 invention disclosures a year, it had to wait almost 20 years before seeing its royalty revenue increase substantially. Stanford now finances itself with that revenue, in particular thanks to a few successes, like Google, although fewer than 1% of its licensing agreements bring in significant amounts in royalties.

My second point concerns the need to make business decisions at all stages of the transfer process. This means that there must be a dedicated, seasoned team with multisectoral competencies, agility, and the collective intelligence to assess and carry out commercialization plans proactively, with independence and a capacity to make good business decisions.

My third point concerns the need to reduce the technological and business risks of the innovations, which are generally at stages that are too early to attract strategic or financial partners. This means that apart from a budget to fund the patent applications, it must also provide an internal funding capacity to mitigate the risks of the technologies.

My last point proposes a paradigm shift in the way we look at commercializing IP free of third-party rights.

The commercialization activity has to be dissociated from other forms of exploitation and transfer, including open and collaborative research, since the dynamics and orientations of the activities are different.

As a result of their obligation to support research and research infrastructures, universities therefore generally prioritize activities that generate revenue in the short and medium terms.

However, in a technology transfer process, the intellectual property must be treated as an asset with an economic value, and all activities and decisions concerning the asset must be market-oriented, with a clear transfer and socioeconomic impact objective.

The purpose must not be to fund research, but rather to create new products and new services. Decisions must be base on commercial and business imperatives. This dynamic is oriented not toward the needs of the universities, but toward the market.

In conclusion, since the purpose of the commercialization of IP developed using public funds and free of third party rights is to create socioeconomic wealth, it would be wise for the government to directly support all of these activities and require a return from them.

● (1110)

Thank you for your attention, and I am available to answer your questions.

[*English*]

The Chair: Thank you very much for your testimony. It's on time.

Finally, we have a representative from Copibec for five minutes.

Go ahead, Gilles Herman.

● (1115)

[*Translation*]

Mr. Gilles Herman (Vice-Chair, Copibec): Hello. Thank you for inviting us to this committee.

My name is Gilles Herman. I am the CEO of Les éditions du Septentrion and the vice-chair of Copibec. With me is Christian Laforce, the executive director of Copibec.

Copyright is enshrined in article 27 of the Universal Declaration of Human Rights. However, striking a balance between access to knowledge and respect for the work done by the people who produce it is a delicate operation. This is no trivial exercise: freedom of expression can only exist when authors are able to make a living from their work. In some fragile democracies, the creation and development of copyright collective societies is one of the structuring levers that contribute to ensuring political stability.

A collective rights society is a not-for-profit organization that is responsible for administering the rights assigned to it, collecting royalties based on various models established, and redistributing that money to the rights holders. Copibec is the Quebec collective rights society that operates in the print media sector and represents authors, publishers, journalists, newspapers, magazines and visual artists. Copibec also manages agreements with over 30 foreign rights societies, thereby ensuring reciprocity in the protection of works in all those jurisdictions.

The copyright regime is the cornerstone that for over two centuries has enabled this sector of the economy to grow. Today, Canadian publishers generate a gross domestic product of approximately $750 million and employ almost 10,000 people. The copyright regime enables creators to make a living from their work, and publishers to find new outlets for the works for which they are the agents. In 2018-2019, the export market for Canadian titles amounted to almost $100 million, $7 million of which came solely from sales of rights.

Copyright is also an engine of social development. People have the right to access works in which they see themselves. Students have the right to access works throughout their education that refer to their immediate environment. In return, creators have to be able to make a living from those works. The educational world has always been a major consumer of cultural and intellectual content. It is intrinsically connected with the development of the print media sector. As access to education has improved, the needs of the schools have grown. This means that growing numbers of creators are able to make a living from their work, thanks in part to the royalties they are paid by rights societies.

In 2012, when the Copyright Act was modernized, Parliament added a number of exceptions under which intellectual property could be circumvented, in particular by introducing the concept of fair dealing for educational purposes, but without specifying limits on its application. Since then, educational institutions have withdrawn in large numbers from the copyright regime. The financial losses directly attributable to this gaping hole in our legislation, on the order of $200 million in ten years, threaten an entire sector and interfere with its sound economic development.

What entrepreneur today, whether Canadian or foreign, would want to invest money in a field in which one of the main outlets is now without the legal protection that does exist in a vast majority of our economic partners? The damage caused by Canada's Copyright act is in fact a cause for concern in numerous countries, and voices of international players have often been raised to criticize it.

In their mandate letters, the Minister of Canadian Heritage and the Minister of Innovation, Science and Industry were both given the mission of remedying this unfairness. The 2022 federal budget also mentioned the government's commitment to ensuring fair remuneration for creators and copyright holders. Still, nothing has happened.

Knowing full well what it is doing, the Canadian government has shown itself to be negligent in this matter. It is time to take strong and courageous action and to put an end to this injustice. The legislative framework must be changed to encourage the commercialization of copyright, ensure that the book and publishing industry is sustainable, and, at the same time, protect Canadian culture.

Thank you for listening. Of course, we are prepared to answer your questions.

The Chair: Thank you, Mr. Herman.

[*English*]

We're going to move to our first round of six minutes each. We will start with Ryan Williams.

Go ahead, Mr. Williams.

Mr. Ryan Williams (Bay of Quinte, CPC): Thank you very much, Mr. Chair, and thank you to our witnesses.

Ms. Larose, I was really interested in your comments about orphan IP. We all know on this committee that we can't commercialize something we don't own.

How much orphan IP is there in Canada, and how do we help make that orphan IP non-orphan IP?

● (1120)

[*Translation*]

Anne-Marie Larose: That is an excellent question.

In Quebec, for example, we invest over $2.5 billion in research, most of that from public funds. A large portion of the intellectual property generated is considered to be orphan IP, since it was created using public funds with no commercial partner involved. That is how orphan intellectual property is defined.

This involves a slightly different process. Because there is no partner, you have to seek out the right one. In Quebec, in nearly 50% of cases, a spin-off company will be created to commercialize the orphan IP, if it is worth doing that. Otherwise, in the other cases, the intellectual property is transferred to existing companies to make them more competitive.

The number of orphan IPs in Quebec is a good question. I don't have figures on that, but I would say that about 500 invention disclosures a year are made in all Quebec universities combined and a large majority of them constitute orphan IP.

I hope I have answered your question.

Mr. Ryan Williams: Completely. Thank you.

[*English*]

How do we help, in general, intellectual property holders find partners? This is probably the hardest position. It's almost like matchmaking—a bit like forming a good relationship or a great partner.

What recommendations can you make, based on your knowledge, on how we can help intellectual property holders find interested business partners to commercialize this and vice versa?

[*Translation*]

Ms. Anne-Marie Larose: That is another excellent question.

There are various structures inside and outside Canada's universities. In Quebec, there is a commercialization company that does the work now. For eight years, I was the president and CEO of a commercialization company with precisely that mandate. First, the usefulness of the IP has to be assessed, to determine whether it should be commercialized and consider a technology transfer. In fact, we should not wait for the phone to ring, we just need to be proactive in finding partners in Quebec or Canada or internationally that will see a benefit in acquiring this IP.

So this is work that calls for a critical mass of internal competencies. The small universities with few resources are at a bit of a disadvantage. Grouping this orphan IP for commercialization purposes is certainly an important avenue. You need to be proactive and make a commercialization plan. As I said, you also need to make business decisions all throughout the commercialization process. If you think at the outset that there are a commercial avenue and a potential partner, but ultimately, when you talk to the companies, you realize there is no longer a commercial avenue, for one reason or another, you have to be able to stop the process.

[*English*]

Mr. Ryan Williams: Thank you so much.

Mr. Desai, you talked about changing our tax credit system to ensure that we benefit and about FDI and other measures. Can you please expand on those comments? What do we need to be doing for tax credits to ensure we are able to protect and commercialize our IP?

Mr. Neil Desai: Thanks for that question.

I'll just very quickly preface my answer by saying that while I was introduced with an academic title, my day job is within a company called Magnet Forensics, a cybersecurity company out of Waterloo, Ontario. We're exporting to over 100 countries. I just wanted to give that context. We're an IP-intensive business.

Very quickly on your last question, I don't want to oversimplify this, but a catalogue would be helpful. Federal labs and university researchers are doing work in our space, a subset of cybersecurity called digital forensics. We've come across individual researchers in the federal lab system who tell us about incredible catalogues of digital forensic research, but you have to find the individual person. In our case it was in a lab in rural Quebec. It's very hard to evaluate them and, as a Canadian company, to put investments in to evaluate them when you don't know, practically speaking, what's out there. I think we could look at simple investments in catalogues of the extremely expensive IP that we've generated publicly in this country.

To your question about taxes, there's long been discussion of SR and ED reform in this country. Let's just look again at the incentive structures. Let's not be emotional. Let's be hyper-practical. Today we incentivize companies that are not profitable with a better tax credit than we give to those that are successfully commercializing the technologies they are developing through the SR and ED credit.

If I were incentivizing someone, I would pick those who have demonstratively been able to commercialize their technologies to create positive flywheels. In fact, the SR and ED tax credit today is the opposite. That's one example.

● (1125)

The Chair: That's great. Thank you so much.

We're a bit over time, but we appreciate the answers and the great questions from Mr. Williams.

We'll continue with our questions from Valerie Bradford for six minutes.

Go ahead, Valerie.

Ms. Valerie Bradford (Kitchener South—Hespeler, Lib.): Thank you, Mr. Chair.

Welcome to all the witnesses.

I was particularly interested in hearing about Copibec. This has been a fairly lengthy study so far. I don't believe we've had many witnesses dealing with copyright issues and things like that. I'm interested in exploring that a little further.

Can you please describe the specific services and products you provide?

[*Translation*]

Mr. Christian Laforce (Executive Director, Copibec): Certainly.

When the users at the various schools, universities and CEGEPs use publications that are part of our catalogue, based on the statements received, we redistribute the money paid to the publishers and authors. We also have other mechanisms, including services we offer to rights holders. There is even work done upstream in connection with signing licences with the Quebec ministère de l'Éducation, cities and other ministries, and with postsecondary institutions. Those are the services we offer.

We do awareness raising and data collection, and we redistribute the money received through our various licences.

Mr. Gilles Herman: If I may clarify something.

In very concrete terms, when a work or an excerpt from a work is used in teaching, in particular, but in any context, the licences that Copibec offers allow people to use the excerpts of works entirely legally, in exchange for financial compensation. Copibec collectively manages the collection of those payments and redistributes them directly to the rights holders, that is, the publishers and authors.

[*English*]

Ms. Valerie Bradford: My next question is, can you describe your collective management approach? How does it support content creators and copyright holders?

[*Translation*]

Mr. Gilles Herman: The income of rights holders in relation to the publication of texts, whether they are book or newspaper publishers, which we have heard a lot about recently in other contexts, is derived from two things: the sale of the finished products, for example subscriptions, in the case of newspapers, and the use made of the works in various contexts. The money that Copibec or its English-Canadian counterpart, Access Copyright, pays to rights holders is a major part of those people's income. Most importantly, this allows a national market for creating works, that also reflect the individuals who want to access them, to be created. The national market also enables works to be created that can be exported.

We have to understand that we are not talking just about works of fiction. These are not just novels, poetry and things like that; they are also newspapers and textbooks in science, administration, economics, computer science, and so on. All forms of intellectual creation that is in text form will be subject to copyright. This is a very significant source of income for creators. Publishers travel all over the world, year-round, to encourage translations, but also to sell adaptation rights for cinema, video games or whatever you can imagine.

● (1130)

[*English*]

Ms. Valerie Bradford: Thank you.

Ms. Larose, I was wondering if you could elaborate on how Aligo Innovation enhances the IP assets of the 10 Quebec universities and their affiliated hospitals and research centres.

[*Translation*]

Ms. Anne-Marie Larose: First, Aligo Innovation ceased doing business in 2021 when Axelys was created. In Quebec, at present, there is only one commercialization company, which combines the staff from the three companies that existed before. My team at Aligo is now with Axelys. My excellent team has joined the staff of Axelys.

I can't talk about Axelys' business model, but I can talk about how we operated at Aligo. For each file or invention disclosure we received for commercialization, we had to establish a strategy and put in the necessary efforts, proactively, to find commercial partners. That involved a number of challenges, including the challenge of the lack of maturity in the universities' business and technology projects. That is a major obstacle.

At Aligo, we had an internal funding envelope that allowed us to do rapid prototyping and certain validations. When we talked to a business partner that was interested in a piece of IP, or if a start-up was having to persuade investors, we had the capacity to fund certain activities and proofs of concept in order to answer those questions rapidly.

You can't wait until you have a contract with the university and get the answer six months or a year later. This has to function in a business dynamic. That is what we did at Aligo, and we did it well. It is continuing at Axelys, but on a slightly different model.

[*English*]

The Chair: Thank you very much.

[*Translation*]

Mr. Lemire, the floor is yours for six minutes.

Mr. Sébastien Lemire (Abitibi—Témiscamingue, BQ): Thank you for your welcome, Mr. Chair. It is a pleasure and an honour for me to sit on this committee.

I had supported the discussions that led to the creation of this committee, although I was disappointed to see those subjects leave the Standing Committee on Industry and Technology. Still, I think it is for the best to address them here.

The important issue is the one identified by the people at Copibec regarding copyright protection. We heard from those people at the industry committee not so long ago. They also participated in similar studies at both the Standing Committee on Canadian Heritage and the Standing Committee on Industry, Science and Technology. Those committees produced excellent reports in 2019. One of the recommendations of the heritage committee, recommendation 18, says:

> That Government of Canada amend the Act to clarify that fair dealing should not apply to educational institutions when the work is commercially available.

Can you talk to us about the importance to your industry of reviewing that act?

Mr. Christian Laforce: Mr. Chair, I am going to answer the question and Mr. Herman can add to my answer if he likes.

This law allows use with no limits or compensation for artists and book publishers. That also means that universities, in particular, could decide to use an entire book by claiming fair dealing based on classroom needs. The fact that no compensation is paid to the authors and publishers results in a loss of income to the publishing industry. That is in fact what we have seen for more than ten years now.

This loss of income impoverishes the publishing industry and the lack of money means a loss of reinvestment in discovering other artists and other publishers. So it truly impoverishes the Canadian publishing industry.

● (1135)

Mr. Sébastien Lemire: Consequently, I imagine that it has an enormous impact on the desire of some authors to publish their works.

Mr. Herman, in your opening remarks, you used the word "negligent". Do you feel that the government is hearing your call? Why is it taking so long for concrete measures to be taken to protect copyright?

Mr. Gilles Herman: Thank you for pointing out how long the process is.

The act was modernized in 2012. Of course, the recommendations of several commissions and committees were taken into consideration. In 2011, for example, representatives of the academic community said that the new act was working to pay royalties to copyright holders. The act included a five-year deadline for reviewing it, and so in 2017, the work began. We are now in 2023, but nothing has come of it. As you said, both the Standing Committee on Canadian Heritage and the Standing Committee on Industry and Technology submitted very good reports.

The situation is critical today. I would point out that the Canadian book and publishing industry contributes $750 million to the country's gross domestic product and that book sales bring in $2 billion. The industry is in crisis, for one thing, because the outlets in the academic world are shrinking before our eyes. We are talking about a $200 million loss in ten years, a direct loss for which there has never been any compensation.

The risk is that the education sector of tomorrow will no longer be teaching Canadian content, because Canadian publishers have will quite simply disappeared. The field is thus being left open to American, English or French publishers, who will be able to occupy our classrooms, and this is absolutely scandalous.

Mr. Champagne, in whose hand the pen sits for making the legislative changes, should be asked why has not yet done anything about this. He is constantly being asked to do it.

Mr. Sébastien Lemire: Actually, you do know that I sent a letter to Mr. Champagne in October in which I asked him to take a position. When he appeared before the Standing Committee on Industry and Technology, I asked him questions about the urgency of enacting a bill that will protect copyright. He replied that the issue was important and he was working with his colleague Mr. Rodriguez, who has heard the views of the industry and universities. He said that this was one of his priorities, that he was going to continue working with the industry, that he had respect for creators, and so on.

In my opinion, there is another problem, and that is the academic view. I have trouble understanding why they see this as an additional expense. Why does the academic community not value copyright? Book publishing promotes the transmission of knowledge and makes it possible to give the creators financial compensation.

Why are the universities so resistant to this?

Mr. Gilles Herman: It is essentially a financial problem. The universities have decided to save money on the backs of rights holders. There is no other way of seeing it. In most of the countries with which Canada does business, copyright is respected. I would clarify that when I talk about the situation in Canada, I am talking about Canada with the exception of Quebec. In Quebec, the provincial government has always upheld copyright. Universities and educational institutions in Quebec continue to pay their royalties.

Frankly, outside Quebec, royalties have disappeared. We have trouble understanding why universities, that promote intellectual creation, do not support this. Just like patents and any invention that is made in research laboratories, intellectual production should be valued. So it's a matter of saving money.

Mr. Sébastien Lemire: Thank you.

Once again, I congratulate you on your perseverance!

[*English*]

The Chair: Now we have Richard Cannings for six minutes at the end of this round.

Mr. Richard Cannings (South Okanagan—West Kootenay, NDP): Thank you to the witnesses for being here. This has been very interesting.

I'd like to follow up with Copibec's testimony.

I'm an author myself, and I get payments every year from Access Copyright. My first question is this: How are you related to Access Copyright? Are you the Quebec version of that? Is Access Copyright more for the anglophone community of authors and producers?

[*Translation*]

Mr. Christian Laforce: It's more a geographic issue. We represent Quebec publishers and authors that are within Quebec, and we have a reciprocity agreement with Access Copyright, which serves the rest of Canada.

● (1140)

[*English*]

Mr. Richard Cannings: Thank you.

I'm so glad we are talking about copyright here, because it is an issue of IP. I have had more experience in this realm, because, as you were saying, I've seen my copyright payments really slashed over the last few years. Fortunately for me, I have never written books to make a living, but I know friends of mine, constituents of mine, do depend on those payments to make a living, and it has been very difficult.

I'd like to get a clarification on what you said about Quebec. From what I understood from your last statements, the Quebec government has stepped up to pay Quebec authors these copyright payments, but outside Quebec is where we've seen the losses.

[*Translation*]

Mr. Gilles Herman: I'm delighted to know that you are an author yourself and receive royalties from your writing. You will understand that if an excerpt from one of your books is used in an educational institution in Quebec, you will receive royalties through Access Copyright, which is our partner, but if your work is used in a Canadian university, you will probably not receive royalties.

The unique feature of Quebec lies in the fact that its government adopted a unanimous motion to defend copyright. So when the time comes to negotiate licences with educational institutions in Quebec, the general state of mind means that the institutions have not yet dared to withdraw completely from copyright. However, the royalties have still fallen by half in the last ten years, and we do get the feeling that the educational institutions are looking at the rest of Canada and saying that ultimately they too should maybe just withdraw and save money on this point. It's a matter of time.

The Copyright Act is a federal statute. It is not a practice that goes on in Quebec at the moment, and that is supported, but there is nothing to prevent the educational institutions from simply withdrawing tomorrow, as the rest of Canada has done.

[*English*]

Mr. Richard Cannings: I heard some mention in your testimony, before I began, about what was going on in the rest of the world. How do other countries handle copyright in terms of universities, colleges and grade schools using materials? Is this same issue there, or are those copyright funds sent out more thoroughly?

[*Translation*]

Mr. Gilles Herman: The image of Canada internationally has definitely suffered when it comes to copyright. People now talk about the Canadian flu when they discuss this issue.

As recently as yesterday, at a round table, I was talking with the director general of the International Publishers Association. In answer to the question of what he thought about the copyright situation in the world today, he said that we must not do what Canada does. That shows you the state of mind about what Canada represents today to our partners when it comes to copyright.

In most countries, in Europe in particular, there are collective rights societies. Once again, the education sector is one of the main users of content and excerpts of content. So that is where the money comes from. Today, Canada has a poor image and is a black sheep, to such a point that publishers have already withdrawn from the Canadian market. Oxford University Press has withdrawn from the Canadian market and stated that it would no longer do business with Canada because Canada does not respect its rights. Gallimard, which is really not a minor publisher in France, has already said the same thing.

The present situation really is a source of concern.

[*English*]

The Chair: Thank you, Mr. Cannings.

Mr. Lemire, I feel like I'm back on the industry committee with you. We've had these conversations.

We'll go over to Mr. Soroka, please.

Mr. Gerald Soroka (Yellowhead, CPC): Thank you, Mr. Chair, and thank you to all the witnesses for coming today.

I'd like to start off with Ms. Larose.

You mentioned that Stanford University is now self-funded because of the royalties they are receiving, even though it took 20 years. Are other universities able to do this or is that just an anomaly?

● (1145)

[*Translation*]

Ms. Anne-Marie Larose: That's a very good question.

Stanford University began its technology transfer activities nearly 40 years ago, so, for quite a while now. One must be patient when it comes to transferring orphaned intellectual property, as I mentioned. It's a lengthy process, and obtaining substantial royalties is time consuming. You also have to understand that Stanford University has a critical mass of cases. It alone receives 500 invention disclosures per year, while all of Quebec's universities combined receive the same number. So that's an important consideration.

Stanford University generates interesting statistics because of the volume. In fact, 1% of the cases bring in significant revenue, and between 2% and 5% generate revenue of about $100,000 per year. So it's not a lot. I'll let you do the math for Quebec with its 500 invention disclosures per year. The important point is that these statistics are fairly consistent across the board. In fact, I've worked with Belgium, France, and other groups, and they're essentially the same statistics in terms of benefits, efforts, and royalties.

Stanford University is indeed in a class of its own, not only because of the critical mass of cases, but also because of the critical mass of its expertise devoted to technology transfer, as an example…

[*English*]

Mr. Gerald Soroka: I'm sorry to interrupt, but I only have five minutes.

I see there are other factors to consider as well. Thank you for that.

I'll go to Mr. Desai before I run out of time.

My colleague Ryan Williams asked you a question about other tax changes. Could you please send more information in writing, if you have some to share with us?

Mr. Neil Desai: I'd be happy to do that.

Mr. Gerald Soroka: I have a question for you, sir. You said there are several failures within the structure we are producing right now for getting the commercialization of IP. Could you please give us examples of where the failures are and how we could make improvements?

Mr. Neil Desai: Absolutely.

I think you have to go to the first principle. What is the general unit to successfully commercialize IP?

We've spent a lot of the discussion today on universities. I think they are extremely good generators of ideas that become intellectual property, but to see commercial success, as in a lot of the examples that have been given here, the basic unit is a company. I worry that our system doesn't incentivize researchers to actually create companies.

We gave the example of Stanford previously. There are streams for researchers to take without having to leave the academic institution, with opportunities to create companies. That's how you get virtuous feedback loops over a span of 40 years.

You can see along the way these structural points I am making. They are hyper-technical, but they are obvious at the same time. There are disincentives today at universities to commercializing IP. If you step away from your research bench, you can lose your research grant or your opportunity to get tenure. There are structural barriers in the academic systems.

I mentioned taxes on the growth of a company, but I think we can go even further upstream to see why folks choose not to even try to commercialize their IP when we have so much IP just sitting out there being gobbled up by foreign entities or just sitting on shelves because people don't know about it, as with like companies like mine.

Mr. Gerald Soroka: Would you say, then, that these companies aren't even worried about universities trying to patent or do contracts with them because universities have such stringent regulations? These companies will work with companies such as Huawei, but they're not even worried about having to patent or about the potential for national security risks when working with companies like this...if the regulations aren't changed.

The Chair: You have 20 seconds.

Mr. Neil Desai: I would look at the size of the company and the source country of those types of companies, or the beneficial ownership of them. Twenty seconds isn't enough time to get into that. I would be happy to table some content on that.

I really think we need to focus on what we want to achieve here. If it's commercialization from Canada, work backwards from that. Right now, we treat anyone who incorporates a business from Canada.... Their ability to do a research partnership with a Canadian university regardless of—

Mr. Gerald Soroka: Mr. Desai, I know I'm over time, so could you please submit that in writing in the interest of time?

● (1150)

The Chair: Yes, thank you. It's a great suggestion and those were great questions.

Mr. Collins, you're up next for five minutes.

Mr. Chad Collins (Hamilton East—Stoney Creek, Lib.): Thank you, Mr. Chair.

Thanks to the witnesses for their attendance today.

Mr. Desai, I'll start with you.

From an international perspective, we've heard from witnesses at other committee meetings about different areas of the world where there are policies and investments being made that may differ a bit from the current ones the Government of Canada offers. Fraunhofer comes to the top of the list. That one's been referenced many times.

Could we have your experience on models to look at for policies and investments being made internationally that we might be able to tweak for our own policies and copy.

Mr. Neil Desai: I'd invite you to look at an organization called In-Q-Tel. Again, I come with a bias of cybersecurity and software, so that's what I know best. In-Q-Tel represents the 21 U.S. intelligence agencies—everything from the CIA to military intelligence to defence intelligence, etc. It has a full gamut of tools not only to address the needs of the intelligence community from a technology perspective, but also to see technologies commercialized from the United States to the benefit of Americans. It even uses this as a draw to get foreign companies to come to the U.S., make investments there and work with researchers on big, technical challenges.

I'd invite you to study its model, because it goes right from pre-IP companies or researchers through to technologies that have dual-use purposes that could solve one of its technical challenges. It also has a huge prosperity commercialization opportunity.

Mr. Chad Collins: Thanks for that.

I'll shift gears and now focus on the provinces.

I think you said you're located in the province of Ontario, so you likely have some interaction with the Province of Ontario. I found in my early days here that oftentimes we see governments working in silos, unfortunately. The provinces are doing their thing and the federal government is doing its thing. Sometimes there's some overlap, but oftentimes we don't see a lot of coordination and collaboration.

Can I get your thoughts on how the provinces and the federal government should be working together to ensure that the investments we're collectively making are making a difference? In your case, it's in the tech sector.

Mr. Neil Desai: I think it's about alignment. When you're trying to reach global markets, access big ideas to create net new things the economy hasn't seen before and move the needle on GDP—because I believe that's the goal—that requires alignment. I'm pleased to see it's happening in some sectors on the EV and battery side.

Getting down into the details level on that and into the IP discussions is really important. Also, it's important to be focused not on where the puck was but on where it's going, so that we can get ahead of sectors and so that, frankly, we're not just doing a “me too” with our American or European counterparts but creating net new opportunities. I don't just mean this for technical researchers or for people to sell these products for operations jobs. It's for good, high-quality, middle-class jobs.

That takes bets and it takes risk, and I think that risk could be better shared between the federal government, the provincial government and companies. I think companies are something the government really struggles with, so I would say, to your question about alignment, that you should include companies as part of the team in those discussions.

Mr. Chad Collins: Thank you for your answer.

Ms. Larose, obviously we see incredible policies that coming out of the province of Quebec. I look at housing, for instance, and at child care policies that go back decades. We see the same in innovation with IP and some of the policies highlighted by other witnesses that are out of the province of Quebec.

Can I ask you what the rest of Canada has to learn and what other provinces might have to learn from the policies that have been established in your province?

[*Translation*]

Ms. Anne-Marie Larose: That’s a good question.

I would say that Quebec’s model of research enhancement corporations is interesting. Having people with a critical mass of skills to handle cases in a single entity allows for more appropriate management of intellectual property.

Intellectual property falls under federal jurisdiction. There are certainly things that can be done in that respect to improve access to intellectual property.

I would add that each university in Quebec and Canada has its own rules regarding intellectual property. There is no harmonization of rules, which presents challenges. The rules are similar, but some universities, for example, have transferred the intellectual property to a private partner without too much of an issue. Other universities will never want to assign intellectual property, as is the case in the United States, by the way, where intellectual property is never assigned. So there are…

● (1155)

[*English*]

The Chair: Thank you—

[*Translation*]

Ms. Anne-Marie Larose: Intellectual property is never assigned.

[*English*]

The Chair: Thank you very much. I wish we had more time, but we don't.

[*Translation*]

Mr. Lemire, you have two minutes.

Mr. Sébastien Lemire: Thank you, Chair.

The issue of time is certainly not trivial. I wish I could have asked several questions. For example, in terms of funding, what would something like revising the copyright fee to $13.50 per student mean? What about the way other countries view Canada?

I thank my colleague Richard Cannings for asking that question. For my part, I have a question for the Copibec witnesses that will be of interest to our analysts.

What concrete recommendations do you have for this committee to advance the issue of copyright, whether it's your rights or the rights of partners you work with, such as the National Book Publishers Association?

Mr. Gilles Herman: Thank you.

It's important to understand that today we need to change the legislative frameworks to allow the commercialization of copyright in Canada, that is, in our domestic market. Without this, it will be impossible for rights holders to negotiate with educational institutions, which have long been major users of content.

The Standing Committee on Canadian Heritage's report contained 22 recommendations. We are only asking that recommendation 18 be put forward. It says that if there is another commercial opportunity for the use of a work, universities should be required to pay those royalties. It's quite simple.

The teams are aware of this recommendation. All that's needed is the political will to make this legislative change.

Mr. Sébastien Lemire: This legislative change, which would result in a legal requirement, has been overdue for a decade. I believe that the lack of response from the government feeds a certain amount of cynicism and diminishes trust in our institutions.

I'd like you to talk about this notion of trust in the institution of the federal government, specifically in the context of its inaction.

Mr. Gilles Herman: You can appreciate that the level of trust is at an all-time low. We've been in a constant struggle for 11 years now to make this change. We've seen our revenues melt away. Publishers are starting to downsize or even close their doors. So we're becoming increasingly impatient.

That said, as you mentioned, we're not giving up. We will do our utmost, including with our international partners, to change the situation in Canada, because it's become increasingly intolerable.

Mr. Sébastien Lemire: I would have liked to hear your thoughts on the collective model and how that is one of the great strengths. Unfortunately, my time is up.

Thank you very much for your efforts and perseverance.

[*English*]

The Chair: Thank you.

Mr. Cannings, you have two and a half minutes, please.

Mr. Richard Cannings: Thank you.

I'll turn to Mr. Desai. You're in cybersecurity and deal in software.

We had a witness in our last meeting who brought up an issue around when a researcher or a company wants to commercialize IP. A decision has to be made about whether you patent it or try to commercialize it through contracts and licences, because if you patent it, you have to basically show the code.

I'm just wondering if maybe you could talk about that from your experience in your field.

Mr. Neil Desai: Yes, I think that's definitely a consideration.

Patents are a tool within an IP strategy, but there are others, trade secrets being a large one and utilizing software being another.

Sophisticated growth companies that are exporting globally have an IP strategy, and I think sometimes we use "IP strategy" and "patent" as synonymous when they are not. There are some things that won't pass patents, and for some things, frankly, data strategies coupled with high-quality IP strategies might supersede a single patent.

The goal for companies younger than ours would be to have an IP strategy. Often a patent might be non-accessible from a cost perspective. Understanding what you're working on and where the value resides today or could reside in the future is an imperative to ensuring our public investments. It concerns me when I see leakage, especially outside of Canada, in our vast public investments and they end up outside the country. That's not just from a prosperity perspective. There are some security considerations there.

Thanks for the question.

● (1200)

Mr. Richard Cannings: Just quickly, Madam Larose, could you comment on that too and perhaps this business of open research versus IP?

The Chair: You have 30 seconds.

[*Translation*]

Anne-Marie Larose: In fact, open research can also be protected. So we should be careful with definitions. Open research is collaborative research in which you make intellectual property available to partners. So there can also be patents in open research.

That said, it's not limited to patents. I was just talking about third-party open intellectual property. We've seen several successful cases of technology transfer where the intellectual property wasn't through patents, but through copyrights on code or other kinds of intellectual property.

That's why patents are not an end in themselves for intellectual property, especially in information technology.

[*English*]

The Chair: Thank you very much.

Thank you to all the witnesses who were here this morning. There were great questions and great answers. The analysts have a job in front of them.

We'll now suspend briefly while we set up our next panel.

● (1200)

_____(Pause)_____

● (1200)

The Chair: We'll go on to the next panel.

Welcome to our witnesses, who are here in person, which is a delight to see. I don't have to tell you about Zoom and all of that, but I'll just mention that any questions or comments should be directed through the chair.

Now I'd like to welcome both of our witnesses. As an individual, we have Todd Bailey, who is an intellectual property lawyer, and from the Agri-Food Innovation Council, we have Serge Buy, chief executive officer.

The first presenter is Todd Bailey. You have five minutes. The floor is yours.

Mr. Todd Bailey (Intellectual Property Lawyer, As an Individual): Mr. Chair and honourable members, thank you very much for the invitation.

Who am I? I am a lawyer, a patent and trademark agent and an engineer. For the last 20 years, I've been working on the business side of intellectual property in Canada. I've filed thousands of patents, and I've personally trained over a thousand engineers, technologists and business leaders about intellectual property. Today I am the chief IP officer at the Scale AI supercluster, where I've been involved with more than 100 Canadian AI projects. It's all these experiences that bring me before you today.

IP law is complicated, but as a tool of business, IP is not complicated. Canadian entrepreneurs, business people and legislators all have incredible common sense and business judgment, and all of this knowledge is equally applicable to the world of intellectual property.

For example, tonight some of us will go home and relax with our favourite streaming service—Netflix, Crave or whatever—but what are you going to choose to watch? Will you choose the streaming service that has the most copyrights? Will you choose the most innovative, avant-garde show out there? Probably not, because we already know from our everyday experiences that IP and innovation alone do not make customer choice. To be successful, you need innovation that customers want, and then to get the full commercial benefit, you need the right IP measures to support.

Technology innovation and patents work exactly the same way. It's market-relevant innovation that's the driver, and IP plays a very important supporting role.

What else do we already understand about commercializing innovation? Economics 101? It's supply and demand. Almost every witness at this committee has agreed on one thing. Although Canada's supply of innovation is pretty good, the industry demand is weak.

You've heard that our university research is robust, but finding industry partners is hard. Our start-up and VC community is one of the best outside of Silicon Valley, but they can't find the Canadian customers who are essential for scale-up.

Commercialization is all about stimulating demand. We can't start selling more unless Canadian companies start buying more. Scale AI's recent research report, "AI at Scale", comes to the same conclusion in Canadian AI. However, fostering innovation demand isn't just about supporting financial risk. That's why Scale AI is connecting industry customers to academia and to start-ups, because those connections foster demand and they provide a customer focus to direct innovation. The Canada innovation corporation could play a similar role for Canada.

Turning to patents, what do we already know? Patents leverage the business value of innovation. That means patents sit at the intersection of innovation, IP law and business. What you might not know is that well over half of all patents miss their business target, which severely impacts their strategic value as an IP asset. The inventor and the legal professional working together cover the technology and legal angles, but more than half the time, there's no ongoing business guidance to direct the creation of that asset.

If we just increase Canada's patent output, we can expect a very high ongoing failure rate to meeting our IP goals. Reducing that failure rate by even a small amount will help Canada build a higher-quality IP position versus our global peers. As a smaller country, Canada must work smarter.

The last thing I want to touch on in particular is education. What does common sense tell us about education? What we teach and how we teach matter. If we want to build the next generation of chess grandmasters, is it enough to teach them how chess pieces are made and the basic rules of the game? If IP is a business tool, then we need to open the door to market-specific business tactics on how IP builds competitive advantage.

Developing champions and role models will also have a major impact. I've seen this first-hand in my career. Teaching IP rules and generic strategies does not move the needle, but when I switched to having champions lead their peers, the effect was incredible.

Crucially, we need to empower our entrepreneurs to see IP as a lever of business so they can apply their wealth of business experience to how they use IP. That's also how we get at that failure rate I mentioned a moment ago. Again, I think the CIC has a role to play here.

To wrap up, I have three simple messages. Commercializing innovation needs demand, and demand needs relationships. We can supercharge Canadian IP by fostering business-relevant IP. On education, what we teach and how we teach matter.

● (1205)

I didn't have any time to get into artificial intelligence, but I'm happy to take questions.

Thank you very much for your kind attention.

The Chair: Thank you, Mr. Bailey, for being right on time.

[*Translation*]

Over to you now, Mr. Buy. You have five minutes.

[*English*]

Mr. Serge Buy (Chief Executive Officer, Agri-Food Innovation Council): Thank you very much, Mr. Chair. I'm going to try to be on time as well.

Thank you for inviting the Agri-Food Innovation Council to present today in front of this committee.

You, along with a number of your colleagues, are well aware of the opportunities and challenges facing the agri-food sector in Canada.

● (1210)

[*Translation*]

Mr. Sébastien Lemire: Mr. Chair, I'm sorry, but there is no interpretation.

[*English*]

The Chair: I'm sorry. We have a point of order. We don't have interpretation.

Is your mike on?

Mr. Serge Buy: My mike is on. It shows that it's on.

The Chair: Okay. Thank you.

Mr. Serge Buy: As you are looking at how to support the commercialization of intellectual property, and given that I'm not a lawyer, my comments will limit themselves to observations and policy options. At the end of my presentation, I will offer recommendations that I hope you will consider.

The Agri-Food Innovation Council is an organization that advocates on behalf of agri-food research and innovation in Canada. Our history is long, going back to 1920. We were founded by individuals who believed that research in agriculture would fuel Canada's economic growth, and, indeed, at that time they were correct—and they would be correct again today.

So much innovation has taken place in Canada.

Mr. Chair, you will remember the breeding and development of the new asparagus varieties that have now become the most popular in North America and beyond. That was done in your riding of Guelph, I believe.

Mr. Tochor, you're joining us via Zoom, and so much innovation is done in Saskatoon thanks in good part to the incubators and organizations that exist, such as Ag-West Bio and the Global Institute for Food Security.

However, more is done, and even more can be done. Our organization just had a two-day meeting in Ottawa with dozens of experts and stakeholders to discuss how Canada's agri-food system can feed the world in a sustainable manner. I can assure you that there were not only great ideas but also real, tangible projects that deliver results. There were so many ideas that percolated to the surface, including some that I'll mention today.

Do we rank well in innovation? No. The fact is that we rank poorly. We're ninth in terms of input and 21st in terms of output. That should already give you a sense that there are some issues. We are far below where we should be in terms of commercialization of innovation based on various indexes and reports from the OECD, Bloomberg, etc.

Could we do better? Yes, absolutely. Let's look at what's holding us back.

There's a cumbersome and burdensome regulatory process. To be clear, if the process is too cumbersome and too much of a burden, companies will look at innovation elsewhere, and they already have. You may have a great intellectual property protection regime, but if the regulations or the regulatory guidance is delayed, nothing takes place and we lose traction.

A great example is the long-awaited Canadian Food Inspection Agency guidance on plant-breeding innovation. The delays are concerning innovators and investors, especially when they see the delays as being the result of non-scientific influential lobbies within certain parts of the government. Please don't take my word for it: You can use a recent Senate report that says, “In terms of regulatory burden, Canada is one of the worst-performing countries in the OECD, ranking 35th of 38 member countries.”

Is a regulatory burden unfair to SMEs? Absolutely. When you're looking at how cumbersome it is, SMEs can't compete with large companies that have millions and millions of dollars and teams of experts to deal with this. It makes it much more difficult for them. We can't be talking out of one side of our mouth and praising SMEs for fuelling our economic growth and on the other side saying we'll put on a regulatory burden that will make it very difficult for them to compete against large companies. We do have to be careful on that.

We need to protect our IP. Canada has invested in the development of innovation. A multitude of funding programs—and I'll get back to that later—support the development of innovation, but commercializing innovation often means selling the IP to a foreign company. While Canadian taxpayers have invested in it, the benefits of this innovation often escape Canadians.

Another issue to look at is how Canadian IP is protected. I understand that in the U.S., if there are sufficient grounds to believe that imported products are fraudulently using American IP, they get seized at the border. In Canada, the government washes its hands and tells a company whose IP has been stolen to sue. I talked to a company just a few days ago. They have a number of cases. They've just invested $350,000 for legal fees in one case alone. While I'm sure that my colleague with the legal community, who is right beside me, would be happy to hear that, I can tell you that companies are not happy to hear that.

● (1215)

On supporting innovators, incubators have played an important role in supporting innovators and especially in helping them commercialize intellectual property. The AIC supports the role played by incubators and believes that the government should continue to fund them. Their proximity to innovators builds credibility and confidence. Incubators have demonstrated time and time again that they deliver economic benefits to Canada.

We would—

The Chair: We'll have to wind up on that. Perhaps you could work your presentation into some of the answers you give. I gave you a bit more time because of the technical difficulties.

We will move to our first round with six minutes each, starting with Mr. Williams.

Mr. Ryan Williams: Thank you very much, Mr. Chairman, and thank you to our witnesses for joining us here in person today. It's very important.

Mr. Bailey, you mentioned some great examples. I want to expand on much of what you talked about. Our failure to commercialize our IP is a failure of ownership of IP in Canada. I did like your example of Scale AI. I want to hear more about that.

Specifically, we've had witnesses talk about Canada needing more IP collectives, so is Scale AI an IP collective? Is that something we see as a good model? How do we really see ownership come together with the IP that's sitting out there so we can see commercialization of IP in Canada?

Mr. Todd Bailey: That's a great question.

Patent collectives are about freedom to operate. To quickly answer the question, within the AI sector there's already pretty good freedom to operate, and there may not be many benefits there.

With respect to freedom to operate, think about yourself separated from a commercialization opportunity by a field full of land mines that are patents, essentially. You want to get across that field. Either you need to navigate carefully between all of those potential dangers or you need to clear a path by acquiring patents, knocking them out or whatever else. This is freedom to operate.

Patents touch each industry differently. If you're in pharmaceuticals, they're going to be very up front and personal, and at the other end of the spectrum, in software and AI, it's different.

It's important to understand a few things about AI.

First, AI is not a technology. It's an idea, and it's essentially a basket of a bunch of different kinds of math.

The second thing to understand is that AI is really old. The people who invented it are all dead, and the people who came after them have really long, white hair. From a patent perspective, we patent things that are new, not things that are old. That means a lot of stuff is already out there available to be used, without fear of patent rights.

The third thing to understand is that it's really hard to patent AI because it falls in this funny space where patent law says you can't patent math, algorithms and stuff like that, so it can be quite difficult. There are many patent applications being filed, but the failure rate on just getting those patents from application to a granted patent is extremely high.

The point is that when you talk about a collective trying to create this freedom to operate a corridor across a field, you have many different fields because there are so many different types of AI. The patent population in that field is not at the same level as you might have somewhere else. If you turn, for example, to a burgeoning technology like quantum computing, on which Canada is really at the forefront, it's going to be very hardware-focused, and this a potential opportunity.

I should back up quickly. I neglected to mention one really important thing about AI, and that is that the whole AI infrastructure is built on something called open source, which is software freely available to be used. I could open my laptop right now and, with just a few lines of code, create an AI that would parse, for example, all of the testimony of this committee and help generate some reflections and so on. Open source creates large corridors of freedom to operate already, and when you have all that, the addition of a patent collective doesn't seem to offer much further benefit. However, there may be some other areas where it does.

Mr. Ryan Williams: Do you think a patent collective idea is something Canada needs to adopt, or at least with AI?

Mr. Todd Bailey: I'm saying with AI. If you looked at certain technologies.... We have it in green technology already. I'm not that close with how well it's working.

Quantum computing is going to be very hardware-focused. It's going to be very technology-focused, and an area where there will be many patents, and there probably are already. There may be opportunities there. I don't know.

Mr. Ryan Williams: When we look to who is doing it best with centralizing commercialization, obviously Germany has the Fraunhofer institutes, which are embedded with universities. Do you see that as being something Canada needs to replicate?

Mr. Todd Bailey: The Fraunhofer institutes are an interesting idea.

I am really excited, actually, about the Canada innovation corporation. That's an opportunity to centralize much of what we're doing. Much will depend on how that thing actually gets off the ground and the kinds of people who are involved.

I know my friends over at the Council of Canadian Innovators have made a lot of noise about the kind of person who needs to be the CEO of that organization. I have certain opinions on what kind of intellectual property advice should be coming out of that organization. When you have a central organization with the ability to reach out, it may have the opportunity to do some kinds of things that Scale AI is doing.

● (1220)

Mr. Ryan Williams: The other big problem we have with Canadian IP is that normally when we get the IP developed, we allow international companies or VCs from the U.S. to come in and just buy it. We even have the problem where Canadian companies will buy smaller companies that have started up and have something going. They seem to be bought up as well.

How do we tackle that? How do we get around that?

Mr. Todd Bailey: To me, it's a good problem to have. If we're developing intellectual property that people want to buy, we're starting from a good place. I think the goal of trying to get to more Canadian ownership is a good, solid goal.

As to where we are right now, my own research in the “AI at Scale” report, which I've provided to our clerk to share with all of you, shows that we're not on par with the United States or China. However, they're not our peers. We're on par with Israel, and we're on par with France. We're ahead of most of the other G7 countries, so we're not starting from a bad place.

We want to get better, but even now, when we have start-ups, let's say, being bought by American companies, there's money coming into Canada. That money is coming in through entrepreneurs, who now have what they call a liquidity event, and they are becoming angel investors. I think we can do more to encourage that money. I mentioned entrepreneurs and role models, and there's an opportunity there.

The Chair: Thank you, Mr. Williams. That was a great set of questions.

I worked in machine learning and machine intelligence, and my hair isn't that long. It might be white.

Some hon. members: Oh, oh!

The Chair: Now we'll turn it over to Ms. Metlege Diab for six minutes.

Ms. Lena Metlege Diab (Halifax West, Lib.): Thank you very much, Mr. Chair.

Welcome to our witnesses who are here in person. I'm usually there in person, but today I'm not.

Mr. Bailey, I want to continue with one thing you brought up, and that's the Canada innovation corporation. How can we use that corporation to support Canadian business investment in research and development and foster economic growth? Clearly you have some ideas on that. You've been in the field for a while. What suggestions would you have for us?

Mr. Todd Bailey: The first suggestion—I think this came up in the last session with one of the previous witnesses—is on how we connect our researchers and our start-ups with the customers and the Canadian industry that can use that. I mentioned in my comments that it's not just about financial support. It's not like there are a bunch of companies on the sidelines that are just saying it's a bit too expensive so they're not going to do it. At least in my experience, they honestly don't know where to start. They don't know who's in their field. They don't know who has the expertise they need.

What Scale AI has—and I think it's on a much smaller scale, but I see the CIC being able to do this on a national scale—is expertise on which researchers are working in which area and which start-ups are doing which kind of work. Companies come to us and say, “We want to do AI. Where do we start? Who should I talk to?”, or they come and say they have a plan, and our business experts look at the plan and say the plan is set to fail. When you have companies doing innovation for the first time, you do not want them to fail. You want them to succeed, so they start small and they grow bigger.

The CIC, if it becomes a central clearing house for government funding—and I'm not on the front lines of the CIC, but one of the ideas being floated is that the SIF and others will be brought under one umbrella—then you have an opportunity to be developing expertise in different areas and playing the matchmaking role. One of the honourable members mentioned earlier that it is really about matchmaking. It's about finding the right resources and supporting them.

Ms. Lena Metlege Diab: Thank you for that.

You talked a lot about market relevance, innovation, supply and demand, and connecting. It's this interrelationship between the different players.

I have another question for you. It's on education but also on connection. What role do you see the different levels of government playing here versus the educational institutions—universities and colleges—versus private business?

● (1225)

Mr. Todd Bailey: The reason I think the CIC has a role to play in education is that right now.... ElevateIP is a federal government program that supports the education of intellectual property, but from my perspective, there's not really any driver on content. Each organization and maybe each teacher is left to teach what they think is relevant, and there is a whole business piece to it. If you think about it, all of business has a legal framework to it—banking, real estate, you name it—but there's no other area of business where we ask the lawyers to do so much without contact with the business pieces of it. If I wanted to become a real estate tycoon, I am probably not going to my real estate lawyer to ask for advice. The CIC role can be about setting a curriculum, training the trainer and that sort of thing.

You asked about coordination between governments. I think one thing governments can do best is to try not to step on each other's toes. One thing we've tried to do at Scale AI is not duplicate what other organizations are already doing in the AI sector, because duplication is duplication.

Ms. Lena Metlege Diab: Our committee is the science and research committee. The focus is on scientists, researchers and early scientists. What can we do better to help researchers on the ground with this field here? What can businesses do, or what can you folks do?

Mr. Todd Bailey: I think the biggest thing we can do is give researchers and Canadian institutions Canadian customers to work for.

We know that funding in education and research is always in short supply, and sometimes you have to find a corporate partner and you don't have the luxury of deciding where that corporate partner comes from. For innovation to really have relevance, it needs customer demand. If you're innovating in a vacuum, in a dark room, there are some areas.... If you're in medical innovation, you know that if you can kill one kind of cell you're going to have something. However, for most areas of technology, and especially if you're talking about AI or anything digital, there's ultimately a customer.

By helping industry find the universities, the colleges or the start-ups, you're giving industry an ability to innovate on something that people want to buy.

Ms. Lena Metlege Diab: Thank you very much, Mr. Bailey.

Do I have any time, Mr. Chair?

The Chair: You have about 10 seconds.

Ms. Lena Metlege Diab: Okay, well, thank you very much to our witnesses.

Mr. Buy, hopefully the next questioner will get to you.

The Chair: Great, thank you very much.

[*Translation*]

Mr. Lemire, you have six minutes.

Mr. Sébastien Lemire: Thank you, Chair.

Let me remind you that at the February 2, 2023 meeting of the Standing Committee on Science and Research, my colleague MP Maxime Blanchette-Joncas made two requests of the Department of Innovation, Science and Industry.

The first is to provide the Committee with the number of applications for funding and scholarships, in French and English, at Canada's French-language and bilingual universities, by university and by granting agency, for the past 20 years.

The second request is for the funding provided by each granting agency to every Quebec university over the past 20 years.

After an initial response was sent to the Committee on March 21, 2023, the Committee had to follow up with the Department to request the missing information. Mr. Blanchette-Joncas also followed up personally with the Minister. A second response was sent to the Committee on Monday, April 24. Unfortunately, that response remains incomplete. The following data is still missing: for the Natural Sciences and Engineering Research Council and the Social Sciences and Humanities Research Council, the number of scholarships awarded in English and French, by institution, for the last 20 years; and for the three granting agencies, the value of scholarships awarded in English and French, by institution, for the last 20 years.

The Committee suspended the drafting and adoption of the report on research and scientific publication in French while awaiting this data, hence the urgency of obtaining it quickly.

So you received a notice of motion from my colleague Maxime Blanchette-Joncas on April 25. It is moved:

> That the committee ask the Department of Industry to provide the missing information relative to the question asked by Maxime Blanchette-Joncas to the Minister of Innovation, Science and Industry during the meeting of February 2, 2023, that it do so before Thursday, May 4, 2023, at 11:00 a.m., and that the missing information provided be as follows: i) the number of scholarships granted in English and in French by the Natural Sciences and Engineering Research Council of Canada (NSERC) and by the Social Sciences and Humanities Research Council (SSHRC), by university, for the last 20 years; ii) the amount of scholarships granted by the three research granting agencies, by university, for the last 20 years.

Thank you, Chair.

● (1230)

[*English*]

The Chair: Thank you, Mr Lemire, for presenting the motion we had a notice of in the last meeting.

Would we like to adopt this motion, or is there debate on it?

[*Translation*]

Mr. Sébastien Lemire: We are ready to adopt the motion, Chair.

[*English*]

The Chair: Okay. If we have unanimous consent, we can accept the motion. It looks like we have unanimous consent.

(Motion agreed to)

The Chair: Congratulations. We will work on that and discuss it at our subcommittee next week.

[*Translation*]

Mr. Sébastien Lemire: Thank you. This is extremely important. We know how much research in French is imperiled on the international scene.

I'll get back to the subject.

Let me begin with you, Mr. Bailey. You touched on the issue of artificial intelligence. I would be curious to hear from you on Bill C-27, which I imagine you've been following with some interest, and which is now before the committee.

What are your thoughts on Bill C-27? In the context of this study, you could respond by talking about support for commercializing intellectual property, which may be a blind spot in this bill.

[*English*]

Mr. Todd Bailey: It's a great question.

As you may know—and I'm sure you do—a lot of the interesting stuff on Bill C-27 is still to come. It will be in the regulations. The act itself sets out the regulation of so-called high-impact AI. AI is already regulated. We're hearing a lot about AI now because of ChatGPT. It's really cool but it's not new technology; it's old technology. It's just on a massive scale. We've had AI in our hands for 10 years already.

I think the approach being taken is a good one because AI changes quickly. Six months ago we didn't know what ChatGPT was. Now it's here and it's changing a lot of things. If you were to put in your law, it would take a long time to keep current, and you would always be chasing the technology. At least by having the regulations to address the rules and some of those things, the law will be allowed to keep pace. That is quite important.

It's also important to understand that most AI is not high-impact AI. If you look at what Scale AI is doing related to the supply chain, AI is essentially a productivity tool.

The Chair: You have one minute left.

[*Translation*]

Mr. Sébastien Lemire: Thank you for your answer.

If I may, I will submit your name as a witness in our study to the Standing Committee on Industry and Technology. I think your views are worth hearing.

Mr. Buy, first of all, thank you for your work on innovation in the agricultural community. We know that vaccines can create high-risk situations in Quebec and Canada.

How do you assess your industry's ability to respond to health crises or requirements? Do we have the capacity in Quebec and Canada to produce vaccines that will meet the needs of the agricultural community?

Mr. Serge Buy: I'm going to go out on a limb here. I don't believe we have the capacity to produce all the vaccines that are needed in Canada. There are companies that can produce certain things, but right now in Canada there is absolutely no capacity to meet our needs.

Mr. Sébastien Lemire: So we're taking a huge risk.

Mr. Serge Buy: We're taking a risk. It's a calculated risk, but we are taking a risk, I agree.

Mr. Sébastien Lemire: Thank you. We'll come back to this during the next round of questions.

[*English*]

The Chair: Thank you very much.

Mr. Cannings, go ahead for six minutes, please.

Mr. Richard Cannings: Thank you.

I'll continue with agri-food. My father worked at an Agriculture Canada federal research station throughout his career. He was always bringing home new innovative apple chips and things like that, along with stories of friends of ours who were developing new cherry varieties—Dr. Lapins and people like that.

I'm just wondering how the federal government, through those research stations across the country—and I know they've declined in number over the years—handles IP.

● (1235)

Mr. Serge Buy: It is a challenge. Ultimately the federal government shouldn't be in charge of the commercialization of IP. It should help research and researchers, but ultimately at some point it should hand that to the private sector to move ahead.

The federal government has done great work and continues to do great work in its research stations. We've advocated for the maintenance of funding for the research stations throughout the country. They've done great work. The handling of the IP is a bit more difficult because of the nature of the industry, and they definitely have had challenges.

Mr. Richard Cannings: You mentioned new asparagus varieties, and I mentioned cherry varieties because most of the cherries grown in the world today were developed in the Summerland research station in British Columbia. I know some of the most popular ones went out into the world without any patent protection because that was kind of a new thing back in the 1980s and 1990s when they were developed. Now that has changed, and it seems that the newer varieties have some protection. There are companies set up adjacent to those stations to handle that. Is that a continuing trend now?

Mr. Serge Buy: It absolutely is.

I think there's much more of a continuum now where the private sector is able to move in and support the protection of IP. My colleague at the table talked about it not being a bad thing if IP gets bought—and I fully agree—as long as the benefits go back to Canadians.

We see producers whose IP gets bought by international companies, and the product of the research is no longer available to them because suddenly it moves south of the border. I think there are concerns on that front. That probably should be a bit better protected to make sure that when Canadian taxpayer dollars are used, there are some benefits to Canada in general.

I'm not opposed to a small company selling its IP to a larger company. I'm in favour of better protection for IP that is developed thanks to Canadian taxpayer dollars.

Mr. Richard Cannings: If I have some time left, I think you had some recommendations. I don't know whether you've gotten to them all, but you can take the time to do that.

Mr. Serge Buy: Thank you for that.

I'll send a list to the committee later on, but there are a couple of things.

We've talked about funding. There have been discussions about funding and a new corporation that's being developed. That's great.

In the agri-food research and innovation sector, there are 22 government departments and agencies that deal with funding for research and innovation. That's just in the agri-food sector. There's little to no coordination among all of them. We've asked whether or not the government knows how much money it is spending to support agri-food research and innovation. The answer is that they don't know. They used to know a number of years ago, but they don't know anymore.

The measure of success shouldn't be the number of government funding programs, but rather what the measurable outputs are. One of our recommendations is to undertake a review of Canada's funding program ecosystem and find strong efficiencies, potentially merging some of the programs and bringing them under some coordination.

I'm not saying anything new. Dominic Barton, in his report a number of years ago—which was asked for by the federal government—did say exactly that. There should be better coordination in that sector.

We should also invest in evaluation services. It's not sufficient for a company to say that it received *x* amount of money from the federal government, created so many jobs and contributed so much to GDP. Let's verify that information to make sure we look at the funding programs in a good way and make sure we are making good decisions.

Those are some of my recommendations. There are a few more, including, if I have one more second, supporting Canadian innovation by standing by Canadian innovation. The agri-food sector is a bit different. It's a bit like pharma. Our products end up in consumers' mouths at one point, directly or indirectly. There's a lot of regulation and a lot of hoops to go through. Once we've gone through all the hoops that are mandated by the government, it is, on occasion, frustrating when the government does not support the science that's been developed on that front.

We have a Canadian chief science adviser. Let's get a better and broader mandate to support the science developed in Canada.

I'll stop there. I see Mr. Chair moving.

● (1240)

The Chair: That's great. Thank you for getting all of that on the record, and thanks to Mr. Cannings for making sure that happened.

We're moving into our five-minute rounds, starting with Mr. Mazier.

Mr. Dan Mazier: Thank you, Chair.

Thank you to the witnesses for being here today.

Mr. Buy, we haven't heard much from agriculture, so I'm really happy you're here today to be part of this study. Agriculture tends to be forgotten, but agriculture does participate a lot in science and research, so I really appreciate you being here.

I want to touch back on what you asked the government. You asked whether they monitor the amount of money they invest in agriculture through the programs, and they got back to you and said they don't monitor it.

Mr. Serge Buy: They said they used to have that information.

To be clear, I asked the question, “Do you know how much money in total you're spending on agri-food research and innovation?” The answer was that they used to have that information; they don't have it anymore.

Mr. Dan Mazier: Can you provide that documentation to this committee?

Mr. Serge Buy: I provided a statement. It was said verbally.

Mr. Dan Mazier: Okay.

Is that a bit concerning?

Mr. Serge Buy: To me it's very concerning. It is very concerning to the sector as well.

It speaks to a broader issue. It speaks to the fact that there is no coordination. You have a multiplicity of programs, and people are creating new programs and more programs, and that seems to be the value or the measure of success.

What we're saying is let's not use the development of new programs and how many people were hired to administer those programs as the measure of success. Let's look at efficiencies. Before we move on new rules for IP or changes to that, let's look at the ecosystem generally and look at how we can better support the sector on our side.

Mr. Dan Mazier: I can't imagine these delays. It would frustrate the heck out of everybody, especially in agriculture, where we only have a certain amount of time to do these kinds of things or someone else is going to come in.

You also mentioned the CFIA in your remarks and that whole review process and the delays on that. I don't know whether you wanted to expand on that. I've been following that for years.

How would you explain to a science committee how important it is to get that project done by this government?

Mr. Serge Buy: It is crucial. It is going to enable producers to have significant improvements on their farms. We've invested in research. We've gone through I don't know how many regulatory hoops and legislation. We've brought in regulations. Everybody said, “Okay, we're finally there”, and then suddenly, “No, you have to wait for guidance. Guidance is being developed.” It's being developed in consultations and discussions with a number of groups, some of which have no scientific background and are opposing some of those changes. Suddenly, everything grinds to a halt, which means that all the innovation that was developed grinds to a halt and...moves forward.

When you look at innovators and at innovators in companies, they're going to look at the system. Is Canada a stable country for innovation, or is it being swayed by lobby group A, B or C? Do we need to move somewhere else, where science is going to lead the charge on this?

I think science should lead the charge on this.

Mr. Dan Mazier: How many years have you been struggling with this particular case? Has it been four?

Mr. Serge Buy: I don't have the exact number, but I can tell you that it's been way too long. I think it has maybe been four or five.

Mr. Dan Mazier: Maybe it's been seven or eight.

Mr. Serge Buy: Maybe.

Mr. Dan Mazier: Okay.

Mr. Bailey, I asked the University of Saskatchewan for their patent income in comparison to the federal research funding they received. Their written response says that, over the last five years, total federal research expenditures were over $418 million. Total licence income received was $51 million. That's a loss of 88%.

Why should Canadians be okay with such significant losses?

Mr. Todd Bailey: I'm not at all familiar with what the University of Saskatchewan is doing. I can tell you that innovation is an expensive business, because no one is anywhere near a 100% effectivity rate on developing innovation.

One thing I brought forward is that you can innovate in a vacuum or you can innovate to customer demand. Universities are these hybrid-type places. They are places of academia but are also engaging with industry. Not being from that community, I can't speak to it directly. However, it seems to me there is probably a tension between wanting to do the research academia is leading you toward and being told you need to file patents—or whatever it is they are being told. On the flip side, look at the more engineering-based type of research being done. It's probably done with more of a market focus in mind.

● (1245)

Mr. Dan Mazier: Thank you.

The Chair: Thank you.

We'll go over to Mr. Lauzon for five minutes.

[*Translation*]

Mr. Stéphane Lauzon (Argenteuil—La Petite-Nation, Lib.): Thank you, Chair.

Thank you to the witnesses for being here today.

Mr. Buy, you've sparked my curiosity a bit. In your remarks, you talked about input challenges. We just introduced the Agricultural Climate Solutions, or ACS program to implement agricultural practices to address climate change, such as cover crops, and it has an impact on inputs.

In your opinion, do programs like this one, with the second round in 2022, offer any benefits for farmers' IP? Can it help them reduce or modify their inputs and implement agricultural practices to address climate change?

Mr. Serge Buy: Thank you.

I certainly won't say that the program isn't a good one. It certainly has a good purpose. So it's a good thing, yes.

I'm going to go back to what I was saying about the proliferation of programs that are spreading in all directions, and the industry's concerns about that.

That said, creating a program like this is one thing, but how will the innovations be adopted by farms afterwards? That's a slightly bigger issue that should be addressed. The question is whether producers have the capacity to adopt, implement, and develop these innovations.

A few months ago, at another committee, I was talking about the carbon tax, and one of the members of your party told me that there were innovative solutions for replacing gasoline. The response was that none of these solutions could be implemented everywhere.

Mr. Stéphane Lauzon: Mr. Buy, you understand that this committee is holding a serious meeting today.

Yet you are telling us that, across these 20 organizations, Intellectual Property, or IP, is not coordinated. You're also telling us that you don't have the numbers, but that the agreements you heard about were verbal.

Here, we are asking for tangible numbers and technical data.

Are you saying that there is no scientific data to move forward intellectual property cases for programs like the one we just talked about?

Mr. Serge Buy: I believe you misunderstood me, Mr. Lauzon.

What I said is that when we asked a senior government official if he had data to show us how much money the government was investing in agri-food research and innovation programs, the answer was no. We were told he'd had access to the data in the past but no longer did, and that this was the case government-wide.

Mr. Stéphane Lauzon: Is there a chance that the senior official simply did not have the data on hand when you asked?

Mr. Serge Buy: No, that was not the case...

Mr. Stéphane Lauzon: Could he have needed to look for the information and get back to you with an answer?

Mr. Serge Buy: I will look further into it, but this was not a matter of what data the official had when I inquired. The answer I received was that they no longer had those metrics.

Mr. Stéphane Lauzon: I am going to ask Mr. Bailey a question.

According to your experience as a lawyer, we are not on track to meet the target objectives for patents. You said that thousands of patents have gone astray and you referred to some approaches that could improve the system.

Could you comment on those objectives?

As a government, how might we stop these patents from getting lost in the system, so we can get them back on track and strengthen the system?

● (1250)

[*English*]

Mr. Todd Bailey: It's a great question.

What I'm saying is that traditionally, and this is not a Canadian problem, people are seeing intellectual property as something for the lawyers, and they're missing this aspect that there are really three chairs at the table. When an inventor goes to see their patent lawyer, their patent agent, you have two of the chairs filled. If that inventor is also an entrepreneur, maybe they have one cheek on each chair, but they're really there with a focus on the technology.

Patents are not about technology. Patents are about business. We need to get that across.

The Chair: Thank you.

Mr. Stéphane Lauzon: Perhaps he could send a note on this. I would like to hear more about this.

The Chair: Sure.

For either witness, if you have more information, you can provide it in writing. That would be helpful for the analysts.

Mr. Stéphane Lauzon: It's important for this committee.

The Chair: Thank you.

I'll start the clock now for Mr. Lemire.

[*Translation*]

Mr. Sébastien Lemire: Thank you, Mr. Chair.

Mr. Buy, how big a role can universities play in commercialization? I'll use the example of the Université du Québec campus in Abitibi-Témiscamingue, and its agri-food research station, which is located in Notre-Dame-du-Nord. The station is used to bolster agriculture in quite a northern region where the soil has a high clay content.

How can we guarantee that innovation and research yield this new knowledge that will be conducive to commercialization?

I would like you to comment on the funds the department injected into agriculture, which were aimed in particular at driving innovation further ahead. Is the funding currently provided enough?

Mr. Serge Buy: I will answer in two parts.

Firstly, you asked whether the work done by universities is important: I can tell you that it is vital. Universities do excellent work in agri-food research and innovation. We absolutely support their funding requests for research infrastructure. It is essential.

Their ability to create innovation and then commercialize it is another matter. What we find somewhat regrettable is that in Canada, and even in Quebec, the way that businesses work with universities on IP is not coordinated. It would be beneficial if there were some more coordination in that regard.

Secondly, as to whether the funding provided is enough, I can tell you there can never be too much. However, it is up to you, members of Parliament, to decide where the money will go. What we usually ask is whether the funding to agri-food research might be used more efficiently and effectively. That is why we say that coordination would facilitate that.

Mr. Sébastien Lemire: I appreciate your position. Yes, I believe that is necessary if we want to reach our food resilience objectives.

How can we help knowledge be transferred from Quebec and Canadian universities or research organizations to agricultural businesses to international exports? For example, in my region, we have organizations like 48e Nord international or the Université du Québec campus in Abitibi-Témiscamingue. How can we support this knowledge transfer?

Mr. Serge Buy: That can be achieved by funding the centres, the business incubators and the organizations that support the connections between universities, research centres, entrepreneurs, farmers and organizations. Business incubators do superb work and it would be excellent to help them out with it.

In short, more funding should be allocated to business incubators.

[*English*]

The Chair: Thank you.

Mr. Cannings, you have two and half minutes, please.

Mr. Richard Cannings: Thank you. I'll turn to Mr. Bailey.

We're here to find out, in a broad sense, what the Canadian government could do to help the innovative sector and help guide IP policy. You've mentioned the Canadian innovation corporation a couple of times. Perhaps you could tell us, if you were in charge of that corporation, or at least the IP part of it, what would your priorities be in terms of helping Canadian innovators and corporations improve our record in this regard?

● (1255)

Mr. Todd Bailey: I will be repeating myself, but I will be happy to do that. Patents are a tool of business. What I see the role of CIC as.... I don't know exactly what they will be mandated to do, but if you have a sort of cross-government, cross-funding program you have an opportunity to level-set the playing field across Canada to get the message out that IP is not just about the legal protection or the technology; it's actually about the business piece.

Every patent agent and every patent lawyer knows that, but it isn't their job to go and do that. They will tell their client, you need to be concerned about these things, but ultimately the client has to manage things like their focus on the technology. They have to pay the bills at the end of the day, so you want to get those messages out.

You also want to be able to facilitate finding that kind of business advice so that entrepreneurs don't just call up and say that you need to go get an IP strategy, but say that here is someone or here is some expertise relevant to your field that will help you see yourself in that future state.

Mr. Richard Cannings: I'll just leave it there.

The Chair: Thank you.

We have a few minutes. We have four minutes left, so there's time for one question of up to two minutes from Mr. Williams. Then we'll go to the Liberals.

Mr. Ryan Williams: Thank you very much, Mr. Chair.

I will follow up on my earlier questions to Mr. Bailey on AI. I think that last year alone China filed 14,000 patents in AI. That was more than Canada filed as a whole for all of our patents, I believe.

What significance does that have on capital access to markets, comparing to Canadians? What kind of system can we create that rewards commercialization? I know about the difficulty you talked about before, but in getting a little bit ahead of that and competing with that....

Mr. Todd Bailey: I did mention that there is a huge attrition rate between patent filing and patent grants for AI, because it sits in this special place. You also have to understand, if we are talking about patent filings in China, that the Chinese government pays researchers to file patents, but those researchers don't get any more money after that first cheque. Those patents all end up on the cutting room floor for the most part. There is a lot of research, including Canadian research, that shows that it's a fraction of one per cent of those patent applications that actually turn into patents outside of China.

I also mentioned that every sector is not the same. Just because you have a patent.... Not all patents are worth the same; they're not like money. I can go get a patent for my shoe, probably, but I'm not going to be able to really enforce that against anyone because shoes have been around for quite some time. That's not a condemnation of the patent process. There is probably something I can put on my shoe that is quite unique and get a patent for it. All patents are not the same.

We had a witness in the last section who said that, for software and AI, patents are not always the best route. We have to get out of the mode of always thinking that patents are at the pinnacle. All of that is to say that there is a lot of intellectual property, especially in AI, that is being commercialized and protected, but not through the patent route because that is not always the best route.

The Chair: Thank you.

Mr. Lauzon.

[*Translation*]

Mr. Stéphane Lauzon: Thank you, Mr. Chair.

Mr. Bailey, Professor Yoshua Bengio is an international authority on artificial intelligence based in Montreal. On April 15, he told us clearly that it is very important to act now on Bill C-27, An Act to enact the Consumer Privacy Protection Act, the Personal Information and Data Protection Tribunal Act and the Artificial Intelligence and Data Act and to make consequential and related amendments to other Acts.

We are establishing international leadership through Bill C-27. Do you believe this leadership will inspire the United States to address matters the same way we are, since it does not have such legislation?

[*English*]

Mr. Todd Bailey: Canada is not by itself in the world. It has to deal with other parties out there. Across the pond, you have Europe, which takes a very heavy approach to regulation. They're usually leading the pack, and they have been on AI as well. To the south, we have a country, the United States, the does not do a lot of regulation. As a country, Canada wants to do business in both jurisdictions, so we have to walk a line.

I have not been involved in any of the consultations relating to this. It is just sort of my perspective. We have to walk a line. This is what I see in Bill C-27, part 3, the AI and data act part. It is trying to create a framework that will be helpful for Canadian companies that want to go do business in Europe. It also does not want to discourage our interactions with the United States in terms of AI. We have to accept that the big players in all digital spaces are mostly American companies, and we don't want to cut ourselves off from that.

● (1300)

The Chair: Thank you. It's good to get that nuance.

Mr. Stéphane Lauzon: Can I ask one more question, please?

The Chair: No. Thank you.

Thank you to the witnesses for providing great answers and for getting some of the nuances on the table for us to consider.

Next Tuesday, May 2, the subcommittee will be meeting from 11 until 11:50, and then the main committee will meet in camera from noon until one to begin reviewing the draft report on international moonshot programs. Notices of these meetings have been published.

Do you we have an agreement to adjourn?

Some hon. members: Agreed.

The Chair: It looks like we do.

Thank you again to all the witnesses and to the members for great questions.