House of Commons
CANADA

Standing Committee on Industry, Science and Technology

INDU • NUMBER 040 • 2nd SESSION • 39th PARLIAMENT

EVIDENCE

Tuesday, May 27, 2008

Chair

Mr. James Rajotte

Standing Committee on Industry, Science and Technology

Tuesday, May 27, 2008

● (1435)

[*English*]

The Chair (Mr. James Rajotte (Edmonton—Leduc, CPC)): I will ask members and the witnesses to take their seats, please.

I apologize. We are starting a couple of minutes late. We were delayed at the last tour we had today.

Pursuant to Standing Order 108(2), this is the 40th meeting of the Standing Committee on Industry, Science and Technology. This is the western part of the national tour we're doing with respect to our study on science and technology across Canada.

We had a very good session this morning, with some very interesting tours and discussions about science and technology policy.

We have two panels this afternoon. The first panel is running for an hour and 15 minutes. It's a very short time period, but we have to catch a flight to Saskatoon tonight.

The first panel is composed of three organizations. First of all, from the National Research Council of Canada, we have the director general, Mr. Ian Smith, with the Institute for Biodiagnostics; secondly, we have the vice-president of life sciences, Mr. Roman Szumski.

From the second organization, the University of Manitoba, from TRLabs Manitoba operations, we have the director, Len Dacombe. The third organization is the Winnipeg Regional Health Authority, and we have Mr. Harry Schulz, the chief innovation officer for the Health Sciences Centre.

Welcome to all of you, gentlemen.

We have five minutes for each organization, and then we will go to questions from members. I believe we'll be starting with Mr. Smith.

You can begin at any time, Mr. Smith.

Mr. Ian Smith (Director General, Institute for Biodiagnostics, National Research Council Canada): Good afternoon, ladies and gentlemen. Thank you for having me here today.

[*Translation*]

It is a great pleasure to be with you today.

[*English*]

For nearly a century, NRC has excelled at putting science at work for Canada, advancing knowledge, generating technological solutions for Canadian industry, creating wealth, and improving the quality of life of Canadians and others around the world.

You have already interviewed our president, so to some extent you've heard some of this. This is just a very short introduction to NRC. NRC plays a leading role in creating Canada's future. We bring together key stakeholders based on a national and international network of research and technology partners, including universities, governments, and the private sector.

Our institute, the NRC Institute for Biodiagnostics, which we shall call NRC-IBD, was established here in 1992 as part of that network. It is a leading research centre for the development and application of tools for medical diagnosis and an integral element of the local innovation system.

Our impact on Canada extends beyond Winnipeg to satellite laboratories in Calgary and Halifax. Currently we have about 150 researchers and staff. Affiliated collaborators and students are engaged in about $11.3 million worth of research and development and in technology transfer. Since 1997 we have created seven technology spinoff companies, and I will tell you about them in a moment.

Along with our NRC partners—IRAP and the Canadian Institute for Scientific and Technical Information—we work directly with small and medium enterprises and entrepreneurs. We bring research strengths and business expertise to bear on their market-driven challenges and opportunities, and thus we enhance their competitiveness.

We have recently constructed an industrial partnership facility in Winnipeg to accommodate a greater number of entrepreneurs and early stage technology companies, providing them with access to NRC's programming and services that can significantly enhance their success.

I would like to take a few moments to tell you about our research in the area of medical devices, why it is important to NRC and to Canada overall, and how we are helping to create a competitive advantage for Canada through science and technology.

From a business entrepreneurial perspective, Canada faces an annual trade deficit for medical devices of approximately $2 billion per year. Canada is a net importer of medical imaging instruments and peripherals from major multinational corporations. Certainly these corporations will continue to play a significant role in the global medical imaging market. However, NRC-IBD's research and development in technologies and techniques has led to the creation of several very successful imaging-based medical device companies that export their products to other countries, thereby reducing the trade deficit and benefiting both patients and Canada's economy.

For example, Winnipeg-based IMRIS, an NRC spinoff company, incorporates NRC technology into interoperative MRI systems, many of which have been installed in hospitals in North America and abroad, including China and India. IMRIS has a market capitalization of $100 million and employs about 120 highly qualified people here in Winnipeg. In 2007, IMRIS created the largest initial public offering of any Canadian medical device company in the history of the Toronto Stock Exchange—$40 million.

Another of our medical device companies, Novadaq Technologies, makes a camera system that validates cardiac bypass procedures—heart bypasses. They currently employ over 75 people and have a market capitalization of nearly $100 million. In 2005, they succeeded in the third-largest Canadian medical device offering on the Toronto Stock Exchange—$25 million.

From a knowledge perspective, NRC-IBC is developing new methods to help detect, monitor, and treat disease, bringing social and economic benefits to Canada. The technologies we have developed help reduce the invasiveness of surgical procedures, improve the effectiveness of treatment and therapy, and limit the complications of surgery—factors that are central to the well-being of Canadians and others around the world.

From a people perspective, our research programs employ internationally recognized researchers. We collaborate with universities and technical colleges to train scientists and researchers each year. We increase the supply of highly qualified and globally connected science and technology graduates with experience in knowledge commercialization, thus enabling them to succeed in today's global market.

Our collaborations with hospitals in Calgary, Winnipeg, Toronto, Halifax, and other Canadian cities help translate our discoveries into clinical practice. For example, our collaboration with the Ross Tilley Burn Centre at Sunnybrook Hospital in Toronto is noteworthy. NRC-IBD is developing a device that assists surgeons in determining the depth of a burn. By doing so, we are helping to decide upon the appropriate treatment, which improves the patients' outcomes and reduces costs. This product will soon be commercialized.

● (1440)

By implementing the Government of Canada's science and technology strategy, mobilizing S and T to Canada's advantage, NRC's Institute for Biodiagnostics is well-placed to serve many R and D needs of the Canadian high-tech industry. We are creating knowledge, value, and a highly skilled workforce, and we are contributing to improving the health of Canadians through earlier diagnosis of disease and less-invasive therapy.

Thank you very much.

The Chair: Thank you very much, Mr. Smith, for your presentation.

We'll now go to Mr. Dacombe, please.

Mr. Len Dacombe (Director, TRLabs Manitoba Operations, University of Manitoba): Thank you for the privilege of addressing you this afternoon. I would just like to clarify that I am not speaking on behalf of the University of Manitoba, although they are a valued partner in our organization. I am speaking on behalf of TRLabs.

I wish I had more than five minutes to discuss the topic of science and technology in relation to health and biotechnology. I will, however, take this opportunity to focus on a key requirement, which I and the organization I represent consider to be paramount to ensuring the continued growth and success of our country in the fields of science and technology as they relate to health and biotechnology.

I would first like to differentiate between the terms “science” and “technology”. Scientific research provides scientific information and theories for the explanation of the nature and properties of the world around us. Science, therefore, represents the body of knowledge we accumulate. Technology, on the other hand, is the vehicle that leverages our scientific knowledge and generates benefits for the citizens of our country. Successful technology requires a process called innovation. Innovation represents the successful exploitation of science in a practical way, and innovation requires a cultural paradigm for it to occur.

The three primary participants in the innovation process have traditionally been the research institutions—primarily our universities—the governments, both provincial and federal, and industry. These entities represent three distinct cultures. The research community represents a culture in which ideas are formed and possibilities are investigated. Industry, on the other hand, represents the culture in which economic development is the key focus. Revenues, profits, investments, technology development, and risk-taking are the key elements of a strong economy. A strong economy provides high levels of employment, regional competitiveness, and productivity, which ultimately leads to the enhanced prosperity of a region and an appealing quality of life. Government represents the culture that must not only support and embrace the research culture and the culture of industry, but must also create an environment of collaboration between the two. Innovation can occur only in a methodical and deliberate way in a collaborative environment.

Canada has a long history of strategic developments and innovations. Examples include insulin, the light bulb, the G-suit, the telephone, the TV camera, the wireless radio, the a.m. radio, the electric oven, the electric wheelchair, and the cardiac pacemaker, invented right here in Manitoba. For Canada to continue to contribute world-class innovations to the world in which we live requires a focused effort to maintain and enhance the collaboration between these different and diverse cultures. TRLabs has a 22-year history of serving as a catalyst, fueling collaborations between universities, governments, and industry.

Organizations like TRLabs need to be supported because they live and breathe at the intersection of these three cultures. We facilitate the innovative process by taking ideas and possibilities and making them realities. We bring the idea generators and the idea implementers together.

Unlocking Canadian intellectual property or ideas and creating innovation require a focus and a deliberate effort. Targeted innovation is required to enhance health care in Canada. This means that in the areas such as e-health R and D, there is a fundamental requirement to have the users—including regional health authorities and proactive clinicians—the researchers, and industry working in a collaborative environment to first identify the real needs and to then create the required targeted innovations by validating, disseminating, and translating the technologies into the day-to-day operating environments in the health care sector.

True collaboration, as I have described, would result in strategic improvements to the Canadian health care system, which would ultimately impact every member of Canadian society in a positive way. It would also create opportunities through which Canadian inventions and advancements could be leveraged globally to impact society in general, creating economic growth for the Canadian economy. However, small and medium-sized enterprises—SMEs as we call them—are currently at a disadvantage when considering innovation in the health care sector. Great ideas and valuable innovations are most often not pursued because there are no mechanisms to validate their overall functionality in the very diverse and complex health care environment. As a result, many health-related innovations from SMEs never see the light of day in the country where they were conceived, or, worse yet, they may be shelved permanently.

Canada's tradition of creating groundbreaking innovations must continue, but in order to do so it must be actively fuelled and become even more deliberate. TRLabs, for example, has already reorganized and refocused its research program to include the specific thrust in health applications and technologies. TRLabs also fully embraces SMEs in our partnership model, and we are in a unique position to assist an SME's entrance into the health innovation space.

● (1445)

Investing in information and communication technologies, or ICP as we call it, should also be considered as strategic, because we can no longer look at ICP as a sector unto itself, but rather as a strategic vehicle or catalyst that allows all industry sectors, including health care and biotechnology, to introduce strategic advancements. Innovation in ICP will positively impact the grassroots of Canadian society across all sectors.

I would like to leave you with five recommendations to consider.

First, we must foster and support collaborative partnerships between industry, government, university, and research institutions wherever possible. It is at this intersection where creativity becomes a reality. New ideas must be successfully exploited so they can become innovations.

Second, we must continue to invest in proven entities that generate new innovations. We cannot afford to invest in reinventing the wheel. We must push the envelope and introduce new innovations through collaborative partnerships. Funding for these entities should not only keep pace with inflation, but should be increased based on valid innovation performance metrics.

Third, we must continue fostering strategic R and D investments in information and communication technologies. Technological investments in ICP will directly fuel innovations across all economic sectors, including manufacturing, aerospace, biotechnology, health, transportation, etc.

Fourth, we must encourage increased industry participation in the Canadian R and D process and consider it as a key metric in the analysis and decision-making process that determines the allocation of Canada's R and D spending. Companies willing to innovate will fuel economic growth and create a strong and agile Canadian economy. We cannot afford to have ideas left on the shelf.

Fifth, we must consider leveraging vendor-neutral, not-for-profit research entities like TRLabs in the creation of innovation centres, which would provide SMEs with an environment to test, validate, and certify that their innovations related to health care will successfully integrate into the existing health care operational environment. This will not only benefit the SMEs, but also the local economies and the health care sector by providing a valid strategic option.

Again I would like to express my appreciation to the committee for being asked to participate today.

Thank you.

● (1450)

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

We'll go now to Mr. Schulz, please.

Mr. Harry Schulz (Chief Innovation Officer, Health Sciences Centre, Winnipeg Regional Health Authority): Hello, everyone.

My title is chief innovation officer of the Winnipeg Health Authority. I'm based at the Health Sciences Centre, our community's largest hospital.

You folks just visited St. Boniface Hospital this morning. I spent 17 years of my life in Ray's riding, working as part of the core team putting up those two institutes. They're founded on an entrepreneurial model of pulling funds together, both for capital and operating expenses.

I also was co-founder of two venture capital funds in town and several spinoff companies that have come from them. My current project ties to the L5L project that you saw this morning in our presentation.

This picture I'm showing here is of the new Siemens Institute for Advanced Medicine that's being built at the front door of the Health Sciences Centre. This is a $200 million project being built with soft money. It is 80,000 square feet and will focus on the neurosciences, surgery of the future, advanced imaging, and simulation. The project contains a retail concourse and a 17-story hotel.

The naming rights of this institute were sold to Siemens AG, one of the largest multinationals in the world. In return, Siemens is putting research programs inside of the institute. The facility will be Siemens pure: when you flick a light switch, it will be a Siemens light switch; when you look at an MR scanner, it will be a Siemens MR scanner.

In return for having such an exclusive environment focused on one vendor, we will do proprietary research in ways that conventional collaborations would not normally take place.

The hotel made a contribution towards the institute in return for affiliation with our community's largest teaching hospital. To give you a sense of the business traffic that's affiliated with it, the NML that you visited this morning generates 25,000 hotel room nights a year just by itself—not counting the teaching hospital. How could I capture some of that volume for our campus? So the hotel is not just a place for guests to stay, but the intention is also to have revenue generation to help feed the indirect costs of the research institute.

The project you just saw is for $200 million. It will have a $30-million-a-year operating budget, with roughly 300 staff, and the majority of that funding will come from soft sources.

A third partnership we have in the institute is with the spinoff company that the National Research Council has launched, IMRIS. It makes an interoperative MR scanner that slides on a ceiling track through the OR and lets the surgeon take pictures during the surgery. This is the country's only IPO this year on the technology side. We're proud to be a showplace for this technology in a clinical setting.

We are also engaged in a very active partnership with CAE, the Quebec-based aircraft simulation company, with one entire floor of the institute focusing on CAE's diversification into the field of medical simulation. The first stage of product development from that will be the development of a new generation of medical mannequin. With medical mannequins, you can literally have babies simulate heart attacks. These are very, very sophisticated robotic devices, but they all come tied to a control room. Well, the new generation of medical mannequin that we're going to be creating with CAE is a completely self-contained unit that will allow people to go all the way from the ambulance to the emergency ward to surgery, up to the patient's bedroom.

We'll also be involved in the development of a virtual reality surgical trainer. Can we rehearse your surgery the day before we do it? How solid does that tumour feel? What does Harry Schulz's tumour exactly look like? What is it touching against? Let's both rehearse that procedure the day before and train students who are in the institute, and let's advance its integration with other types of devices.

The third part is a skills assessment unit in support of surgical training. Say we have a surgeon who's 75 years old. Can he still hit the button? My dad takes his driver's licence over again when he's 80, but we don't make our medical people do that.

So the notion of diversifying a big company like CAE into the medical field, taking advantage of the movement towards patient safety, is another very large project we're doing.

Now the last piece I want to leave with you is the relationship between the L5L project and the things you're seeing inside this new institute. The federal lab can never be as nimble because of the rules the federal bureaucracy is required to live under, with all kinds of very, very stiff things that are done under the mantle of accountability—but we're the marketplace. The Siemens Institute has operating rooms. They just look like the regular operating rooms that you and I might have surgery in tomorrow, but we're doing device development and we're working on prototypes.

● (1455)

Could we be using those ORs in the context of training for infection control? Maybe CAE is the contractor that's delivering that mission-critical training in an OR. You open up a patient who has a certain type of disease, an in-hospital infection that no one anticipated. Okay, team, react to that circumstance.

So that's the interrelationship with the OR of the future; we are also building a ward-of-the-future development in there. If one of those people you saw in a space suit today got a hole in it, where would we put them? Would they go into a regular hospital containment ward? Or might we have a special ward inside this new institute that is specially designed with the materials we were talking about, the infection control aspect that we were talking about today, new materials to have special kind of housing for those things?

The third element is the entrepreneurial side that I hope you picked up from my presentation. I'll bet you that in all of your hearings today and on your journeys, you aren't going to find people who are peddling retail to support research, or hotel rooms or taverns. This would be a novel approach, pulling together all sources of income I can find to make sure the institute has a long-term viability to it, that it's not just based on serendipitous research grants.

The last element is that we're looking at a large-scale real estate development north of William Avenue that will extensively move into the field in P3 development of both health care and research facilities to leverage on top of the business base of Manitoba's largest hospitals.

I know the committee is here principally on the issue of commercialization, and I have many suggestions on that, but I'll leave that for the question and answer period.

The Chair: Thank you very much, Mr. Schulz, for your presentation.

We will go to questions from members. Just for the information of our witnesses here today, members have either five or six minutes, so it's a very short period. I know, typically, they have an awful lot of questions, so please keep your answers as brief as possible. If they do direct their question to one individual and someone else wants to answer, just indicate that to me and I will try to get your answer as well.

We're going to start with Mr. Simard....

Mr. McTeague.

Hon. Dan McTeague (Pickering—Scarborough East, Lib.): Mr. Chair, I will exercise the privilege of turning it over to Mr. Simard, but I just want to say how much of a privilege it is that we're here today. We've learned a lot this morning, Mr. Chair.

I also want to point out that while it is the place where I was born, more importantly, we wouldn't be here had it not been for the efforts of Mr. Simard, so I gladly defer to Mr. Simard.

Hon. Raymond Simard (Saint Boniface, Lib.): Thank you very much, Mr. Chair. I'd like to thank all the witnesses for being here this afternoon.

One of the troubling things we've heard this morning at the University of Manitoba is that over the past years Canada has been successfully raising approximately $4 billion a year for venture capital, but last year it was closer to $1 billion. If that continues, we're in big trouble. I wonder if I could get some comments in terms of how we turn that around, whether it's tax credits or something else.

Second, how are smaller cities affected by that? I know most of that money, whatever it is, whether it's the smaller amount of $1 billion, goes to the larger cities like Toronto or Montreal. So can you tell us what the challenges are in a city like Winnipeg when it comes to venture capital?

● (1500)

Mr. Harry Schulz: Access to capital is the number one issue in this country for venture capital spinoffs. It's not confined to small places, but it's most seen in small places. If we had a cure for cancer on a lab bench in this city today, there would be virtually no place to go, storefront-wise, to find it.

We also know there's a relationship between venture capital sources and places where the money is spent. If you put all the coloured-pin dots on the map of Canada where sources of venture capital exist today and show proximity of the deals they do, there's a geographical relationship. So communities like Winnipeg and Saskatoon certainly have deficits.

My comment is that it's the number one issue. It means that patient technologies like biotech, which have long cash trails, long maturities, will drop in favour relative to medical devices, which have shorter times to market. There is no way to raise that money now.

I would encourage mechanisms to incent venture capital pools to be set. They shouldn't be run by the feds; they should be run by the private sector, but there should be mechanisms to incent those things to happen. I know labour-based pools have fallen out of favour, but there are other mechanisms. Tax credits solely are not enough.

We badly, badly need access to those pools, because biotech activity in this country, from coast to coast, has fallen for lack of capital.

Mr. Ian Smith: One of the things we've tried to do here in Winnipeg is to attract the pension funds. There is something of the order of $2 billion worth of pension funds in Manitoba. Most of them are invested in parking lots and apartment blocks. When we ask why they don't take a little more risk, they say, one, they don't understand it, therefore they don't want to participate; and, two, it's too risky. So we've been suggesting they form a consortium of pension funds and each put in 0.5% of their funds to hire some analysts. Four analysts, who would make intelligent suggestions as to investments of moderate risk, are now working for the consortium so they can start to win on their investment and thus have a much greater return.

Unfortunately, just about the time we were succeeding with that, the Crocus Investment Fund went into difficulties, and the venture capital community went to the right very hard. We're going to go back to this when this problem has quietened down a little bit, because it is a giant source of money. As you know, in Ontario, OMERS—and there are several of these very large pension funds—is getting very good returns. CalPERS in California is another one—California public employees' retirement system.

I think that's an untapped source, but it requires a positive action on somebody's part. And it might well be some sort of government-backed...let's call it insurance, for lack of a better word, to minimize the risk for these folks, at least at the beginning, so they can see it's really worthwhile. They'll not only increase their return, but they're doing something for their community besides just keeping a solid investment.

Hon. Raymond Simard: I understand the pension funds are not only invested in parking lots, but over 95% of the Manitoba pension funds are invested outside Manitoba. That is a huge issue as well.

Could we speak about WD, Western Economic Diversification, for a few minutes. It's one of the tools we have at our disposal. If I'm not mistaken, WD was the lead on the first centre we built, in St. Boniface. They kicked in $5 million. Mr. Asper, a private citizen, put in his $5 million, and then the foundation gave $10 million, or something like that. I may be wrong in my numbers, but seeing that WD is one of the tools at our disposal, is it doing what it's supposed to do in the whole technology field? Is it initiating ideas?

Mr. Harry Schulz: Are you asking me?

Hon. Raymond Simard: I'm asking anybody.

Mr. Len Dacombe: I can speak to some of that.

WD provides the funds from the federal government for TRLabs, so we are very pleased to be working with WD, and that's a key thing. Can they do more? Probably. Can everybody do more? Probably.

This comment is not related to the venture capital comment. And I agree with Harry that tax credits cannot do it alone. But if you look at the analysis of who is taking advantage of the scientific research and experimental development tax credit, the percentages are pretty low in the industry. If a company took advantage of those kinds of things, they would create their own venture capital to work on development of innovation.

So I think something needs to be done to encourage companies to take advantage of those things, whether it's better education, in terms of how to access that program or how to take advantage of it, but it's not nearly taken advantage of as much as it should be.

The Chair: Thirty seconds.

Hon. Raymond Simard: Mr. Dacombe, you were speaking about SMEs having a hard time having their products penetrate the market. Is that because of the lack of resources? Is that because venture capitalists are not looking at SMEs, they're too much of a risk? Why is that, exactly?

● (1505)

Mr. Len Dacombe: In some cases. The health care sector, for example, is a very, very complex legacy environment, so for a small and medium-sized enterprise to come in and ask if their product will fit with these five different databases and these five different applications, software elements the health care system uses, it's too big for them to tackle. That's why if we had innovation centres where they could have a test bed to work on their innovation and say there's a place for it to fit, then we could create new innovations locally and leverage that to improve our health care system.

The Chair: Thank you, Mr. Simard.

We're going to Madame Brunelle.

[*Translation*]

Ms. Paule Brunelle (Trois-Rivières, BQ): Good afternoon. It is a pleasure to meet you, especially because you are playing such an essential role in view of the aging of the population. Since that is something that I am not going to avoid, I am very happy for you to keep doing your research.

Mr. Dacombe, you said that there must be major investment, that innovation is essential. Industries must work together and your fourth recommendation is to encourage industry participation in research and development. You tell us about the contribution that your group, TRLabs, could make.

Can you talk to us about that a little more? Do industries work together well? Do companies invest enough? That is a problem we have heard about. Does business invest in research enough or do they constantly rely on government to do that?

[*English*]

Mr. Len Dacombe: I must apologize. I had a problem with the innovation for the first little part.

But to answer your second part, at TRLabs, for example, we have a very wide array of industry-sponsoring organizations participating with us. We leverage the expertise of the universities we partner with as well, in Alberta, Saskatchewan, and Manitoba. Those companies are taking advantage of the bright minds the universities are generating, and through that they are developing technologies and then taking it to the next step of innovation. One of our outputs is also high-quality people.

To answer the question of whether industry is investing enough in development and innovation, it's certainly not only the government's role to fund that directly, but I think the role of government is to be a catalyst. That means scientific research, experimental development, and tax credits. I already made a comment that not enough companies are taking advantage of that existing resource, and some of them are fairly large companies. That in itself would create internal venture funding for some companies to be able to take advantage and reinvest in development of new products and services.

TRLabs is a very successful model. We've been around for 22 years. We're going to continue to do that, but it's always a struggle. The intersection of those cultures is a very interesting place to live.

[*Translation*]

Ms. Paule Brunelle: That leads me right to a second question, Mr. Schulz. You said that you had suggestions about commercialization. We are aware how important this is. It is a major challenge. We have heard a lot about it at this committee.

Could you tell us a little about the solutions you have in mind?

[*English*]

Mr. Harry Schulz: I mentioned before that access to capital is a huge issue. Dr. Smith's comment about potential government guarantees for some portion of the risk that might reduce the risk adversity, I think is a good suggestion.

A second comment I would make is that whenever the federal government wants to do something to promote venture capital, it looks at BDO. I am not a supporter of that. BDO's activities in this city are nominal. From our perspective, it doesn't solve very much.

In terms of commercialization, many of the inducements that happen at an academic level take the form of matching funds. The mechanisms for matching funds are not something I support either. From our perspective, we're a very vibrant technology community. But we can count the number of biotech and medical device companies on the fingers of two hands, so that reduces the number of players we can work with.

If you live in downtown Toronto, a much larger city, there's an infinitely greater number of marriages that are possible. There is a geographic relationship that exists between science organizations and commercializers. We don't have the same critical mass. When you give a matching grant related to product development or industry relationships to the University of Toronto, it's not nearly the same kind of challenge as it is in Halifax, where there may not be the same number of partners. It's harder to do. So I'm not a proponent of matching funds.

As a hospital, we are often at a disadvantage to our university partners, which are usually the recipients predominantly of the granting council. Funding goes directly to a university. If hospitals participate, they receive it via a university. We're very often forced to work through conduits. Again, if you saw my presentation, I feel we can be a little more nimble and responsive to partners we want to work with in industry if we don't have to work through intermediaries.

The discussion this morning around the Waterloo scenario, free intellectual property, has tremendous potential to get us away from the bureaucracy surrounding IP. With all due respect to many of my colleagues, grown men weep in getting IP licences from the federal government.

The NRC here in the city—Dr. Smith's shop—has a reputation for being one of the most nimble shops in the country. It has a tremendous reputation. But there are many, many other government departments, and that would include the one you saw this morning at the Public Health Agency, where getting a patent licence is not an insignificant exercise. Many industry partners have to work very long and hard to do that.

Those comments about freedom of intellectual property are something that should be addressed by the committee.

● (1510)

The Chair: Thank you, Madame Brunelle.

Mr. Szumski, you wanted to comment.

Mr. Roman Szumski (Vice-President, Life Sciences, National Research Council Canada): Yes. I'm Roman Szumski from the National Research Council, previously an executive with a health and life sciences company called MDS Inc., which included a $1 billion venture capital under management under MDS Capital Corp.

I want to agree with one of the comments Harry made with the VC that is starting to come back. People in the industry believe we're going to start to see a return of venture capital in the country. However, they're likely to take their first steps in the medical device space rather than the biotechnology space, given the shorter timeframe to return.

The other aspect that is required, aside from the mechanisms that my colleagues at the table here have described so far, is that the technology development in Canada needs to be in a more mature state before it becomes of interest to the venture capitalists. Very often, what we see is simply too early and it requires too much time. I can tell you from the perspective of the experience I've had previously, being associated with a venture capital firm, you find that the state of affairs, for example, in the U.S. is that there is a significant larger amount of money invested in a technology before they first approach the VC. In Canada we tend to be a bit immature. That's another aspect and another angle we need to think about.

The Chair: Thank you.

Merci, Madame Brunelle.

We'll go to Mr. Stanton.

Mr. Bruce Stanton (Simcoe North, CPC): Thank you, Mr. Chair.

I echo my colleague's comments this morning. I'm having a great visit here in Winnipeg, albeit a very full day for us. It's terrific to come. We've been at this study for about a month, and this is an opportunity to build on the foundation we've already begun in earnest.

One of the things that has been a recurring theme throughout today, and I must say throughout the course of the study, is the strength of the collaboration and clustering that's been referred to. I'll leave this question open to whoever is best to address this, but could you give us some practical examples of how that happens?

Everyone has talked about the great implications of having groups, or a pooled knowledge, talent and expertise in these areas of science and research, and you're all working in your different areas, but you've all referred to this collaboration that spawns a better movement. What are some practical ways in which that collaboration really takes place?

Dr. Smith.

Mr. Ian Smith: It all has to do with communication and will. In a smaller town it's a little easier I think than it is in a larger town because there's a loyalty. When A goes to B and asks for help for such and such, you're more likely to receive a positive response in a community of under a million than you would in a community of over a million.

I came to Winnipeg in 1992 with two employees. Now I have about 200. We pulled all these resources together, not by seducing and cajoling, but merely by asking for help, be it from the university, the hospitals, private physicians, or engineering companies. For example, when we began we needed to refurbish our building. We had to form a committee to raise $7 million to do that. On that committee we had the head of Investors Group, the head of the Health Sciences Centre, and the head of St. Boniface Hospital. All of these very credible people came together to help us raise this money to furbish the building and put it together. That's one aspect—small city loyalty.

The other one is to remove the silos between the disciplines. Physics doesn't know how to talk to medicine; biochemistry doesn't know how to talk to architects, etc. Everybody has to change their language, to talk in simple terms and show what we can do together relative to what we do separately. That means a lot of running around. I spent my first year doing nothing much more than talking to various people.

It can happen, but I think it's easier here than it would be in a large place, where there's more competitiveness between areas than there is in a town of under a million, where you really want to help your city or your town.

● (1515)

Mr. Bruce Stanton: Are there some things that government policy or programs could do to help pull those together, to break down some of those barriers? Are there things we can do to help this clustering and collaboration be better than it is?

Mr. Ian Smith: I think there's a realization today in the major granting organizations that interdisciplinary research is the way to go. Nobody can know everything, and often you involve many disciplines. There are such things at NSERC and CIHR called interdisciplinary grant programs. You must have a partner from, say, a medical school and a physics department, or an engineering department and a dentistry faculty, something like that to bring them together. It could use a little more funding, perhaps, because they're always having to make decisions to do this or that, but I think the message is out and we are on our way. We are actually on our way to solving that problem of interdisciplinary collaboration. It's simply language and will.

Mr. Bruce Stanton: Mr. Dacombe.

Mr. Len Dacombe: As Dr. Smith has said, it's communication, and what he's really referring to here, I believe—and I don't want to put words in his mouth, but it's a community. In our experience, we are a community. We are a community of industry members and government representatives, including small business and large business, and we help manage the IP, because IP is a pain. The management of IP is a very large pain, so we help our industry sponsors by managing the IP for them. We help them by protecting it through the patent process—that's part of the privilege of the service you get when you join TRLabs—and that helps the companies in the innovation process.

I also think, from a funding perspective—and I would agree with Dr. Smith—that we need to increase the R and D spending in this country. But I think we also have to maybe reallocate it so that more of it is going to the industry-participating programs that exist today.

Mr. Bruce Stanton: I'll pass it over to either of my colleagues.

The Chair: One minute, Mr. Carrie.

Mr. Colin Carrie (Oshawa, CPC): I have a quick question. We all realize the importance of communication—as you mentioned, communication and will. In listening to our witnesses in the past, we sometimes see that there seems to be a disconnect from the people working at the bottom level to the government up here. By the time the communication gets anywhere, you lose that advantage of innovation.

In the study, what we're looking for are recommendations from people in the community, such as you. Do you have some recommendations that would help the government as far as getting this communication and will to move a little more smoothly?

Mr. Ian Smith: There's a committee called PAGSE.

Do you know PAGSE? It meets with members of Parliament once a month in Ottawa and it invites representatives from the scientific community to give talks. I know this because I gave one on commercialization of medical devices to an audience of maybe 10 or 15 parliamentarians. It wasn't a very good day because I think there was an extension of the sitting that day. But that committee has been going for about five years. I think all that needs to be done there is a better realization that it's happening and that it's there, because the mechanism of knowledge transfer is there.

I would say that from the community of Ottawa there were at least 150 people in that meeting. Unfortunately, the MPs were a small audience because there was a vote or something that was very urgent. But I understand the attendance is pretty good. It's just to find out a better means of your knowing when it's going to be and what it's going to be. It's always in one of those very large rooms in the West Block of Parliament.

So that's my suggestion.

● (1520)

The Chair: We are over time, so perhaps I could go on.

Just for the information of members and witnesses, it's a bacon-and-eggs breakfast they sponsor. I think it's once a month in room 200 in the West Block.

We'll go back to Mr. Simard, please.

Hon. Raymond Simard: Thank you very much, Mr. Chair.

I wonder if you can speak to us about human resources. Pretty well everybody who has come before our committee has talked about human resources, about attracting the best and the brightest to our organizations here. Has that been a challenge? Have we been able to put forward interesting enough labs? They'll come to a world-class facility, but they won't come if we're not there. Has that been a challenge here in Winnipeg in your organization?

Mr. Len Dacombe: I can speak on behalf of the industry sponsors I represent. It's a very unanimous chant that they are having a difficult time in getting qualified people. One of our outputs is high-quality people—HQP, as we call it—and we work very hard with the university to get the best students working on the most relevant industry projects. That is one of our greatest outputs. We're measured very tightly on it by both the federal and provincial governments. We are meeting and exceeding the matrix, but HR high-quality people still remain a very difficult thing for the companies I represent.

Mr. Harry Schulz: We are, for the institute, in the middle of recruiting a poster boy. Great institutes always have someone like a Dr. Plummer at the heart of them. We're looking at a team that we're trying to snag in the neurosciences. We would put a package together to bring them, probably from abroad, with the idea of establishing the reputation of the institute. We're probably looking for a 40-something...someone who has fire in his or her belly and a group of colleagues around them. We want to give them their own institute and a pocketful of money to come. So the issue of human resources is very close to our hearts.

A Dr. Plummer or an Ian Smith, or those types, will define what an institute looks like and become absolutely catalytic. The people who work around them often wind up being collections of characters who, over the years, have met, worked well together, and have magic. So it's not about putting an advertisement in *The Globe and Mail*.

That comment is my side of it.

Mr. Roman Szumski: The story you actually have here in Winnipeg with medical device development, which I'm familiar with, obviously started with attracting some key high-quality people. The other key is to have sustained federal investment over a period of time that lets you create the critical mass that allows you to attract the top players. Prior to coming to NRC, I wouldn't have thought to myself that Canada was one of the world-renowned places for the development of MRI. That sounds like something that happens in Germany or in the U.S. But it is in Canada, and more than that, it's in Winnipeg. And it's in Winnipeg because you have attracted the right people to Winnipeg. That critical mass leads to expertise in terms of technical development at IBD and expertise in terms of the medical application of that technology in the hospitals. Both of them start to work together over time, because we have the right type of leadership that focuses on the relationships required to lever the funds and lever the investments.

So I think you actually have a good working example here of how to do it right.

Hon. Raymond Simard: Mr. Smith, you spoke about your seven technology partner spinoffs. They're a very impressive group, by the way. Could you tell me how you follow them, how closely you follow these groups? When do you cut the cord, basically?

Mr. Ian Smith: We follow them in the beginning, because we incubate them. So at the moment the company is formed, usually we rent them space. We have them in physical proximity. Then as they grow, they usually move out. We have an incubator building now. I mentioned that in my speech. Now they're across the way, and the umbilical cord is cut at that moment, and they become clients as opposed to children, if you like.

Hon. Raymond Simard: You give them advice.

Mr. Ian Smith: We give advice, and from then on we give research on a contract basis. So they actually have someone they know, trust, and understand with whom they can now work on a commercial basis, but with full efficiency, because they know the people they are dealing with. And that is still true with IMRIS, which has 120 employees. When they want to take a leap, they come to us and try it out on us. We give them advice, yes or no, and they ask if we can do it for them. We tell them how much, and it seems to work. We follow them through their quarterly reports, of course. Now that they're on the stock exchange, we can follow their numbers.

● (1525)

Hon. Raymond Simard: Just quickly, on strategic procurement, because we've been hearing about that a lot as well, with respect to the government's role in terms of purchasing local initiatives, is that happening? I know, for instance, that in Winnipeg a company produced fantastic software, but they could never get into the government's strategic procurement initiatives. They couldn't get in. They had to go to IBM or somebody else to do that. Is that an issue? Is that something we should be looking at as well to encourage our smaller companies?

The Chair: Could we just get one member of the panel to address this?

Mr. Harry Schulz: I'm with the hospital, so from my side of it, I know very well the saga of a multinational, a General Electric or a Siemens, selling you an MRI versus a small local company called IMRIS selling you an MRI. There is an inherent adverse reaction to risk. If you buy a car from GM, you can't be faulted later for making a bad decision. If you buy that car from Ray Simard Auto, maybe it's not the same level of risk. So I think there's a natural inclination to do that.

The problem is related to government accountability. There have to be public RFPs. There have to be extensive bid review processes. And sometimes the little guy is just competing against great big shops with tons of resources and it's tough to last out. A GE or a Siemens can last through 100 of those competitions before it hits one, and that little guy can't. There is nobody more pure than government on these things, I'll tell you.

The Chair: Thank you, Mr. Simard.

We'll go now to someone we could always trust to buy a good car from, Mr. Van Kesteren.

Mr. Dave Van Kesteren (Chatham-Kent—Essex, CPC): Thank you, Mr. Chair.

Mr. Smith, you and I were having a quick discussion about some of the possibilities in one area being used in another area. Can you elaborate? And do you have good lines of communication? I'm talking about possibly the automotive industry having initiatives or innovations you can use in medicine or something. Are there lines of communication between those two groups or with other groups?

Mr. Ian Smith: That's a surprising one, isn't it? What two industries could be more different than the auto industry and the medical industry? What we were talking about was high-frequency ultrasound, which is used in the automobile industry to look for bad welds. It gives a very good picture, akin to the things you see with X-rays, but of course the ultrasound is non-ionizing radiation. It can't cause collateral damage. It's possible that this could be used for imaging things like teeth, bones, and so on in a non-invasive and non-destructive manner. So that's what we were talking about.

There are many more of these crossovers, and that too is a question of communication, because we don't often meet. The auto industry doesn't often meet a doctor unless somebody breaks a leg, and then they do. So that too is just taking the initiative. Take the initiative, be informed, know what's going on.

We bumped into Dr. Maev at the University of Windsor more or less by accident. So we're lucky to have been able to pull that through in the end, and it's now begun.

Roman, you wanted to say something.

Mr. Roman Szumski: Yes. Just to build on that example, it's serendipity. You have to be in the right place. You have to be in Windsor to make that leap from one technology to the other.

Another good example we have from our IBD branch in Calgary is the use of MRI technology—which we normally think of for medical applications—in the pipelines to look for water. They are essentially using it to look at the quality of the material coming through and when there's too much water in it.

Mr. Dave Van Kesteren: We talked about the valley of death, angel financing, venture capital, and the three f's: friends, family, and fools. Part of the problem I see is that there doesn't seem to be much initiative for people to venture into that area.

There's another problem too, and I think Mr. Arthur treaded on it lightly. We're talking about correcting some of the mistakes we've made in the past in innovation, and better ideas for doing things, but are we training our kids at the university level that it's okay to make a profit? When we're talking about venture capital, going out into the world of business, and encouraging young people to do that, are you getting enough help from the universities from the economic standpoint? This is a capitalistic society, and if we're going to succeed we need to encourage them, rather than possibly giving them some other message.

● (1530)

Mr. Ian Smith: I work a lot with the University of Manitoba, and I think that has changed enormously over the last five years. I'm part of an advisory group for the faculty of engineering that is interested in what they can do in medicine, for example. Now we're trying to give them some real-life examples of what engineering can do in a completely different subject than bridges or roads, etc. That realization is a fact now, and it'll depend on the university and what stage they are at in realizing this and exploiting it.

Here in Manitoba it actually has begun. The engineers have courses in the real world in their final year: examples of jobs, how to start companies, and how to run companies. So I think you've hit on the problem, but society in general has fortunately hit on the solution as well. It's just going to be a few years until you see the product.

Mr. Dave Van Kesteren: Do you see a need for us to talk to different industries? We talked about the automotive industry and the field of medicine. Should the government open up some channels so you can collaborate with different industries?

Mr. Ian Smith: I think we're managing okay without any help. It's a question of will and time. How much time do you have to devote to things that are not directly productive—in other words, investing your time as opposed to your money? Once you've seen success, it's easier to do it again. That's how I would describe it. It's pretty obvious that you should talk to more people than just the ones in your own field. That means you have to go to subjects that are a little off topic for you and learn. That's also happening more and more.

I think the industrial societies, the life sciences associations, etc., are inviting more speakers to come from outside rather than inside, so you start to expand the perspective. Over the past decade there has been enormous change there, from what you would call a “silo mentality” to a “let's work together mentality”. But it's communication. It takes time.

The Chair: Thank you.

Thank you, Mr. Van Kesteren.

We'll go to Monsieur Vincent.

[*Translation*]

Mr. Robert Vincent (Shefford, BQ): Thank you, Mr. Chair.

After this morning's presentations, I was ready to open my wallet or raid my little piggy bank to invest in everything that you do. But, right at the start of your presentation, Mr. Smith, you said that you had a trade deficit of $2 billion.

So here is my question. You said that you would like to have more venture capital, a bigger investment from teachers' pension funds. How can you attract new investors?

You also mentioned that you could have government guarantees. But how can you persuade people to invest their money in venture capital? How would you be able to convince them?

[*English*]

Mr. Ian Smith: It's very simple: show them a success. That's what has happened in California. They started very small. The CalPERS union is a very large union. As I tried to explain, take a very teeny percentage of your resources—take one-hundredth of one percent of your $20 billion, invest it in one for which you have very good advice, and win 20%, or something like that.

As they get used to it, they become less risk-averse, so it is “practice makes perfect”, essentially. You have to start. Try to start with winners.

We have been very lucky here that our two big companies, of which I spoke, both started from one, two, or three employees and are now at 100 and are now not begging for money—they are turning away money—because they showed success. In our particular business, it's not so difficult. If you sell to the United States and create a competitive advantage, your product will sell like wildfire also.

So the market you go into should be one where your product will create a good competitive advantage. That's the best way to have a success.

I'll give you an example. In Minneapolis, they bought an MRS machine at one hospital. Within months a second hospital said the first now had an unfair advantage—because hospitals make money in the United States—so Minneapolis bought a second machine. Now they have two.

This is what happens when you make a good investment. The trick, of course, is to know which is the good investment. You want to have a relatively high level of success for your initial probe. You have to prove to the pension funds—I just use them as an example—that it is not as risky as they think; that with good advice they can find a good investment. Then the confidence will grow.

It's a slow process. It's that initial pulling in that is very difficult, because it's easier to invest in apartment blocks in Toronto, as Mr. Simard has said. It's a communication problem, it's a risk-determining problem, and it takes a lot of dedication by people from the community, which is what we're trying to do here.

Had it not been for the crash of this labour-sponsored fund, I think we would be there already with the pension fund. OMERS, the Ontario employees group, is very successful. In Quebec I believe the venture capital situation works pretty well. It is far better there than anywhere else, because they have lots of successes. The Government of Quebec has been very helpful in that respect in helping people make the investments in the first place.

Does that give you an adequate explanation?

● (1535)

[*Translation*]

Mr. Robert Vincent: Thank you very much. What sort of government guarantees were you mentioning earlier?

[*English*]

Mr. Ian Smith: They would promise, let's say, “If you lose, we'll give you 50% of your loss”, or something like that. You can't guarantee 100%; that would be ridiculous, and people would go crazy. But there has to be some way to offset. It could be that you use your loss as a special tax incentive of some sort. There are ways to do it that will not cost the government too much money either.

The government should show confidence in the people to do this, to be behind them in whatever way it is. It could even be giving some wise advice on which markets are better to enter.

It's a complex answer. I would love to have a one-hour discussion on this subject, because I think the only thing holding Canada back is the risk aversion of the large funds. It's not as though Canada is short of money. It's short of will.

[*Translation*]

Mr. Robert Vincent: You touched on the issue of intellectual property, which, for industry, is really interesting and really vital, especially in each of your areas.

Could you talk to me a little more about that? How do see the intellectual property issue evolving in your respective areas?

[*English*]

Mr. Len Dacombe: In TRLabs, for example, our charter-member industry sponsors are buying into the partnership and gaining royalty-free access to all intellectual property that we generate on all of our research programs from all of our provinces. The smaller companies, which don't pay as much to join the family, end up in a position whereby they can commercialize something with a royalty-bearing kind of arrangement. That is negotiated on a one-off basis, depending on what they're doing with the product or the intellectual property.

The model works. It takes the management of the IP out of the company's hands and it takes care of it for them. We manage the patent process.

The Chair: I'm sorry, but we're out of time.

We'll go to Monsieur Arthur.

Mr. André Arthur (Portneuf—Jacques-Cartier, Ind.): Very quickly.

I heard Mr. Smith say, show us the success and then we'll find the money, but I'm not too sure if I understood Mr. Schulz to say, if we found a cure for cancer, we couldn't find the money to finance it.

Could you reconcile those two?

Mr. Harry Schulz: If I could make a comment on this, I think Dr. Smith's institute has done a very good job of taking technologies to market, and it has very concrete examples of how that's happened. But I would go into another perspective, and this goes back to Henry Friesen's remarks to you this morning. If you were to walk into our hospital's operating room today and go to the supply shelf and point out the products that have come from Canada, you would be able to find them on the fingers of less than one hand. If you were to go into the inventory of other elements of our hospital, any Canadian hospital, not just the Health Sciences Centre, you would have a very, very tough time finding Canadian products on the shelf, of any type and any kind of technology.

So irrespective of all of the glowing reports that all of you are hearing on your cross-Canada tours of how well everyone does at commercialization, the reality is that we all, in this country, stink on this subject. That's why you guys are doing your job right now.

So the venture capital community is not there. From our perspective, at a geographic level, it's hard to source that. But Dr. Smith is correct, if you have successes, they breed confidence. I'm just saying that this confidence hasn't exactly been a wildfire so far.

Mr. André Arthur: Mr. Chair, I think that's a wonderful *mot de la fin*, so I'll just end there.

● (1540)

The Chair: Okay.

We have about four minutes left. I can take the time, if....

I did want to follow up on that, because IMRIS is a very good example. But looking back at that example, which was commercialized in 1998, I believe, or around then, how do you replicate it? Did they follow a model? Was there something specific they did? Is there something we can learn from that example in terms of commercialization?

Mr. Ian Smith: Actually, the IMRIS case was one of learning by making mistakes. It would have been much faster if we had had better coaches; I think the concept of mentorship in the commercialization business is very important.

We are also trying to do that here in Winnipeg, taking some folks who don't want to work quite as hard as they did when they were 45 years old—they're 65 years old now, but they still want to keep their paddles in the water—and using them as mentors. That way you can avoid some of the obvious errors, like expanding your staff too quickly, making luxurious kinds of expenditures when you really just need to buy tools—borrowing, collaborating, and all of these various things that you can do to maximize your productivity and minimize your expenses.

All of those things are what we learned. What else can I say?

Hiring the right staff is an obvious one, right, if you're lucky? We've done pretty well on that one with our company so far in finding the right people. We don't necessarily find them only in Winnipeg. In fact, in the institute we have 42 different languages. So by having the right combination of things to attract people, you can get skills that hit the floor running. That is, you want to have the employees who have the skills you need at the moment you need them, rather than having to say, "I know you're an engineer, but could you learn to build an MRI machine?" That's a slow process. So you need to do very clever recruiting, and that means doing quite a bit of travelling, giving quite a few talks, going to many different countries. We have them from all over the world now.

So those are some of the lessons we learned.

The last thing you need is luck. Who could have predicted 9/11 and all of those kinds of things? The best laid business plan can crash completely from an unanticipated event—and in IMRIS, we were right in the middle in 9/11, which meant that the confidence level in everything disappeared, except in the army. Everybody wanted security, so the smart company then moves into security devices, which we did as well.

The Chair: I did want to ask a question, just a wrap-up question, about the valley of death.

In terms of venture capital, you mentioned that labour funds are drying up, and you talked about pension funds, which I think you've explained. Now there's a statement that tax credits are not enough, although one of you—I think it was Mr. Dacombe—said that we should look at SMEs utilizing SR and ED credits more often.

Would the four of you add flow-through shares to that as an option? Was that what you were referring to when you talked about the government sharing the risks of an investment that might not succeed? Is a flow-through share a better model than a tax credit for this type of investment?

Mr. Ian Smith: I am no expert in that, but because I work in Alberta quite a bit, it has been suggested that we find people who are willing to do that, because it works very well in the petroleum industry—

The Chair: And the mining industry.

Mr. Ian Smith: —and the mining industry in particular. So I think it is a good idea.

People need to know what it is; there is an educational problem there, I think. There's not such an awareness of it in the market in general.

● (1545)

The Chair: Mr. Smith, IRAP is a program that gets universal praise, but my understanding is that Alberta has apparently already allocated all of its funding for IRAP this fiscal year.

I don't know about Manitoba. Is it the same in Manitoba? If it is, I think you should tell this committee that IRAP needs more funding, because if we don't hear that as a committee, we can't recommend it.

But is it true that IRAP is already allocating funding a year ahead of schedule?

Mr. Roman Szumski: As you indicated, it's a very successful program, and we know from our metrics that its performance is high. The companies that have IRAP support end up successfully raising venture capital; there's greater confidence in them and the like. It is an oversubscribed program.

Mr. Len Dacombe: I have two IRAP ITAs in my office. I lease them office space, and it makes perfect sense for them to be in my office, because they bring companies into talk to them and they also introduce them to TRLabs as well. I know they are oversubscribed.

The Chair: Thank you.

I regret that the first panel is over. As you can see, the members have a great interest in the subject.

We want to thank you for your time. If you have anything further you would like to add to the questions that were asked today, or on the issue in general, please feel free to submit that and we will ensure that members get it.

Members, we will suspend for about two minutes and then we will change the panels.

But thank you very much for your time this afternoon. We sincerely appreciate it.

● (Pause)

● (1550)

The Chair: I understand some of our witnesses are delayed, but we might as well start with the ones who are here on time.

Members, we are on a fairly tight schedule. We do have a flight to Saskatoon tonight, and Mr. Simard is buying everyone dinner, apparently.

The second panel is focusing on aerospace, and we're supposed to have a number of guests here, but we do have Mr. Olson, from Standard Aero. He's the senior vice-president of technology and engineering.

Mr. Olson, we do typically have five minutes, although obviously we'll give you a certain amount of leeway as you are the only witness here at this time. So welcome to the committee, and please feel free to start your opening statement.

● (1555)

Mr. Kim Olson (Senior Vice-President, Technology and Engineering, Standard Aero): Thank you very much.

I thank the committee for giving Standard Aero the opportunity to come before you this afternoon and talk a little bit about some of our views on technology and the aerospace sector in particular.

Just to give the committee a little background on Standard Aero, we are a global aerospace and defence supplier with the diversified engine and airframe services we provide. We are one of the largest independent and OEM-aligned service providers, MRO companies, in this market.

We have a large base of operations in Winnipeg. About 1,400 people work in Winnipeg, and our headquarters is in fact located in Winnipeg.

It's important to note that a majority of our sales are in fact to foreign customers, with the U.S. being a predominant supplier of customers for the work we do.

Over the years we've put a significant amount of investment into our engineering and our operations talent, and we have had a fairly active involvement in numerous small-scale research and development initiatives. That's just a little background for your benefit on Standard Aero.

In terms of looking more specifically at some of the technology challenges we face as an industry in the aerospace and defence landscape, we are seeing certainly increasing barriers to entry for the suppliers for MRO services in that type of area. In particular, one of the things that drives that in aerospace and defence is that programs are changing with OEM—original equipment manufacturers—with new programs and new products coming out...having considerably greater control over those products and having in fact life cycle requirements and arrangements built into those kinds of contracts that are put in place. These really create a barrier to entry to independents, or in many cases to Canadian companies' participation in those kinds of programs.

We also see an obviously increasing amount of technology going into these new aerospace products, whether they're engines or air frames, composites and new technologies, that require additional and increasingly more sophisticated technologies to provide ongoing support there. Couple that with the intellectual property licensing and technology transfer controls that accompany a number of these types of programs and that again creates considerable barriers to many of the Canadian companies. Even we are challenged with some of those things.

In other aspects of the industry, airline and supplier consolidation is again raising that technology investment risk, and we're seeing a burgeoning foreign commitment to developing in-country aerospace capabilities. Again, this takes away what has often been there in the past and was very much an opportunity for Canadian companies to provide export opportunities on aerospace and to develop technologies in those areas. It's just another one of those factors that's entering into the challenges.

The rapid rise in the dollar also really contributes to creating difficult business cases for preparing development research and different types of advancement programs that exist. So we're constantly challenged to put a viable commercial business plan together for those types of endeavours.

Looking at it from the workers' perspective, worker shortage continues to be an issue for our industry. We have an aging and retiring workforce, and we see that the workforce in the aerospace industry in Canada is not particularly mobile. You tend to have to grow your own and develop that capability within the area you're in.

On the technical side, new entrants see the aerospace industry as being not particularly attractive. Other industries look more attractive from the perspective of working conditions, salaries, and job perception. Our engineering perspective would suggest there is limited career growth, so the new college graduates are not particularly enamoured with aerospace as the future place to grow because of limited development programs. In some cases, the regional concentration in the aerospace programs means there is not that opportunity there for them.

● (1600)

An important aspect of growing this area is in the realm of knowledge management. The transfer of technology to the newer workers, and in fact developing technologies for better enhancing and utilizing that knowledge, is one key advancement for the industry and government across many different sectors to look at. The sustainability of the environmental aspects is certainly an ongoing area that we need to constantly keep a focus on.

So where is the government role in some of this? I think facilitating industry-government-academic collaboration and investment in research and commercialization is really important. In looking at the creative tax programs, SR and ED is certainly an element that's viable. I think there's still a lot of work to be done in terms of understanding how to really apply it and gain the benefit of it.

With respect to facilitating cross-sector best practices and opportunities, as I look at different government programs and different sectors, it occurs to me that there may be some opportunities, from automotive to aerospace, to perhaps cross-breed some of the ideas out there and the advancements that are ongoing. I think it's important that the government continues to look at supporting regionally diverse initiatives in growing a broad aerospace capability across our nation.

Another aspect is ensuring that our defence-related procurement activities facilitate continued development and growth of technology within Canada. We want the foresight to realize that as we enter into some of these new programs, there can be barriers to advancing the technology...and becoming mere servants to various manufacturers who might have these life-cycle programs from other countries and so forth. It's important for us to think about that from a long-term perspective.

Finally, we need to look at continuing to facilitate the development of our human resource. It's very important for our industry—for the aerospace and defence industry in particular.

Thank you.

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

We're joined as well by Mr. William Geary and Mr. Peter Hoffman from Boeing.

Mr. Hoffman will be making the opening statement on behalf of Boeing.

Welcome. You have five minutes for an opening statement.

Mr. Peter Hoffman (Director, Global R and D Strategy, The Boeing Company): Honourable members of the committee, ladies and gentlemen, it's a privilege to be here today. I'd like to thank you for your invitation to discuss the topic of science and technology in Canada and its impact on the aerospace industry.

I'm pleased to report that Boeing is an integral part of Canada's aerospace industry. Boeing's presence in Canada stretches over more than 85 years of aerospace excellence, and the company's contribution contributes approximately $1 billion U.S. annually to the Canadian economy.

As the country with the third largest international Boeing supply base, Canada is home to a Boeing-owned high-technology composites manufacturing facility here in Winnipeg, as well as an airline maintenance software development operation in Richmond, British Columbia, and an airline crew, fleet and logistics software development operation in Montreal. In addition, Boeing operates out of five locations in Canada, providing new aviation parts and related after-market services. In total, Boeing employs over 2,000 highly skilled Canadians across 10 locations.

Each year, Boeing places orders with hundreds of suppliers in Canada in every province. Canadian industry provides Boeing with aerospace parts, components, and subsystems for all Boeing commercial airplanes, including the 787 Dreamliner, the CH-47 Chinook heavy lift helicopter, plus Canada's military CF-18 fighter jet and the C-17 strategic airlift aircraft.

In addition to our significant business presence in Canada, Boeing is also actively engaged with the technical community, both from an academic and industrial perspective. We have research and development, continuing education, and scholarship and recruiting relationships at the University of Manitoba, Red River College and Stevenson Aviation & Aerospace Training Centre here in Winnipeg; the University of British Columbia in Vancouver; McGill University in Montreal; and Memorial University in Newfoundland.

Technology collaboration with Canadian government and industry includes development of affordable composite manufacturing techniques, in cooperation with the Composites Innovation Centre in Manitoba, and natural fibre composites research, in cooperation with the Canadian National Research Council. In addition, we are involved in the development of advanced metal joining and forming technologies with the Canadian firms, Guthrie Research Associates and Spinduction.

Boeing and the Canadian government share a common understanding of the importance of innovation to the long-term health of industry. Canada recognizes the need to continue to innovate and shift to higher value-added activities to maintain their competitive advantage. Boeing faces the same challenges to maintain a leadership position in a highly competitive and dynamic global aerospace market.

In response to these challenges, Boeing has instituted significant changes to our business models and operating methods both inside and outside the company. Inside Boeing, innovative leading manufacturing techniques have been implemented in our commercial and defence businesses, bringing new levels of productivity and efficiency. At the same time, new partnering approaches on the 787 Dreamliner have driven design and manufacturing responsibility outside of Boeing to a greater extent than ever before.

Boeing's emphasis on finding best-value opportunities outside the company has not been restricted only to manufacturing and engineering communities. A parallel global outreach has also taken place involving research and development. The rising cost of technology development and speed of innovation required to meet the competitive requirements of our customers in today's aerospace market is driving Boeing's commitment to reach out and collaborate around the world with the best and brightest researchers in government, industry, and academia to quickly find and transition the most affordable and innovative solutions possible.

Boeing research and development investment decisions are driven by two primary factors: gaining access to world-class capabilities and leveraging our research and development investment. To help us set our investment strategy, we continuously collect information on the types and amounts of global research and development activities and use this data to identify capabilities that align with our technology needs. Canadian government programs, such as the strategic aerospace and defence initiative and the scientific research and experimental development tax incentive programs, are important for encouraging Canadian private sector technology investments.

Boeing searches for the best technology capabilities to meet our needs both in the academic and industrial sectors. As detailed in the Advantage Canada plan, a skilled and highly educated workforce and high rates of private and public investment in research and innovation are fundamental to long-term economic growth in developed countries. Recognition of these factors and a willingness to co-invest with industry has played a key role in past Boeing technology investments.

In closing, Boeing is proud of our long history of business and technology engagement in Canada, and we look forward to working with the Government of Canada, academic institutions, and industry to strengthen our current technology relationships and identify new models of collaboration.

Thank you.

● (1605)

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

We do have our final two guests here, who we saw earlier this afternoon. From the Composites Innovation Centre in Manitoba, we have Mr. Sean McKay, and from Bristol Aerospace Limited, the vice-president and general manager, Mr. Don Boitson.

Do both of you gentlemen have presentations or only one of you?

Mr. Don Boitson (Vice-President and General Manager, Bristol Aerospace Limited): I have a few words to say.

The Chair: Okay.

We can have both of you. We have a bit of a short timeline. Perhaps we'll start with you, Mr. McKay, and then we'll go to you, Mr. Boitson.

Mr. Sean McKay (Executive Director, Composites Innovation Centre Manitoba Inc.): Briefly, I just wanted to allude to the discussions we had this afternoon regarding science and technology and research in Canada.

I guess we've been involved in several projects. So far, we've predominantly been working with single industry partners and with other multiple research collaborators. Most of the funding has been provided through the western economic partnership agreement that flows from Western Economic Diversification Canada and the Province of Manitoba. We have also been involved in a fairly extensive roadmapping assessment with the National Research Council and the Institute for Aerospace Research. This commenced in 2003 and has been ongoing since.

We've identified key areas in the sector for competitive development. However, we've been unable to move forward and have these projects implemented. These predominantly are pre-competitive collaborative projects with numerous industry partners. We have been unable to find a funding agency to at least underpin some of the costs, and that continues to be an effort.

In terms of recommendations, I know that Industry Canada is going to a second round of review of the program, especially under the strategic aerospace and defence initiative. It's with respect to how that funding can be utilized not only by Canadian industry, from a commercialization standpoint, but also in the form of potential grants for a lot of these larger types of projects.

Also, as I mentioned earlier, there is the comparison between funding from Industry Canada and funding from other organizations, such as Agriculture and Agri-Food Canada, to see if there is a similarity or if there are distinct differences. I believe there are differences, and maybe one group can learn from the other.

In terms of other activities, specifically from Manitoba's perspective, we're involved in trying to leverage industrial and regional benefit offsets from major military procurement packages. We would like to see if we could have some additional government involvement, not mainly in sponsorship but involvement in coordinating those activities.

We're also looking, together with the University of Manitoba, at bringing in what's known as a consortium for research and innovation in Canada. This is a program that's revolving at the moment around Quebec universities and the aerospace industry. It is quite effective, and we're looking to try to bring that into Manitoba. There are some nuances, especially in the way NSERC views this organization.

Also, from the university perspective, we're looking at what types of guidance we might have in terms of getting the universities to explore ownership of IP and publication initiatives a bit more to make them more industry friendly. I think that's one of the stumbling blocks in terms of getting industry to participate with our university system.

Finally, we are involved in some large capital-intensive projects with industry. We find that it's fairly difficult to get a good solution, not necessarily from a granting perspective but from the perspective of how projects can be funded. I know there is involvement from the strategic aerospace and defence initiative. But there may be some other mechanisms that could be looked at with these tax initiatives, which would actually bring a considerable amount of funding into our aerospace industry.

● (1610)

The Chair: Thank you very much.

We'll go to Mr. Boitson, please.

Mr. Don Boitson: Thank you.

I just want to add a couple of comments based on what I mentioned this morning on the efficacy I see in our partnership.

The aerospace sector operates within a high-technology sector in Canada and we do compete globally. We at Magellan Aerospace design, engineer, and manufacture aero-engine and aero-structure assemblies and advanced proprietary products. We do actively participate in collaborative, strategic investments of national interest, and we also have coordinated approaches to access opportunities through Canadian government purchases, such as IRBs.

I'm bringing this up because we look forward to applying these technologies to the export markets. We at Magellan have a proven business model of developing these proprietary products based on Canadian government and military requirements—for example, our Black Brant, Wire Strike, and CRV7. We exported those to the global market, and it is now a $50-million-a-year thriving business, 100% on exports. Those types of models do certainly work within industry.

Aside from the proprietary products, obviously there is manufacturing technology that we want to apply from military applications and take to civil and commercial applications as well. We're investing in automated manufacturing technologies to enable this to happen. We believe this technology is paramount to the success of the Canadian manufacturing industry in the future for folks in high-precision assembly and automated assembly of metallic and composite components. It will allow the Canadian industrial base to participate in future programs as well.

I did want to mention a couple of areas in the strategic partnerships, and I'll leave the notes here. We do look forward to the Canadian government's continued support in long-term risk-sharing capital requirements. We mentioned earlier that there is a strategic aerospace and defence initiative that replaced TPC, and it's just getting started right now. It's critical to make sure that is a success for industry.

We're asking for a level playing field, as was said earlier. It's not about grants or other opportunities, but we need a level playing field in the Canadian industry to develop new manufacturing technology and to maintain and grow our highly skilled workforce.

We are asking that the Canadian government consider modifying the policy required to ensure procurement of satellite technology and other strategic technology in Canada. Right now we are restricted as Canadian companies from competing in other jurisdictions and countries. Again, we need to seriously look at that so we can level the playing field with some of our international competition.

We do want continued government support through corporations like CCC and EDC to support the ongoing export of commercial and defence products. I know there's talk about some potential changes in a couple of those areas, but we want to make sure they do support the export of products, as that is key to our long-term success.

We'd like to maintain the procurement policies and practices for future proprietary product development—this is on strategic purchases specifically on the military side right now—so that we do have engineering, repair, and overhaul throughout the procurement and operational phases of those programs for Canadian industry. Again, we feel that's very important in our sector.

● (1615)

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

For the interpreters, EDC is Export Development Canada.

Mr. Don Boitson: CCC is the Canadian Commercial Corporation.

The Chair: Thank you for your presentations.

We'll now go to questions from members.

For the information of witnesses, members have either five or six minutes, so it's a very short time for questions and answers. If they direct it to someone on the panel and you want to answer the question, just indicate it to me and I'll ensure you get time to respond.

We'll start with Mr. Simard, for six minutes.

Hon. Raymond Simard: Thank you very much, Mr. Chair.

I would like to thank the witnesses for being here this afternoon.

One of the tools we have at our disposal is the IRB. It is a tool in the procurement process when we purchase equipment from another country. I believe they are supposed to invest dollar for dollar in our country. If I'm not mistaken, there are no restrictions in terms of what they have to invest in; it doesn't have to be science and technology. The example that's always used is toilet paper, and I hate using it, but in fact they can buy a lot of toilet paper for $1 billion, let's say.

Is there something the government should do in terms of imposing a minimum to be reinvested in certain sectors? Is that something we should consider?

Mr. Peter Hoffman: I could speak to that. I've worked closely with our IRB and industrial participation teams over the years. I was a member of that team for a number of years. Across the world it's very wide-ranging. Some governments are very prescriptive. In particular, I could point out that the Korean government is very specific about what they want, about what kinds of ratios of technology versus manufacturing they want. It's a double-edged sword. It gives you a more rigid guideline, but at the same time you know exactly what they're looking for.

One thing I can point out, though, is that there is a heavy focus on technology in some countries. There's a recognition of the long-term benefits of investing in technology within the country, and that's demonstrated through granting of offset credits.

We have had discussions with Industry Canada along those lines. We have yet to come to a series of programs where we've been able to find common ground, but if we were able to promote the use of technology as part of the IRB programs, I think that would be a positive step forward.

Hon. Raymond Simard: One of the other tools we have at our disposal is our local economic development agencies—Western Economic Diversification, for instance. We often hear in Winnipeg that WD is not doing what it should be doing. We often compare it to ACOA. Although we have the third largest aerospace sector in the country here, the Atlantic provinces have a fairly vital sector. I'm told a lot of it is because of ACOA's work and because of ACOA's flexibility.

I wonder if you can speak to us on that a bit, because I think if a local agency can make that much of a difference, we should maybe change our structure here with WD.

I wonder if Mr. Boitson might comment.

● (1620)

Mr. Don Boitson: I will comment. A good point is that we know the WD policy had changed over the last four or five years, and previously there was more direct investment by WD. I actually sat on a panel—it was two years ago now—when they talked about what were some of the structures we could do in WD to reshape and refocus. It was a former deputy minister who was saying and promoting the fact that when there was some of that direct investment in key technologies, in key research and development areas, it was helping in assistance. We know that is applied in some of the other areas across Canada. So yes, I think we're a strong proponent of that.

At the same time, again, we've got WD supporting initiatives like the CIC, where there is a group clustered together, and we've been talking about potentially others with materials or other areas to focus on as well. Again, we feel there needs to be potentially a few more wins in some of the WD areas that way. But certainly direct investment by WD would be a positive.

Hon. Raymond Simard: Mr. Olson, do you want to comment on that?

Mr. Kim Olson: Sure. I would tend to support that. Certainly we could see where there would be advantages in that direct investment. We've seen where other companies in eastern Canada have definitely benefited from that and can really help to propel in terms of developing some technology and capability in a particular area by supporting that direct investment.

Hon. Raymond Simard: Mr. Boitson, you mentioned that Magellan was not able to compete on an even playing field. That really concerns me. This is something we certainly have to look at.

So what you're telling us—and I've used this example before in committee—is you're not allowed sometimes to compete in a European bid, for instance, but they are in fact allowed to bid here in Canada.

Can you tell us what reason we are giving you? Is it because of our free trade agreement? Why are we not allowing you to play on this even playing field?

Mr. Don Boitson: I admit this is one of the biggest challenges. How do you go ahead with either some strategic procurements or direct procurements in some of these technologies? I'm a proponent of going ahead with some of these strategic purchases and having the IRBs. I think the example here was a country like Korea, which nails it down and says, “Here are the elements, or here's the technology we want to go after.” I think Canada should develop some of those.

I'm going to say satellite technology; it's been in the news a bit with the MDA purchase and a few other things. We are not allowed to bid into some countries like the U.K. and Europe for those same types of products, but they can bid here. They have economies of scale. They have other competitive factors to us. So a lot of times I think we in Canada take a step back and say, “Well, we need that natural process to go.” If we take that step, let's understand that it does harm or impact our potential for long-term strategic growth in areas like satellite technologies or other advanced technologies.

We need to look closely with other countries and see how they do put these policies and plans in place. I'm suggesting there should be some Canadian government policy change to either mirror or look at and address some of the high-technology sectors for Canadian industry.

The Chair: Thank you.

We'll go to Madame Brunelle, please.

[*Translation*]

Ms. Paule Brunelle: Good afternoon.

I have a very simple question for you. Are your companies in competition or do you work together? Are you subcontractors for Boeing for some jobs? That is something I would like to understand.

[*English*]

Mr. William Geary (President, Boeing Canada Technology, The Boeing Company): I can speak to that from the Boeing Company standpoint. We do not compete with the other members of the panel; we actually see them as our collaborators.

In the case of Magellan, they are a key supplier to Boeing commercial aircraft and a key supplier to Boeing Winnipeg. Our collaboration with CIC has been from its inception; we actually invest and collaborate in the work that Sean's team does on behalf of industry in general. We don't look at any of the members on the panel here as competition. We look at them as collaborators.

● (1625)

[*Translation*]

Ms. Paule Brunelle: So you will now see my second question coming.

The government has made unprecedented military purchases from Boeing. Did those contracts have a direct impact here in Manitoba? Earlier, you told us that you make sure that you buy in Canada. I agree with that, and often say that people have to be sure to buy in Quebec. I would like to know if that has affected any of the contracts you have obtained, Mr. Hoffman.

[*English*]

Mr. William Geary: I probably do not have the facts right, but when the minister announced the industrial regional benefits here a couple of months ago, I believe the announcement was in the $350 million or $360 million range for investment that the Boeing company had already identified as part of the most recent C-17 purchase by the Canadian government.

A lot of that is directed here locally in Manitoba. The work statement that is in Boeing Winnipeg is a chunk of it, and some of the work we do with our suppliers in the city, such as Cormer, and with others in other parts of Canada—Arnprior in particular, Centra, IMP out in the Atlantic provinces, and others—is connected indirectly through some of that activity.

[*Translation*]

Ms. Paule Brunelle: You told us a little earlier that you had to have internationally recognized researchers and that you had to go and look for talent like that. This committee has often been told that. We get the impression that researchers are like hockey players: you get them by offering them huge salaries. I hoped my sons would do that. Not so, unfortunately, nor are they interested in politics.

Will these advantages and economic benefits allow you to bring researchers to Manitoba? Is your ability to attract researchers here one of your competitive advantages?

[*English*]

Mr. Peter Hoffman: The key thing we focus on is the government investing in and graduating talented engineers. If you look around the world, there are parts of it where degreed engineers are being produced at a tremendous rate—in China and India. We're suffering in the United States, and I believe here in Canada to a certain extent, with young people not being interested in the technical areas, so as a company we're not only engaged with higher education and reaping the benefits of those highly trained engineers who come out of the universities, but we're also engaged at the K through 12 level in trying to get kids excited about technology and thinking about it as a path, not being intimidated by the science and the math that's required to go into that field.

We really think it needs to be a grassroots effort. When we see governments actively engaging at that young age and trying to build that pipeline.... To me that's movement in the right direction.

The Chair: Mr. Boitson, do you want to comment?

Mr. Don Boitson: I was going to answer that as well. We have somewhat of a model here. I am also the president of the Manitoba Aerospace Association. When you look across the board, it's true that we really are partners here, because we sit at the same table. Willy is a board member, and so is Standard Aero and others.

So we have some collaborative ventures in which we share, and we co-fund a chair for aerospace at the University of Manitoba with the larger companies here.

We also work with our provincial and federal counterparts to look at the human resources training sector of it. As a matter of fact, this Friday we have a bunch of grade six students coming in for an aerospace day. It's very important to have that collaborative activity, starting young and continuing throughout not only elementary school but into junior high and into the Red River colleges and universities.

We need to keep actively promoting, and aligning with the programs coming forth from the federal government helps as well.

[*Translation*]

The Chair: You have thirty seconds left.

Ms. Paule Brunelle: I would like to ask Mr. Olson a quick question.

You intrigued me when you said that there are opportunities that bring aerospace and the automobile industry together. With the price of gas, my mind immediately went to vehicles that use less gas. But what did you mean?

● (1630)

[*English*]

Mr. Kim Olson: In preparing for this talk, one of the observations I had as I was looking at some of the sites on Industry Canada and so forth was I recognized Precarn as being one organization that hasn't been on our radar screen particularly. They focus a lot on robotics and that type of development.

While we have some clear applications in robotics within Standard Aero, in terms of processing, there may be other types of applications in development that we could undertake across some of those sectors if in fact we sort of recognize that we have cousins in different sectors working in complementary technologies.

The Chair: Do you want to add something briefly?

Mr. Peter Hoffman: I might add that Boeing has a number of relationships with the automobile industry. In particular, we've had a standing technology collaboration relationship with the Ford Company for over 11 years. In addition, for the past three years—we've just extended that relationship an additional five—we've had a relationship with the Renault Formula One race team. There, it's more of the high-end technology; with Ford, it's more specific applications, passenger comfort, the aging population and those type of things. We find a lot of crossover between the technologies that the automotive industry is interested in, as well as the technology we need.

The Chair: Thank you.

Merci, Madame Brunelle.

We'll go to Mr. Carrie, please.

Mr. Colin Carrie: Thank you very much, Mr. Chair.

I want to thank the witnesses for being here. I could probably talk to you guys all day—coming from Oshawa—when you're talking about automobiles.

I wanted to talk about something we really haven't touched on, and that is environmental policies with governments. We're always pushing you guys to develop lighter materials, composites, better engines, things along those lines. So my first question delves into whether there is something that governments are doing around the world to, let's say, encourage environmental green technology in the aerospace sector that we should be doing here, or are you aware of something that maybe we could do?

The second question I want to talk about is more or less this defence procurement program. We've talked a little about satellites. I wanted to touch on WTO issues, free trade agreements, things along these lines.

It seems Canada is always criticized for being the Boy Scouts. I know in the States, I've talked to some guys and they say paint it green, paint it grey, and we'll call it a military expense, and that's where a lot of the American government really invests in the high-end R and D. We talk about a level playing field, how we can go about doing that.

But the bottom line is, we want to get more of that R and D here, and we want to get those value-added or higher-end jobs here.

I'm going to stop there. Let's hear your comments on those across the line, because I only have six minutes.

The Chair: Mr. Geary.

Mr. William Geary: Thank you.

The element of the environment is an important aspect that the Boeing Company is taking on in a vigorous way this year. We're doing it as a response to some of our market access in Europe, but more so because we see it as a competitive advantage in the future.

All of our manufacturing entities inside the company are going to be required by the end of the year to be certified under the ISO 14001 standard. That's the International Organization for Standardization. That standard is focused on not only using less energy, fewer resources, and putting less waste into the earth at the end of the day, but how you can leverage that in ways that give you a design advantage where you're thinking in terms of your carbon footprint, from the design aspect all the way through the use and life cycle of the product. So as one of the internal manufacturing entities inside of the company, Boeing Winnipeg will be certified by the end of the year under the standard.

I think a government entity can approach standards and things of that nature in a fashion that makes them not punitive, but more of a competitive advantage for industry. Although I don't have any answers to offer, as corporations are being asked to become better global citizens and better stewards of our economy, you might think in terms of how we can do that in a competitive way that doesn't become a disadvantage for them in the products they're trying to sell and offer the marketplace.

The Chair: Mr. Olson.

● (1635)

Mr. Kim Olson: Regarding the environmental aspects, I think maybe the government could consider the investments required to move to more sustainable processes. In some cases, these are quite considerable, and perhaps there could be some more creative ways to support them or incentives for those who undertake them.

For the long term, first of all, doing so would place us in a more competitively green environment by having our industry at the forefront of adopting those technologies, and secondly, there is the overall sustainment aspect that comes with that. In many cases, these greener processes can in fact provide a much more economically competitive solution to the particular work at hand as well. We have some examples of that within our business.

Mr. Colin Carrie: Do you have examples of what governments around the world have done? Do you have anything specific for us?

Mr. Kim Olson: Nothing comes immediately to mind to use as an example.

Mr. Colin Carrie: You can write us later.

Mr. Don Boitson: If I could just touch on the second comment, I know there's little time here, but it is about R and D, and you mentioned things like free trade or other areas, and how we can open that up.

I do know there has been a shift over time away from funding agencies like DREV and DRES, which are the Defence Research Establishment Valcartier and the Defence Research Establishment Suffield, and a few of these areas that were involved heavily on the research side in the past, where there were a number of partnerships, again with industry.

Again that sort of strategic direction back to military and technology funding in some of those areas needs to be made, and as well with the NRC, the National Research Council. Again, there are some areas, like those in Sean's organization, the CIC, that are getting in some of the automated equipment, getting in some of the new technologies and processes.

If we look at some of that funding, to expand some of the technology areas and make them a priority, I think it could work.

Sean, I'm not sure if you want to....

Mr. Sean McKay: I'm not sure the comments I would make in response to your specific question would be relevant.

Mr. Colin Carrie: You mentioned earlier that a lot of your customers are foreign customers. Is there anything the Canadian government can do to help enable you to make sales, or enable them to make sales in other countries? Is there something we're missing out on that we should be doing?

Mr. Kim Olson: Many of our customers are foreign because that's where the activity is taking place. There are trade commissions. We endorse those types of things that go on that raise the profile. That type of activity might support more the Asian markets and so forth. That's probably the one market where we see a lot of activity under way in terms of expanding aerospace.

I talked about foreign commitments and building in-country capability. We're seeing more and more in China, India, and Japan the building of that in-country capability, which inevitably will pull work that we're involved in out of North America, and Canada for that matter. One of the big drivers there is that we're battling against low-cost labour. I guess we have to continually work at solving that problem. I don't have the answer right now.

The Chair: Thank you.

Thank you, Mr. Carrie.

We'll go to Mr. McTeague.

Hon. Dan McTeague: Thank you for being here. I really appreciate the opportunity we had earlier to visit your site at Smartpark.

There are winners and losers. There is always sort of an underlying assumption by analysts who say there are some things that need to go the way of the horse and buggy and other things that can evolve.

Mr. Boitson, your company is a good example of a company that's evolved over the years. It's been around for over 100 years. If I understand correctly, MacDonald Brothers went back quite some time. We know the history, the politics, etc.

Right now, I'm seeing here in Manitoba a high level of impressive coordination. I'm wondering, however, if you can use that as a template to coordinate between competing interests, say in Toronto or Quebec, and if there is a way that when it comes to things such as procurement we're all sort of speaking from the same book. The best obviously would wind up with the opportunity to do whatever it is that is out there.

More importantly, can you identify for the committee ways in which we can improve the coordination so that we don't wind up with this regional bun fight that often happens? We've seen it here before. I think we've tried to avoid it for the past 20 years, but it was about 20 years ago, around this time, that I think it's fair to say we put region against region when an entire nation's interest was at stake.

Are there any ideas, any insights, or any efforts at trying to pull these things together?

● (1640)

Mr. Don Boitson: It's an interesting comment, and if I had the solution to that one, I'm sure we'd be applying it across a few industries.

I'm still a very strong believer in programs—I'm going to use the word again—like the IRBs. However, yes, it could be on a more national scale. There are technologies that if we do get together...we do have the AIAC, the Aerospace Industry Association of Canada, and we're trying to coordinate a little more closely with all the groups within the provincial associations and the western associations with our Quebec, Ontario, and Atlantic partners, so we're certainly trying to do it from the industry sector. I think there are programs like WD and ACOA that have non-competitive clauses with Canadian industries, so that we don't have some examples where one does fund an advantage for someone in the east versus the west. We do have to be careful when we put those in place, so they are not competing across Canadian divisions.

Hon. Dan McTeague: I'm almost out of time, but I want to ask all of you, procurement aside, what would it take for you to continue to develop and succeed in Canada in the international sphere? All of you mentioned a couple individually, but it seems to me we always come back to what defence contracts or what kinds of things can be had domestically. I want to see if, rather than saying the opportunities exist within Canada to build the industry beyond where it is today—it's a very impressive record—what we can be doing, short of removing procurement, that would make Canada a centre of excellence, as I'm starting to see here in Manitoba.

The Chair: Mr. Geary.

Mr. William Geary: Given that the Canadian dollar is on an incline, and it's a very attractive currency at the moment, competing on the open market globally you come down to two things when you do business in aerospace: you either have the technology and innovation no one else has that you can deploy and leverage better than your competition, or you do it for a lower unit cost outlay. What is going to make our Canadian firms attractive in the future to supply Boeing Canada is a continuous improvement mindset whereby they're always going after doing better day after day, with a higher level of quality. If we can find a way whereby the government can continue to promote learning and the leverage of technology and techniques, it will make these firms more attractive to do business with, and ultimately, when they compete on the open market, it's going to come down to either technology or whether they can do it for a lower value than others.

Hon. Dan McTeague: Wouldn't that make us a bargain right now in Europe, given that the Canadian dollar has spiked or stuck with the U.S. dollar?

Mr. William Geary: Yes.

Hon. Dan McTeague: Mr. Boitson.

Mr. Don Boitson: Where else are you going to invest? In our people, and getting people up to that level of continual improvement, the technologies, the engineering, and making sure we're leaders and being the best we can be in those fields. I see education and training funding and development as very key areas.

Hon. Dan McTeague: I take it, then, that all of you here would support C-253 to make RESPs tax deductible for all families in Canada?

Voices: Oh, oh!

Hon. Dan McTeague: Sorry, you don't have to answer.

My time is up. Thank you.

A witness: Whose bill is that?

Hon. Dan McTeague: The one that's half dead.

Voices: Oh, oh!

The Chair: Thank you, Mr. McTeague, especially for the editorial comment.

Voices: Oh, oh!

The Chair: We'll go now to Mr. Stanton for five minutes.

Mr. Bruce Stanton: Thank you, Mr. Chair. Thank you to our panel this afternoon.

I want to start off first, because I don't know that I'll ever have the opportunity again, but I had the chance to be with 8 Wing in Trenton last September and they had tremendous things to say. The new 429 Squadron that has the C-17s is delighted by these airplanes.

Mr. Olson, you mentioned some of the barriers you're having around IP licensing—in other words, the ability for you to provide services to aircraft companies and engine companies. Are you not able to do the work because there's greater protection from the original manufacturer? Could you expand on that thought to see what those barriers were?

● (1645)

Mr. Kim Olson: I was talking in generalities in terms of IP being a two-edged sword to a certain extent. I think from a national perspective that might be the case. If you look at some of the procurements and some of the obstacles, it's important to bundle that in terms of these long-term, life-cycle types of agreements, where we have to understand it may really restrict the type of technology and the skill levels we will have in Canada, because engineering activities will no longer be required in Canada. It's going to be held and maintained by the OEM, which is potentially foreign to Canada. It's an important aspect to think about when we're going through these defence procurements in particular, to think about the types of expectations on IRB as it kind of does circle back to that other point.

Mr. Bruce Stanton: That's a good segue into the next point, to the question of procurement and these IRBs. Would the environment be more favourable in attracting these kinds of purchases if there weren't the regional aspects to these kinds of requirements? I mean, if you had more flexibility, for example. It's a difficult thing in Canada when we pit region against region. Would there be more flexibility, or would you be prepared to comment, perhaps Mr. Geary or Mr. Hoffman and Mr. Boitson, on that topic? Would it be better to look at it as a pan-Canadian as opposed to a regional requirement?

Mr. William Geary: It would definitely cause industry and those members in industry to compete for the value of the IRBs, based on their skill sets, and not be as prescriptive in terms of putting equal value or a prescribed amount in the four regions. That would then, in the case of some of the things going on here in Manitoba, make this an attractive, and potentially more attractive, area to do business because it has a development base, more so than maybe Saskatchewan or some of the other provinces, where you will find a potential for concern amongst the industry...as those areas in the east, where maybe they don't have the same base that some other parts do.

Mr. Bruce Stanton: At the same time, would that not be an incentive to try to rally the kind of investment around a cluster of scientific and investment research to make that happen?

Mr. William Geary: I've always felt that competition drives greatness, and a free ride does not always drive greatness.

Mr. Bruce Stanton: Mr. Boitson.

Mr. Don Boitson: I was going to add to that. Remember, we're talking about military procurements here. We, Canadian industry, compete in all commercial aerospace and other activities that we are in on a global playing field, so I concur that there needs to be healthy competition in order to drive that excellence out of industry as well. And if there needs to be some policy to make it a smaller amount that needs to be regionalized, if you will, and have a higher percentage that's available or up for grabs to the most competitive out there, whatever the region may be, that will, in the long term, drive more global competitiveness for Canadian industry for sure.

Mr. Bruce Stanton: Do I have more time, Mr. Chair?

The Chair: Five seconds.

Mr. Bruce Stanton: Okay, I'll let that go then.

The Chair: Thank you.

Monsieur Vincent.

[*Translation*]

Mr. Robert Vincent: Thank you, Mr. Chair.

My question goes to you, Mr. McKay. You mentioned industry partnerships and you had some recommendations on funding commercialization, on intellectual property and on the way to fund projects.

I would like to hear some more details about your recommendations, especially on funding commercialization. What did you mean? What kind of government funding assistance are you looking for?

[*English*]

Mr. Sean McKay: One of the specific points was funding for pre-competitive collaborative activities, and those would be where several companies, such as the Boeings and the Bristols and potentially the Standard Aeros, would get together and look at pre-competitive technologies.

In the past in Canada, together with our comrades at the National Research Council, both in Montreal and in Ottawa, we have spent a considerable amount of time trying to understand what technologies industry would like to look at from the aerospace perspective. I'm specifically talking about composites and what we need to do to get industry to leapfrog ahead so they can actually understand and utilize the latest technologies. We spent a considerable amount of time putting these specific projects together. An example would be a fairing on a Boeing aircraft, utilizing a different material and process that would save weight and save cost.

Unfortunately, when we put the project together, we really didn't have the mechanism to take it forward. What I mean is that because it's pre-competitive, there wasn't an end company that would have direct benefit from it. There would be several end companies that would end up directly benefiting from it, and we couldn't find a funding mechanism to be able to basically put a grant together to fund some of the technologies. We looked at Industry Canada, and they had at that time the TPC, and now they have the SADI program. Either/or, we're looking at basically taking off and acting as a loan project, based on future sales to pay off that loan.

With these types of pre-competitive, collaborative activities, it's very difficult to tie in to future sales right back to this level of technology. So I think there was a gap, especially in the aerospace sector, to be able to fund or support these types of programs.

● (1650)

The Chair: Thank you, Mr. Vincent.

Mr. Hoffman.

Mr. Peter Hoffman: Thank you.

I'd like to follow up on Mr. McKay's comments.

You hit on a point that I think is very important here. In the countries where we've successfully utilized technology-based IRB programs, we have been able to come to terms with how we value technology. We go about it in a relatively methodical way in terms of looking at the impact it could have on the end recipients.

When we get into a pre-competitive environment, as we discussed earlier, that becomes a much less defined equation. But the key aspect is that a level of understanding and trust has to take place between the IRB officials and the company proposing the projects. There has to be a common understanding of how we should value things. Where we've had success in closing agreements around technology, we've had a clear understanding along those lines.

[*Translation*]

Mr. Robert Vincent: Earlier, you mentioned China, India and Japan. What impact can that competition have on each of your industries? A number of those countries are copying aircraft parts. Does that have an effect on your industry too?

[*English*]

The Chair: Mr. Hoffman.

Mr. Peter Hoffman: The protection of intellectual property is always a concern. We have long-standing relationships in China and Japan for manufacturing and a growing relationship in Japan for design and manufacturing. From a technology, research, and development perspective, we have to be very careful in those areas.

One mechanism we use a lot—as was mentioned before by Mr. McKay—is working in a pre-competitive environment where we're not too close to our products. We're developing underlying technologies so that the winner, at the end of the day, is the one that can most quickly transition those pre-competitive technologies to their product. That way it becomes a foot race to implement, versus putting a lot of the most important technologies for the competitiveness of your company on the line.

The other technique that can be used, if you're in an area like China where the intellectual property laws may not be as mature as in other parts of the world, is to be careful about what technologies you develop there. Perhaps as a starting point understand the skills they have and let them create the intellectual property locally. It's really on a case-by-case basis, depending upon which country you're in, but it is always very much on our mind.

● (1655)

[*Translation*]

Mr. Robert Vincent: Mr. McKay, you got my attention when you talked about "pre-competitive activities". What did you mean by "pre-competitive"? I did not understand. I would like to know a little more about that.

[*English*]

Mr. Sean McKay: Perhaps I'll use the example of putting a certain material on a part of an aircraft—a thermoplastic resin system. Some initial research work has been done at the universities in terms of developing some initial processes and properties, but how do you build a structure on an aircraft, which is a panel with ribs to support it, and develop that technology? Once you develop that technology it could be used in the under body, the wing skin, and as part of the fuselage. So the same technology could be used in different areas of the aircraft.

Once you've developed the initial phase, where you're looking at the joining and forming methods of those materials, that would be considered pre-competitive. It's not specifically aimed at an end product, but it is generic technology that could then be tailored to a specific product area by a company that is very interested in producing that type of product.

[*Translation*]

Mr. Robert Vincent: Thank you.

[*English*]

The Chair: Thank you, Mr. Vincent.

We'll go to Mr. Van Kesteren.

Mr. Dave Van Kesteren: Thank you, Mr. Chair.

Mr. Olson, you talked about original equipment suppliers. Do you have a problem with that in the aero industry? Are there problems? I know you wouldn't have a problem with the nuts and the bolts. In the previous study we.... Do you still have a problem with that?

Mr. Kim Olson: I wouldn't say we have a problem with it. As an organization, we make sure we always align with the original manufacturers and work in an authorized manner.

The key point I really am trying to raise is for us to recognize that across the country it really does restrict how you can operate and what you can do. So from a Standard Aero perspective, it's not so much of a direct issue.

Mr. Dave Van Kesteren: I was talking more in terms of other companies out there that are pirating.

Mr. Kim Olson: The perspective on this, from a turbine engine perspective or...there's another component. PMA, parts manufacturing approval, is a term in the United States. It's a process whereby you can create knock-off parts, if you will. They're authorized for installation. But we've seen it can be a problem for some of the manufacturers, although the manufacturers have now taken to PMAing the other manufacturers' products. So it's becoming a level playing field, in a sense. Perhaps in the end it's going to be a good thing for the airlines and all concerned.

Mr. Dave Van Kesteren: The reason I brought that up is that in a previous study we learned there were indeed companies that were presenting parts that didn't really meet the standards. Is that a problem in the aero industry?

Mr. Kim Olson: From our direct experience, no, that is not what I would call a problem in the engines and the products we've seen.

Mr. Dave Van Kesteren: The other thing you brought up—and I think it's pretty much evident right across the panel—is that you're experiencing, and you figure you will be experiencing, a shortage of workers. Is that with engineers or is that right across the board?

Mr. Kim Olson: I would say it's somewhat across the board.

To combat that, we have to invest a lot, as an organization, to develop that skill level, whether it's at the technical level or at the engineering level. We've worked with our local universities and with partners of the panel here in terms of developing programs at those universities. Any ongoing support government is able to afford for the universities to develop programs that would develop and maintain that kind of academic level is really important to us. And at a technical level, having access through Red River College to its gas maintenance turbine technician program—it's a program we've been involved in—is very important. To us, as a local business here, it's critical that we have those kinds of programs to prepare the technicians for our market.

● (1700)

Mr. Dave Van Kesteren: I'm going to get to you, Mr. Hoffman. I want to ask you a question.

I was talking in front of your countrymen last week in Taiwan, and they're really concerned about the Chinese. It was brought up by Mr. Vincent that they are now in the process of producing smaller planes, but they seem to want to get in with the big guns. Is that a concern of yours as well?

Mr. Peter Hoffman: Of course, with the Chinese indicating they want to get into large aircraft, that's more competition. As we mentioned before, competition is a good thing, but we have to make sure we react appropriately to it.

The position of the Boeing company is to continue to collaborate and support the Chinese manufacturing industry—it is an important supplier to us—while at the same time keeping close watch on the competitive aspects of their desire to build large airplanes.

From a technology perspective, there's a lot we can do in the pre-competitive areas before it becomes a foot race where the best, the fastest implementer wins. And there are still a lot of opportunities, from a technology perspective, to work in niche areas without turning over the keys to the factory.

Mr. Dave Van Kesteren: Should we be recruiting them? We all seem to have this problem. Should we be recruiting? They're cranking out...I forget the number of engineers in comparison to North America. Should we be recruiting them, bringing them here, if we can't supply our own factories? I guess that's open to....

Mr. Peter Hoffman: There are a couple of ways to approach that. The nice thing about today's technology and communication capabilities is that we have somewhat of a "design anywhere, build anywhere" philosophy, so the physical relocation of engineers to Canada or to the United States may not be a necessity. We have an extensive manufacturing network globally and a pretty extensive engineering network globally also.

We may not be utilizing Chinese engineers to the level we are other engineers around the world at the moment, but to get access to those talents is always a possibility.

Mr. Dave Van Kesteren: Does anybody else want to comment on that?

Mr. William Geary: [*Inaudible—Editor*]...relative to immigration laws and citizenship are the elements of the regulations that might be ITAR-related from a U.S. government standpoint; these proscribe members from countries such as China from working on certain things. In order to tap a resource base to have the right level of talent in Canada, we are going to need to work through some of these regulations that other countries might have, which we'll have to navigate among, because they make that difficult.

The Chair: Thank you.

Mr. McKay, you wanted to comment briefly.

Mr. Sean McKay: Our organization is expanding, and we definitely feel a shortage of the appropriate resources. Actually, we just hired a landed immigrant status Canadian, but from Beijing, with a lot of experience in both the U.S. and China in developing these technologies. So we are going abroad to bring these talents into Canada.

The Chair: Thank you, Mr. Van Kesteren.

We'll go to Mr. Simard, please.

Hon. Raymond Simard: Thank you.

I think it's fair to say that the aerospace industry is healthy. Or maybe I should be asking the question: is the aerospace industry here in Canada healthy? I believe it is. It's the third strongest in the world, and companies like Boeing and Magellan seem to be reinvesting in Canada.

One of the issues we've had in a lot of other sectors is outsourcing. Can you give us an idea whether this industry is outsourcing at this time or whether it's something we should be watching for in the future? Or is the industry too complex to just outsource to China and Vietnam and India?

Anyone?

● (1705)

Mr. Don Boitson: I'm going to start off by saying—we're on a smaller scale, and I will let Willy and Peter answer—that even in a small- or medium-scale company like Magellan, we absolutely have to have the emerging markets as part of our elements and strategy. But it's not necessary to displace work from Canada or North America. We have U.K. operations. It is to continue to grow.

As we said concerning competition, if we don't have an element of, I'll say, an emerging market or low-cost input in our total work statement, we're not going to be able to compete. It's part of our strategy to have that element in there, to have some of the engineering development here and have an element of low-cost sourcing in either China or India, in order to compete at our level. It's a question of growing with them, not trying to compete head to head.

The other thing is that if you try to compete head to head, you can put a $3 million machine or a $5 million factory here in Winnipeg or you can set it up in China or India, and you know what the differences are, for instance, on straight wages. You have to pick the right areas and you have to pick the right strategies, but I'd say we have to include them as an element if we are to grow.

Hon. Raymond Simard: Is it the same thing with Boeing?

Mr. William Geary: I would agree with Mr. Boitson. Obviously a business like Boeing, which has to have market access around the globe, will mandate some additional regional benefits to other countries outside of Canada. In terms of the work we do here in Canada, though, we see those firms as suppliers and not entities to offload to in pursuit of a lower-cost situation. That's how we've faced it so far.

Hon. Raymond Simard: Could you talk a little about the importance of having a sector council for the aerospace industry? We've had other industries before us; the forestry industry, which was devastated lately, was before us and mentioned that this would maybe be helpful, and I've heard many times from aerospace people here in Winnipeg that the sector councils have been very helpful in terms of keeping in contact with the federal government and developing strategies together.

Could someone talk to us about that?

Mr. William Geary: Any time you can have a council or an entity inside a government be an advocate for your presence in the marketplace, it's a good thing, as long as you don't create a mindset that it's there for a handout. If you can do it in terms of helping navigate strong, healthy legislation and set up the right talent and the right innovation, then I think it's a healthy way to go.

Hon. Raymond Simard: Do you think the infrastructure is working fine?

Mr. William Geary: It could probably be strengthened, from my outlook. I've only been a resident of Canada for little under a year. I think there are some things that could be stronger and some collaboration that could be healthier, but to be honest, the influx of the government and the influence on the industry is much healthier than in the United States, where I came from.

Hon. Raymond Simard: I'd appreciate it if you could provide us with some recommendations with regard to that. Certainly, something we can do is to modify the structure to improve it.

My last comment is on partnerships. Mr. Olson spoke to it previously. I know this sector has been phenomenal in terms of relationships with the Red River Community College, with universities. The private sector has actually done a lot. I'm not sure if the federal government has done its share. We only briefly spoke to education and training, and it seems to me that is the key right now. Every sector that comes to us tells us we have to educate, we have to train the proper people. We're bringing people from overseas to come in here. Are we doing enough?

You have done your job in this sector, as far as I'm concerned. I mean, the relationships you have built are incredible. I haven't seen it anywhere else. Are we doing enough to partner with you in that respect?

Mr. Don Boitson: I would add that there were some initiatives, and I know some of them got lost, but the Manitoba Aerospace Human Resources Coordinating Committee—long name—has been working very hard with provincial and also federal counterparts. I have always said the Canadian government should stand up and say, “Yes, these are our strategic areas in our technology areas”, aerospace being one, and its biomedical activities, or whatever. Name the six or eight of them and say this is what we're going to do, this is where we're going to put funding into education, and put those education streams in. There was some talk of it previously, and I think that would be a good way to get some funding into those streams directly.

The Chair: Thank you.

Mr. Geary.

Mr. William Geary: I think in this area of creating a talent pool, it's really a matter of helping shape the mindset of parents so they can help shape the mindset of youth, that manufacturing is an attractive business to be in, that math and science are admirable fields to be in. If you can change the promotion of those with parents so that they promote it with the youth of the nation, and then help make the right standards so that the right learning is happening, it will make this a rich environment. Obviously, that is the national initiative of countries like China, where they're graduating half a million engineers, compared to what we are doing in North America.

● (1710)

The Chair: Thank you, Mr. Simard.

I 'd like to wrap up with a couple of issues. One would be your relationship with universities and the intellectual property and the research done by either. Simply for information purposes, how much of the research or technology development that you would adopt as a company would be done at a university and how much would be done in-house? Give me a general, rough, ballpark figure.

Mr. Hoffman.

Mr. Peter Hoffman: In general, the research we do with universities tends to have a longer horizon—emerging technologies, nanotechnologies, things of that type—and it's a very small fraction of the overall. I can't quote you numbers, but it's less.... The D part of the R and D is really where the bulk of the spending takes place. It gets very expensive to take a great idea and move it into a product.

The Chair: Mr. Olson, Mr. Boitson, would you say about the same?

Mr. Don Boitson: I was going to say it's definitely less than 10%. In sectors like the CIC, where you bring them in, they bridge that D component to make it a lot easier for us to work and collaborate with the university partners, with industry. So that's a way of bridging that D, but it's definitely less than 10%; the university or other funded is 90%-plus.

The Chair: I see you're nodding, Mr. Olson.

Mr. Kim Olson: I'd agree, it's definitely less than 10%.

The Chair: The final point I wanted to make was on the scientific research and experimental development tax credit program.

Mr. Hoffman, in your presentation you referenced it. Mr. Boitson and Mr. McKay, you talked about it earlier this afternoon.

The general reaction we get is that it's a good program, it's one of the most generous R and D tax credits in the world, but we do get recommendations on changing it, i.e. making it at least partially refundable. So a very quick question again: would you recommend changes to that program?

Mr. Don Boitson: My earlier comment was to definitely make a portion or all of it—as much as we can—refundable, because that truly will promote more of the bigger R and development in our industries, which we need to do.

We're still evolving and developing in industry. It's not like rolling the dice, but there are not always winners there. We take some chances, we take some risks, and we hope it's going to pay off. Having that element as part of a refundable portion would certainly help. We would get some contributions back for taking that initiative.

The Chair: Mr. Geary.

Mr. William Geary: In the areas we've taken advantage of it locally in Boeing Winnipeg it has been very generous.

Quite honestly, if I had more resources to put in, adding up all the things we do that could take advantage of the credit, I would certainly do that. When it's time to make hardware and focus on manufacturing, you have to let your finance analysts do other things. I know there are probably opportunities that we've not taken advantage of.

On the surface, I would say don't change it much, unless you're going to make it more advantageous to industry. It is very attractive from the standpoint of what I've seen elsewhere in the world in how those governments have helped industry with reinvesting in their own performance and competitiveness.

The Chair: Mr. Olson.

Mr. Kim Olson: I would definitely concur with both of those statements. I think being refundable would be valuable, even with the caveat of it being reinvested back into R and D.

The tracking is certainly a piece of work, and just the interpretation required.... I think it's an evolving body of knowledge to understand what should be qualified, and the record keeping. If there were some changes or ways to facilitate that in a better way, it would help.

The Chair: Gentlemen, I want to thank you all for appearing before us today. It was an excellent discussion. As the chair, and I think I speak for all committee members, I think the trip to Winnipeg was incredibly fruitful. I'm certainly glad we came. The two panels we had here this afternoon, as well as the three tours, were very substantive.

As an Edmontonian, I have to say I was a little embarrassed that I did not know all this was going on in Winnipeg. But I'm very glad we came as a committee. It was a very educational experience for all of us. Thank you for appearing.

Members, we have about five to ten minutes to get to the bus, which is just outside the doors.

● (1715)

[*Translation*]

If you want to smoke, you can go ahead now.

[*English*]

Thank you very much gentlemen.

The meeting is adjourned.

Published under the authority of the Speaker of the House of Commons

Publié en conformité de l'autorité du Président de la Chambre des communes

Also available on the Parliament of Canada Web Site at the following address:
Aussi disponible sur le site Web du Parlement du Canada à l'adresse suivante :
http://www.parl.gc.ca
