HOUSE OF COMMONS
CHAMBRE DES COMMUNES
CANADA

Standing Committee on Industry, Science and Technology

INDU • NUMBER 019 • 1st SESSION • 42nd PARLIAMENT

EVIDENCE

Thursday, June 9, 2016

Chair

Mr. Dan Ruimy

Standing Committee on Industry, Science and Technology

Thursday, June 9, 2016

● (1530)

[*English*]

The Chair (Mr. Dan Ruimy (Pitt Meadows—Maple Ridge, Lib.)): I call the meeting to order.

Welcome, everybody, to the 19th meeting of the Standing Committee on Industry, Science and Technology.

Today we have three new guests with us. From the Alberta Chambers of Commerce, we have Darrell Toma, past chair. From Precision ADM, we have Martin Petrak, president and chief executive officer, and from Polytechnics Canada, we have Farzad Rayegani, director, centre for advanced manufacturing and design technologies, Sheridan College. Sounds like that will be an interesting presentation.

There are no votes today. How's that? We have two hours of witnesses and work. I'm excited.

We'll begin with Mr. Toma. You have 10 minutes.

Mr. Darrell Toma (Past Chair, Alberta Chambers of Commerce): Thank you, Mr. Chair.

I'll present ideas at the back end of a situation analysis.

Alberta has about 9,400 manufacturers, about $68 billion in sales annually, and accounts for about 11% of national production. Sales growth has been down in the last couple of years, and we have a recession in the province.

There are about 100,000 people unemployed, and the energy supply chain affects a lot of the manufacturers in the province. The manufacturing sector in Alberta includes food manufacturing, beverages, tobacco products, textiles, petroleum, chemicals, coal products, computer electronics, and so on. It's quite a variety of manufacturing. It tends to be concentrated in Edmonton, Calgary, Red Deer, and in some of the smaller centres. It employs about 140,000 people, but this has gone down because of our recession in the last couple of years.

I'll go to the challenges and then to the recommendations. As I said, we have a recession. About $23 billion of annual cash spending and investment has been pulled out of the energy supply chain. That has affected a lot of businesses. Another challenge is a lack of export knowledge and export support for SMEs in the province. That's a challenge. We're also getting more competition from trade agreements.

Competitiveness and productivity are issues. Alberta has to compete with other competitors, such as Korea for steel products or China for other products, and we have many trade agreements that are being implemented.

Costs have risen in the last few years but are under rapid decline in the province right now.

There are some barriers to diversification. We need to diversify the economy more in manufacturing.

Another issue is the small scale of manufacturers in the province. We have many with fewer than 10 employees. Some of them are larger, but we have many small-scale manufacturers.

We also lack a manufacturing policy that focuses on a variety of things that need to be done. There are many unknowns that manufacturers are facing, such as climate policy. In 2017, a carbon tax will be implemented in the province. We have new competitors through trade agreements, and then technology disruptions can occur as well.

There are a couple of big issues. Oil prices are down, so cash flow is down tremendously, and about $23 billion of annual investment has been pulled out of the supply chain. That has affected many of the manufacturers in the province.

I'll go to the key themes of what we think needs to be done.

From the Alberta Chambers of Commerce, which represents about 24,000 businesses in the province, the first theme would be something called “do no harm” to the manufacturing or business base. We recommend that current manufacturers not see any increases in fees or taxes, or any new taxes or fees implemented. They are currently in a fragile state. A number of them have closed. Utilization rates are from 50% to 70%, let's say, so they're not fully utilized right now.

The second theme is support for small manufacturers. The Alberta Chambers of Commerce think that because we have a lack of sales, there is a need for more marketing to build demand for these manufacturers to hire more people, and so on. A growth management approach or a growth management strategy for helping these SME manufacturers grow will be needed, and something new, such as a voucher through the IRAP system, could help.

IRAP currently supports technology companies in the province with research, but in this time of building up sales, a growth management voucher might help to get more people employed and to build more understanding of international markets and international business and so on.

In terms of export capacity, another requirement would be to understand how to access global supply chains and how to become more competitive within a global supply chain. In domestic opportunities, another area would be looking at ways to enhance the public procurement process so that our manufacturers can access that more easily and take advantage of some of the opportunities that others are getting.

● (1535)

Another area would be looking at the innovation system and looking at more regional innovation centres that could help small-scale manufacturers. A good example is the American manufacturing extension partnership, MEP, offices, which total about 400 across the U.S. They're specifically put in place to help manufacturing with competitiveness, adaptation and product design, human resources, export marketing, and so on. We don't have a similar system here, and that's a deficiency.

The next one would be in the area of scale-up and building bigger manufacturers at a Canadian or North American scale. We have to develop a system. One of the ideas might be a manufacturing business network or consortia working together to access international markets or market share at a scale, scope, and speed of bidding on other contracts that they can't otherwise get. They have to become bigger to compete, as we have other companies coming in from other countries to compete. The scale of many manufacturers is too small.

The final two areas that I will talk about are under a broader policy mandate to look at accessing and improving the way intellectual property and the research from the research and development system are provided for manufacturers. Many times intellectual property is patented and not made available. We need to commercialize these technologies if we put money into their R and D system.

In Alberta, for example, $800 million a year is spent in R and D, and about $735 million of that is the research side versus the development side. Development means commercializing products, taking them to market, and so on. We need to do more on that end of it if we're going to build a strong pipeline of products.

Another final point would be the re-establishment of the accelerated capital cost allowance for the oil sands and their related supply chain so that we can get more investment back into the industry. Currently Alberta and the Fort McMurray area are not being seen as preferred locations because of the distance from markets, lack of market access through pipelines, and so on. Hence, capital has gone elsewhere.

We have a deficit in the province of about $23 or $25 billion annually, and that has hurt a lot of people in the manufacturing sector in the province.

Those would be my main points. I would be happy to discuss them as we go through.

The Chair: Thank you very much.

Next is Martin Petrak, from Precision ADM.

Mr. Martin Petrak (President and Chief Executive Officer, Precision ADM): Thank you.

I'm going to represent an SME in Manitoba as well as a not-for-profit organization called the Orthopaedic Innovation Centre in Winnipeg. I'm the CEO of both, so we would do both, from the pre-commercialization of medical devices right through to the advanced manufacturing of digital devices.

The Orthopaedic Innovation Centre located at the Concordia Hip and Knee Institute received a $5 million grant from Western Economic Diversification Canada and $1.5 million from Research Manitoba in Winnipeg. This group raises money for the advanced digital manufacturing hub for medical and aerospace industries in Winnipeg.

One of the outcome metrics of the ADMH was to establish new companies in Manitoba to commercialize products for medical and aerospace applications. I have attached a model in the appendix to give you an idea of the type of model that we've actually implemented.

Precision ADM was the first start-up company. Did everyone get the model?

● (1540)

The Chair: Which model are you referring to?

Mr. Martin Petrak: In the appendix of the attached notes. Did everyone get a copy of it?

The Chair: We can't officially hand it out because it's not in French and English.

Mr. Martin Petrak: Five copies were distributed.

The Chair: We will have it translated and we will ensure all members get it.

Mr. Martin Petrak: It's a one-page diagram.

Moving on, we've established, essentially, an SME out of this incubator hub that's roughly 18,600 square feet. It's all definitely focused on medical, aerospace, energy, and industrial applications. We obviously broadened the spectrum beyond medical and aerospace because of the heavy industrial capabilities in Manitoba.

The medical industry is moving toward patient-specific devices to offer better and personalized therapies. The aerospace industry is innovating toward lighter and more fuel-efficient aircraft while developing new components with reduced and expedited supply chains. Our solutions to the clients, obviously, are focusing on innovative digital manufacturing.

Our business model is now a scalable contract manufacturing and engineering company and a solutions provider for high-value industries using additive manufacturing as a core technology.

In Manitoba is an advanced digital manufacturing centre with a significant aerospace and agriculture and a heavy-vehicle manufacturing industry. However, if Canada is determined to become globally competitive in advanced manufacturing—and I think that's what Canada does want to become known for— investing into additive manufacturing, human talent, and the entire value chain ecosystem wrapped around additive and advanced manufacturing technologies will help Canada strengthen its long-term economic and global manufacturing competitiveness. When additive manufacturing reaches approximately 5% of the total global manufacturing, it will approximate a $600-billion industry and market. Canada can become and move toward a significant market share in five to 10 years if smart investments are made now in areas that others are not investing in.

But for an SME, there are a lot of current challenges. With academic partnerships, for instance, there's definitely a lack of funding for our research partners at the universities and colleges, and they choose to end up working with larger OEMs and not SMEs, because the larger OEMs do have the funds.

There's a huge gap in human talent. We don't have the engineering curriculums across the country. We definitely do in certain areas, which Farzad will be talking about, and I think it's important that there are very specific mandates around curriculum across the country, with a focus on additive manufacturing and design. There's also a lack of these academic champions within the universities and the engineering departments.

One of the biggest issues of our spin-outs, I think, as an SME—we're asking not-for-profit organizations, etc., to spin out companies—is that the financial institutions and the crown corporations such as BDC don't really finance SMEs with short track records. Essentially, we're making it very difficult to survive that valley of death, with few venture capital investment opportunities, because VCs look for big home runs—drug molecules, etc. They show very little interest in manufacturing, in terms of a venture capital spin.

Other financial institutions similarly are not interested in the risk of that capitally intensive type of activity in manufacturing. There's a significant gap in funding start-ups and SMEs, and I'm in that same position right now with Precision ADM. There is no VC that we know of that will directly fund advanced manufacturing.

There are inconsistencies also between some of the federal and provincial funding mandates around SMEs, between both the province and the feds, because of their different KPIs, or key performance indicators. It is very difficult for incubators and not-for-profit organizations to actually navigate this.

Scaled contributions from companies based on ability to pay are also another issue. An example is the CARIC program, in which SMEs, which are very small, have to take a large chunk of the actual project and cannot actually fund most of that project themselves. There's a difficulty for small companies and start-ups to have the resources they're aware of to track and apply and qualify for a lot of these different programs. Federal programs in western Canada are good but focus on capital equipment versus HQP and HSP—highly qualified personnel and highly skilled personnel—development. They're not focusing so much on the longer-term programming.

We also notice, as an SME in advanced manufacturing and as we start the advanced digital manufacturing hub in Winnipeg, that there is an NRC factory of the future program that was announced two years ago. However, to our knowledge, SMEs have not been invited to participate in any programming, and nothing is known to date about the programming, so there appears to be a silo effect.

● (1545)

Across the country, little or no additive manufacturing ecosystem or supply chain support exists in Canada. There are no metal additive manufacturing machinery manufacturers in Canada. Most of our materials and capital costs require purchases to be made in U.S. currency.

Both the NRC IRAP programs and the ones from CME are great, except that they lack some of the funding that's required. Again, I believe some of our SR and ED rebate programs have been decreased over the years.

These are some of the quick recommendations.

Canada has the opportunity to become a leader in the additive manufacturing value chain in the next five to 10 years and could feasibly do this with buy-in from government, industry, and academia. A significant federal policy on additive manufacturing would increase Canada's global manufacturing footprint and competitiveness, and one should be adopted as is the case in other leading countries.

Canada should look at an investment of at least $200 million to $300 million into additive manufacturing over the next five years between government and industry, which would include such things as tax breaks, SR and ED, cash, land, academia, utilities, innovation funds, grants and loans, private-public partnerships, and incubators. Increased funding to NRC IRAP programs such as Canada Makes will help these types of programs get to the resources and to the SMEs that require these seed funding opportunities.

Create private-public venture funds to fund technologies and start-ups to share in the risk with the private sector to accelerate manufacturing innovation. China, for instance, might have up to 1,000 different brands of 3-D printers. Canada might have two.

Work in the Canadian financial and banking institutions to make it easier for early-stage SMEs with capitally intensive manufacturing programs to innovate and acquire working capital to grow, based on business plans and returns on investment.

Support the growth of SMEs and micro-companies to drive a diversified manufacturing ecosystem. Small companies are more nimble in moving to new technologies, entering partnerships, and driving economic growth. Large companies are very slow to do this and are risk-averse. We've experienced this ourselves. A hundred thousand jobs in 1,000 companies versus 100,000 jobs in 10 companies creates a dampening impact and the associated economic downturns in a given industry sector.

Leverage existing Canadian manufacturing ecosystem strengths, networks, partnerships, and previous investments, and bridge Canadian raw material extraction into high-value exports. As well, exploit innovation throughout the entire value chain. We do this in Winnipeg. We can take a raw product like titanium and implant it into a patient and then follow them. That comes from raw products we add over the entire value chain. That's something that's happening today in Winnipeg.

Develop additive manufacturing commercialization centres of excellence to develop HQPs and HSPs.

Develop a hub-and-spoke model, as we also suggested, while adopting innovative models similar to those of Israel and Germany to encourage private-public relationships and partnerships to create an environment with conditions that elevate the potential for success.

Break down the barriers and silo organizations associated with some of the universities in Canada and encourage partnerships with SMEs and not just large OEMs. Small companies are like water testers, learning the market through iterative experiences and fleshing out the applications to their highest competitiveness.

Develop a complete ecosystem of additive manufacturing companies' expertise, talent, supply chain, services, and technology development.

Create a substantial reason to get foreign investment into Canada, while also developing additive manufacturing tax-free zones to attract aviation companies like GE; medical companies like J&J; 3-D printing companies like Stratasys, EOS, and 3D Systems; and maybe potentially other oil and gas and mining companies.

The timelines are running out. Other countries are also moving very quickly, and we need to do this in the next two years. Today investors are looking for additive manufacturing companies to invest in. We need to continue to attract those foreign investments to Canada and to format some form of SME database.

● (1550)

Developing academic relationships and partnerships, around IP developments with SMEs, not just with large OEMs, is also important. We also want to encourage the Canadian industry-to-industry partnerships, not just industry/academic partnerships, to innovate and create IP to increase competitiveness and job creation.

We also want to look at technologies that may be too expensive for industry and create tax incentives to make this technology available in Canada so that we can learn and adopt it. Investment is for the long-term ROI. For the government, it will take about 10 years to break even, but we would have significant positive economic impacts on Canada over the next 10 years, and the global market will be worth at least north of $40 billion.

A reality check: don't be afraid of some failures. I think the government has to look at this. If we invest, there will be some failures, but don't be scared of that. Some SMEs will likely fail, but some will be blockbusters, and other companies can also enjoy the benefits of the spill-off effects of the IP.

We want to be able to critically evaluate the current federal programs and assess the KPIs—the key performance indicators—and ROIs, and adopt innovative programming models that have been successful in other forward-thinking jurisdictions. The key, however, is that the opportunity is significant to invest now in the entire value-chain manufacturing ecosystem. Canada needs to invest smart now and focus on areas where others are not.

That's it.

The Chair: Thank you very much.

We're going to move to Mr. Rayegani. You have 10 minutes.

Dr. Farzad Rayegani (Director, Centre for Advanced Manufacturing and Design Technologies, Sheridan College, Polytechnics Canada): Good afternoon. Thank you very much. Thank you, Martin, for your great recommendations. I approve of them too.

Thank you for inviting me to discuss the critical role played by Canadian leading polytechnic institutions in shaping the future of advanced manufacturing. It is my pleasure to be here as the voice of those institutions.

I have many roles in both industry and academia that are relevant to your study. Among them, I am a fellow of Engineers Canada and I also serve as the chair of additive manufacturing in the American Society of Mechanical Engineering. I am associate dean and professor of engineering technology at Sheridan College and director of Sheridan's Centre for Advanced Manufacturing and Design Technologies, or CAMDT.

CAMDT, our centre located in Brampton, Ontario, is an exemplar of Sheridan's growing role as a hub for industry, students, and faculty expertise, offering small and medium-sized businesses a technology playground to help them develop and adopt new technology alongside Sheridan researchers.

The new technology that Martin mentioned is additive manufacturing. CAMDT is turning Brampton into a huburb, a vibrant place where experts come together, ideas collide, and innovation flourishes.

CAMDT provides applied research, consulting, and skills training to local manufacturing in the critical areas of additive manufacturing, robotics, integrated energy systems, and mechatronics systems.

Sheridan, government, and local industry have collaborated for nearly a decade to position the centre to address critical skills gaps in the manufacturing sector. The centre helps produce highly qualified, skilled graduates who are able to work capably with the type of advanced technology Martin mentioned being used by manufacturers to increase productivity. CAMDT is very respected in the community, and its external partners include ABB, Siemens, Festo, and Hatch.

Industry collaboration is important to the college's ability to sustain excellence in both education and research. Our entire philosophy is rooted in the movement called CDIO—conceive, design, implement, and operate—that aims to reinvent the way that engineering is taught and practised.

CDIO has been adopted at 100 institutions worldwide, including Stanford and MIT, where it began. CDIO is rich in project-based and hands-on learning. It produces engineers who don't just study first principles in textbooks, but who are actually ready to engineer when they graduate. Like you, we recognize that today's knowledge economy requires engineering graduates who are critical thinkers and creative problem-solvers.

What truly sparks innovation and excitement in the students is the practical application of fundamental principles in the form of experimentation and hands-on experience. This is what polytechnics do best.

Today's subject is of vital concern to Sheridan, which is one of the 11 members of Polytechnics Canada. Polytechnics like Sheridan function as the R and D arm for small and medium-sized companies that cannot afford the cutting-edge equipment that's found in our workshops, studios, and labs, and who don't have in-house personnel to apply for the grants and wait for approvals and decisions. We remove these barriers and risks for the SMEs while speeding up innovation. SMEs and polytechnics need to be part of the government's thinking about advanced manufacturing, innovation clusters, networks, and incubators.

We tackle problems brought forward by industry while giving students sound experience and a skill set that cannot be taught in a traditional university classroom. As a result, we produce graduates who will make immediate and positive contributions to the workforce when they leave our institution. It is critically important that we mentor students in the process because talent—the talent that Martin mentioned—is the key input. It is people who innovate and firms that later commercialize.

● (1555)

A company we have helped through our robotics centre, as an example, is Hatch, an engineering company. Hatch worked with our faculty and students to design, test, and build a solution for the customer. We delivered a working prototype in six months, something that Hatch estimated would have taken twice as long to do on their own and that would have cost hundreds of thousands of dollars. In the end, all they had to purchase was a nail gun to put on the end of our robot's arm.

Our success also led to a renewed partnership with Siemens Canada, resulting in access to $22 million worth of software licences so that our students can train on the industry-leading digital manufacturing software used in the automotive, aerospace, machinery, medical devices, and shipbuilding sectors.

Through a long-term partnership with our industry partner, Cimetrix Solutions, CAMDT secured a foundational set of additive manufacturing equipment that enabled the establishment of its new Product Innovation Centre. The centre is the crucial link between large, leading corporations, including ABB and Cimetrix, and the local and regional SMEs that can use the facilities to integrate innovative technologies into their own businesses through collaboration with the Sheridan faculty and student researchers. This approach addresses industry challenges, and most importantly, it provides work-ready graduates whose skills contribute to both immediate and sustainable innovative growth.

And we're just one polytechnic institution. Places like Sheridan, Humber, and Conestoga have earned exceptionally strong track records in preparing tomorrow's knowledge workers and partnering with industry to help Canada become more globally competitive.

By uniting businesses, governments, and post-secondary institutions in this demand-driven way, we will bolster Canada's global competitiveness in advanced manufacturing. This is the model that is needed for the times.

In this new economic reality where we must value innovation and creativity more than ever before, Sheridan and polytechnics across Canada are willing and able to meet the challenge that this government has identified as crucial to ensuring Canada's place as a leader in the rapidly changing global manufacturing economy.

Thank you very much.

● (1600)

The Chair: Thank you very much.

We're going to go into our round of questioning right away. Mr. Arya, you have seven minutes.

Mr. Chandra Arya (Nepean, Lib.): Thank you, Mr. Chair.

I thank the witnesses for their presence here.

Mr. Petrak, I'm glad that you touched on BDC, the Business Development Bank of Canada, especially with respect to the support, or the lack of it, for new small manufacturing companies. We had heard from the regional development agencies on the utter lack of support for new small companies in the manufacturing sector and about commercial banks almost not touching any new small manufacturing companies. I just got information from BDC, which has an unsecured loan portfolio of over $2 billion, in relation to the hundreds of millions it invests in provincial capital and through yearly loans. During the last year, they have lent only the tiny sum of $23 million to new small manufacturing companies.

You mentioned BDC's lack of support. Can you expand on that briefly?

Mr. Martin Petrak: Yes. I think that the other equity groups can look at SMEs, and they will look at them from a long-term perspective. You could negotiate for four, five, or six months, maybe a year, and that's great. I think we can still move ahead with that type of process. As for their finance group, unsecured loans don't necessarily mean that they're unsecured. That's not the case, especially for $500,000 and below. If it's true that they can support unsecured loans of $500,000 and below, then that's what it should mean.

When you start looking at small businesses like manufacturing, a single piece of equipment can cost $500,000. For a start-up app company that has a couple of computer scientists or engineers, that can last a while. For a manufacturing company, that doesn't last for the same amount, so there has to be some kind of thought process around how BDC can help manufacturers and help SMEs that use that capital equipment, because it does have value. I think it has to be taken into consideration. Those are some of the troubles we've had so far already.

Mr. Chandra Arya: Yes. In fact, I'm glad you brought up this very relevant point from the small manufacturer's point of view.

You mentioned about the economic development agency, which you said was not focusing on longer-term financing. Can you briefly expand on that?

Mr. Martin Petrak: This is under the Orthopaedic Innovation Centre.

When we received the funding, it was really for capital equipment, and that was very important, because it is expensive. It's risky technology to take on if you are an SME.

We thought that what they did was fantastic; however, the operational side was left up to us to figure out. Honestly, what we find is more important is the operational side: making sure that we can hire the engineers, hire the HQPs—potentially Ph.D.s—hire the research staff, as well as acquire the equipment. That is one portion of it.

In this example, that wasn't the case. I'd like to see a little bit more programming associated with the actual raising of the capital.

Mr. Chandra Arya: Okay, I'm glad.

I will not ask you to expand on the strategy you would like us to promote related to manufacturing. Maybe later you can send a small write-up on that to the committee, through the clerk. That will be good.

● (1605)

Mr. Martin Petrak: Sure.

Mr. Chandra Arya: Mr. Rayegani, thanks for coming here.

With respect to talent, talent and manufacturing of course these days go hand in hand. In Ottawa we have 1,700 knowledge-based companies. A few weeks ago the president and the CEO of Invest Ottawa, in front of national capital region MPs, made a startling statement. He said that there is zero per cent unemployment in the high-tech sector.

The point he was trying to make is that if you see an unemployed engineer in Ottawa, all you have to ask him is what new skills he developed during the last five years. Usually the people who have not added to their skills during recent years are the people who are unemployed.

What is your take on that? Do we have enough talent for the advanced manufacturing sector in Canada?

Dr. Farzad Rayegani: No, we don't have enough at all. The skill gap is real. You have to look around, look at whether the market can hire. The market would hire tomorrow, but there is now a skills gap.

Do you know why? It's because we forget or misunderstand the manufacturing spectrum. What is the manufacturing spectrum? I don't have a graph here to show you, but misunderstanding the manufacturing spectrum is the problem of government and universities. Manufacturing starts with research.

Can I give you the example of aerospace? What do researchers do in aerospace? They find a new material for aerospace. The next part of the spectrum is applied research: how can I apply that material to the new application? After that there is design development, development of the new product, manufacturing of it, service of it, and so on and so on.

Manufacturing is not about the research part, which the university is doing. The ecosystem must be healthy. My documentation shows that today 97.5% of the federal dollar allocated to post-secondary research through the granting agencies is directed at the universities, with only 2.5% going to the colleges and polytechnics.

Mr. Chandra Arya: I understand fully. In fact, we have had representatives of the universities and the colleges coming in, and we heard testimony on that. Given the shortage of time, let me say quickly that we know that the kinds of jobs in manufacturing are not just those of assembly line operators. We have a need at the very high end of the spectrum.

Can you kindly briefly discuss the lack of availability of capital for small manufacturing companies?

Dr. Farzad Rayegani: The point is that when we look at the spectrum, we see that only 5% of the research in manufacturing is happening in Canada, and 95% is happening at the manufacturing part. We are missing both on the capital side and on the skill gap side. There is only 5% research happening, and we are putting 97.5% of the government's contribution into that 5%. The ecosystem won't be healthy, because the company will suffer from having neither the equipment nor the skill sets.

As a researcher at university I am fine, because I come up with a new material every few years, but who is going to apply it? Nobody in Canada is going to apply it, because they don't have the equipment or the skill sets.

The whole idea, then, is to look at a healthy spectrum, distributed in a healthy way, such that the ecosystem is healthy. That's it. It's not a difficult thing to do.

The Chair: Thank you.

Mr. Dreeshen, you have seven minutes.

Mr. Earl Dreeshen (Red Deer—Mountain View, CPC): Thank you very much, Mr. Chair.

Thank you to our witnesses.

First of all, I'd like to speak to Mr. Toma from the Alberta Chambers of Commerce.

I'm from Red Deer, and I know that its chamber of commerce has done a lot of work in a lot of different areas. It has basic groups that are getting together and looking at agriculture, innovation, and so on. They've really put a lot into this. When you talked about some of the concerns that we have in Alberta in terms of recession, your first point was to do no harm to business growth, by making sure that there isn't any additional cost to doing business. Second was to support smaller manufacturers or capacity knowledge competitiveness. Third—and I think that's what we're interested in as far as looking to the future goes—was broadening policy mindsets so that we're able to move forward.

Just to go back to the “do no harm” part, one of the things in your presentation is making sure one recognizes where the tax burden is and the types of things that are taking place. We recognize that there's going to be a carbon tax in Alberta provincially, and we have no idea of what is going to be happening federally. There is a difference from the recession that took place in 2008, when all credit throughout the world was disrupted. Right now, there is money and there are venture dollars, but it's not going to go to places where there's uncertainty. I think that's one of the key things. Positive messaging in that regard is important.

When we look at that and we try to work our way through some of the issues that are taking place, one of the important messages to get through is about the value chain of the manufacturing that is there for Alberta's oil and gas industry.

However, there are other things that can be done, and one of the things that we had talked about a while back was abandoned well reclamation and being able to move that forward. We have people who are experts in the field and we will still be able to tap into some of the resources from the rest of Canada.

Do you have any comment that you could add to that type of a program? Do you have other thoughts that you could discuss as far as broadening the policy mindsets of provincial and federal politicians, as well as those of small and medium businesses?

● (1610)

Mr. Darrell Toma: Certainly, and thank you.

Mr. Chair, we had sent a brief. I presume everybody got that brief?

● (1615)

The Chair: Yes, in English and French.

Mr. Darrell Toma: Okay, good. There are some other ideas I haven't addressed.

I would concur with the other presenters on the spread of the R and D funds into the top end of the R and D spectrum versus further down the R and D spectrum of commercialization and development. That's one of the messages I hope would be understood here.

One of the other messages that wasn't mentioned but that should be there in broadening the mindset is the awareness of what programs are out there for a lot of SMEs. We have urban and rural manufacturers. Urban manufacturers in Alberta in Edmonton, Calgary, and Red Deer tend to be fairly well serviced, and they are in the pipeline of information on IRAP and BDC, and so on. However, in rural Alberta a lot of them are not aware of those kinds of programs, frankly. Awareness is one of the challenges.

Another idea that I would commend to the committee is we have to look at different ways of delivering the programs, and different tools. Maybe the tools need to be more through incubators that can deliver certain programs, and also through innovation centres. Recently we did a project in Quesnel, a new agri-food innovation centre, because since 1995 the federal government's pulled out of technology transfer in the agri-food system. It's pulled back quite a bit, and the B.C. government has as well, so the City of Quesnel was looking at how to provide innovation supports in their region. They were looking at a new, small-scale innovation centre.

This kind of strategy of using different tools to deliver programs such as small-scale, rural-based, regional innovation centres is an idea that probably would help get some wind under some of the manufacturers.

Importantly, we need to have a strategy around competitiveness. The other two presenters mentioned this. A number of trade agreements are implemented and the Canadian dollar is favourable for manufacturers, but as we implement trade agreements, that allows others to come into the marketplace. If we're not prepared, if manufacturers are not adapting to conditions and not strengthened and do not have scale and scope to respond to competition, they get hammered and go out of business.

Similarly, we need some way of broadening the succession in smaller-scale manufacturers, putting two or three of them together to work in business networks and to collaborate on jointly owning manufacturing facilities or hiring a marketing person or an accountant or someone like that. We need to look at new ways of delivering services to these small-scale people, because they won't survive otherwise.

I've worked in other countries, and it's instructive that others are doing different things and not staying the same. I think we need to re-examine some of these things. We are delivering programs and they are useful, but manufacturers who want to put their own money on the line and then borrow other money need to have other supports put in place.

Mr. Earl Dreeshen: Thank you. I know that the Canadian Chamber of Commerce has been with the government, or the past government, whenever it was on any trade missions and deals so that they could see what was taking place. I know that there are initiatives to try to make sure that this gets down to the local level as well, so I'm sure that everyone is working as hard as they can on that.

I was interested in the discussion on additive manufacturing that Mr. Petrak and Mr. Rayegani had spoken of. Mr. Rayegani, you mentioned that over the last 10 years there'd been a lot of co-operation as far as this is concerned. Mr. Petrak, you were saying that if we want to be effective in advanced manufacturing, we have to make sure that we've got a handle on additive manufacturing as well.

I'm wondering, Mr. Petrak, if you could talk about what smart investors would be looking for if they were to work into the additive manufacturing area. Are there things that they have to be looking at in terms of shipments across borders, moving into other types of arrangements with smaller and larger companies? What do you foresee would be the main point that would be the hook so that people would want to get involved in additive manufacturing?

The Chair: You've got about 30 seconds.

Mr. Martin Petrak: Okay. It's the supply chain that we talked about, understanding this supply chain right from raw minerals pulled out of the ground and your supply costs through to the talent that's around. If you have the talent pool of individuals, the researchers, the engineers who can create those high-value products, you can create these products, from medical spine devices right through to aerospace components. If you have that highly qualified staff, you have the supply chain understood. That's what people want to understand and invest into, because that's where the intellectual property is developed.

Dr. Farzad Rayegani: In 2012, President Obama, in a State of the Union speech, talked about additive manufacturing as a technology. He was the first president of the United States to talk about a specific technology, additive manufacturing, and he ordered the House of Representatives to give $30 million to this project. I turned to my wife and said, “What is he saying? I've already built it in Brampton.” We already had it.

What happened after that was that President Obama pushed that technology by pushing the support of government at every level and created America Makes. Based on that, he said that he would bring manufacturing back to the United States.

We were happy with what we had without any support. Now we are behind. With the CME, I established Canada Makes, which is similar to America Makes, but without real support of the government at different levels, so it is different when we to talk about action. There is a technology that is changing everything, a revolutionary technology, and we are saying, “Oh, we will see what is going on; wait.” We toured Germany for 10 days—a lot of beer, so don't consider that—and we talked about that, but we are behind from that perspective.

The Chair: Thank you very much, but we do have to move on.

Mr. Masse, you have seven minutes.

Mr. Brian Masse (Windsor West, NDP): Thank you, Mr. Chair.

I do have a private member's bill on local domestic craft breweries, but aside from that, we'll—

Voices: Oh, oh!

The Chair: You can ask him to continue about the beer, then.

Mr. Brian Masse: We'll move on. I'm going to move on to Mr. Toma.

You've mentioned the trade agreements in relation to difficulty in the exportation of manufacturing, and I especially can see the transition. I come from the auto sector in southern Ontario, and we've been through this a few times.

What particular trade agreements are you finding a little bit challenging, the current ones that are being negotiated or the ones that are actually in place now? Is it the the TPP coming up, and that uncertainty? Is it CETA? Even in NAFTA, what people don't recognize in NAFTA is that there are several spots where Americans have privileged trade access into Canada, be it the Jones Act or the the Buy American Act, and there are a few others too.

Mr. Darrell Toma: Thank you very much for the question.

I'm an economist by training and I chair the Edmonton chamber's trademark and access committee. We have great people on that committee. One of the things that we pushed through this year was support for the TPP policy, because we see it as being the next growth lever for western Canada and for Canada. Notwithstanding, there will be adjustments.

When we look at CETA and other agreements, one of the messages that comes out from our business community is that they don't really understand how these agreements may apply to them. Specific to the TPP, there has not been, to our knowledge, information provided on effects, impacts, or timing and so on. I can understand that, since it's still in process, but regardless, we believe we need to be part of that and we need to understand it. One of the gaps is understanding how this trade agreement will be applied.

As for other trade agreements, I was in Chile with the Alberta college system. I took about five colleges down to Chile. We met with one of the Chilean trade commissioners down there, and the president of the Canada-Chile Chamber of Commerce. I asked them how many companies were doing business down there, and they said one Canadian company is doing a mining sort of thing. Why aren't there more? It's because we just don't understand where these opportunities are. That's one of the gaps in this area.

Conversely, then, adapting a company to be ready to go internationally relies on scale and money. To develop an international market, it takes $100,000 or $200,000 a year. If you're a small-scale manufacturer with 10 employees, you barely have money to pay your bills right now, frankly, and to adapt into these changing environments is going to be difficult. It takes some information, and it's going to take some support and some scale-up programming, I think, to get companies big enough to take on these challenges.

In Canada, just as a sidebar on the Agreement on Internal Trade, we have many barriers in Canada among provinces that restrict our company size in certain industries. That's a problem, and we've got to deal with it. It's been on the books since 1995 or so. These things prevent us from being competitive, and I think that the message of competitiveness is fundamental. Canada is a trading nation. We want to trade. We've got to be prepared, and some of these barriers are in front of us.

● (1620)

Mr. Brian Masse: With regard to competitiveness, what sectors in particular are you referring to?

Chile is an example, but what would you grow, or what would you export from Alberta to Chile that would...? It's between shipment and everything else, and as a service industry you have significant geographical barriers to markets, but I don't know the entire....

Mr. Darrell Toma: Just as an example, I took the college system to Chile because I did a series of applied research projects as a consultant to them. One of the things they have is a strong agri-food industry, and oil and gas and mining resources that need to be developed. Simply connecting people and organizations can give businesses opportunity, because they want to develop their resources. When their students graduate from high school or whatever, they fly to Australia and New Zealand. They don't even know Canada exists. We could be using those people to go into the college system, become trained, and replace some of the people who will be retiring in other industries.

There are industries that would work quite well. In the agri-food industry, you can do the seed stock in Canada and you can replicate it down in Chile because it's a different season altogether; this can happen with canola, for example, and with potatoes and so on. This is how you get trade developing.

Mr. Brian Masse: The real barrier, I suppose, is more support for Export Development Canada, especially for small and medium-sized businesses to get there.

Ironically you're talking about Chile, and a Chilean peach caused the APHIS fee on our exports into the United States through my area.

Would that be fair? Mr. Petrak, maybe you can add to this. I've seen things over the years and I hear a bit of a different tone now, but I'm looking for the measurables from BDC and Export Development Canada. To be fair, in recent years I've seen more through Export Development Canada than from BDC about supporting small and medium-sized businesses to be empowered, especially into the export market to the United States and others that we have agreements with.

I'll allow all three of you to comment on that if there's time, Mr. Chair.

● (1625)

Mr. Darrell Toma: I would make a couple of points. One is that we do have ways for industry to connect and do business, but they need an understanding of what is there to do business with or who to connect with. The oil and gas sector has to have some kind of intermediary to facilitate that introduction.

The longer-term strategic one, which is important in the college or university system, is about bringing in graduating high school students from Chile. There are lots of them who are well off and looking for that, and when I was in Costa Rica, it was the same message. If you bring them in and educate them on Canadian technologies, when they go back to their country, they want to work with Canadian technologies. It builds bridges.

Those are two immediate ones that are possible and very doable.

Mr. Martin Petrak: From our end we're just beginning to work with EDC, and they sound very helpful at this point, both on the Orthopaedic Innovation Centre side and on Precision ADM. We will be working with them, but most of our business is in the U.S.

The Chair: Thank you.

Have you anything to add in five seconds?

Dr. Farzad Rayegani: No, but regarding Chile, the important thing to know, which we forget, is the time zone. We have only a one-hour time zone difference with Santiago, and nobody thinks about that.

For digital manufacturing work, a one-hour time zone is critical. It means that we can work with Chile every minute. We cannot work with India or China, which have a 12-hour difference, so that is a key element. We forget about the South American relation in manufacturing.

The Chair: Thank you. I'm sorry to cut you off, but we have to keep moving.

Mr. Longfield, you have seven minutes.

Mr. Lloyd Longfield (Guelph, Lib.): Thanks, Mr. Chair.

Thanks for your flexibility as these conversations are going on. It's like a good hockey game. Sometimes the ref just lets it go.

Thanks to the clerk's office as well for bringing in these types of witnesses from across Canada. We have Alberta represented, and Manitoba and Ontario, so I'm taking a few seconds to say thanks to you guys for coming and thanks to the colleagues around the table for this conversation.

The Chair: Thank you.

Mr. Lloyd Longfield: I'm delighted that we're talking about manufacturing. My background is manufacturing. You're actually talking about additive manufacturing, which is even better; you know where manufacturing is heading.

I want to start off with Martin from Winnipeg.

I'm a graduate of Red River College. I've mentioned that to a few witnesses now. Winnipeg is doing some things around additives which I'm looking at. We just came back from Montreal, having looked at aerospace, and we are wondering whether we have the right bridges across the country. You mentioned something about internal trade barriers. Could you maybe mention what we as a committee could look at and include in our report to open up opportunities within Canada?

Mr. Martin Petrak: I think it would be very important to look at Canada as a whole, not as western Canada and then eastern Canada and Quebec.

We see that right now in the aerospace industry. Especially for additive manufacturing, we look at where the resources are potentially going to be going, and it's to those two provinces. In the west, we're feeling a little bit left out, although from an additive manufacturing perspective, I don't think so. I think we've taken the lead. I think, from our perspective, that the federal government saw something that we saw as well as the opportunity to service both the medical and aerospace areas together under one umbrella organization. I think that was a very good step, but I think it needs to be expanded.

Mr. Lloyd Longfield: Terrific. Thank you.

It's interesting that you've combined those two sectors. In Montreal as well we saw a business transitioning into medical devices from aerospace.

With regard to the large OEMs being favoured versus SMEs and that valley of death that we've mentioned a few times in different conversations here, I'm interested in your connections through the innovation centres, which are part of our manufacturing study, to get into the place where you can now go to market. What could happen to get you to the next level, and what's missing that we need to include in our study?

Mr. Martin Petrak: I think it's the sharing of that IP, that internal intellectual property, that a large OEM transfers to a smaller SME, and then there's some growth. It's not that it's going to be exploited somewhere else, but at the same time, the sharing of that intellectual property between the two is very important. Then when you get the academics involved, it's important that the SMEs are being included, because they learn and obviously are able to then contribute a lot more on the next round.

Mr. Lloyd Longfield: Right. Thank you.

Going over to polytechnics and the bridges that you're building, you have ABB, Hatch, Siemens, and Festo, some of the larger manufacturers, contributing to the college and contributing expertise and product. That's another avenue for getting SMEs connected through some of the larger businesses to opportunities.

I'm going to add to that comment a question about the focus on funding for colleges. There is a 70-30 gap between universities and colleges, so I'm not going to be too surprised if you say we need to have more, but could you maybe indicate how the multiplier could help in our favour?

● (1630)

Dr. Farzad Rayegani: Lots of times I've talked about a healthy ecosystem. Why are they working with ABB and Siemens and Hatch? The reason is not that they are ABB and Siemens and Hatch; the reason is that we are trying to bring technology drivers into our technology playground. Technology drivers will drive the technology. We bring in multinational institutions like Siemens, and we bring the SMEs in, and they are technology adopters. They want to adopt the technology.

There is a platform here; we call it a risk-free environment platform for innovation. The SMEs come here. Siemens comes here. At Polytechnics Canada we are the integrator; we match people and bring everybody here to work together to innovate. It's as simple as that. Of the government grants, 97.5% goes to research, but they forget about this platform, the healthy platform that will be created at Polytechnics Canada. They give us 2.5%. If they doubled it, imagine how many SMEs we could support.

Mr. Lloyd Longfield: We have that on record.

I have just one last thought and then I'm going to share the last minute with Mr. Arseneault.

Those larger companies taking on people from innovation centres or incubators are coming in one direction, but are they taking on students?

Dr. Farzad Rayegani: Of course. The whole thing, as I said, is an ecosystem. These large companies need continuous sustainable talent they can trust. Siemens Canada is in Sheridan. We are the only Canadian university or college licensed from Siemens Berlin to teach the mechatronics system to students in Canada.

Mr. Lloyd Longfield: I want to turn my last minute over to Mr. Arsenault, but I think that's a very important back bridge for bringing talent back to those larger firms. Maybe the government can help with some of that.

Dr. Farzad Rayegani: We are forgetting about immigrants and refugees. You can help with that, too.

Mr. Lloyd Longfield: Thank you.

[*Translation*]

Mr. René Arseneault (Madawaska—Restigouche, Lib.): Thank you, Mr. Longfield.

Mr. Rayegani, I see that Polytechnics Canada is involved in researching and analyzing federal and provincial public policies.

[*English*]

Who are your 11 members, and what regions in Canada are they coming from?

Dr. Farzad Rayegani: I am happy to announce that the 11 members we have are Algonquin College, from Ottawa; BCIT, from Vancouver; Conestoga; George Brown; Humber and Sheridan, both from Ontario; NAIT; Red River College; SIAST; Saskatchewan Polytechnic; and Seneca.

These are 11 polytechnics in Canada that are playing a very important role in innovation. They really are the key for your skills gap. The talent is produced in such a way that it will bridge the gap between research and commercialization. You need these kinds of graduates, who understand the shop floor and can talk to management. We are missing that point—

The Chair: Thank you. Your time is up.

Dr. Farzad Rayegani: They are why 95% of my manufacturing is happening.

The Chair: Thank you.

Mr. Lobb, you have five minutes.

Mr. Ben Lobb (Huron—Bruce, CPC): Thank you very much, and thank you for your time in coming here today.

Mr. Petrak, are you located in Winnipeg?

● (1635)

Mr. Martin Petrak: That's correct.

Mr. Ben Lobb: Of course, there's a pretty decent aerospace industry in Winnipeg.

I've asked this question before. We have a little bit of that industry, renovation of airplanes, in my riding. It's a long, expensive, and arduous process to become Boeing-certified. If there were capabilities, desire, and know-how, that might be an area where there could be some synergies.

Is that something you've come across in your time? Is it or is it not an issue, or is it even an opportunity?

Mr. Martin Petrak: Yes, it's an opportunity and it is an issue as well. The resources required to become part of a supply chain like that to a Boeing or to a GE are quite significant. There are definitely the opportunities in aerospace right now with additive manufacturing. Those are presented to us today.

With respect to any further issues around the supply chain, it is a long process because of the regulatory system and the costs associated with that regulatory system.

Mr. Ben Lobb: Taking a step back, then, in regard to government procurement and industrial benefits for projects—such as the F-35, for example, not to wade into that whole debate right now—are there members you know of or work with that have received contracts through the F-35 process?

Mr. Martin Petrak: I guess you would be talking about our large tier one supplier in town, which would be Magellan. I'm sure they're one of the organizations involved, but not directly with us.

Mr. Ben Lobb: What I'm trying to ask is whether there are opportunities through the industrial benefits for your small companies to work with large subcontractors or even a tier three supplier?

Mr. Martin Petrak: Yes. Obviously, those opportunities have not arisen yet for us. We are obviously after those types of opportunities. However, on the F-35, from an additive manufacturing standpoint, I'm not sure if that IP has even been released, so we wouldn't even know what we were bidding on.

Mr. Ben Lobb: I'm not trying to get into that debate right now on that stuff.

Generally speaking, I live in southwestern Ontario. It's the area I represent. We have a bunch of different manufacturing. It has come and gone, and come back again. I worked in manufacturing as well.

The issues I can remember eight or 10 years ago and the issues today are pretty much the same. They can make a great product. They are a tier one to the big three, or whatever you want to call them now, in the automotive sector, but the recurring themes are high cost of electricity, vulnerability on the dollar, and incentives in the United States and Mexico, and of course, China. You can make a great product, but when you add it all up, sometimes it's impossible to compete with those external factors.

We're doing a study on manufacturing. There are all sorts of manufacturers across Ontario, for example, in the automotive sector. It wouldn't be much different in yours, just in different sectors. How do you compete with that?

Then, of course, in the U.S. they are offering some pretty attractive carrots to come down there—tax-free arrangements, etc. How do we compete?

In this report, how do we compete with that section?

Mr. Martin Petrak: If we're talking about additive manufacturing, additive manufacturing is not for every single type of part component. We have to look at where we use it and be very careful where we use it.

What we're talking about is investing in advanced manufacturing. In our plants as well, we're investing in automation robotics where we have the ability to compete and we have the ability with advanced systems to get that price down to the point where we can compete, and that's exactly what we're doing.

Mr. Ben Lobb: My area is very agriculture-based as well. Robotics has come in a huge way in the processing side of it. Are the universities and colleges keeping pace with the major shift to robotics even in these agriculture sectors?

I hear from some of the companies in my riding, from skilled workers, trained workers, who know how to operate these things, and it doesn't take them a week to fix it.

Are the colleges and universities—I guess specifically the colleges—maintaining pace with the demand for these businesses, with robotics and themselves?

The Chair: You have about 30 seconds.

Mr. Martin Petrak: I'm going to defer to Farzad very quickly, but from our perspective right now with respect to additive manufacturing, no. Locally, we don't have that talent pool.

Second, I think the universities are certainly not keeping pace with the colleges on the robotics side.

Dr. Farzad Rayegani: I will add to that. We have robots in Canada that are unique. Two months ago one was announced in Sweden. We got it, and we are working collaboratively on a robot.

Our robotic facilities are state of the art, but the problem is that politicians in Canada are not paying attention from that perspective. We are at the grassroots, working with the companies at that level. Robotics and automation are the key.

In regard to your question about manufacturing, nowadays manufacturing is value-added manufacturing. It is a knowledge economy.

If it is a great product.... In my opinion, it's not a great product if China can produce it. There is no value-added to that. China cannot copy the product that Martin is producing because it's all knowledge-based.

When we talk about advanced manufacturing coming back to Canada, we are talking about the knowledge-based, value-added, bundle product that nobody else can produce and that can only be innovated in North America.

● (1640)

The Chair: Thank you very much.

I have to have someone else finish each question.

Mr. Baylis, you have five minutes.

Mr. Frank Baylis (Pierrefonds—Dollard, Lib.): Thank you, Chair. I'm going to be crisp a bit.

Mr. Toma, your point number seven was to promote intellectual property sharing between businesses and post-secondary research centres.

Can you expand on that?. What do you see now, and what would you like to see?

Mr. Darrell Toma: That's a great question. I worked with the college system quite a bit. Maybe I could talk about robotics for one second.

NAIT has the Shell Manufacturing Centre, which teaches students robotics. SAIT, in Calgary, has an automation robotics centre as well.

One of the problems in Alberta is that a lot of robotics and automation have not been adopted because the scale of plants is quite small, so generally speaking, it's not commonplace.

On intellectual property and so on, I took a bunch of college researchers down to Houston, and we looked at a nanotechnology company. We met down there. Alberta got about $120 million for a nanotechnology institute at the University of Alberta. About four years ago we went down there and asked the fellow where he got his IP from. He said he got it from Rice University for free. They were commercializing their information out of that university and building a business, and so on.

One of the challenges in Alberta, and I think in many provinces, is that a lot of the new discoveries get discovered, and then they get patented, and then they have a time period for release into the marketplace. I've heard from venture capital investors that trying to get access to the intellectual property from some of the universities is very long and difficult.

That's it.

Mr. Frank Baylis: Could you send in concrete examples of that difficulty? If there are specific universities or tech transfer offices you've heard from, I'd like to get concrete examples on that issue.

Mr. Darrell Toma: Sure.

Mr. Frank Baylis: Moving on, Mr. Petrak—I'll get to you last and then you can run down the clock—if I understand correctly, you're running an incubator. Is that correct?

Mr. Martin Petrak: It's a pre-commercialization centre on the medical side, the Orthopaedic Innovation Centre.

Mr. Frank Baylis: What does it do, exactly, to support the industry there?

Mr. Martin Petrak: What we're looking at is medical device testing, clinical research, clinical trials, retrospective studies, implant testing, cadaveric testing. When these devices come into Canada, we are actually the ones who validate them as to whether they are devices we should be using.

It's a state-of-the-art facility, very much a Mayo of the north. We have basically the capability of now going, as I told you before, from raw materials right into implantation and post—

Mr. Frank Baylis: Are you evaluating imported devices?

Mr. Martin Petrak: They are imported devices.

Mr. Frank Baylis: Are you working with local companies that are developing their own devices?

Mr. Martin Petrak: Yes, we are doing that as well. We're supporting that, both from a medical testing side as well as from a manufacturing side.

Mr. Frank Baylis: First, I'd be much more interested in helping the local companies. How could we help you to do better to help the local companies that are developing, as distinct from bringing in the external products to test?

Mr. Martin Petrak: I think a lot of it is a question of the educational gap that needs filling right now for additive manufacturing in Canada. Many other countries have an advanced program curriculum, as I mentioned before.

Mr. Frank Baylis: They have universities or colleges that are really—

Mr. Martin Petrak: —teaching it, yes. They actually have undergraduate programs in it. We're not even teaching it. They have full undergraduate curricula in the U.S. I think that's something to think about.

● (1645)

Mr. Frank Baylis: Would it be fair to say, then, that there's such a rate of change that our universities or colleges are not keeping up and that there are demands for specific skills sets that are not being kept up with?

Mr. Martin Petrak: I would say that additive manufacturing with 3-D printing is 30 years old, and when we start looking at where we are, it is clear that we just have not embraced it. Maybe we haven't needed to embrace it. Maybe that's been the push that was missing, and I think that now, focusing on advanced manufacturing, we have to really think about investing now, today.

I think that's the focus. For us to help local industries, they have to be educated.

Mr. Frank Baylis: So the skills gap is it.

Okay, that will fall right to you, Mr. Rayegani.

The Chair: You have 30 seconds.

Mr. Frank Baylis: I know, but I'm going to go for it, Chair.

Why is it that colleges are not bridging that gap? Let's leave the federal government aside; I don't want to hear about that. It's not always the federal government's problem. They have a need; you have—

Dr. Farzad Rayegani: It is not at all a problem with the government; it's a problem with the educational system. Our educational system is a very traditional system. I don't even call it a system.

What is a system? If you look at a systems approach, the system, which wants to keep its character, must react to the parameters when the parameters are changing. What happened is that industry changed its behaviour 20 years ago because of economic problems. When I say it changed its behaviour, I mean that industry is not any more in the business of developing skilled personnel. They said, “It is not my business. I don't have the money to develop people; I need people ready to engineer.”

What did our educational system do? Nothing. It continued to do things in the traditional way without reflecting upon what had happened to industry. Now what we are trying to do in Polytechnics Canada is to say that since industry changed its behaviour, we have to reflect that as soon as possible. When additive manufacturing comes and Martin needs something, I have to be flexible in my curriculum and emphasize that.

This is what we are trying to do, Mr. Chairman.

The Chair: Thank you. We're trying to be as flexible as we can too.

Dr. Farzad Rayegani: Those 30 seconds go so fast.

Mr. Frank Baylis: We're taking advantage of our chair today.

The Chair: Yes, I don't know what's going on today.

Mr. Liepert is next.

Mr. Ron Liepert (Calgary Signal Hill, CPC): Thank you.

Mr. Toma, I normally sit on the finance committee. To see somebody come to the table and only say “do no harm” is quite unusual, because rarely does someone come to the table and not ask for something.

How realistic is that, in the environment we live in today? We can see in Ontario, in Alberta, that clearly things are happening around climate change and carbon taxes. Without getting political—well, a little bit political—there was a promise in the last election by all three parties of a reduction of small business taxes, and that hasn't happened.

Is “do no harm” even realistic?

Mr. Darrell Toma: Thanks for the question.

It's one of those considerations that businesses always have in front of them, part of the risks and uncertainty that they're always facing. In an environment of financial situations in which currency is going up and down and the supply chain and energy has been shocked so much, with about $23 billion taken out of it, we don't need to have more layered on. There's policy around this issue that the chamber has put forward.

As to messages I would reinforce, I think we need to do service delivery a little differently to assist manufacturers, and I would include food processors in that; some of those are chamber members as well. There's a need to do more. The ratio of food processing in Alberta is 1:1 vis-à-vis primary production, whereas in Ontario it's 3:1 and in Quebec it's probably 3:1 as well. You have to wonder why that is. After 150 or so years in Canada, why can't we do more?

Some of this relates to regulations that prevent scale-up. For example, to go from being a provincial-level food processing plant that only sells within a province to a federally inspected plant requires a fivefold or tenfold kind of investment and is very much more complicated. There's a need to look at hybridizing or meshing federal and provincial regulations, somehow, to allow people to grow up.

That's one of the problems in the beef industry, for example. It's the same issue as in the oil industry. There's one price supplier—the U.S. is the only buyer—and so there's one price taker. That's an issue.

There is a need to better deploy, I think, information on innovation centres and so on.

● (1650)

Mr. Ron Liepert: I want to pose this question to Mr. Rayegani, being from Alberta.

There was always a lot said during the time of high oil prices and a high Canadian dollar about its hurting manufacturing in central Canada. We've been in a sort of low-dollar situation for, I guess, nearly two years now. Has it been noticeable that manufacturing has benefited as a result? I certainly don't see the job situation as being that much different from what it was a few years ago.

Dr. Farzad Rayegani: Two things happened at the same time. One is that the dollar came down, but the other thing was the change in the behaviour of manufacturing as a whole.

We are shifting to the new paradigm of the knowledge economy. When you compare the manufacturing era of 20 years ago in Alberta and Ontario, it's a different kind of manufacturing now. When you don't have the talent, your response to the knowledge economy is not great, and this is what we see. It is why manufacturing is not coming back.

Value-added manufacturing eventually will come back, and knowledge-based economy manufacturing is coming back—we call it “advanced manufacturing”, in this case. We have to make the system respond to that.

This will happen in North America, both in the U.S.... Probably in the U.S. there is also the same problem: “Oh, manufacturing is gone!” Who cares that manufacturing is gone? All of you have a cellphone. Was it $400? What is the value-added for China to these cell phones? Can anybody tell me? The value added of these is that they're produced in China. What is the value-added? How many dollars are due to it? How many?

Mr. Ron Liepert: Do I have a minute?

The Chair: You have one minute.

Mr. Ron Liepert: I want to ask one quick question of all three.

We've talked a lot about small business. Let's talk about big business.

Put yourself in one of these chairs from which you have to vote on whether the government should grant Bombardier a billion-dollar grant. Is it yes or no?

Dr. Farzad Rayegani: If you have extra money, why not?

Mr. Martin Petrak: Unfortunately—I talked about this just yesterday—it's a no.

The rationale we talked about is the number of companies that could use.... If you were to fund multiple SMEs or medium-sized companies with $10 million to grow their business, there could be a huge impact that would be much larger in terms of number of jobs created and opportunities that are not exactly known when that kind of money....

That's my answer.

Mr. Darrell Toma: I would echo that one. I think you could look at investing the billion dollars across many SMEs and allow them growth management. That would be both rural and urban SMEs, not just urban-based ones.

Mr. Ron Liepert: Thank you.

The Chair: Thank you very much.

Mr. Jowhari, you have five minutes.

Mr. Majid Jowhari (Richmond Hill, Lib.): Everybody else gets more. Okay.

Thank you to the panellists. I'm going to do about a minute of confirming the gaps that I've heard, and then I'm going to give you each about a minute or a minute and a half to talk about the solutions, whether it's from a policy point of view, whether it's from an enabler point of view, whether it's funds or grants or incentives by the government, to be able to help close those gaps.

Let's start with the gaps that I heard. I heard that the spread of R and D is top-heavy. We heard about 97.5% versus 2.5%. We heard about the limited funds for SMEs, some on the capital side but not as much on the operational side. We heard about the skills gap, especially when it comes to extended design. We heard about the need for marketing support, especially for getting the product out. We heard about being able to get an understanding of the extended value chain. We heard about the gap in access to international markets, both in terms of understanding them and also in helping you to get there, in having access to funds to be able to play in international markets and get support for international trade.

Those are the seven gaps that I quickly highlighted. Some of you focused on the additive manufacturing industry, and we also focused a little bit on oil and gas.

In one minute, whether it's a policy enabler or an incentive, what is it that a combination of educational institutions, SMEs, and governments can do to help facilitate that? What policies would be changed? What enablers should be introduced?

And Farzad, you can talk about the immigration aspect last.

Okay, let's start with Mr. Toma.

● (1655)

Mr. Darrell Toma: If I was going to deploy the funds, we probably have enough funds in the system. Let's deploy more in the development side, the commercialization side, and deploy them more regionally through innovation centres, such as the U.S. MEP system, which has 400 centres all across the U.S. They help manufacturers to compete, whether it's in design, product development, automation, human resources, or whatever. We do not have that service delivery ability now. IRAP is very focused around small-scale grants, and sometimes their thresholds are too high for companies to actually buy in because if they're barely surviving and can't match the minimum program.

That's probably what I would recommend: a better deployment of funds.

Mr. Martin Petrak: I would make a very similar comment. We have a gap around the commercialization side. We can't fund companies and ideas and intellectual property at a university with $100,000. We have to look at a fail-fast, fail-cheap mentality, where you're looking at investing a half a million dollars, you get to a certain stage, and you can invest that next million dollars. What's the institution? Is it a private-public relationship? Is it VCs, venture capital firms, that are going to be funded partially by government funds as well? Are there opportunities to work together and share the risk? That's where we have to look.

On IRAP funds, I totally agree. The stacking limits could maybe be a little offset. The stacking limit could be lowered on behalf of the SME or the organization trying to commercialize that product.

Mr. Majid Jowhari: I want to go back to you on the IP aspect. I know a lot of businesses develop the initial IP but then cannot continue, so it gets buried. What are you recommending in opening up the IP for other businesses?

Mr. Martin Petrak: I think that's where there has to be a good knowledge transfer process. If it's coming out of a university, are they going to be transferring it, and at what cost? The IP policies are not consistent across the country, so depending on the jurisdiction, there could be an upfront cost or there could be a royalty after you start commercializing, so there's a problem with that. Who's going to manage that? If it's an actual failed company, what happens with that IP? That will go back to the university, potentially, at that point in time. If it's a company innovating, and it fails, then it has a choice to license and actually generate revenues.

Mr. Majid Jowhari: Great. Thank you.

The last is to Mr. Rayegani. I know I have 30 seconds.

In education, you talked about a change of curriculum, but I'm going to give you 30 seconds to talk about immigration, because that's what you wanted to touch on.

Dr. Farzad Rayegani: I only wanted to say that I think that the Ontario provincial and Canadian federal immigration systems don't produce talent for industrial manufacturing. I don't know what the problem is. That's not my expertise, but it's clear that we are not inviting the talent through our immigration policy.

The other thing is that we have a lot of international students. After two years, what happens to them? What happens? Who has their records of what they do? Why not create an innovation hub so these international students can stay another year, and put the leaders from industry beside them and create an ecosystem, a global network, because whether they go back or stay, either is beneficial for Canada.

These are some of the immigration issues. Again, this isn't my area of expertise. I see that we are happy to bring these talents, but there is a gap, and we don't do that.

The Chair: Thank you very much.

Ms. Benson, you have two minutes. Actually, I'll give you three minutes.

Ms. Sheri Benson (Saskatoon West, NDP): Oh, you're so kind.

An hon. member: We all have three minutes.

Ms. Sheri Benson: Now it's going to take me three minutes to figure out that three-minute question.

Actually, Mr. Toma, maybe I'll leave my question—and it will probably end up being just one question—with you.

I wonder about the transportation infrastructure and whether it's benefiting our manufacturing sector or detracting from it. I wonder what role the chamber plays in looking at how goods are getting to where they need to go, and whether that is a challenge. I'm looking just for some general comments and some specifics you might have from your vantage point.

Mr. Darrell Toma: Well, many parts of western Canada are landlocked, obviously, and it's a distance to market, and then a distance from there to a port, and then to wherever the international market is.

Transportation includes international airports, which the major cities typically have; it will include pipelines, which is part of the market access bottleneck in the energy industry, which you all understand, probably; and then there's the highway system, with truck transportation and so on.

One of the problems with provinces is running rates for trucks between provinces. That has been brought up before. The interprovincial trade barriers are still a bit of a problem on transportation there. Perhaps I'll leave it at that.

● (1700)

Ms. Sheri Benson: I'm going to stick with you, Mr. Toma. I wonder whether you might talk about the role that a chamber, and your chamber specifically, plays in what is certainly an issue in my province of Saskatchewan: working with companies and the economy around diversification and toward a non-energy economy, which we are talking a lot about.

What role do you play? How could we support it? Is there support there that people aren't accessing? If it's not you, what group would be in charge and would be moving that economy into what we see as the next thing for many communities?

Mr. Darrell Toma: It's a great question. Diversification is in front of our premier and in front of the cabinet right now for sure. Is it a destination, or is it a process to get to the end point? It can be both, but practically, the reality is that business people are the ones who are actually going to make it happen, and they need access to a whole bunch of things. It probably starts with market access. If you don't have access to a market, it's awfully hard to do.

I'll give you an example. One thing that should be among your topics is procurement, I think. I brought it up earlier. There is a medical device that was invented in Edmonton by a U of A prof with an ex-military doctor. It's a clamp to clamp on a bleeding part of an arm or whatever. I met with this guy about two years ago, and he said he was going to commercialize it in the States. He has a company down there. He started up in Austin with 27 employees, whereas in Alberta he has two employees. He said the reason he can't commercialize it in Alberta to create diversified products is that he can't sell it to Alberta Health Services, the AHS, because of procurement standards and so on.

This is an idea of procurement barriers. We create all this stuff, and then we can't sell it locally, so he has to leave the country to go ahead and commercialize it. There are lots of barriers in the diversification debate, for sure.

The Chair: Thank you.

Here's where we stand. We have one minor housekeeping matter, which will take about two minutes, so we have time for three questions of five minutes each.

When I say “five minutes”, I mean five and not seven, okay?

Mr. Baylis, you have five minutes.

Mr. Frank Baylis: I have two questions. For the first one, I want to swing back to the Bombardier question.

A few years back, the largest, most successful high-tech company in Canadian history was Northern Telecom, which at its peak represented $300 billion of value and employed 94,000 people in high-tech jobs. The previous government had $10 billion to lend to U.S. car companies but didn't lend $1 billion to the biggest, most successful Canadian company ever. Granted, it was getting into problems.

In that light, did you agree with that decision to let Nortel die and not lend it the $1 billion?

We'll start quickly, yes or no, with Mr. Toma.

Mr. Darrell Toma: Well, I guess under the do no harm—

Mr. Frank Baylis: Yes or no?

Mr. Darrell Toma: Probably...yeah, “no”.

Mr. Frank Baylis: Yes, you agreed to let Nortel die. Okay.

Mr. Petrak, I'd like a yes or no.

Mr. Martin Petrak: I think some of the decisions—

Mr. Frank Baylis: No, I'd like a yes or no.

Mr. Martin Petrak: I would say yes.

Mr. Frank Baylis: Thank you.

Now I'm going to move on to another set of questions, going back to Mr. Rayegani.

You mentioned something about temporary students, temporary workers, and said that they come and bring a lot of value but that we're not able to integrate them into the system. Could you expand a bit more on the value of this knowledge base and how it can help our companies be more successful?

Dr. Farzad Rayegani: Again, I think that there are few mechanisms for immigration and refugee and talent acquisition. When international students finish the two years, there is no process, really, to see their value added to the whole ecosystem. We are not guiding them, we are not driving them, and there is no innovation hub or centre to bring them and another system together.

● (1705)

Mr. Frank Baylis: You would like us to be able to keep them, if possible, if they head back.

Dr. Farzad Rayegani: Of course I would, because we are missing the talent. You don't have a skill gap if you.... You have a skill gap, yes, but it is a skill gap that Canada has in certain areas.

Mr. Frank Baylis: We should use them, then, to fill a gap and should find a way to keep them.

Dr. Farzad Rayegani: Yes.

The other thing is people in the 35-plus category. What happened to them? We are always saying that we need expertise and experience. Those who are 35 plus who want to come here have a difficulty in immigrating because they are older.

We are talking about women in technology in Canada. I always see in the paper items about women in technology and our wanting to have more. Look at Majid in Iran: 60% of the Iranian women are in STEM, in science and technology. Call with an invitation and all of them will come here.

There must be an objection to go to—

Mr. Frank Baylis: For the last part I'd like to swing back to another point you raised.

You said that 97.5% of post-secondary funding is going to universities and only 2.5% is going to colleges. If we were to direct more of that towards colleges, how would you see us directing it, and to what applications, to have an impact upon manufacturing?

Dr. Farzad Rayegani: That is very simple. Look at the chart. Look at the percentage of research that is happening. You were talking about Bombardier. I wanted to ask how much of the R and D at Bombardier is happening in Canada. Two percent of Bombardier work is research; 97% or 98% is manufacturing and product development and assembly and so on.

If we look at the whole spectrum, we see that 95% of the manufacturing activity is not R and D in Canada. Please—it is applied research, product development, commercialization, and all of that. When you want to put the money there and you see that 95% of these organizations don't do R and D in Canada, why should we put the 97.5% of our money for research into that area?

Polytechnics are helping the other 95%, so—

Mr. Frank Baylis: So it would be applied research, product development, and what else?

Dr. Farzad Rayegani: Of course. That is where the money must go, because that is where all those activities are going on—

Mr. Frank Baylis: So it's applied research, product development, and what other things?

The Chair: You have 30 seconds.

Dr. Farzad Rayegani: The other things are commercialization and manufacturing and so on.

If we are getting 2.5% to help the SMEs, imagine that you double it to 5%. It makes a huge impact to us. I'm not against university research, because I came from university research, yet I see that in Germany 90% of the activities in research money go there, but in Canada the R and D of Bombardier is almost 0%.

Mr. Frank Baylis: Are you talking about German schools putting 90% in?

Dr. Farzad Rayegani: No, I mean German research going into Germany. A lot of the money is going to research and also applied research. They look at the spectrum and divide the money there.

The Chair: That's a wrap. Thank you.

Mr. Dreeshen is next.

Mr. Earl Dreeshen: Thank you very much.

I want to go back to you, Mr. Toma. You talked about food processing. There were discussions earlier regarding South America and Central America and the fact that we have the same time zone but in many cases opposite seasons. I think that's really a critical part of it. We have a trade agreement with Europe and, again, there's a lot of work that is required there, but certainly we have agricultural expertise that is doing some phenomenal things in South America. I'm wondering if we could take a look at that and talk about some of the things that are happening.

The other thing I would like to talk about, which you mentioned, is interprovincial trade barriers. A study done in the last Parliament in the agriculture committee looked at these trade barriers. Of course, one of them was provincial and federal inspections and the issues associated with them. There's a great amount of detail, and perhaps, since you've brought it up, it may be something that we as a committee want to look at.

To get back to the question, could you talk about the whole process of food processing, as well as our agricultural footprint in South America?

Mr. Darrell Toma: That's a good question. It's a huge topic unto itself, but it's instructive to know that Canada is and is going to be one of the five or six top exporters in the world. We will continue to be that. Our strength is in every province, in B.C., Saskatchewan, Alberta, Ontario, Quebec, the Maritimes, etc. It's all there. We produce a lot. That's our strength—production—and we could do a lot more.

The other thing is that there is an organization in Costa Rica. It's IICA, the Inter-American Institute for Cooperation on Agriculture. It has 35 country nations. Canada is a member too. They love Canada because Canada has a great model of development and collaboration and so on. They're always looking for our Canadian technologies to use in Latin America. Latin America includes the Caribbean and all the countries in Latin America. The U.S. is part of that organization too.

We could do an awful lot more there, but there are some practical regulation and trade barrier problems in Canada that prevent a lot of scale-up. That's one of the reasons we do a lot of commodity exports versus processing exports. We need to do more in processing. Part of it is that you have to go to a Canadian or North American scale of processing, of plant investment, frankly, and that's a bit of a challenge for us.

● (1710)

Mr. Earl Dreeshen: I had an opportunity to be at the Global Business Forum last fall, where Brazil was talking about some of their issues, and of course they were looking at scaling up the dairy industry. Again, I think that on some of the issues they were looking for the expertise that Canada has. I believe that ended up going to an Indian company because it was easier for Brazil to work with them than with us. I think that's probably one of those issues.

There's another point I'd like to talk about. Again, it doesn't get mentioned very often. It's about our food security and our food safety and taking that part of our regulations and exporting that throughout the world. Could you comment on that, please?

Mr. Darrell Toma: Yes, and you bring up a great point, because one of the things that I think Canada has to come to grips with is that we're a small nation in the world. We have 2% of the stock market and 2% of the finances and so on. We implement a lot of standards and so on that may or may not be wanted or needed by the importing country. It's that sort of thing. We have to look at that a bit.

When you look at the manufacturing field, you'll find that they take design considerations from the customer backwards. That's how they develop the products. For example, in the beef industry, we have had to parallel the U.S. industry, because that's where we sell a lot of our product. We have to, I think, look at setting up processing plants that can be oriented strictly toward export into Japan, China, and Korea, and we also have to look at foreign direct investment partnerships in which they bring in the investment and the market channel from the other side, and we bring in the production side from our ample capacity in B.C., Alberta, Saskatchewan, Manitoba, Ontario, etc. We can do it, but we need market access and foreign direct investment to help build that bridge.

Mr. Earl Dreeshen: Thank you.

The Chair: Thank you very much.

Ms. Benson, you get to take us home.

Ms. Sheri Benson: I will give each one of you an opportunity to leave us with one last comment. Of everything we've heard today, what do you think is the most important thing coming forward for us?

Before that, I think one of the issues around immigration is that we can't look at immigration just for jobs. For young people, it has to be a path towards citizenship. I think those two things should be ranked together instead of having them isolated. When someone comes to do a degree and a job, they're only here for two years. They really want to become citizens, but the systems don't work well together. We do it in other places. We do it with industry with people who have already qualified, so that is one thing. Thanks for bringing that forward. I've heard that a lot—that it's a path to citizenship—so we can't disconnect those things. Otherwise, people aren't going to stay. It's too hard. It's too difficult, and no one is supporting them.

Mr. Toma, I'll start with you. What's the most important thing you'd like us to take away from this conversation today? It obviously can be focused on Alberta.

Mr. Darrell Toma: Sure, and I appreciate the time.

I guess I would come back to how innovation is the kind of fundamental that keeps industries and businesses strong and countries competitive. It's like Michael Porter said back in 1980 or 1990 or so when he reviewed Canada and said that we had to do things differently. I come back to the need to change some of the tools and delivery methods that we're using now.

Practically, remember that not every SME or company has professional staff that can write applications and chase after funds and all that stuff. The system has to be dumbed down so that anybody can use it, and it has to be accessible for the entrepreneurs who are going to invest the dollars.

On the immigration thing, I'll just make a comment. One thing is that we don't do a good job of using the ethnic knowledge that these people bring to the country, such as when people come to Alberta, for example. When an Iranian engineer comes to Alberta, he has to become part of an occupation and has to get qualified. That's a bit of the barrier, and I know that, but they also have a lot of ethnic networks. The Chinese do, the Indians in B.C. do, and so on. That gives us great access to foreign direct investment and so on, but we don't do a good job of helping them. They stay, they don't integrate, and they don't participate well, but they do a great job of innovating, and that's how the country is built, right?

● (1715)

Ms. Sheri Benson: Thank you.

Mr. Petrak, would you comment?

Mr. Martin Petrak: Would you like general comments at this point in time?

Ms. Sheri Benson: Yes, on one or two topics.

The Chair: You have a total of two minutes.

Ms. Sheri Benson: Thank you.

Mr. Martin Petrak: One big area that I think we've overlooked and haven't talked about at all is our health care system and how advanced manufacturing and looking at procurement locally versus across borders can definitely save costs.

We haven't talked about that, but just to give you an example of where additive manufacturing can go, the average cost of an implant system in Manitoba is roughly $2,500 for a total joint replacement. We know that with additive manufacturing, that part actually costs about $100 off the machine, so we have to think about what we're doing locally versus.... We have the capabilities now locally, so how do we expand that network? How do we create that capability?

When I talk about Canada investing $200 million to $300 million, it's a serious number. It's not something that only I created or developed; this is a number that actually came from U.S. partners, partners that were bought by General Electric, actually, when we were looking at developing medical devices for them. They talked to us about it and said that our government needs to invest. In the U.S., they said, they have a hard time collaborating and a hard time networking, but they said that in Canada we have an advantage because we can network together and we work a lot better together among provinces. That was their recommendation to us.

At this point in time, I think it's very important that we look at these numbers seriously in terms of how much we want to invest in advanced manufacturing, and that we look at our health care system and scrutinize how we're actually spending our dollars, because we can spend them better locally.

Ms. Sheri Benson: Thank you.

The Chair: You have 30 seconds.

Ms. Sheri Benson: You have 30 seconds, Dr. Rayegani.

Voices: Oh, oh!

Dr. Farzad Rayegani: I believe that small and medium-sized companies are at the heart of economic development in any region in Canada. They need help, and one part of the help from the Polytechnics Canada perspective is helping us to help them. That is one of the elements that I suggest.

Manufacturing is changing. It is value-added manufacturing. It is knowledge-based manufacturing. We are missing that part. The product is not the hardware or software anymore. We call these bundled products.

I asked what the value-added of China is to this. It is only $7. That is, China puts in $7. Who cares? Let them assemble that. Use your knowledge base here to produce the apps, the technology, the electronics, and all of that, and let them assemble it, because only $7 is the value-added for a $400 product. Since we are dealing with clean energy and all these things, we don't care about that $7. Concentrate on the $300, on the rest of the money.

The Chair: Thank you very much. Thank you for quite an interesting session today. It was very valuable very worthwhile. To our guests, thank you very much for coming in.

We will suspend for about two minutes and then come back to do the housecleaning.

Thank you.

● (1715)

(Pause)

● (1720)

The Chair: We will come back to order.

I want to take a few minutes to quickly go through the schedule because we still don't know if we're here or not here on the 23rd.

I'm suggesting that we not have witnesses for the 23rd. If we are here, the analysts are going to do some preliminary table of contents work, and maybe we could have a quick discussion on where we are so far in this study before we break for the summer. I thought it would be a good idea. Are we okay with that?

Mr. Lloyd Longfield: Sure.

Mr. Earl Dreeshen: I wouldn't have minded having a little bit more notice than just this, but—

The Chair: We don't know if we're here or not. That's the problem.

● (1725)

Mr. Earl Dreeshen: I understand. It is often in that last week and perhaps on that last day that you find out that there won't be any meeting at all. There could be other changes. Sometimes the Thursday becomes a Friday schedule. We might find that it disappears at any rate, so I don't know whether I would spend a whole bunch of extra time planning on something that might not happen.

Certainly as a fallback....

The Chair: We're already planning with the analysts to do this. Depending on what happens, we have the flexibility. We may just cancel that day. I don't know. I'm just trying to give flexibility so that if we're here, we can take advantage of that time, and if we're not, then we don't have any challenges with any of the witnesses.

Mr. Ben Lobb: I was just wondering about Tuesday. Do you want to cancel Tuesday as well, or do we have guests committed? I mean next Tuesday.

The Chair: The 21st? Why would we cancel Tuesday?

Mr. Ben Lobb: You never know what can happen around here with votes and everything else.

You know me. I'm never looking to duck out of work. I'm just trying to be practical.

The Chair: We have witnesses. Next week on Tuesday we have Unifor, Ford, and Electra Meccanica electric vehicles from Vancouver. They're going to teleconference in. On Thursday we have Startup Canada, Communitech, and Futurpreneur. That's on the 16th, and on the 21st we have the University of Waterloo research centres, Groupe Savoie Inc., and Agricultural Manufacturers of Canada. I don't think we want to cancel that one.

That's what I'm saying about trying to schedule witnesses for the 23rd. I just wanted to let you guys know and make sure that we're okay with all of that. We'll be flexible. If the 23rd is like a Friday, then we don't have to do it.

Go ahead, Ms. Benson.

Ms. Sheri Benson: If we do meet on the 23rd, is there something that's going to be prepared that we'd actually go through on the 23rd?

The Chair: Yes. We're just trying to be as productive as we can and get a sense of where we are up to now.

Mr. Frank Baylis: I'm just learning. I have ideas on the table of contents. Is it normal that we would submit ideas on the structure of the table of contents, or do we wait for the analysts to give it to us? What's the protocol?

Mr. André Léonard (Committee Researcher): Usually we would send you the table of contents in advance. If there's a meeting, we can discuss it, and you can add whatever you want. If there's a meeting, perhaps you could send your—

Mr. Frank Baylis: You would do a first draft and then we would look at it. We would then work on the table of contents to say that we have ideas. Are you saying you would do a first draft and then we would discuss it?

Mr. André Léonard: Yes.

Mr. Frank Baylis: Okay. Understood.

Mr. Earl Dreeshen: Just on that point, we do that together. We have discussions on it.

The Chair: Yes, hence the reason I'm leaving this for the 23rd. This is our study, like it or not. It's non-partisan. This is our study. It's important for all of us to make sure we're going in the direction that everybody is comfortable with. On that note, look at that: we have two minutes to spare.

The meeting is adjourned.