HOUSE OF COMMONS
CHAMBRE DES COMMUNES
CANADA

# Standing Committee on Industry, Science and Technology

INDU • NUMBER 043 • 2nd SESSION • 41st PARLIAMENT

**EVIDENCE**

## Tuesday, May 5, 2015

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## Chair

**Mr. David Sweet**

# Standing Committee on Industry, Science and Technology

**Tuesday, May 5, 2015**

● (1100)

[*English*]

**The Chair (Mr. David Sweet (Ancaster—Dundas—Flamborough—Westdale, CPC)):** Good morning, ladies and gentlemen.

[*Translation*]

Good morning everyone.

[*English*]

Welcome to the forty-third meeting of the Standing Committee on Industry, Science and Technology.

The witnesses before us today have been very stand-up and patient. They were actually here last time and democracy meant that they stayed in our committee meeting room alone and we didn't come here.

We want to thank you very much for your second visit to us.

It looks so far as though you're actually going to be able to speak to us this time, so rather than me delaying it any further and getting into dangerous territory, let me introduce who is in front of us.

We have Gerard Peets, who is the director general of the manufacturing and life sciences branch of Industry. Krista Campbell is the director general of the information and communications technologies branch, and Shannon Glenn, the director general of the policy branch, science and innovation sector.

I didn't get an opportunity to ask you whether all of you will have individual opening remarks. It's just one of you?

Then please begin.

**Mr. Gerard Peets (Director General, Manufacturing and Life Sciences Branch, Industry Sector, Department of Industry):** It's actually a pleasure to be able to come here the second time, because the first time we were at the other building, and for us it's always fun to be in one of these rooms, which really is something.

[*Translation*]

Good morning, Mr. Chair and members of the committee. Thank you for your invitation.

[*English*]

Thank you very much for the introductions.

We have prepared a deck, which I hope you all have. I'll just give you indications as to which slide I'm speaking to.

There are a lot of different ways to approach the subject of disruptive technology. As you begin on your study, I think it's probably useful for us to try to give you context on how we at Industry Canada approach the issue and look at the topic. My presentation will try to cover three main points.

First, new and disruptive technologies obviously create new challenges and opportunities for firms and for industries. Second, the pace of technological change is something that is increasing. It's driven by the pervasive penetration of information and communications technologies. Finally, in the industry portfolio as well as throughout the government, we have a lot of roles that are aimed at spurring technological growth and supporting the competitiveness of Canadian business.

For a staring point, we care about disruptive technologies because they transforms markets. They transform business models and change supply chains and entire industries. But what are disruptive technologies? There is really no single definition. We look sometimes to four key traits. They have speed. We're talking about rapid technological change. They have global reach. They have economic impacts that are significant and unexpected, and they have societal impacts that are often significant and unexpected.

Within these broad parameters, different analysts take very different views as to which technologies should be focused on. They all disagree, but what they don't disagree on is that disruptive technologies have huge economic impact. McKinsey and Company estimates that by 2025, the economic impact of the “Internet of Things” will be between $1.4 trillion and $6.2 trillion. That's a wide range, but both numbers are huge.

On slide three you'll see a selection of technologies as laid out by McKinsey, the World Economic Forum, MIT, and Gartner. The diversity of these things—additive manufacturing, brain mapping, advanced robotics, and agricultural drones—can really be difficult to structure one's thinking around.

Slide four gives you a sense of the lens we use at Industry Canada to try to do that. We find it useful to break disruptive technologies into three groups: platforms, processes, and products. I'll talk about each of these in the next couple of slides.

But first, around the outside of the frame you'll see references to a number of areas of government support and policy that are really important to the development and adoption of technologies. In the centre, we try to emphasize the importance of technological convergence, how technologies are interdependent. They bleed into one another and across traditional scientific disciplines and across different business applications.

Looking at slide five, I'll talk briefly about platform technologies.

[*Translation*]

Platform technologies, like nanotechnology, for example, are foundations for the development of commercial products and processes. These technologies are often very closely tied to, and supported by, major R and D investments in infrastructure.

[*English*]

Turning to slide 6, we have process technologies.

[*Translation*]

Process technologies, like additive manufacturing, which is essentially industrial 3-D printing, use technologies in new ways to change how a product is made.

[*English*]

On slide 7 is product technologies. Disruptive product technologies are things like the driverless car, which can redefine the customer experience and create entirely new markets. Disruptive products can quickly create new industry leaders and put others, including well-established incumbents, out of business.

I wanted to make the point that it's really the pervasive impact of information and communications technologies that's at the heart of technological convergence and this rapid pace of technological development that we're seeing today. A great example can be seen in the life sciences area. Bioinformatics is the use of computers to digitally process massive amounts of biological data to better understand biological systems. Bioinformatic modelling can produce insights that can lead to the development of new drugs, vaccines, and diagnostics. All of this in a computer.

It almost goes without saying that technologies have implications for competitiveness, but I said it anyway. Canada is considered an advanced economy in part on the basis of its capabilities in research and development and its successful track record of commercialization in many industries.

At the firm level, companies that thrive get ahead of trends and move away from incumbent technologies before they're overtaken. Kodak is probably the most commonly cited example of a company that didn't do this. It didn't see the advent of digital imaging and the decline of chemical- based photography. Its market cap in 1997 was $30 billion U.S., and it was completely wiped out by 2012.

On the other hand, IBM is probably the most frequently cited example of a company that's the model of reinvention. It sold off its PC and server hardware divisions to put its sole focus on cloud computing and big data analytics.

Reinvention happens at the firm level, but it also happens beyond the individual company. One thing about disruptive technology is that it has serious implications for the nature of work. Increasingly the pace of new technologies coming onto the market really does put the premium on flexibility as a core workforce competency, and it creates an advantage for workers who have a solid footing in the kinds of emerging skill sets that are required.

Finally at the broad social level, changing technology can also give rise to questions of social acceptance. These in turn can give governments reason to re-examine frameworks including norms, standards, and regulations.

What I find interesting is that when we think about the reach of disruptive technologies in the Canadian economy we're really talking about something that has the potential to touch communities and businesses across the country in very tangible ways. Disruptive technologies aren't just about the high-tech sectors like aerospace, ICT, or life sciences. They have the ability to transform business in any sector.

I'll use nanotechnology to illustrate the point.

Nanotechnology in Vancouver is helping reduce the amount of costly platinum that goes into making fuel cell stacks. Getting the cost down is one of the key measures along with infrastructure to deploying this kind of technology on a large scale. In Quebec, nanotechnology is helping develop new lightweight, stronger materials, going into things like spacesuits and making them flexible, more resistant to damage, and embedding them with sensors. Food processing, which people sometimes don't think about as advanced manufacturing, has a footprint across the country and nanotechnology is active there in areas like developing food packaging to kill bacteria and extend product life.

● (1110)

[*Translation*]

Industry Canada and our federal partners help disruptive technologies move to market through a variety of mechanisms, including scientific research; research labs and infrastructure; direct and indirect support to industry for R and D, commercialization and innovation; and specific partnerships targeting cutting-edge areas such as communication technologies and genomics. We engage with industry and other stakeholders on an ongoing basis across regions and sectors.

[*English*]

Finally, I thought it might be useful to give you a sense of the questions I think would be interesting to pose to witnesses and to consider in your study.

First, how do Canadian companies see disruptive technologies coming down the pike and impacting their business? Second, how have industry, governments, and academia been successfully partnering to advance innovation in disruptive technology? Third, where are Canada's technology development hotbeds? Fourth, what impacts will disruptive technologies have on jobs and work? Last, how do Canada's disruptive technology strengths line up against global trends and future commercialization opportunities?

With that, I'll end my remarks. Thank you very much.

**The Chair:** Thank you very much, Mr. Peets.

It's not often that we have a witness who provides not only testimony but also the questions. I'm certain my colleagues will be very motivated in that regard.

Colleagues, I think we'll settle on six minutes a piece across the board. We are going to talk about some business afterwards. We also have the motion we're going to deal with just before we go in camera.

With that in mind, Mr. Lake, you have six minutes.

**Hon. Mike Lake (Edmonton—Mill Woods—Beaumont, CPC):** Thank you, Mr. Chair. Thank you, Gerard, and other witnesses for being here today.

It's interesting; I took some notes and then your questions at the end summarized a bit where I was going to go with my questioning.

The first question you asked that jumps out at me is: where are Canada's technology development hotbeds? But I'll add something to that. It seems we have them all across the country. In my conversations, it often seems that folks are doing amazing things but are not necessarily aware of what's going on in other parts of the country.

“Where are they?” would be a good question, but how are they connected? What's being done to connect them and to maximize the promising practices in each area of the country so that others can take advantage of them without reinventing the wheel?

● (1115)

**Mr. Gerard Peets:** Perhaps I'll start and then maybe I'll turn to my colleagues to supplement.

It's a tough one because I can name a few things that are really impressive to me across the country, and I'll be forgetting people, but I'll still give you a sense of some of the areas I think are really neat.

One of them is out west. In Alberta, there are some incredible things going on with oil sands research, and groups like COSIA are leading that with the oil sands players. Vancouver is pretty much the world centre for fuel cell technology development, as evidenced by companies like Daimler, Ford, and others who are located there.

Everyone always mentions Waterloo because Waterloo is an incredible place—and Krista may want to jump in on that—in terms of an ICT hub that overlaps with some really interesting things going on in the life sciences, for example, in the Mississauga and related area. It's just a very dynamic and compelling place.

Montreal and Toronto have substantial world-class aerospace sectors. Aerospace is an area where disruptive technology tends to get adopted at a stately pace because of the need to make sure everything has flight heritage and is safe. But it's also a leading innovative sector.

Life sciences is an area where we have incredible capacity in Vancouver, in Montreal, in Quebec City, and in Toronto. There are also pockets of excellent capabilities elsewhere, such as Prince Edward Island, which has a fantastic bio cluster.

I left out a bunch of people, but those are some really interesting areas.

**Ms. Krista Campbell (Director General, Information and Communications Technologies Branch, Department of Industry):** If I could just add to that, maybe a very literal answer to how some of these things are connected. If you think about something like big data, which is a really new and innovative disruptive way that businesses can be evaluating massive amounts of information, they're using it in ways, for example, to customize the services that you get. So when you go to Amazon or Google and do your search, there's a computer system behind that to help customize it, based on what your past preferences have been. Big data analytics is really becoming one of the fields in Canada where we have strength.

There are very physical ways that some of that information is connected in terms of our digital research infrastructure and the actual pipes that we have in Canada to help move information from, say, a research institution to a business, or to enable a business to get access to the cloud so they're able to use some of these technologies. If you look at something like an organization called CANARIE, which is Canada's research infrastructure backbone, it's the actual physical pipes. That's really important to understand: where the strengths are from a networking infrastructure perspective.

If you think about the ecosystem broadly, and again I'll stay with big data, something that IBM is doing a considerable amount with, CANARIE itself is creating a test bed that allows small businesses—one or two people creating their software in their basement, which could be absolutely anywhere across the country—to go online and get access to the cloud at free or very reasonable resources. It creates a community of individuals who can be located anywhere across the country, who then have access to other researchers in similar areas such as big data.

The ecosystem to support also includes things like incubators and accelerators. Toronto has a very interesting accelerator that focuses specifically on big data, called OneEleven. As you think about what the supports are for these types of networks, those kinds of connections and specialization areas are really important to understand. They underpin some of the work that goes on in universities and colleges, which also helps to create some of these communities and networks so that individuals who are, say, working on something like software can understand and build off the work that others are doing.

**Hon. Mike Lake:** I have one more minute, okay. Good luck with that. I could just sit here and ask you guys questions all day long, I think.

When you look at other countries, it seems as if one of the probable disadvantages we have, when you think about incubators and the strength of an incubator system, is the sheer size of our country. Other smaller countries can have a greater concentration of organizations in the same area, and even different incubators in different parts of a smaller country are closer together and probably have more opportunity to physically connect with each other, which obviously isn't maybe as important in this day and age as it used to be, but I think being able to have those face-to-face discussions is still fairly important.

What countries are doing it best? Where does the world look when they're looking for countries that are really successful at this?

**Mr. Gerard Peets:** Maybe just to address the first point.... Whether it's sometimes beneficial to have that geographical concentration is what I'm reading into the point that you raised. We think it is useful in many respects to have that economic clustering. I think when you look at it, the performance of firms, of innovation systems, people who are located in a cluster really do benefit from things like lateral movement of people, the development of expertise for the financial system to serve their needs, the development of partnership opportunities, even proximity to competitors. All these things tend to increase the performance of innovative firms. That's not to say that you can't do it without being located in a cluster, because we have all kinds of examples of where that's worked.

● (1120)

**The Chair:** Sorry, we're way over time.

Ms. Nash for six minutes.

**Ms. Peggy Nash (Parkdale—High Park, NDP):** First of all, thank you so much for your presentation. It was very interesting. I think this could be a really fruitful area for us to take a look at as the industry committee, because it's always about trying to be ahead of the curve, as you rightly pointed out in your presentation. What was the Gretzky thing, skate to where the puck's going to be? Hopefully that's what we're encouraging our private sector to do.

It seems to me that while connecting innovative technology with the private sector is obviously key to developing this and improving our economy, that basic investment in pure science precedes all of that, so you are looking into those big questions. The private sector was not going to send a man to the moon until after government had done it.

Can you talk a bit about the link between government investment in pure science and translating innovation to the private sector?

**Mr. Gerard Peets:** I'll make a brief comment and then pass it to my colleague, Shannon Glenn.

The comment I would start with is that a lot of these things we think of as platform technology—areas of technology where we're not exactly sure where the product or process is going to emerge, or when, or in what vertical part of business—are the things that are most tightly linked with some of the investments that are made in science and technology infrastructure.

**Ms. Shannon Glenn (Director General, Policy Branch, Science and Innovation Sector, Department of Industry):** If I can add to that, the linkage that you highlighted is a key one in terms of translating investments in basic and applied research into the commercial world. Since 2006 the government provided more than $13 billion in new resources for basic and applied research across the spectrum, and for other key elements that are important in that translation, specifically talent development and research infrastructure questions such as the digital research infrastructure Krista highlighted.

On an annual basis, the spending is $10.9 billion, including research performed in-house and also $3.4 billion on foregone revenues in terms of the SR and ED tax credits.

To focus a little more on the roles of the granting agencies, for instance, in the area of disruptive technology, it is important to focus not only on basic research but also on applied research to increase the economic impact of the research they support, including for disruptive technologies. They've been increasingly putting an emphasis on partnerships and how they structure their granting programs between the post-secondary researchers and the companies. It is very important and they do continue the emphasis on basic research because that's an important source of future disruptive technologies. It is also an important area for training the next generation.

If I can do a parentheses in the recent announcement of the Thirty Meter Telescope, that's an area where one can classify it as basic research, but it's an important training ground for big data, which has an application way beyond astronomy to a number of disruptive technologies. That's an example of talent.

Touching a little on the question of connectedness, which has been raised now in a few areas, the granting councils also have a number of programs that focus on multidisciplinary and multisectoral partnerships. There's the business-led networks of centres of excellence program and the centres of excellence for commercialization and research program.

The other area I would touch upon is the National Research Council, which has a number of disruptive technology research programs and a strong emphasis on partnering with business. I can delve into that further if you'd like.

● (1125)

**Ms. Peggy Nash:** Thank you.

In the short time that remains, I'm not a scientist, so forgive me if this question doesn't fit in this area, but people have written me about the whole area of artificial intelligence. It's clearly a disruptive technology because it's transforming how products are produced and how services even are delivered.

I'm wondering if one of you could touch on that and where it fits in the framework that you have described for disruptive technology.

**Mr. Gerard Peets:** I'll let Krista talk about it, but to answer your first question, to me it's a platform.

It's like a series of competencies that can be used to develop new products, like products that can think, and to support the future of production. The future of production in terms of manufacturing is going to be about real-time decisions made by systems that react to feedback from the supply chain and react to where elements, supplies, and inputs are that are being communicated in real time by a system.

AI is a platform that creates new products and influences the way process is developed.

**Ms. Krista Campbell:** Let me add briefly that Canada has a number of companies that work in artificial intelligence. We've referenced the idea of big data. Maybe I'll come back to that very quickly for one moment.

With the amount of information we are now able to collect from a variety of sensors, we can transmit large volumes of data, put them in databases that are now much more powerful, apply software to them to do data mining, and then create machines that can recognize the patterns they see in the types of information being provided; and, to go one step further, we can create an algorithm that will give you a set of decision functions that you as a machine will go through and come up with an answer that shows thinking or judgment, and be able to manipulate that data—which the machine itself is able to do to demonstrate that it is learning and is applying judgment.

We have companies in Canada that, for example, can help with learning for, say, pilot training to better instruct the pilot on how to respond to changes in weather and the patterns as they're learning to fly a plane. The machine is able to help them anticipate better some of the influences that could happen, based on the data they are evaluating.

**The Chair:** Thanks, Ms. Campbell. We had to go way over on that to try to give you some kind of modicum of an answer.

We go now to Ms. Gallant, for six minutes, please.

**Mrs. Cheryl Gallant (Renfrew—Nipissing—Pembroke, CPC):** Thank you, Mr. Chairman.

What I'd like to do is go to page 10, to the map of Canada on which you have itemized select Canadian industrial activities for different parts of the country. In the time we have remaining, just mention the types of technologies—not a company or anything, or the specifics, but the types of disruptive technology—that are impacting those various industries.

Thank you.

**Mr. Gerard Peets:** Let me highlight a couple of examples. One is in the area of genomics. Modern medical research, now that we've mapped the genome, is based on looking at those genes, looking at the mechanisms they trigger in terms of the proteins they create and how those proteins interact with the body. But one interesting thing is that research tends to clump around a very small number of genes, because it tends to be incremental.

What's going on in Toronto with the Structural Genomics Consortium is an attempt to bring companies together in an open innovation framework to go into uncharted territory to pioneer those others areas of the genome. This is the kind of thing that, when it identifies promising areas, can open up entirely new avenues of medicine.

● (1130)

**Mrs. Cheryl Gallant:** With respect to genome innovation, give an example of the way this research is changing the way medicine is practised in Canada.

**Mr. Gerard Peets:** The way medicine is practised in Canada is a little bit down the road from where I tend to focus when I'm thinking about disruptive technology. That would be more in the area of health technology. I'm not sure I have an example ready to hand, but the area of drug development is really designed to impact health care 10 or 15 years from now.

Another example is regenerative medicine, in which, if you can use stem cell therapy to recreate tissue, you can eliminate disease. For example, in type 1 diabetes, if you can recreate the tissue that's not working in the pancreas, you don't have to treat it anymore. So the entire market for the tools and the drugs that have gone into treating that disease has now become replaced with a new therapy that will have its own supply chain, that will have its own expertise base.

If that kind of technology is developed, say, in Toronto or in Vancouver, then you can expect that to be an economic opportunity, but far down the road.

**Mrs. Cheryl Gallant:** Is your department keeping track of a timeline of when these disruptive technologies are anticipated to start impacting the way things are done in their various sectors, so that we have an idea of how we should be preparing policies in order to provide, most importantly, an environment towards which future job seekers—and current career people as well, who will have to transition or upgrade their knowledge—can be directed?

Is the industry department in your sector signalling to other departments that this is coming down the pike and that we had better do something to make sure we have the people with those skills in place 5, 10, or 15 years from now, so that we can benefit from this new technology and ensure that we keep our population employed as much as possible?

**Mr. Gerard Peets:** That's absolutely the goal. The goal is to watch the signs, to try to take signals from business, because business is much closer to both the technology and the market than we are. It's a continual process. It's not something wherein we figure it out and then go down the path according to a pre-established map, because we really don't know the specifics of what's going to happen.

Some things, though—flexibility.... I talked about it in the context of the workforce. Because things change, flexibility is a great core competency for the workforce. It's also a great core competency for us as analysts and for decision-makers, to have the ability to read, react, and align resources behind wherever it needs to go.

**Mrs. Cheryl Gallant:** You provide the analysis of where you see it going forward, and then are you involved in some way, or does somebody take it from you to consult with, as you said, the business community to let them know what is coming down the pipe of which they may not yet have been aware in their particular sector, so that the consultation process, perhaps with their local community college or their university, can commence?

**Mr. Gerard Peets:** Let me give you one example of how we do that as a government in partnership with the Canadian Manufacturers and Exporters. They have a program, called the SMART program, that helps SMEs in Ontario—this is with FedDev Ontario—invest in technologies. Part of the bigger partnership is to figure out what technology small firms should be investing in. It has been advanced by Deloitte recently, in a study that was published last week, that many companies in Canada—they surveyed 700, and a third of them —don't really know, aren't really prepared.

We can do things such as partner with people putting on a conference called RAPID, which exposes companies to additive manufacturing—3D printing and what promise that technology holds. We can partner with a CME. But once it gets to us, we're really reflecting what we've seen. It's probably after the thing has already started happening, if you know what I mean. It's pretty unlikely that somebody in my position is going to be able to say, nobody knows this yet, but this is where we need to go in terms of a specific technology.

● (1135)

**The Chair:** Thank you, Mr. Peets. Thank you, Madam Gallant.

Now we'll go on to Ms. Sgro for six minutes, please.

**Hon. Judy Sgro (York West, Lib.):** Thank you very much, Mr. Chair, and to our witnesses, thank you very much for coming. As the chair said, unfortunately you sat here by yourselves last week. We're glad you came back.

That was a very interesting deck. It's quite exciting to see all of the opportunities that are in here. When Mr. Lake mentioned disruptive technologies, I think we all looked at him and said, "Disruptive technologies? Okay." But it's an amazing deck, full of lots of the exciting opportunities that are out there.

In a recent tour that I had in Waterloo of one of the incubator sites, one of the frustrations they voiced was needing more money, of course, as many of these small projects need to try to get to commercialization, and so on. Industry Canada seems to do a very good job. Clearly, just through listening to the three of you, I can sense your excitement in what you're doing, and you probably want to do more.

How can you help them more to get to the commercialization market and on the issue of patenting and how to get through the patent process? There clearly were lots of success stories there, but the need for more assistance from Industry Canada was made quite clear as well.

I would be interested to hear from any of you what else we can be doing to make sure they have the kind of support that they need and that clearly you want to give.

**Mr. Gerard Peets:** I think we'll all have something to say about this. I'll start with something very brief, which you mentioned: patenting.

To me, when somebody says "patents" and "Waterloo" I think about Desire2Learn, which is a great company. It has been a great success story. It had a real existential moment when it was attacked by a patent troll in the United States, which is a very important market, obviously.

You're an engineering student who has a great start-up, and you have this fantastic idea. It's software, so you don't need a huge investment to get going. But what do you know about defending yourself against aggressive patent litigation? Probably not a lot. The question arises: what do you know about where to patent, when to patent, what to patent, and how to design your patent?

One thing that the Canadian Intellectual Property Office is doing is making sure that there is a basic level of awareness of the IP system and the way it works. That is a really important role, which it is playing right now in places such as Waterloo.

**Ms. Krista Campbell:** I would just add that there's no one single thing government can do that's the silver bullet. There's an ecosystem and an entire chain for an individual; maybe it's that really brilliant student in a university or college who is going to their tech transfer office. Many universities now have their own incubator accelerator program built in. They build links with the start-up community to think about a healthy VC system so that there is money available for good ideas. The government has been investing heavily in that in recent years.

For the ICT sector, we're seeing that venture capital availability is back to about where it was during the peak years, with that availability of money and the market telling you, "We think you have good idea. Go prove it." Then the companies start to get a little bit bigger. They have those 5, 10, 15 employees, and they now have a product that's more than just a prototype. How do we ensure that government procurement itself is a useful tool for spurring small businesses to get those first clients, especially the ones that are a good proof of concept? With that, they can go to another country or company and say, "I have something that actually works. The Government of Canada bought it. You should buy it as well." Then, as they get to the size where they're a going concern, how do we ensure that we have organizations like the Business Development Bank of Canada, which offers loans and has services that help ensure businesses know what it is they need to do to get out there, as well as Export Development Canada, or Foreign Affairs?

There's that whole chain on the business side. My colleague Shannon is very familiar with the R and D side, as well. The whole ecosystem needs to work well together and ensure that there's a hand-off and good information sharing. There are lots of programs and services available. Sometimes it's just a question of ensuring that businesses know where to go.

● (1140)

**Ms. Shannon Glenn:** Perhaps I can add to that.

As Krista mentioned, there's no one prescription. It is important to take a step back and look at the whole. The government did that in 2010-11 through the launch of the Jenkins panel, which reviewed programs related to business innovation. Out of that review came a number of recommendations. The government actions that were announced in budgets 2012 and 2013 included the transformation of the National Research Council to make it more business-facing; some changes to the SR and ED credit; some direct support for business, in particular some top-up for the industrial research assistance program; and on the topic of funding for start-ups, a suite of actions called the venture capital action plan. It also put in place a new program called the accelerator and incubator program. As well, it provided more support for some of those connective tissues, which I mentioned previously, in terms of the networks of centres of excellence.

If you're interested, I could delve into the accelerator and incubator program a bit more and also just emphasize a lot of the investment in talent. You need money and you need people if you're in the area of disruptive technology. The government has made regular investments, including, in the most recent budget, in Mitacs, which focuses on internships in business innovation out of post-secondary education.

**The Chair:** Thank you very much, Madam Glenn and Ms. Sgro.

Mr. Carmichael, you have six minutes.

**Mr. John Carmichael (Don Valley West, CPC):** Thank you, Chair.

Thank you to our witnesses.

Where to start? I'm sure that's part of your dilemma as you come here and face us: how do we educate these folks in a way that we can leverage up to scale and make it something that's comprehensive yet intelligible?

Mr. Peets, your slide 7 talks about the driverless car as a disruptive technology. I just want to clearly understand this. When you talk about redefining the customer experience, clearly it would do that. By the same token, all automotive companies, I would think, are in a race to ensure they're first to market, or at least they're going to arrive at market with the rest of the club.

From a disruptive perspective, I guess, to my understanding we're looking at a different way of buying, owning, and operating your vehicle in the future, as opposed to something that's going to necessarily put an industry out of work, per se. Am I correct in that?

**Mr. Gerard Peets:** I don't know if you want to finish that. I could jump in, but then I'd probably be blabbing on forever.

**Mr. John Carmichael:** Okay, I'll keep going for a second.

As we do our study, I want to make sure I focus on where we want to go to truly understand how we can contribute to the development of these types of technologies, particularly, as on slide 8, when you get down to talking about non-silicon-based computer chips. Those are game changers. With quantum computing and what's going to happen there as machines get smaller and the output gets bigger and with all the technologies that are applicable, the output from these types of machines is going to be unbelievable. I look at that kind of comparative as being different from the driverless car. Maybe I'm off base, so I hope you'll straighten me out.

Finally, to follow up on Mr. Lake's questioning, because I'm not sure I heard an answer, where is Canada today relative to the globe? Are there global leaders we can look to who would truly give us some inspiration to understand what the challenges are?

**Mr. Gerard Peets:** Okay, there's a lot in there.

We talk about the driverless car, the connecting car, and the autonomous vehicle. You'll hear people talk about how the next big auto companies could potentially be some combination of Apple, Google, and Microsoft and how the service of transportation provided by a car is essentially going to be increasingly defined by automated software.

And you see investments. You see the recent investment by GM. There was a bad disinvestment as well, but the recent investment by GM in its innovation centre in Oshawa for the connected car kind of shows how it values some of the expertise in Ontario for really developing some of that technology. We have QNX, and we have the whole Waterloo cluster, etc.

Clearly if a connected car talks to infrastructure, somebody's going to have to change that infrastructure so that it can talk to the car. A connected car talks to other cars. Well, what's the model going to be? Are they going to speak the same language? A connected car talks to the environment. Is it okay to trust the car's sensors to keep you away from a tree that fell on the road or to tell the difference between a dog and a baby? All these kinds of questions come up with a truly disruptive product like the driverless car.

In terms of the global leaders question, let's be clear. There are leading manufacturing nations. Germany has always been among them, as has the United States certainly. There are places that in a lot of ways define the standards and define the cutting edge almost across the board. In Canada we have the opportunity to figure out the areas in which we have interesting things to build on. It's unlikely that a country Canada's size is going to be a world beater everywhere, but we can absolutely be a world beater in certain niches.

● (1145)

**Ms. Shannon Glenn:** I would supplement that a little bit just to emphasize the science and the R and D side and what our strengths are.

Certainly we've been leading the G-7 on R and D performance in terms of spending in the higher education sector. It's also important to then look at some of the outcomes in terms of how we compare.

People are important. We have the highest share of tertiary graduates in the working-age population amongst the OECD. Over the last decade or so, we've been experiencing a net positive migration of world-class researchers within Canada, again on both the basic and the applied sides. We have a very strong scientific output. We have 0.5% of the world's population, yet we publish 4% of the world's peer-reviewed articles and 5% of the most cited ones, so we punch above our weight in terms of influence.

While we have recognized challenges in the area of business innovation, it is important to emphasize that we have pockets of strengths that will overlap in some respects with the map that Gerard was speaking about earlier. The areas of strengths are aerospace, the ICT sector, oil and gas research, and pharmaceuticals. All of those have inroads into disruptive technologies.

**The Chair:** Thank you very much, Madam Glenn and Mr. Carmichael.

Now we move to Madam Papillon, for six minutes.

[*Translation*]

**Ms. Annick Papillon (Québec, NDP):** I'm a bit surprised, Mr. Chair. I had no idea it was my turn.

[*English*]

Do you want to go ahead?

**Mr. Brian Masse (Windsor West, NDP):** Yes, no worries.

Thank you for your presentation and for being here today.

One of the things I'm kind of curious about is on your slide 4 there. How much money right now has been allocated and how much has been spent with regard to your four programs of incubators, direct support programs, demonstration centres, and access to capital? Can you provide maybe a specific example of one project that you've been involved in and where it has either led to or is leading to at this point in time?

**Mr. Gerard Peets:** Shannon, I wonder if you're best placed to sort of.... We may have to look this up, and it may take a second.

**Mr. Brian Masse:** Okay. You can maybe get back to the committee later about the overall funding.

**Mr. Gerard Peets:** Maybe perhaps in terms of all the numbers, because I don't know if I have that on one page. I certainly don't have it upstairs.

**Mr. Brian Masse:** Yes, and I'm curious as well as to how we rank against other countries in that process. That's why I would be interested to know specifically how much we're providing access to capital, what program it's coming through, and what's available.

One of the things that's interesting about the subject is that some would argue that, for example, if you're already in the private sector and you've invested money in research and development and you bring a product out there, then somebody else comes along with an innovation, but that innovation gets government support for those programs, and it affects your bottom line.... Have you had to deal with those situations at all? Has it come out that participating in a new innovation has led to a company complaining or raising concerns that they see it as unfair competition?

● (1150)

**Mr. Gerard Peets:** The program that I have experience with is the advanced manufacturing fund. This is a program in Ontario that's administered by FedDev Ontario, and Industry Canada participates with a review of projects.

One of the things that we try to look for is an assessment of the market, just to kind of understand who the competitors are and what the opportunities are. I certainly haven't seen the situation that you're describing.

I think what we really try to do is support the companies that come to us, first of all, and where they really do meet that threshold of innovation. They can demonstrate that they're world leading, that they're world class, that they really do have that commitment to generating economic spillovers in the community and working with suppliers and with universities, etc., and that they do have, in this particular program, that relevance to the market where there's somebody ready to buy their stuff.

**Mr. Brian Masse:** All right. Yes.

It would be interesting if you had two competitors coming to you at the same time for innovation. What would happen then in terms of support, whether you're picking winners or losers at that point in time?

I want to move to the health care sector in terms of our process, because there are wonderful health care initiatives. They are everything from monitoring how much you walk or sleep, to improvements, and there are all kinds of different things out there.

When projects come through that would obviously assist even some of our health care, do you have comparable people to work with in different departments to find out the real benefits? Say, for example, something comes in health care improvements, do you have somebody over in Health Canada to help with the evaluation and rollout of potential supports and programs?

**Mr. Gerard Peets:** One of the things that we do have, which is extremely valuable.... We're policy people, or I don't know actually. I think we're all kind of like the economics, political science types of folks, but we do have in the portfolio the NRC, for example, people absolutely full of expertise. We certainly draw on them regularly to really help us understand some of that technology.

We certainly have other departments: Health Canada, Natural Resources Canada for matters relating to energy and energy efficiency, and a number of other people around town. We do keep communities of practice. We try to make sure that there is that collaborative interplay between federal officials.

**Ms. Shannon Glenn:** Small businesses, and businesses in general, will want to have access to that advice themselves as well, so using your health focus. They regularly go to the NRC's industrial research assistance program, not only for funding but for advice. There they can get plugged into advice in the health sector. In particular, the NRC has an important research program in the area of biologics, which is disruptive technology focused on large molecule medicines. Beyond that I wouldn't be able to describe it more.

What I could do is briefly circle back to your original question in terms of the amount of support for business. There was a breakdown in the recent budget in terms of how the $13 billion has been broken down.

It's broken down in the areas of research, infrastructure, and talent, which I won't list. In the category of business innovation there was $3.7 billion with respect to support for commercialization in sectors, such as manufacturing and natural resources, $912 million related to the NRC directly, $805 million to support the applications by industry of research supported by the granting councils—through a number of the partnership programs that I referenced earlier—and $422 million to increase access to expertise in capital through the venture capital action plan that I had mentioned previously.

**The Chair:** Thank you very much, Ms. Glenn and Mr. Masse.

Now on to Mr. Daniel, for six minutes.

**Mr. Joe Daniel (Don Valley East, CPC):** Thank you, Chair, and thank you, folks, for being here.

Just listening to all the conversation that's going on, this sort of disruptive technology seems to me to fall into three categories: the base one like the nanotechnology that can be applicable in lots of places, specific products that are developing that will disrupt, and processes. That seems to be a summary of what's going on.

How do we connect these with the amount of research that's going on, and how do we place the research funding so that some of these technologies can be significantly developed?

● (1155)

**Mr. Gerard Peets:** I'll offer a brief remark and then ask my colleagues if they want to jump in.

One of the things about disruptive technology is that there is research that's going on. In some cases a company may have an explicit intention to conduct incremental research to marginally improve a product, or to not disrupt things. In some cases they may, but I think in many cases a lot of the policy tools that are available to help research and innovation in technology are going to help both kinds of companies.

We've provided a sense of some of the tools we do have in place, like the networks of centres of excellence, accelerators and incubators, and industrial support programs such as the advanced manufacturing fund. I think these things all have the potential to help a company with the ambition to drive something forward.

**Ms. Krista Campbell:** We've talked a little about some of the enabling technology that needs to be in place, like an advanced research network. It's important to have the pipes in, too. Government has a role and in all OECD countries governments fund a similar type of network that facilitates the research getting done.

There are important partnerships that happen between government and business on specific types of projects that might not be commercial, but definitely have commercial applications at a certain point.

For example, within Industry Canada one of the things we're responsible for is spectrum. Spectrum is foundational to virtually everything we're talking about here because people are addicted to their mobiles and all data is moving across your mobile. Spectrum is one of the ways you can transmit data. How do we use it efficiently and effectively because it's a finite resource?

We have within the portfolio, CRC, the Communications Research Centre, which works to do research itself. It then works to align with companies to say, “This is the type of research we're doing, it's pre-commercial or it will have application at some point, and we would like to work with businesses to better understand how you might see mobile, for example, in your business plan five years from now.” We're thinking about the spectrum, and if we come together, and we have the science, and we have the business application then we can bring that together. Those kinds of relationships are very important.

**Mr. Joe Daniel:** Thank you.

Do you want to add something more?

**Ms. Shannon Glenn:** We've mentioned a number of tools. I'll just take a step back and mention a bit of a chapeau that can relate to disruptive technology directly.

The government released a revised S and T strategy in December of last year. There are a number of forward-looking commitments in there that relate to disruptive technology. The first one I mentioned is to have a balanced approach to both basic and applied research. Another one is to continue to provide record support for science and technology research. Another one is the concept of scaling support for business innovation programs, some of which we've already mentioned. There is a commitment to looking at the full impact and how those could be scaled up.

There's one in particular that relates to your question of bridging that gap that is sometimes called the “valley of death”. There is a program in the aerospace sector called the technology demonstration program. Currently it is only focused on the aerospace sector. It is competitive-based, non-repayable, and higher up in the risk spectrum. There is a commitment in the strategy to look at the success of that program, even though it's a relatively new program, and to consider potentially applying it in other sectors.

Certainly on the topic of people, there's the topic of having resilience and being able to adapt to change, so all of the talent programs are important too.

**Mr. Joe Daniel:** I have one further question.

Have you come across big bang disruption? It's basically using existing technology and applying it in new and innovative ways so you can actually save money and save processes, etc.

A typical example would be diabetics and insulin users. If in Canada, for example, we supplied every insulin user with an insulin pump, we could probably reduce by billions of dollars our health care costs because of the kidney failures and the dialysis that has to go on. Is that the sort of thing that you would also look at?

● (1200)

**Mr. Gerard Peets:** The funny thing is that with disruptive technology there's the disruptive part, and that's where companies grow and other companies go out of business, etc., and then there's the technology part.

The disruptive part can apply to a lot of different things. It can apply to shifting business models. It can be triggered by external events. It could be triggered by demographics. For example, a lot of the disruption that we see in e-commerce is taking existing technology, for example, based on the Internet or based on mobile technology, and applying it to taxi cabs. We've already applied it to music.

I don't think of them so much as disruptive technologies as disruptive business models. That's one distinction. I think that they have things in common, such as the effect on business and the potential effect on jobs and opportunities. They also have things that are different, in the sense that you don't necessarily drive disruptive business models by driving technological development. A lot of what we're concerned with is in that sphere of driving technological development.

**The Chair:** Thank you, Mr. Peets.

Thank you, Mr. Daniel.

We'll now move to Madam Papillon, for six minutes.

[*Translation*]

**Ms. Annick Papillon:** Thank you, Mr. Chair.

I have here an article that talks about what we're discussing today. It says that taxpayers pour a lot of money into R and D but don't get their money's worth. That's according to a report by Deloitte from a few years back. One of the things the report recommended was coming up with new ways to fund innovation. Public spending on R and D is equivalent to 0.24% of GDP. That's the highest share of any OECD country, second only to South Korea, which invests 0.34%.

And yet Canada is at the back of the pack when it comes to business spending. For every dollar invested by government, businesses spend just $4, the lowest ratio in the OECD. Just to put that in context, Switzerland ranks first, with businesses spending $60.

My question is simple. What can the government do to fix the problem and make up for the lack of investment by the private sector and universities?

**Ms. Shannon Glenn:** Thank you for your question.

The answers given previously highlighted the federal government's recent science, technology and innovation strategy. I can also elaborate on those areas in a bit more detail.

We can look at companies' performance.

My apologies, but I'm going to switch to English as this is a very technical subject.

[*English*]

**Ms. Annick Papillon:** That's okay.

**Ms. Shannon Glenn:** The key metric that is often looked at is the business expenditure on research and development, the so-called BERD. You are right, that has been in decline, and most recently StatsCan has released a report with a further small decline. It is important, though, to nuance the interpretation of those results for a number of reasons.

First of all, innovation is not necessarily just investments in R and D. It is about a broader concept, a number of which Gerard has highlighted that relate to innovation on process and management capacity that wouldn't be captured in those metrics. Certainly the most recent figures for 2014 are only an indication of intent. They are revised frequently within the course of a year, and we look at those numbers regularly because one of the challenges in the innovation field is that there is an important lag effect between when an initiative is undertaken, or a bundle of initiatives, such as the work that was undertaken in response to the Jenkins panel, and seeing an effect in the economy.

Typically an expected lag can be on the order of about five years, two or three years for something to take effect, and then another two years to measure it. So the lag effect is also an important component, and what we hope to see is the effect of some of the more recently taken initiatives coming online, so to speak, and being visibly seen in the statistics around 2017-18. There's a lag, unfortunately.

● (1205)

[*Translation*]

**Ms. Annick Papillon:** I'd like to discuss another relevant issue, particularly from a Canadian standpoint.

According to the report, Canadian businesses are more likely to adjust their spending based on government assistance than their American counterparts. In fact, that Canadian behaviour is attributed to a more cautious attitude towards risk management.

I'd like to know what you would suggest in terms of solutions, as far as that cautious approach towards investment is concerned. How can we work within our system to make sure that we aren't penalized in relation to our American counterparts?

**Ms. Shannon Glenn:** Culture and management capacity is an issue that comes up more and more. Numerous studies mention that aspect. The evidence is still anecdotal, but all the facts point to a cultural difference. The recent strategy addresses that, incorporating a new element aimed at improving that culture.

Of course, it's a long-term effort, given that an educational component beginning at childhood is necessary, since it involves a change in attitude. It's also crucial to address the issue at the post-secondary level, especially in business education.

The final component when it comes to the current management framework, the one that matters most from an adult standpoint, revolves around the tools that can be put in place, modified or enhanced to improve the situation.

I mentioned the Canada accelerator and incubator program, which focuses primarily on small and new businesses with plans for rapid growth. That kind of expertise and mentoring—mentoring is a large part of the services we provide to small businesses—can be made available to managers in any size business.

We also want to urge business schools to offer programs not just for university-age students, but also for managers and executives in the midst of their careers.

This is work that will span a generation, and we are just in the early stages. The role of the federal and provincial governments aren't entirely clear and have yet to be defined. I encourage the committee to examine that dimension.

**The Chair:** Thank you, Ms. Glenn.

Thank you, Ms. Papillon.

[*English*]

**The Chair:** Now we move on to Mr. Warawa for six minutes, please.

**Mr. Mark Warawa (Langley, CPC):** Thank you, Mr. Chair.

Thank you, witnesses.

I want to change the focus on disruptive technologies a little bit to how they impact people, not businesses.

When I was growing up, I was reading cartoons about Dick Tracy and his special watch where he could talk back to head office. A lot of these technologies we dreamed or fantasized about are here today. There are the movies *Back to the Future* and *Back to the Future Part II*. I think the second one was about going to the year 2015, and here we are. Some of the stuff they got right, and a lot of it was still far-fetched. We have seen so many changes and so quickly.

You touched on Kodak. My dream location is Hawaii, and Kodak had this beautiful facility where you could watch the hula dancers and stuff. Well, they didn't see the clear signals, and you highlighted in your presentation that there were clear signals. They didn't see what was happening. They weren't flexible. They didn't change, and they are gone.

What are the clear signals that the government needs to identify and react to proactively? There is a change; it is happening. Traditionally, and not just in Canada, governments react instead of being proactive. How does this affect Canadians? How do we protect ourselves against identity theft? It is a growing problem. As technology changes, so does.... Thieves are out there and putting Canadians at risk.

Where are the disruptive technologies creating risks that the government needs to deal with? Some of the risks are just inconveniences. For example, when I was a boy we shot films on a little.... You would wind it up, and you would shoot films. Super 8 is what it was called. Then you would have those converted to a Beta or VHS. There were some companies that had copyright, even if they converted it over 20 years ago. I had all these old films put onto VHS. Now I want to be able to watch that. Because this is old technology, I can't have it put onto a DVD or a memory stick, because it is copyrighted by a company that is no longer in business, a long time gone.

Where are the risks we need to address, change, and adapt to? Where are the risks for identity theft, which is a huge problem? Could you touch on some of those issues?

● (1210)

**Mr. Gerard Peets:** Let me make one general comment on that, and then Krista will jump in on the digital side.

I think the big risk is that disruptive technology is global. Disruptive technology puts people out of business and puts new people in business. The risk is if you are not involved with the game.

Canada is involved. For us, it is really the opportunity of staying there because, if something is developed and the standards are developed elsewhere, if all the technology and the supply chains are defined and developed in other countries, then we are in a position of trying to adopt and trying to play catch-up. We are naturally going to be there in many instances, but in others, where we have the ability, it would be nice if we could really nurture that ability so we can stay ahead.

Now in terms of the digital side....

**Ms. Krista Campbell:** Your question is at the heart of much of what government really needs to consider. If you think of what it's been into recently in digital privacy with respect to Bill S-4, there are some really important fundamental things government needs to think about with respect to the privacy of the individual and the frameworks in place to ensure both government and other interfaces, whether it's businesses, or charities, or third-party organizations, respect an individual's privacy. There needs to be clear rules that an individual, a consumer, or a citizen can understand with respect to they've gone online, they've purchased something, they've consented to this but not to this, and therefore, they have assurances and know their identity has been protected with these known sites.

With respect to things like cyber and ensuring that we have a secure set of infrastructure, that individuals have confidence that they're able to use the Internet for the right purposes and not be hacked, the government continuously works with international partners that look at the governance of things like the Internet and ensures that policies and practices are put in place that businesses can then commit to. We have disruptive technologies in certain areas like quantum, which could be incredibly disruptive once they are commercialized, that this committee will undoubtedly be running across in terms of a whole game changer for cyber and protection.

There are roles for government in thinking about supporting things like data literacy and consumer literacy when they are online. Financial services are one of the areas where Canadians are the most concerned. We have very strong provisions at some of the financial institutions within Canada for things like mobile payments and mobile wallets. So government must be continuously encouraging work in those areas so Canadians have security in terms of their identity, they have recourse, and they know that government is pushing the boundaries for these policies. But in many instances, as you indicated, it is government reacting to the changing environment and trying to stay up to speed with what's going on. It's very difficult and challenging to figure out where that next disruption is coming from.

● (1215)

**The Chair:** Thank you very much, Mr. Warawa, Madam Campbell.

I want to thank the witnesses for coming, and I'm going to let the witnesses go now.

We have a motion that Madame Papillon is going to present with agreement among the parties.

We want to thank you very much for your testimony, and I'm certain it will form the basis of how we choose to call witnesses to be able to form this study. Thank you very much, but while you're leaving we're going to continue with business.

Madame Papillon.

[*Translation*]

**Ms. Annick Papillon:** Thank you, Mr. Chair.

I would like to propose the following motion to the Standing Committee on Industry, Science and Technology:

> That the Standing Committee on Industry, science and technology undertake a study on the state of the tourism industry in Canada by June 2nd 2015 and report its findings to the House.

As you know, this is an important industry. Globally, the tourism industry represents $1 trillion, and its strong growth is expected to continue at a rate of between 3% and 4% annually until 2030. In Canada, the tourism industry generates nearly 10% of jobs, and 618,300 of those represent direct employment—more direct jobs than in the oil and gas industry.

Every year, tourism accounts for $16.4 billion in export earnings and represents nearly 2% as a share of GDP. In addition to creating a large number of jobs, the tourism industry stimulates trade and investment, which, in turn, contribute to a better quality of life for Canadians. That means more dollars being spent in communities.

For all these reasons and because it costs relatively little to stimulate the industry, many countries have made tourism one of their economic priorities. Ignoring the global trend, the Canadian government has cut the Canadian Tourism Commission's budget over a number of years. In 2014-15, the commission's budget was down to $57.9 million. In just 10 years, it has lost nearly half of its budget, or 41.5%. And during that same period, Canada was one of the only top 50 travel destinations to experience a drop in the number of visitors from other countries.

According to the World Tourism Organization, between 2002 and 2013, the number of international visitors to Canada dropped by 20%, causing Canada to fall from 7th to 17th in the rankings. Furthermore, according to Statistics Canada figures released in July 2014, the number of unemployed workers was on the rise, while the number of people receiving EI benefits was shrinking. Changes made by the Conservatives to the EI program have reduced Canadians' access to benefits. In fact, more than 6 out of 10 unemployed Canadians don't receive EI benefits. The situation is of particular concern to the tourism industry, which requires a skilled workforce available during high seasons.

In a 2013 report, the Conference Board of Canada recommended changes to the airline industry, whose high taxes and base fares unfortunately make Canada a very costly travel destination. What's more, Canada requires foreign nationals wanting to visit the country for leisure or business to obtain visas. They need them in order to enter the country.

Although visas deter undesirable visitors, they can also discourage travellers going on vacation. According to a TIAC survey, Canada's visa application process is considered burdensome, intrusive and lengthier than those of its main tourism rivals, thereby discouraging potential visitors.

Whether in the form of financial support or just—

● (1220)

**The Chair:** Ms. Papillon, I have to stop you there. Mr. Warawa has a point of order.

[*English*]

**Mr. Mark Warawa:** On a point of order, Chair, procedurally—and that's why I've raised a point of order—a notice of motion is to provide a notice of motion not to debate the issue. If—

**Ms. Annick Papillon:** It's just a presentation.

**Mr. Mark Warawa:** I think this is now turning into a speech. It's no longer becoming a notice of motion. I think if my colleague across the way continues, it's no longer a notice of motion. It's a speech.

The reason that I brought this up is that we already have an appropriate way to deal with what the committee is going to be discussing, and we have made a decision as a committee to deal with disruptive technologies. Now, to diverge from that there's a procedure, and that would be to move into a portion of the committee where we would discuss what the committee is going to do, if we're going to change direction.

I think if the honourable member continues to speak it's no longer a notice of motion, it's a speech.

**The Chair:** Thank you, Mr. Warawa.

We had agreement for the presentation and I'm certain that Ms. Papillon is just about through her presentation here.

But, Mr. Lake, is this on the same point?

**Hon. Mike Lake:** [*Inaudible—Editor*]

**The Chair:** Just after? Okay.

Continue.

[*Translation*]

**Ms. Annick Papillon:** Thank you, Mr. Chair.

Indeed, it's just a presentation and certainly not a speech. I have only a few points left. I want to address financial support and the importance of ensuring that federal agencies and departments take the tourism industry into account when fulfilling their current mandates.

Canada must take action to structure the industry so that it can compete. Therefore, I am proposing that the committee undertake a study on the state of the tourism industry in Canada by June 2, 2015 and report its findings to the House. I also think it would be a good idea to invite the minister responsible for tourism to appear before the committee. He conducted consultations with stakeholders on the ground and could tell us what he has heard.

Thank you, Mr. Chair.

**The Chair:** Thank you, Ms. Papillon.

[*English*]

First we'll go to Mr. Lake and then Madam Sgro.

**Hon. Mike Lake:** I did agree before we had the meeting that we would allow this motion to be put forward. I didn't expect quite the extent of the language explaining it. I think it was kind of bordering on a speech, but I guess there is more concern with taking a look at this.

First of all, normally we would deal with committee business in camera. That's sort of the established routine over the 10 years that I've been here.

I will comment that a June 2 date to do a study.... We've just had our very first meeting on a study on disruptive technologies in Canada, one that it seemed as though everybody was on side with, and something that's probably important to folks in all of our ridings. We are limited in the time that we have left before we go for the summer and into an election, so—at least for myself, I can't speak for everybody on our side—while I certainly would be very willing to undertake a tourism study, unfortunately, we don't have the time. We just don't have the number of meetings scheduled that would allow us to do that. In fact, if we were to pass this motion, it would mean that, in order to have a report ready, we'd probably have all of three meetings before we'd go into reporting, the first of which would have to be scheduled for two days from now, and probably we wouldn't be able to find witnesses to appear in two days anyway.

Why would we give priority to a brand new study over the study that we're doing right now, which is very important? This highlights what is a very disorganized approach by the opposition parties to this kind of thing. I think that, as a committee, we have to conduct our business in an orderly fashion. We have a study before us that we all agreed to that has just started today, and we look forward to making sure that we hear from witnesses who have a lot to say on this issue.

Mr. Chair, in line with what is the established convention for dealing with committee business, I move that we go into camera.

**The Chair:** That's a dilatory motion. All those in favour?

(Motion agreed to)

**The Chair:** We'll pause now and go in camera.

[*Proceedings continue in camera*]