

Canada - France
Interparliamentary Association



Association interparlementaire
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**Report of the Canadian Parliamentary Delegation
respecting its participation at the 41st Annual Meeting**

Canada-France Interparliamentary Association

**Paris and Grenoble, France
April 25 – 29, 2014**

Report

Introduction

From April 24th to 29th 2014, six Canadian parliamentarians travelled to Grenoble and Paris to participate in the 41st Annual Meeting of the Canada–France Interparliamentary Association (CFIA). Senator Claudette Tardif led the delegation made up of Senator Michel Rivard and MPs Yvon Godin, Jacques Gourde, David McGuinty and Bernard Trottier. The delegation was accompanied by Line Gravel, Executive Secretary, and Lucie Lecomte, Library of Parliament Analyst.

The French delegation led by Deputy Catherine Coutelle was comprised of Deputies Marie-Noëlle Battistel, Michèle Bonneton, Pascale Got, Joëlle Huillier and Patrice Martin-Lalande, as well as Senators Karine Claireaux and Claudine Lepage. The delegation was accompanied by Emmanuelle Lavie and Delphine Bert, executive secretaries for the France–Canada Interparliamentary Association (FCIA) for the National Assembly and the Senate, respectively.

This report summarizes the two working sessions and various site visits related to the theme being studied, industrial innovation.

Thursday, 24 April 2014

Welcome Reception with the Parliamentarian for the Department of Isère

The Canadian and French delegates met at a welcome reception to mark the beginning of the 41st Annual Meeting of the CFIA. Ms. Coutelle welcomed all the delegates, saying it was nice to reconnect with each other again. She then introduced the Mayor of Grenoble, Mr. Éric Piolle. Member of the political party Europe Ecology – The Greens (EELV), a French ecologist party, Mr. Piolle recently took office after a municipal election in March 2014. Ms. Coutelle also mentioned the Olympic Games that took place in Grenoble in 1968, at which Canadian Nancy Greene, currently a senator representing British Columbia, won a gold medal in the Giant Slalom event. Ms. Coutelle ended her opening remarks by thanking Ms. Battistel, a pillar of the Association, for her hospitality and arranging the activities in the department of Isère.

Mr. Piolle said he was pleased that part of the Association's meeting was taking place in Grenoble. He noted with some humour that Grenoble is the hockey capital of France. He also pointed out that Grenoble is fertile ground for studying industrial innovation and energy challenges due to the many universities, research centres and innovative industries in Grenoble and the surrounding area.

Senator Tardif acknowledged Mayor Piolle and thanked Ms. Coutelle and Ms. Battistel effusively for their warm welcome. She confirmed that the Canadian delegates were delighted to be in Grenoble, a city brimming with vitality, and to have the chance to see the surrounding countryside, especially the French Alps, which reminded her of the Rocky Mountains.

Senator Tardif then spoke about the business that would be taken up over the course of the week on the theme of industrial innovation. The theme was chosen further to the *Joint Action Plan Canada–France 2013–2015 in the Fields of Science and Technology, Innovation and Entrepreneurship* that France and Canada signed in March 2013. She also confirmed that the city of Grenoble is a particularly interesting location for the meeting, given its emphasis on scientific research and high-tech expertise.

To close, Ms. Tardif emphasized that the Association's work is important, as it provides an opportunity to reflect on and promote the understanding of various issues France and Canada have in common, thereby reinforcing diplomacy and co-operation between our two countries.

Friday, 25 April 2014

Tour of MINATEC, Micro and Nanotechnology Innovation Campus

Presentation by Mr. Jean-Charles Guilbert, Director of MINATEC and Valorization Director for the Alternative Energies and Atomic Energy Commission

At the micro and nanotechnology innovation campus MINATEC, the delegates were welcomed by Mr. Jean-Charles Guilbert, Director of MINATEC and Valorization Director for the Alternative Energies and Atomic Energy Commission (CEA).

With an annual budget of €4.3 billion, the CEA has ten research centres in France, of which four are regional technology transfer platforms. In addition to the micro and nanotechnologies that dominate the Grenoble location, the CEA conducts research in areas such as defence, nuclear energy, low-carbon energies, information technology, robotics and health.

The research and innovation activities at the current MINATEC location in Grenoble began 70 years ago with research in the fields of defence and nuclear energy. Today, MINATEC employs 2,400 researchers, 1,200 students and 600 industry stakeholders and specialists in technology transfer.

The MINATEC teams file approximately 300 patent applications every year and author more than 1,600 scientific articles. MINATEC also contributes to creating approximately

six start-ups in the optronics, biotechnology, circuit design and movement capture fields. Overall, 169 start-ups have been established through CEA since 1972.

Mr. Guilbert explained that the term “valorization” is related to the concept of technology transfer, that is, the process of transferring technology from the laboratory to industry. This step is part of a “value chain” or an “innovation chain” that starts with academic research and ends with a product being brought to market.

Both in France and in Canada, decreasing the delays between research and its applications is a priority so as to be more competitive internationally. This optimization will require changes to business plans and science culture. Mr. Guilbert also mentioned the growing importance of industrial and intellectual property, especially acquiring patents to protect public investments and ensure they make money. The CEA filed 754 priority patent applications in 2013. He believes that it is essential to establish teams that will look after patent management at every step in the process, from filing patent applications to defending them.

Tour of the MINATEC Showroom

After a question and answer session and discussion with Mr. Guilbert, the delegates toured MINATEC’s showroom. It has working models that showcase a number of technologies and systems from MINATEC labs. Visitors can see how nanotechnology is used in various fields, such as communications, medicine, engineering, construction, sports and even fashion and the arts.

Presentation of the MINALOGIC Competitive Cluster

MINALOGIC, a global competitive cluster in the Grenoble Rhône-Alpes region, is a network of partners that specialize in miniaturized intelligent systems. It represents 225 members, of which 181 are companies (84% are SMEs or ETIs (intermediate-sized companies)), 12 research centres and universities, 15 territorial communities, 15 economic development organizations and other organizations, and 2 private investors. MINALOGIC’s three primary competitive clusters are in the digital, micro/nanoelectronics and software fields.

Mr. Michel Deflache, in charge of international relations at MINALOGIC, explained to the delegates that MINALOGIC works alongside innovators, industry stakeholders and investors to facilitate the technology transfer process. MINALOGIC also contributes to and stimulates synergy between these various groups to spark creativity and prevent compartmentalization.

Mr. Deflache presented a series of facts and statistics that clearly showed the importance of the innovation sector in Grenoble. The Rhône-Alpes region is one of France’s most

dynamic regions, second only to Paris-Ile-de-France. Its innovative economy has created 40,000 jobs, of which 25,000 are in the micro/nanoelectronics sector and 15,000 are in the information technology and software sector.

In terms of funding, 50% of MINALOGIC's financing is from public funds. Since it was established in 2005, MINALOGIC has carried out 231 projects worth €667 million in public subsidies (the overall research and development (R&D) budget envelope is approximately €1.7 billion).

Presentation on the Nanosafety Platform in Grenoble

Ms. Catherine Durand, head of the emerging risks research department at the Plate-forme NanoSécurité (Nanosafety Platform), said there are currently between 2,500 and 3,500 everyday objects that incorporate the use of nanotechnology in some way. Despite how common it is, the use of nanotechnology is a source of debate. Some people have ethical concerns about this cutting-edge technology, while others question the effects that nanotechnology could have on health and the environment.

According to Ms. Durand, it is difficult to assess the risk associated with the use of nanotechnology due to the absence of regulations that address nanotechnology specifically and the lack of scientific research on the dangers of being exposed to nanotechnology products.

That said, Europe and France have adopted certain rules about the traceability and labelling of products of nanotechnology, such as nanomaterials. Measures have also been taken in the innovative technologies sector to reassure the public and employees working with nanomaterials.

The most significant project is the Nanosafety Platform, established at the CEA Grenoble location in 2013. The purpose of this centre is to follow nanotechnology development and the use of nanomaterials to ensure that they are safe to use. As a result, a national expertise on nanosafety is developing.

Presentation About Innovation and Progress in History

Philosopher Nayla Farouki followed the morning's technical business with a presentation on the evolution of the concept of "progress" over time. We tend to think that the 20th century was particularly important in terms of progress because of the invention of the computer. However, Ms. Farouki maintains that this is a skewed view of history. Progress has always been constant.

Six characteristics ensure that a society progresses: seeking renewal, a confident vision, risk, a pioneer spirit, dynamism and curiosity. Politically, a society must show openness – that is, it must establish political institutions and allow freedom of speech, which is essential to spark creativity. A civilization has four main stages: foundation, stabilization, growth, and decline. Civilizations can be born and can die.

Ms. Farouki concluded her presentation by asking several rhetorical questions: Should we prevent the death of civilizations? Is innovation an indicator of vitality? What role should public research play?

Tour of MINATEC's High-Technology Building and Clean Rooms

Mr. Jean-Pierre Boncristiano told the delegation about MINATEC'S Bâtiment de Haute Technologie (BHT) (High-Technology Building). The BHT rents out cutting-edge infrastructure technologies such as clean rooms, laboratories and administrative offices to large industry stakeholders, SMEs/ETIs and start-ups. The purpose of the BHT is to optimize the transfer of technologies developed by its clients in the areas of microelectronics, energy, optics, pharmaceuticals, health care and automobiles. BHT also facilitates collaboration between these companies and Grenoble's public research laboratories.

The following figures show how large the buildings are: in total, MINATEC has 70,000 m² of space, of which 10,000 m² are clean rooms, and it also has 9 technological platforms. The BHT has 11,235 m² of space, of which 2,650 m² are cleanrooms.

After Mr. Boncristiano's presentation, the delegates had the opportunity to visit the cleanrooms. They are secure rooms with equipment and facilities in a controlled environment. These rooms are set up for ongoing monitoring with IT systems to maintain the optimum parameters needed to conduct research and experiments.

Meeting with Mr. Vincent Poher, from the Avalun Corporation

The meeting with Mr. Vincent Poher, a representative from the Avalun corporation, gave the delegates the opportunity to see *LabPad*, a portable device developed at BHT that can perform a number of biological analyses. The device is compatible with most computers, laptops, tablets and smartphones, which means the information captured with the device can be sent to the patient's doctor or health care team.

The delegates discussed Avalun's decision to produce the *LabPad* in France with Mr. Poher. In both France and Canada, there are corporations that send production of certain stages of the innovation chain abroad, or choose to send all production abroad to reduce costs. It is interesting to note that the BHT can ask a corporation that rents its

facilities to remain in France for a minimum of five years before moving elsewhere in the European zone.

Tour of the General Council of Isère and a Reception in Honour of Olympic Athletes from Isère

Tour of the General Council of Isère

At the General Council of Isère, the delegates were welcomed by Mr. Christian Pichoud, Vice-President in charge of economic development and tourism, and by Thierry Vignon, General Director of Services.

Mr. Pichoud and Mr. Vignon discussed the role played by the General Council of Isère in developing the innovation cluster in the region. The officials have a three-point strategy: building on their strengths, that is, microelectronics and software; focusing on innovation; and ensuring that the industry, research and education sectors work together and public stakeholders are well-positioned to act as catalysts.

It is a constant challenge to remain competitive in the field of innovation, as technology is constantly evolving, the future is full of unknowns and there is a high concentration of companies globally. Therefore, the General Council continues to invest in the Grenoble cluster, encouraging public stakeholders to invest in R&D for innovative technologies.

The Senator thanked Mr. Pichoud and Mr. Vignon, as well as the French group of the CFIA for this unforgettable day, rich in both experiences and discoveries. She also congratulated the officials from the General Council of Isère for their vision, leadership and political will.

Reception to Honour Olympic Athletes from Isère

The French and Canadian delegates then made their way to the main foyer of the General Council of Isère to attend a reception in honour of athletes from Isère who participated in the Sochi Olympic Games.

The Canadian delegation was publicly recognized and warmly welcomed by those in attendance.

Saturday, 26 April 2014

Tour of the Grand'Maison Hydroelectric Dam

The delegates visited the Grand'Maison hydroelectric dam for a technical presentation and a tour of the facilities. They were welcomed by the Mayor of the Vaujany district,

Mr. Yves Genevois. The Vaujany district is at an altitude of 720 m. The area's beauty has kindled a sizeable tourist industry, with a 4,000-bed capacity for visitors.

Mr. Frédéric Dazy, assistant director of the production unit for the Alpes region of Électricité de France (EDF) (Electricity of France); Mr. Stéphane Toletti, director of the hydraulic operation group Écrins Vercors; and Mr. Marc Moschetti, head of the Grand'Maison plant cluster, gave a presentation on the Romanche Gavet hydroelectric development project. In the Romanche Valley, the main source of France's hydroelectricity, there are currently six hydroelectric centres and five dams. Essentially, the goal of the Romanche Gavet hydroelectric development project is to eliminate the existing facilities and replace them with one centre fed by underground conduits (with the exception of the water intake structure and the water release structures, all the project's structures will be underground). The new centre will reduce environmental impact, restoring the site to its natural landscape, and will increase electricity production by 30%. Most of the existing structures will be demolished, but some structures with historical or heritage value will probably be preserved, restored and entrusted to a local association or community.

Hydroelectric resources are important for nearby district revenues. Over time, some districts have become considerably richer, while others that did not have access to the water resources were unable to experience the same economic benefits. This created an imbalance in the region. A discussion was begun to determine whether some form of equalization payments should be required to share the economic benefits of the new hydroelectric facility more fairly.

Mr. Dazy, Mr. Toletti and Mr. Moschetti also discussed the EDF's role, hydroelectric concessions, nuclear energy as the primary source of energy in France, European competition for hydroelectric resources, and the issue of unreliable electricity in France.

After the presentations, the delegates visited the Grand'Maison hydroelectric dam facilities, a Pumped Storage Power Station (PSPS). This system is of particular interest to countries with fewer water reserves. The centre has 2 plants with 12 groups, representing an available 1,800 MW in only 3 minutes. It is interesting to note that very few workers were on site, as the centre is controlled remotely from Lyon.

Tour of the Work Site for the Romanche Gavet Hydroelectric Development Project and the Maison Romanche Énergie

After leaving the Grand'Maison dam, the delegates went to the Livet belvedere to visit the Romanche Gavet hydroelectric development project work site, accompanied by Mr. Dazy. From the belvedere, it is possible to see the excavation work and construction

work for the future dam. En route, the delegates could see the existing structures that will be decommissioned.

The delegates then stopped at the Maison Romanche Énergie in Livet-et-Gavet, where there is an exhibit on the importance of the Romanche Gavet hydroelectric development project for the Romanche Valley, both in technical and socio-economic terms. The exhibit has a model of one of the two tunnel boring machines that will dig out the area required to build the underground facilities.

Meeting with Ms. Geneviève Fioraso, State Secretary for Higher Education and Research

Upon their return to Grenoble, the delegates met with Ms. Geneviève Fioraso, State Secretary for higher education and research. She spoke about the city of Grenoble and its efforts over the last ten years to become a “green city.” She mentioned that the municipality wants to build 1,000 family dwellings, of which 30% will be social housing. This project is part of an overarching effort to build a living environment around MINATEC.

The Minister also spoke about various other subjects, including the shift away from nuclear energy in France, the CEA’s role, international partnerships and France’s capacity to retain both leading experts and start-ups in order to ensure a return on public investment.

Ms. Fioraso also discussed the challenge of optimizing the technology transfer process and protecting the intellectual property of French researchers. That is why France created the Carnot Institutes network, which aims to promote partnership research for businesses and to develop technology transfer.

She believes that France has trouble expanding its innovative companies and, compared with Germany, France does not have enough mid-sized businesses. The Minister also believes that sending certain stages of the innovation chain abroad harms the French industry. There is a tendency to want to keep only the “respected” stages, when in fact all the stages must be kept in order to stimulate a variety of industries.

The delegates and the Minister also discussed the importance of internships in SMEs for students. These internships are extremely valuable, because that is where students receive technical training and learn about management and marketing, two administrative aspects important to valorizing research. In France, the *Loi sur les stages* provides that students must participate in an internship beginning at the undergraduate level to allow students to gain a better understanding of the direction

they want to take. After three months, interns are paid at minimum wage, as it is not a work contract. The internships are a key part of the program of study.

The Minister closed by saying that, in terms of R&D and innovation, France is strengthening its relationship with all of Canada. Meetings have taken place recently about nurse practitioners to discuss best practices.

Sunday, 27 April 2014

First Working Session on Industrial Innovation Policies

Public Support of Research and Innovation in Canada

Mr. Jacques Gourde opened the first working session with a presentation on public support of research and innovation in Canada. He confirmed that, for several years now, Canada's R&D performance has been below the Organisation for Economic Co-operation and Development (OECD) average. He then mentioned measures taken by previous governments to address the productivity, innovation and R&D gaps.

Mr. Gourde specified that the efforts of the current government began in 2006 with the launch of an economic plan called *Advantage Canada*. In 2007, the Government of Canada launched a new strategic plan for science and technology and established the Science, Technology and Innovation Council (STIC), an advisory body that reports on Canada's science and technology performance. Canada is ranked first among the G7 countries in terms of investing in post-secondary research. Furthermore, the most recent federal budget announced the creation of a research fund called the *Canada First Research Excellence Fund*.

Despite these investments, Mr. Gourde emphasized that there are still some problems. A study carried out by the Council of Canadian Academies showed that there is room for improvement in the technology transfer process. The low growth rate of patent applications and licence agreements by Canadian post-secondary institutions indicates that the technology transfer process should be reviewed.

Mr. Gourde concluded by saying that the Government of Canada is taking measures to maintain Canada's competitive capacity in economic terms. The end goal of all these measures is to improve Canada's overall performance in innovation and to increase its economic productivity and competitiveness.

Public Support of Research and Innovation in France

Ms. Marie-Noëlle Battistel began by saying that France sees supporting industrial innovation as a priority. Public support is given in two main ways: direct public support, through assistance granted to innovative companies and projects, and indirect public support, through a tax incentives policy.

Direct public support has various outlets, including the Investments for the Programme d'investissements d'avenir (PIA) (Future Program). Its funding amounts to €35 billion, from a large state loan. The PIA funds structural investments, particularly in terms of research valorization. There is also the Public Investment Bank, which funds innovative projects ranging from R&D support to capital contributions for innovative companies. The Bank steps in during the most risky phases, when private funding is insufficient, or when the risk must be shared with other funding partners.

Tax incentives are widely used to encourage research and innovation. There is a research tax credit whose purpose is to promote private research so it contributes more to overall development for R&D spending, to bring them up to 3% of the GDP. There is also a tax credit for innovation, which provides the equivalent of a 20% return on amounts spent on innovation, up to a maximum of €400,000 in eligible expenses. Lastly, there is the start-up company status, a label that gives the company access to exemptions from social and employer contributions for highly qualified jobs such as engineers, researchers and R&D project managers. Start-ups also benefit from tax advantages: a 100% exemption from corporate income tax for one year, followed by a 50% exemption for one year.

Partnership Between Research and Industry in Canada

Mr. David McGuinty gave an overview of partnerships between research and industry in Canada, especially as regards technology and knowledge transfer. He confirmed that Canada has built a solid reputation for innovation and achievement. However, a report from the Council of Canadian Academies on the state of industrial R&D in Canada, published in 2013, confirmed that the technology transfer process is one of five barriers to translating science and technology knowledge into innovation and wealth creation. Mr. McGuinty said that this situation is rather disappointing, given the many investments the federal government has made since the mid-2000s to encourage marketing.

The Council of Canadian Academies also revealed that financial support has caused the momentum of Canadian companies to slow. New companies receive relatively little in the way of public funding to implement and market technologies. Unlike other countries, in Canada the largest form of public support for R&D is tax credits, not direct investment.

That said, certain measures have been taken to address this situation. The current government is continuing to fund the activities of Sustainable Development Technology Canada (SDTC). SDTC is a non-profit foundation that finances and supports the development and demonstration of clean technologies. It was established in 2001 by the Liberal government. To date, SDTC has participated in 246 projects, allocating investments of \$598 million. The three areas that receive the most funding are energy, energy exploration and production, and power generation.

Through the *SD Tech Fund*, SDTC supports the last phase of development and pre-marketing demonstrations for clean energies, steps in the innovation chain that are traditionally under-funded. SDTC also helps technology developers reinforce their entrepreneurial and investment analysis skills.

Mr. McGuinty also mentioned the federal government's contributions to the Research Partnerships Programs (RPPs), part of the Natural Sciences and Engineering Research Council (NSERC), and the Centres of Excellence for Commercialization and Research (CECR) program.

Canada must achieve better results in the area of technology and knowledge transfer. To do so, collaboration with its international partners is key. In fact, the *Joint Action Plan Canada–France 2013–2015 in the Fields of Science and Technology, Innovation and Entrepreneurship* that was signed in March 2013 aims to reinforce partnerships established by industry, government and universities in order to increase mobility for students and researchers. It also aims to encourage innovation through research and through the marketing of new technologies. Mr. McGuinty concluded by saying he hoped that the new plan will increase technology and knowledge transfer between France and Canada.

Partnership Between Research and Industry in France

Ms. Karine Claireaux said that the transfer policy for public research has three components: technology transfer (or valorization of research); skills or persons transfer (researcher mobility) and knowledge transfer (or partnership research).

Senator Claireaux listed the various initiatives that encourage transfers. For example, there are calls for partnership projects (or collaborative research); tax incentives for innovative companies that form partnerships with public institutions; the implementation of networks that bring together research institutes, private companies and universities to form pôles de compétitivité (competitiveness clusters); structures that safeguard or encourage partnership research such as the Carnot institutes; assistance for Ph.D. students in companies; and Sociétés d'accélération du transfert de technologie (SATTs) (Corporations for Accelerating Technology Transfer).

Despite these measures, there are gaps in the current policy. A report published in February 2013 showed that partnership research is based on a complicated system without any clear oversight or assessment process. The report also identified the absence of an overall strategy and global program dedicated to mobility and criticized the efficiency of the assessment mechanisms.

To address the situation, the government proposed implementing a new transfer policy for research that has six facets: accompanying stakeholders in public research through their transfer process; encouraging a culture of transfer and innovation within the public research field; defining a new management framework for intellectual property by public research; supporting transfers to innovative SMEs and ETIs; supporting transfers by creating companies; and reinforcing research on the innovation economy to support public research.

After a time of questions and comments, the parliamentarians left Grenoble to pursue their work in Paris.

Monday, 28 April 2014

Second Working Session on the Theme of Industrial Innovation

**Presentation by Mr. Martin-Lalande on the Bill Authorizing
the Approval of the *Agreement Between the Government of Canada
and the Government of the French Republic Concerning Youth Exchanges***

The second working session began with a presentation by Mr. Patrice Martin-Lalande about the *Agreement Concerning Youth Exchanges between Canada and France* that was signed in March 2013 when Mr. Jean-Marc Ayrault visited Ottawa.

The Agreement is further to an existing program. It contains new provisions that will reduce the administrative requirements and allow young Canadians to travel, work or study in France for a longer period of time. In fact, young people will be able to travel and work in France for up to 24 months. Those who participate in the initiative in the international co-op internship category can add up to 12 months to their stay.

Mr. Martin-Lalande explained that on 5 May 2014, the bill authorizing the approval of the Agreement would be presented at first reading in the National Assembly. As the designated rapporteur for the bill, Mr. Martin-Lalande wished to take advantage of the presence of the Canadian parliamentarians to discuss the bill. If the bill is passed by the National Assembly, it will be sent to the French Senate for a discussion at first reading open to the public and will be put to a vote on 15 May. It is worth noting that the French government has committed to an accelerated process for this bill. (Update: The bill was

in fact adopted without amendment at first reading in the French Senate on 15 May 2014.)

As for Canada, it will not engage in a legislative process to approve the proposed changes, as there is already an existing agreement. Therefore, Canada is waiting for France to pass its bill so the Agreement can be ratified.

Mr. Martin-Lalande explained that, since 2003, 80,000 French nationals and 20,000 Canadians have taken part in exchanges through the *Agreement Concerning Youth Exchanges between Canada and France*. Quotas are set at 14,000 participants per year, on both the French side and the Canadian side. For linguistic and cultural reasons, 75% of French nationals who participate in a program through the Mobility Agreement stay in Quebec.

The delegates discussed various aspects of the issue, especially the reasons for which the program is more popular for French residents. It would appear that the unemployment rate in France (18%–20%) and the scarcity and high cost of housing are factors that prevent young Canadians from going to France. The parliamentarians also noted that certain other factors exist that prevent young people from participating, such as having to purchase additional insurance (health insurance, disability insurance, etc.).

Presentation on Nanotechnology in Canada

Mr. Bernard Trottier gave an overview of nanotechnology in Canada.

In Canada, more than 100 companies are identified in the Directory of Canadian Companies as being users or producers of nanotechnologies. However, R&D nanotechnology activities are mainly conducted by the federal and provincial governments and by universities and national research institutes. At the federal level, the National Research Council has nine institutes conducting research in the field of nanotechnology. The major centres for nanotechnology research and industry are in Alberta, British Columbia, Ontario and Quebec.

Product marketing remains a major challenge. One of the biggest obstacles to technology transfer is the lack of capital for start-up funding in the sciences. Without this capital, many innovative discoveries remain at the research laboratory stage and are never brought to market. Start-up capital can be used to fund the first stage of the marketing process, such as patent applications, proofs of concept, product development and bringing the product to market.

Having understood the importance of this type of funding, the Government of Canada assists many researchers with marketing each year through various agencies, such as Business Development Bank of Canada (BDC) Venture Capital. For example, it allocated

\$135 million in new capital for direct investment in venture capital for innovative companies in the health care industry in 2013.

Mr. Trottier concluded that nanotechnology development raises some questions, particularly as regards regulations and safety.

Presentation on Nanotechnology in France

Ms. Joëlle Huillier explained that, in Europe, France is second only to Germany in terms of investments in nanotechnology development. Worldwide, France is ranked fifth in terms of the number of publications in the nanosciences field.

Nanotechnology is an economic issue around the world. Looking forward to 2015, 15% of global manufacturing will involve devices or materials using technological advancements resulting from nanotechnology. In 2008, the estimated value of nanotechnology worldwide was \$500 billion, and that amount could double by 2015. Furthermore, nanotechnology development could generate direct employment for more than 2 million people.

Ms. Huillier then described the many investments made by the French government and the research structure that had been put in place. Like Mr. Trottier, she outlined the difficulties that French researchers experience in converting their research into products and value. Two thirds of nanotechnology patents are held by countries in Asia, far outnumbering the United States and Europe. Germany holds two thirds of European patents, ahead of France and the United Kingdom. More than 70% of patents are filed by industry, and most of these are multinational companies.

Ms. Huillier concluded her presentation by mentioning the debates surrounding nanotechnology, both in terms of ethics and in terms of health and safety. She also gave an overview of the policies and other measures that have been taken in France to guide the development of this technology.

Following the presentations was a time of questions and comments on the various aspects of nanotechnology development and the industry in general.

Planning Meeting

Immediately after the second working session, the delegates held a planning meeting to plan future FCIA activities. It is important to note that the decisions made at this meeting must be approved by the Executive Committees of the Canadian and French groups. In general terms, it was decided that the following meeting would take place in Toronto in October 2014 on the theme of industrial innovation. A new theme, the cost-effectiveness of public spending, would also be introduced.

Meeting Between the Canadian Delegation and His Excellency Mr. Lawrence Cannon, Ambassador of Canada to France

Immediately following the planning meeting, the Canadian delegates travelled to the residence of HE Mr. Lawrence Cannon, Ambassador of Canada to France, to discuss the political situation in France and bilateral relations between France and Canada. Senator Serge Joyal, travelling in Paris, joined the Canadian delegation. Ms. Caroline Charrette, Minister-Advisor for Trade and Economic Affairs, and Senior Trade Commissioner; Mr. Pierre Guimond, Minister-Advisor for Political Affairs; and Mr. Marc Berthiaume, Political Advisor to the Canadian Embassy, were also there.

Mr. Cannon addressed various aspects of French politics, such as the results of the municipal elections held in March 2014 and their impact on François Hollande's government. They also discussed the last cabinet shuffle and the appointment of a new prime minister, Manuel Valls. The Ambassador also mentioned that France has been confirmed as the host country for the 21st Climate Change Conference in 2015, "Paris Climat 2015." This conference is seen as a key activity for the Hollande government as it moves toward the legislative and presidential elections in 2017. To close, the Ambassador spoke about France's position on the conflict between Russia and Ukraine.

In terms of relations between the two countries, the Ambassador emphasized that bilateral relations were being strengthened. In fact, the visit of former Prime Minister Jean-Marc Ayrault to Ottawa in March 2013 led to a series of measures aiming to strengthen the ties of co-operation between France and Canada in various areas.

In terms of trade and investment, Canada has presented itself to France as a gateway to the Americas, especially under the *Canada–EU Comprehensive Economic Trade Agreement* (CETA). Through trade delegates and lobbyists, Canada is working hard to promote the CETA so that Canadian and French corporations, especially from the regions, have the tools they need to benefit from the CETA.

In terms of innovation, France is redefining its industrial policy. It is turning toward innovative technologies because its manufacturing sector is in decline. France and Canada have begun a dialogue about enhanced co-operation in this area, especially as regards starting up and supporting young innovative companies.

From a social perspective, the Government of Canada takes various measures to encourage French immigration, especially to francophone minority communities. In fact, the Government of Canada has a target for the number of francophone immigrants it wishes to welcome. Among other initiatives, it supports the Destination Canada program, a job fair held by Citizenship and Immigration Canada in consultation with the

Department of Foreign Affairs, Trade and Development and the Embassy of Canada to France. The objective of this program is to connect Canadian employers with potential economic immigrants from France.

The commemorative ceremonies to recognize 20th-century conflicts will be an opportunity for both countries to highlight their common history.

Between 2014 and 2020, France and Canada will hold a number of ceremonies to commemorate 20th-century conflicts, such as the 100th anniversary of the declaration of World War I and the 75th anniversary of World War II. In fact, the two countries signed in 2013 a *Declaration to co-operate on commemorating Canadian and French involvement in 20th century conflicts*.

The parliamentary symposium on the participation of French Canadians in World War I that Senator Joyal is organizing has political significance. On the one hand, the symposium will remind the French public of the significance of the Canadians who participated, and on the other it will remind Canadians that our participation extended beyond Vimy Ridge. The symposium will focus on the participation of French Canadians in this conflict, particularly Acadians and francophones from minority communities. It will cast light on this important event in history which, until now, has been neglected by French historians. Senator Joyal hopes that the conference papers will be used as reference material. It will be the only symposium organized by parliamentarians, and the French government is already aware that it will be taking place.

Guided Tour of the “Josephine” Exhibit at the Musée du Luxembourg

At the end of the day, the delegates went to the Musée du Luxembourg to visit the “Josephine” exhibit, accompanied by Ms. Céline Meunier, Chief Curator. This exhibition brings together personal mementos and works of art, giving visitors a glimpse into Empress Josephine’s private world and an opportunity to discover a modern woman with an unusual destiny. It shows her Creole origins and the uncertainty she experienced during the French Revolution, her time with Napoleon, her role as a sovereign and her withdrawal from public life after the imperial couple divorced.

To form this exhibit, the curators called on art collectors from around the world. Thanks to Senator Serge Joyal’s efforts, the *Portrait of Bonaparte as President of the Cisalpine Republic*, painted by Andréa Appiani in around 1800, was on display. It is the first time in more than 200 years that this piece has returned to France.

Closing Dinner of the 41st Annual Meeting at the French Senate

Senator Claudine Lepage, Chair of the France–Canada Friendship Group in the Senate, reviewed the past few days spent in Grenoble and Paris. She thanked Senator Joyal for organizing the visit to the Josephine exhibit and congratulated him for the publication of

his book, *Le mythe de Napoléon au Canada français*, which provides a perspective on Napoleon from a Canadian point of view.

Senator Tardif mentioned that the visit to the exhibit and the publication of Senator Joyal's book are important reminders of the common heritage that links France and Canada. *Le Mythe de Napoléon au Canada français* is an engaging read and the result of careful thought. She also mentioned that the Senator is currently working to organize a parliamentary symposium to commemorate the 100th anniversary of the declaration of World War I in 2014. She closed by saying that this symposium will certainly be a major contributor to strengthening the ties of friendship that unite our two countries.

Senator Joyal thanked his colleagues for their support. He then gave an overview of Napoleon's achievements from the perspective of the collective imagination of French Canadians. At the beginning, the French Canadian elite fought the idea of Napoleon because they thought he represented values even more radical than those expressed during the French Revolution. Their interpretation of this historical figure was transformed as soon as the British began to feed the myth of Napoleon in order to celebrate their definitive victory over the French Empire. From that point on, Napoleon was represented as a figure of resistance to the British Empire. The fundamental view of Napoleon by French Canadians therefore is that he was a man who, thanks to his determination, courage and strategic skills, succeeded in winning many battles. The Senator confirmed that, in our societies, myths are powerful, because they transmit culture and values. They spark people's imaginations. The figure of Napoleon is still so present in our societies today because he is the archetype of a determined man who shaped his destiny with strength and courage.

To close, Senator Tardif thanked the French group, and Ms. Catherine Coutelle and Ms. Battistel in particular, for their warm welcome, their passion and the energy they put into their work, which made this mission such a success.

Conclusion

In conclusion, the 41st Annual Meeting was a tremendous success. The parliamentarians spoke about the important work that had been accomplished on the theme of industrial innovation, both during the site visits and the more theoretical working meetings. The delegates also underlined the importance of parliamentary diplomacy, and the friendly nature of the relationships that have been established between them. Warm thanks were expressed to French and Canadian parliamentary officials for their support of the Association's activities, which contributed to making the meeting such a success.

Respectfully submitted,

Senator Claudette Tardif
Chair, Canada-France
Interparliamentary Association

Travel Costs

ASSOCIATION	Canada-France Interparliamentary Association
ACTIVITY	41st Annual Meeting
DESTINATION	Paris and Grenoble, France
DATES	April 25 to 29, 2014
DELEGATION	
SENATE	Sen. Claudette Tardif Sen. Michel Rivard
HOUSE OF COMMONS	Jacques Gourde Bernard Trottier Yvon Godin David McGuinty
STAFF	Ms. Line Gravel, Executive Secretary Ms. Lucie Lecomte, Analyst
TRANSPORTATION	\$ 37,213.81
ACCOMMODATION	\$12,179.33
HOSPITALITY	\$ 1,036.38
PER DIEMS	\$ 2,707.38
OFFICIAL GIFTS	\$ 864.80
MISCELLANEOUS / REGISTRATION FEES	\$ 0
TOTAL	\$ 54,001.70