



Canada Foundation for Innovation
Fondation canadienne pour l'innovation

Brief to the House of Commons Standing Committee on Finance

Dr. Gilles Patry, President and CEO

August 2010

Role of the Canada Foundation for Innovation (CFI)

Created by the Government of Canada in 1997 as an independent corporation, the CFI's mission is to provide the infrastructure necessary to strengthen the capacity of Canadian universities, colleges, research hospitals and non-profit research institutions to carry out world-class research and technology development.

The CFI funds up to 40 percent of a project's research infrastructure costs. Institutions, in partnership with public, private and non-profit sector organizations, must secure the remaining 60%. Since its creation, the CFI has committed over \$5.3 billion in support of more than 6,800 projects at 130 research institutions in 65 municipalities across Canada. This has resulted in an overall investment of over \$12 billion from federal and provincial governments, universities and charitable organizations and the private sector.

As a result of these investments, established world-class and promising young researchers are being attracted to Canadian institutions, graduate students are being trained in leading-edge facilities, the research itself is being transformed by networking and collaboration, and research and technology clusters are emerging. In short, the Canadian capacity for research and development (R&D) is being dramatically enhanced in areas of strategic importance.

Research infrastructure includes large and small-scale research facilities, scientific laboratories and equipment, advanced computing facilities and networking systems. This leading-edged infrastructure helps institutions attract and retain researchers, carry out world-class research and technology development in all disciplines, and provide an environment for the training of people in the latest technology. The CFI works in collaboration with agencies and organizations at the federal, provincial and local levels to ensure that the research conducted with the CFI's support benefits all Canadians.

All CFI investments are guided by the strategic research priorities of individual institutions. This approach has allowed numerous research programs to achieve world-class status, while providing institutions with the resources to recruit and retain outstanding new faculty members and students, as well as foster regional innovation clusters that bring together academia and industry. This approach has also resulted in over 85 percent of CFI funding being devoted to the strategic priority areas identified in the Government of Canada's S&T Strategy — environmental science and technologies, natural resources and energy, health and related life sciences and technologies, and information and communications technologies.

The strategic focus adopted by the CFI provides a strong base upon which to support the goals of the S&T Strategy. In fulfilling its mandate, the CFI continues to implement the Strategy's four core principles: promoting world-class excellence; focusing on priority areas important to Canadians; fostering partnerships; and enhancing accountability.

The 2009 Federal Budget reinforced the CFI's position as an essential element of the country's S&T capacity by providing \$750 million in funding for future CFI activities. Of this amount, \$150 million was allocated through competitions held in 2009. The remaining \$600 million will be allocated through competitions in 2010-11 and beyond.

Canada has developed a global reputation as a place where outstanding research and training is being conducted. Although this reputation is well deserved, it has not happened by chance. In fact, it is the result of a planned transformation that has taken place across Canada and that has empowered our country's researchers and research institutions to reach for the highest levels of excellence, to actively participate in the knowledge-based economy, and to compete with the best from around the world. Proof that its research investments are paying off can be seen in the calibre of talent this country is able to attract, such as the new group of Canada Excellence Research Chairs, and in the groundbreaking discoveries being made that have the power to improve our quality of life in ways we can't yet imagine.

The CFI's Strategic Approach

Canada's continuing social and economic prosperity in the 21st century is increasingly dependent on our competitiveness and connectedness in a global knowledge economy.

Key to this competitiveness and connectedness is our ability to generate new knowledge and understanding, and to translate this knowledge into new products, services, processes, and policies for the well-being of Canadians for generations to come. Of equal importance is the training of the highly qualified personnel who are critical to the transfer of knowledge from the academic to the private and public sectors.

In accordance with its funding agreement with the Government of Canada, the CFI underwent an extensive Overall Performance Evaluation and Value-for-Money Audit (OPEA) by an independent third party, together with an assessment by a blue-ribbon International Review Panel. Among its many conclusions, the Panel notes that CFI has been "instrumental in growing Canada's capacity for world-leading research," and that it has "demonstrated remarkable success in helping Canada attract, retain, and develop research talent." The OPEA of the CFI was conducted by KPMG and the result shows that the CFI model, and its role as an independent public policy instrument funded by the Government of Canada, has proven exceptionally effective in building the capacity for both world-class research and training of the next generation of knowledge professionals. This sustained investment has made Canada a major player on the world stage and earned the CFI recognition as the most successful research funding organization of its kind in the world.

The world of science is also undergoing massive transformations as new breakthroughs are made in such areas as materials science, synthetic biology, renewable energy technologies and our understanding of human health. Canadian citizens and businesses can best profit from these advances in technology and new knowledge by being active participants in the research that drives them. The research support system created by the Government of Canada, of which the CFI is a central component, has allowed this to happen, but if we wish to continue to compete at these levels, we will need to both maintain leading-edge science facilities and provide the resources necessary to explore new areas, build new collaborations and ensure that research knowledge leads to the creation of new products and services. The funds allocated to the CFI in Budget 2009 will help to maintain Canada's capacity for world-class research and technology development, and help our research intensive universities attract and retain top performers. We look forward to the continuing challenge of delivering our Programs at a world-class level.

Based on its core mandate and guided by our Strategic Plan for use of the \$600M Federal Budget Allocation -- developed in consultation with our institutional clients and the Government of Canada -- the CFI has developed four main research infrastructure funding streams:

- *The Leaders Opportunity Fund* that supports the laboratories and equipment needed by research institutions to attract and retain top research talent;
- *The Leading Edge and New Initiative Funds* that provide the resources necessary for both maintaining leading-edge research capacity and exploring new directions in knowledge creation and technology development;
- *Strategic Initiatives and Collaborations*, including support for college-based applied research, the development of multi-sectoral, multi-disciplinary research platforms and joint funding programs with other research agencies that streamline application process and focus activities on areas of national priority; and,
- Operational funding and oversight of *Major Science Initiatives*, which helps to maintain the cutting-edge research capacity of large-scale, national research facilities.

In addition, through the *Infrastructure Operating Fund*, the CFI provides award holders with supplementary funds to ensure that the infrastructure supported through the main funding streams is effectively and efficiently brought on line and made operational.

Going Forward

Thanks to the government's investments through the CFI, state-of-the-art infrastructure is helping to support the development of world-class expertise in communities across the country, and helping to attract and retain the best research minds in the world. To illustrate those transformative impacts, the CFI utilizes its online magazine www.innovationcanada.ca which enables readers to gain a better understanding of the research landscape in Canada.

Cutting-edge science and technology development requires strategic thinking, effective policies and an environment that stimulates creativity and innovation. As the Science, Technology and Innovation Council argued in its 2008 State of the Nation Report, our ability to successfully address issues that are important to Canadians depends upon both a strong science base and a capacity to develop innovative products and services. With the support of the Government of Canada, the CFI will continue to provide the up-to-date, complex research infrastructure that is crucial to building world-class research and innovation capacity. This will, in turn, help create the new industries of the future and meet the social, economic and environmental challenges facing Canadians today.

In 2010-11, the CFI will continue to deliver core programs aimed at attracting and retaining top research talent from around the world, positioning Canada at the leading edge of scientific developments, and promoting private sector innovation. As articulated in the Government of Canada's S&T Strategy, the goal is to continue building a knowledge advantage based on the most advanced research, a people advantage

based on training and skills development, and an entrepreneurial advantage based on innovation. The CFI will require additional investments from the government to help maintain the momentum of its core programs and the impacts they help deliver.

As well, the CFI will continue to foster productive relationships with other federal research granting agencies in order to improve research funding processes and focus Canada's research strengths on issues of national importance. At the moment, the CFI is exploring the possibilities for collaborative initiatives in areas such as:

- A cancer stem cell initiative with Genome Canada that would build on Canada's world-leading expertise in stem cell research and create synergies through the Canada-California Strategic Research Partnership;
- A collaborative initiative with CIHR to support research that explores how new information and communications technologies can improve, and reduce the costs of, health care delivery;
- A joint funding program with SSHRC that would stimulate research into the development of new media and how it can contribute to the growth of our digital economy;
- A multi-agency initiative, spearheaded by NSERC and Natural Resource Canada that would support solutions-oriented research on clean energy and its applications in every-day life.

Implementing these initiatives, however, will require substantial new investments by the Government of Canada to enable the CFI to support the infrastructure necessary for cutting-edge research and technology development.

Conclusion

Canada's research agenda is rapidly focussing on national challenges and opportunities as institutions identify priority areas of research for the future and invest in projects that are producing benefits for Canadians. This means a better quality of life due to improved drug treatments and therapies; technology that creates new industries; agriculture techniques that produce safer, more nutritious food; cleaner water, air, and soil; and renewable, cost-effective sources of energy.

This transformation of the research landscape, however, would not be possible without two essential elements: (i) a pan-Canadian competitive process that selects only the very best infrastructure projects according to international standards of excellence and (ii) partnerships.

The CFI operates in conjunction with other federal and provincial granting agencies that support institutions and their researchers. No single organization, acting alone, can make such a positive impact on Canada's research community as the combined efforts of our federal and provincial research support programs and agencies. The CFI infrastructure support complements the investments provided through the Canada Research Chairs Program, graduate student support programs, the federal granting

agencies, the Networks of Centres of Excellence Program, and the provision of the indirect costs of federally supported research.

With institutions in a position to attract the best researchers and graduate students, and acquire state-of-the-art equipment, researchers are competing more effectively for support from the federal granting agencies—the Canadian Institutes of Health Research, the Natural Sciences and Engineering Research Council, and the Social Sciences and Humanities Research Council, as well as from strategically targeted organizations such as Genome Canada. This increased competition fosters excellence and ensures that we remain at the forefront of knowledge creation and technology development. In cooperation with provincial and municipal governments, as well as the private sector, Canada's colleges, universities and research hospitals are all working to implement Canada's S&T Strategy. Along the way, they are helping to create a more innovative society, achieving a reputation for excellence and opportunity, and ensuring a brighter future for generations of Canadians.

If we are to continue to compete at international levels of excellence, and develop the capacity for innovation that today's advanced economies require, sustained investment in research and research infrastructure will be necessary. The CFI's investments are generating benefits to Canada in terms of the training of highly qualified personnel on state-of-the-art equipment, the commercialization of research results, the translation of results in medical practice, as well as improvements to the environment and to the quality of life in Canada. The CFI stands ready to continue meeting the challenges in the years to come and to play its part in delivering social, economic, environmental and health benefits to Canadians