

**Delivering Research Excellence and Innovation:  
The Networks of Centres of Excellence  
Year in Review 2008-2009**

## Foreword from the Chair

---

Welcome to *Delivering Research Excellence and Innovation: The Networks of Centres of Excellence (NCE) Year in Review 2008–2009*.

For more than 20 years, the NCE Programs have evolved to mobilize Canada's best research talent in the academic, private, and public sectors, and to apply it to the task of developing the economy and improving the quality of life of Canadians.

When the Government of Canada released its science and technology (S&T) strategy, *Mobilizing Science and Technology to Canada's Advantage* in 2007, it praised the NCE Program and model for bringing university and industry researchers together to advance S&T developments with practical applications. To further sharpen Canada's competitive edge and generate even greater commercial outcomes from the NCE, the federal government entrusted the NCE with the creation and management of three new programs: the Centres of Excellence for Commercialization and Research (CECR); the Business-Led Networks of Centres of Excellence (BL-NCE); and the Industrial Research and Development (R&D) Internship program. Despite the economic downturn, the CECRs and BL-NCEs have mobilized their industrial partners, including a multi-million dollar partnership in the health and life sciences field.

Two years later, the NCE has delivered on all three of the challenges put forward by the S&T Strategy: the 11 inaugural CECRs, which were announced in early 2008, have been complemented by six new CECRs in the information and communications technologies, health, environmental science and technologies, and natural resources and energy domains; four new BL-NCEs were established in early 2009, focusing on innovative tools for drug discovery, nanotechnology-enhanced forestry products, next-generation aviation technologies, and sustainability challenges relating to hydrocarbon production; and more than 600 internships were awarded in the last fiscal year. These internships, established through the IRDI program, are aimed at giving graduate students and postdoctoral fellows the chance to apply their talent and know-how in a business setting. The NCE also continues to fund 18 networks, all of which have enhanced Canada's stature on the world research and innovation stage.

I am confident that the NCE accomplishments over the last 12 months, and the addition of the new programs will enhance the NCE tradition of excellence in research and knowledge translation and deliver on the expectations for increased impacts.

The NCE programs could not succeed without the support and participation we receive from Canada's universities, businesses, not-for-profit organizations, and other levels of government. I would also like to recognize the members of the expert panels, and of the recently established Private Sector Advisory Board. Their time and expertise contribute greatly to ensuring the programs meet the required level of world-class excellence. We are sincerely grateful for the Government's continued support in our pursuit of delivering world-class research, excellence and innovation.

**Suzanne Fortier, Ph D.**

**Chair, NCE Steering Committee**

## Table of Contents

---

Foreword from the Chair .....	2
Table of Contents.....	3
The NCE Programs: Building Research Excellence and Innovation.....	4
Networks of Centres of Excellence Program.....	7
Centres of Excellence for Commercialization and Research.....	12
Business-Led Networks of Centres of Excellence .....	14
Industrial Research and Development Internships.....	15
Annex A: NCE Accomplishments for 2008–2009 .....	16
Annex B: CECR Accomplishments in 2008–2009 .....	26
Annex C: Approved Business-Led Networks in 2009 .....	32

## The NCE Programs: Building Research Excellence and Innovation

---

Canadian researchers in government, academia, and the private sector deliver results at international levels of excellence in a broad range of fields integral to Canada's long-term success. Building on Canada's engineering, science, health and social science successes is more important than ever in today's global economy. As Canada and other countries emerge from the current global recession, our competitiveness will depend not only on developing new discoveries, but also on our ability to transform these discoveries into products, services, and processes that develop the Canadian economy and improve the quality of life of Canadians.

With the aim of mobilizing Canada's best research and development talent to build a more advanced, healthy, competitive, and prosperous Canada, the NCE Secretariat manages four national programs: Networks of Centres of Excellence (NCE); Centres of Excellence for Commercialization and Research (CECR); Business-Led Networks of Centres of Excellence (BL-NCE); and Industrial Research and Development Internships (IRDI).

By funding research partnerships between academia, industry, government, and not-for-profit organizations, NCE programs turn Canadian research and entrepreneurial talent into economic and social benefits for all Canadians. Aligned with the federal science and technology (S&T) strategy, NCE initiatives engage thousands of talented researchers, attract and train tomorrow's scientific and business leaders, and ensure that Canada remains competitive in the global economy.

To accomplish its goals, the NCE:

- Runs funding competitions on a cyclical basis for its four programs, using the established, independent peer review process;
- Monitors the progress and achievements of funded networks and centres by setting clear targets and goals to ensure they continue to meet the program's high standards and represent value to the Canadian taxpayer; and
- Maintains close relationships with existing and potential partners in the academic, industry, public, and not-for-profit sectors.

### *NCE Mission Statement*

*To mobilize Canada's research talent in the academic, private, and public sectors, and apply it to the task of developing the economy and improving the quality of life of Canadians.*

### **Delivering on Canada's S&T Priorities**

When the Government of Canada released its science and technology (S&T) strategy, *Mobilizing Science and Technology to Canada's Advantage* in 2007, it set out a multi-year policy framework to improve Canada's long-term competitiveness and quality of life by fostering three interrelated S&T-based advantages. The Strategy encourages an *Entrepreneurial Advantage* to strengthen private-sector commitment to R&D and innovation vital to productivity and competitiveness, a *Knowledge Advantage* to ensure Canadian universities and colleges sustain their world-class research excellence, and a *People Advantage* so that Canada has access to the highly skilled researchers and innovators it needs.<sup>1</sup>

### **The NCE Advantage**

The NCE plays a pivotal role in the federal government's vision for a more competitive and sustainable economy. Since its inception in 1989, the NCE has been linking Canadian researchers from the university, public, and private sectors to work collaboratively on the mobilization of research and the development for tangible benefits for Canadians. The networks and centres provide opportunities to develop innovative research approaches that cross traditional disciplinary and sectoral boundaries, and promote collaborations among engineers and social, physical, and medical scientists. In 2008-2009, for example, the networks published 4,391 refereed publications. In an average year, the impacts are numerable, with networks and centres funding 4100 researchers and HQP, launching eight spin-off companies, filing 105 patents, and negotiating 34 licenses.

These collaborations have contributed significantly to accelerating the uptake of new *knowledge*, *skills*, and *technologies* by industry and other receptor communities, and they have led to important socio-economic benefits.

### **Strengthening Canada's Entrepreneurial Advantage**

Recognizing the strengths of the NCE's traditional model and the need to further leverage Canada's strong public sector research base to the benefit of business research and innovation, the Government of Canada committed to strengthening public-private research and commercialization partnerships by funding the BL-NCE program and the CECR program. By funding a balance of CECRs and BL-NCEs across the federal government's four S&T priority areas; namely the environmental science and technologies; natural resources and energy; health and related life sciences and technologies; and information and communications technologies (ICT), the NCE facilitates commercialization and research expertise that will deliver real economic, social, and environmental benefits to Canadians. While it is still early in their implementation, the programs are already fostering new partnerships and increasing collaboration with small- and medium-sized enterprises, increasing collaborations in sectors and between sectors not traditionally involved in networking, building on regional/provincial strengths and creating critical mass, supporting world-class S&T excellence, leveraging government investment, and creating new jobs and transferring knowledge. The BL-NCEs and CECRs, despite the economic downturn, have mobilized their industrial partners, including two multi-million dollar partnerships in health and life sciences and the environment.

---

<sup>1</sup> *Mobilizing Science and Technology to Canada's Advantage* (2007).

### **Mentoring the Next Generation of Highly-Qualified Personnel**

Giving today's young, gifted researchers every opportunity to gain the skills and experience they will need to become tomorrow's leaders in their chosen fields is essential to improving the country's economy and the well-being of Canadians.

The need for private sector organizations to access Canada's vast intellectual capital grows every year as Canadian companies work to increase their competitiveness on the global stage. The NCE continues to foster the next generation of scientific entrepreneurs through a variety of skills training and entrepreneur workshops, technical training events, graduate and post-doctoral internships, and other outreach activities.

These successes led the federal government to invest \$8.64 million in 2007 in the Industrial Research and Development Internships (IRDI), which is administered by the NCE Secretariat. ACCELERATE Canada, a consortium led by MITACS Inc, was selected in 2008 through an independent peer review process to run the initiative. Over the course of its two-year mandate, ACCELERATE Canada is expected to place 1,200 graduate students and post-docs with Canadian businesses.

***In 2008-2009 ACCELERATE Canada approved over 600 internships and partnered with more than 400 companies.***

#### **Private Sector Advisory Board**

In 2007, the NCE Secretariat established a Private Sector Advisory Board (PSAB) to ensure that the CECR and BL-NCE programs truly meet the needs of businesses and are consistent with the principles and values of the government's priorities. Appointed by the NCE Steering Committee, the current PSAB members are senior level individuals representing the diversity of S&T disciplines (i.e., health, social science, and natural sciences and engineering), mainly from major Canadian enterprises and SMEs having experience in managing research and commercialization activity.

## Networks of Centres of Excellence Program

---

For 20 years, the NCE program has successfully brought together the best minds from a multitude of disciplines and industry sectors to further Canada's success as a country and as an influential member of the global community. The program harnesses the creativity and inventiveness of Canadian health, natural, social and biomedical scientists and engineers, and unites academic, corporate, public and not-for-profit sectors to focus on issues that are critical to industry and society in Canada and around the world. Currently, there are 18 active Networks across Canada.

To ensure that the goals and objectives of the program are met, proposals are assessed against the five NCE program criteria: excellence of the research program, development of highly qualified personnel (HQP), networking and partnerships, knowledge and technology exchange and exploitation, and management of the Network.

At the end of 2008, the NCE launched the 2009 NCE Competition for New Networks.

**Networks At A Glance**

Priority Area	Networks	NCE Award	Funding Period
Environmental sciences and technologies	ArcticNet	\$6,441,000	2003-2011
	Canadian Water Network (CWN)	\$3,544,490	2001-2012
Health and related life sciences and technologies	Advanced Foods and Materials Network (AFMNet)	\$5,559,000	2003-2011
	Allergy, Genes, and Environment Network (AllerGen)	\$5,306,000	2004-2012
	Canadian Arthritis Network (CAN)	\$4,073,000	1999-2012
	Canadian Language and Literacy Research Network (CLLRNet)	\$165,000	2001-2009
	Canadian Obesity Network (CON)	\$400,000	2005-2009
	Canadian Stroke Network (CSN)	\$6,400,000	2000-2010
	National Initiative for the Care of the Elderly (NICE)	\$400,000	2005-2009
	PREVNet	\$400,000	2005-2009
	PrioNet Canada	\$5,000,000	2005-2012
	Stem Cell Network (SCN)	\$5,000,000	2001-2012
Information and communications technologies	Canadian Institute for Photonic Innovations (CIPI)	\$4,243,000	1999-2012
	Geomatics for Informed Decisions Network (GEOIDE)	\$3,477,000	1999-2012
	Mathematics of Information Technology and Complex Systems (MITACS)	\$5,401,000	1999-2012
Manufacturing and Automotive	Automobile of the 21st Century Network (Auto21)	\$5,800,000	2001-2012
	Intelligent Sensing for Innovative Structures Network (ISIS)	\$3,200,000	1995-2011
Natural resources and energy	Sustainable Forest Management Network (SFM)	\$4,100,000	1995-2010

See [Annex A](#) for a detailed summary of the key accomplishments of each NCE in 2008-2009.

### Networking Across Canada and Abroad

In 2008–2009, a total of 829 companies, 300 provincial and federal government departments and agencies, 64 hospitals, 277 universities, and 682 other organizations from Canada and abroad participated in the NCE program.

Provinces & Territories	University	Company Industry	Hospital	Federal	Provincial	Other	Total
Northwest Territories, Nunavut & Yukon		2		6	6	23	37
British Columbia	13	100	5	15	15	79	227
Alberta	7	73	4	7	21	42	154
Saskatchewan	2	5	1	2	5	10	25
Manitoba	4	21	1	5	10	18	59
Ontario	29	311	22	100	31	295	788
Québec	29	121	19	21	18	93	301
New Brunswick	5	13		4	5	7	34
Nova Scotia	7	12	1	5	5	8	38
Newfoundland and Labrador	2	5		2	4	9	22
Prince Edward Island	1	1				1	3
<b>Total</b>	<b>99</b>	<b>664</b>	<b>53</b>	<b>167</b>	<b>120</b>	<b>585</b>	<b>1688</b>
Foreign	178	165	11	13		97	464
<b>Total</b>	<b>178</b>	<b>165</b>	<b>11</b>	<b>13</b>	<b>0</b>	<b>97</b>	<b>464</b>
<b>Total</b>	<b>277</b>	<b>829</b>	<b>64</b>	<b>180</b>	<b>120</b>	<b>682</b>	<b>2152</b>

### Stimulating Private and Public Sector Investments

In 2008-2009, the networks stimulated outside cash and in-kind investments of more than \$68 million, including more than \$24 million by the participating private sector companies. When the NCE program's own funding is included, more than \$137 million was used to stimulate research, training, knowledge translation, and commercialization.

### Contributions to the Networks of Centres of Excellence

	Source	Cash	In-Kind	Total
Partners	University	\$2,695,773.00	\$5,777,442.00	\$8,473,215.00
	Industry	\$14,809,099.00	\$10,021,568.00	\$24,830,667.00
	Federal	\$4,988,515.00	\$7,273,506.00	\$12,262,021.00
	Provincial	\$7,052,817.00	\$732,238.00	\$7,785,055.00
	Other	\$9,094,326.67	\$5,757,012.00	\$14,851,338.67
	<b>Total</b>	<b>\$38,640,530.67</b>	<b>\$29,561,766.00</b>	<b>\$68,202,296.67</b>
NCE	<b>Total</b>	<b>\$68,909,490.00</b>		<b>\$68,909,490.00</b>
<b>Grand Total</b>		<b>\$107,550,020.67</b>	<b>\$29,561,766.00</b>	<b>\$137,111,786.67</b>

### Working in Partnership with Canada's and the World's Best Researchers

The Networks engage numerous researchers and other highly qualified personnel from across Canada and abroad.

### Regional Distribution of NCE University and Non-University Researchers and Highly-Qualified Personnel (HQP) Supported by NCE and Non-NCE Funds

Province / Territory	NCE Researchers			*Highly Qualified Personnel			Total Personnel
	University	Non-University	Total Researchers	HQP supported by NCE funds	HQP supported by non-NCE funds	Total HQP	
NWT, Nunavut, & Yukon	0	1	1	10	1	11	12
British Columbia	165	31	196	214	227	441	637
Alberta	189	24	213	230	289	519	732
Saskatchewan	20	1	21	33	34	67	88
Manitoba	39	15	54	69	45	114	168
Ontario	494	160	654	831	991	1822	2476
Québec	281	34	315	425	537	962	1277
New Brunswick	36	4	40	40	36	76	116
Nova Scotia	36	3	39	39	68	107	146
Newfoundland and Labrador	16	2	18	29	7	36	54
Prince Edward Island	0	1	1	1	1	2	3
<b>Total Canadian</b>	<b>1276</b>	<b>276</b>	<b>1552</b>	<b>1920</b>	<b>2236</b>	<b>4157</b>	<b>5708</b>
Foreign	32	29	61	7	15	22	83
<b>Grand Total</b>	<b>1308</b>	<b>305</b>	<b>1613</b>	<b>1927</b>	<b>2251</b>	<b>4179</b>	<b>5791</b>

\* Highly Qualified Personnel refers to research staff such as research associates and technicians, and research trainees such as postdoctoral fellows, graduate students, and summer students.

### **Regional Distribution of NCE Researchers**

To further encourage the development of international partnerships, the NCE program launched a pilot initiative, the International Partnership Initiative (IPI), in 2007 to provide NCEs with additional support to develop and enhance linkages with similar organizations around the world. More than five million dollars over two years was allocated to seven networks—AllerGen, ArcticNet, CAN, MITACS, NICE, PrioNet, and SCN—to expand their international reach. A contribution of two million dollars from the International Development Research Centre (IDRC) encouraged NCEs to collaborate with organizations from low and middle income countries and build new relationships with researchers from the developing world. The objectives of the IPI have been incorporated into the main NCE program, in order to strengthen international partnerships where appropriate.

## Centres of Excellence for Commercialization and Research

The Centres of Excellence for Commercialization and Research (CECRs) are world-class centres designed to advance research and facilitate the commercialization of technologies, products, and services that position Canada at the forefront of innovation. Budget 2007 set aside a total of \$285 million over five years to create the CECRs. The first competition, worth \$163.4 million, was launched in June 2007, creating 11 centres in the four S&T priority areas: environmental sciences and technologies; health and life sciences; ICT; and natural resources and energy.

A second competition, worth \$62.5 million, was launched in May 2008 to fund new centres with a high priority on ICT and environmental science and technologies. The NCE Secretariat received 34 eligible Letters of Intent, of which 15 applicants were invited to submit full proposals in August 2008. In October 2008, the full proposals were evaluated by the NCE expert panels, followed by the Private Sector Advisory Board (PSAB). Based on PSAB recommendations, funding for six CECRs was approved by the NCE Steering Committee in early 2009.

### CECR's Domestic and Foreign Partner Investments

In 2008-2009, the CECRs stimulated outside cash and in-kind investments of more \$26 million, including over \$11 million by provincial governments and three million from the private sector.

### Contributions to CECRs

Fiscal Year: 2008-2009		Partner Contributions		
Sector		Cash	In-Kind	Total
Canadian	Host Organization	\$1,867,375.00	\$1,143,379.00	\$3,010,754.00
	University	\$2,169,967.00	\$2,588,841.00	\$4,758,808.00
	Industry	\$2,384,000.00	\$805,925.00	\$3,189,925.00
	Provincial Government	\$9,432,106.00	\$2,119,000.00	\$11,551,106.00
	Other	\$1,994,856.00	\$1,042,472.00	\$3,037,328.00
Total Canadian		\$17,848,304.00	\$7,699,617.00	\$25,547,921.00
Foreign	University	\$28,829.00	\$0.00	\$28,829.00
	Industry	\$11,617.00	\$987,282.00	\$998,899.00
	Other	\$65,878.00	\$16,000.00	\$81,878.00
Total Foreign		\$106,324.00	\$1,003,282.00	\$1,109,606.00
Grand Total		\$17,954,628.00	\$8,702,899.00	\$26,657,527.00

CECRs At A Glance

Priority Area	Centres of Excellence for Commercialization and Research	NCE Award	Funding Period
<b>Environmental sciences and technologies</b>	GreenCentre Canada	\$9,100,000	2009-2014
	Ocean Networks Canada Centre for Enterprise and Engagement	\$6,576,760	2009-2014
<b>Health and related life sciences and technologies</b>	Institute for Research in Immunology and Cancer - Commercialization of Research	\$14,955,575	2008-2013
	Centre for Probe Development and Commercialization	\$14,955,575	2008-2013
	MaRS Innovation	\$14,955,575	2008-2013
	Centre for Drug Research and Development	\$14,955,575	2008-2013
	Pan-Provincial Vaccine Enterprise	\$14,955,575	2008-2013
	Centre of Excellence for the Prevention of Organ Failure	\$14,955,575	2008-2013
	Centre of Excellence in Personalized Medicine	\$13,805,000	2008-2013
	Centre for Surgical Invention and Innovation	\$14,805,000	2009-2014
	The Prostate Centre's Translational Research Initiative for Accelerated Discovery and Development	\$14,955,575	2008-2013
<b>Information &amp; communications technologies</b>	Advanced Applied Physics Solutions Inc.	\$14,955,575	2008-2013
	Canadian Digital Media Network	\$10,721,000	2009-2014
	Centre for the Commercialization of Research	\$14,955,575	2008-2013
<b>Natural resources and energy</b>	Bioindustrial Innovation Centre	\$14,955,575	2008-2013
	Tecterra	\$11,685,000	2009-2014
	Centre of Excellence in Energy Efficiency	\$9,623,000	2009-2014

Regional Partner Contributions		
Province	Partner contributions	NCE funding over 5 years
British Columbia	\$12,863,608.00	\$59,822,300.00
Prairies	\$121,508.00	\$14,955,575.00
Ontario	\$8,892,838.00	\$59,822,300.00
Québec	\$3,169,967.00	\$28,760,575.00
Atlantic	\$500,000.00	\$0.00
International	\$1,109,606.00	\$0.00
<b>Total</b>	<b>\$26,657,527.00</b>	<b>\$163,360,750.00</b>

See [Annex B](#) for a detailed summary of each CECR in 2008-2009.

## Business-Led Networks of Centres of Excellence

As announced in Budget 2007, the goal of the new BL-NCE program is to fund large-scale collaborative business-led networks to enhance private sector innovation in order to deliver economic, social, and environmental benefits to Canadians, and to promote an *Entrepreneurial Advantage*. In particular, the BL-NCEs will focus on five priority areas: environmental sciences and technologies; natural resources and energy; health and related life sciences and technologies; information and communications technologies; and management, business, or finance.

The first competition was launched in November 2007. The response was extremely encouraging, indicating the perceived value of this new initiative. Of the 37 letters of intent, ten applicants were invited to submit full proposals in 2008. In February 2009, four proposals were approved as the first BL-NCEs. Funded over four years, the combined funding provided for the 2008-2009 approved BL-NCEs is \$39.3 million.

### BL-NCEs At a Glance

Priority Area	BL-Networks	NCE Award	Funding Period
Environmental sciences and technologies	Green Aviation Research and Development Network (GARDN)	\$11,819,473	2009-2013
Health and related life sciences and technologies	Consortium québécois sur la découverte du médicament (CQDM)	\$8,000,000	2009-2013
Natural resources and energy	Canadian Forest NanoProducts Network (ArboraNano)	\$8,991,000	2009-2013
	Petroleum Technology Research Centre - Sustainable Technologies for Energy Production Systems (PTRC-STEPS)	\$10,500,000	2009-2013

See [Annex C](#) for a description of each BL-Network funded in 2008-2009.

## Industrial Research and Development Internships

---

Targeting all academic disciplines, the IRDI program supports collaborative projects involving graduate students and postdoctoral fellows, their supervising professors, and industry partners. Companies share the cost of hosting the interns for four months to two years, with additional funding obtained from provincial, university, and other partners. Companies benefit from connecting with potential future employees, while interns benefit from the opportunity to apply their research skills to real-world challenges.

IRDI is delivered by ACCELERATE Canada, a not-for-profit consortium of 17 organizations from across all disciplines including social sciences and health. The program began in 2007 and was awarded in 2008-2009 fiscal year \$4.26 million. In 2008-2009, ACCELERATE approved over 600 internships and partnered with over 400 companies across Canada. The program has also received funding support from the governments of British Columbia, Manitoba, Newfoundland and Labrador, New Brunswick, Nova Scotia, Ontario, Quebec, and Saskatchewan.

## Annex A: NCE Accomplishments for 2008–2009

<b>Advanced Foods and Materials Network (AFMNet)</b>	
Focus:	To discover new ideas and develop new biology-based technologies which will create new commercial opportunities while improving the lives of Canadians.
Key 2008–2009 Accomplishments:	<ul style="list-style-type: none"> <li>▪ AFMNet launched “Be a Food Researcher for a Week” Program, which has created/strengthened partnerships with secondary schools, aboriginal leaders, the media, and Calm Air, a regional airline operating throughout Manitoba and Nunavut.</li> <li>▪ AFMNet launched the Guelph Wellness Initiative. The goal of the program is to demonstrate that the wellness of a community can be improved through a combination of citizen engagement, education, and program accessibility.</li> <li>▪ AFMNet-funded researchers discovered polysaccharide nanoparticles (nanoPS™).</li> <li>▪ Held a very successful Highly Qualified Personnel Association Professional Development School – January 2009 in Toronto, ON organized by the Highly Qualified Personnel Association (HQPA) of the Advanced Foods and Materials Network.</li> <li>▪ February 2009, AFMNet announced the funding of 12 innovative food and bio-materials related research projects for the 2009-2011 funding cycle. To accompany the Federal government contribution of up to \$12 million, the projects are supported by an additional \$3 million from industry and other public sector partners. In addition, AFMNet currently funds 7 Strategic Transition &amp; Application of Research projects.</li> </ul>
Partners:	121 industry, public sector, and academic partners.

<b>Allergy, Genes, and Environment Network (Allergen)</b>	
Focus:	To catalyze and support discovery, development, networking, capacity building, commercialization, and knowledge translation that contribute to reducing the morbidity, mortality and socio-economic burden of allergic and related immune diseases.
Key 2008–2009 Accomplishments:	<ul style="list-style-type: none"> <li>▪ Was successful in its mid-term review, securing 1<sup>st</sup> cycle funding until 2012.</li> <li>▪ AllerGen awarded \$11 million to fund asthma and allergy research. These <u>newly funded research</u> projects will be supported to 2012 towards preventing, controlling or eliminating allergic and related immune diseases.</li> <li>▪ Multi-site Canadian Healthy Infant Longitudinal Development (CHILD) Study obtained ethics approval and began.</li> <li>▪ Surveying Canadians to Assess the Prevalence of Common Food Allergies and Attitudes towards Food Labelling and Risk (SCAAALAR) study, launched on July 23, 2008, surveyed almost 9,000 individuals to determine percentage of Canadians directly or indirectly affected by peanut, tree, fish, shellfish, and sesame allergies and to examine effectiveness of labelling policies by food industry.</li> </ul>
Partners:	122 industry, public sector, and academic partners
<b>ArcticNet</b>	
Focus:	To translate our growing understanding of the changing Arctic into impact assessments, national policies, and adaptation strategies.
Key 2008–2009 Accomplishments:	<ul style="list-style-type: none"> <li>▪ Led more than 10 International Polar Year projects.</li> <li>▪ Had more than 380 news published articles and interviews on research.</li> <li>▪ Organized Arctic Change 2008 (held in Quebec City in December 2008), largest trans-sectoral international Arctic research conference ever held in Canada.</li> <li>▪ Schools on Board, an ArcticNet outreach program, together with partners from Le Petit Séminaire de Québec held the Arctic Youth Climate Change Forum preceding Arctic Change 2008.</li> <li>▪ Announced 27 new projects that focus on impacts of climate change on wildlife, human health, and the ecosystem (hydrology, landscape, atmosphere).</li> </ul>
Partners:	191 industry, public sector, and academic partners.

<b>AUTO21</b>	
Focus:	To help build a stronger automotive sector in Canada through excellence in public/private sector collaborative research and the development of human and social capital.
Key 2008–2009 Accomplishments:	<ul style="list-style-type: none"> <li>▪ 54 projects, covering health, safety &amp; injury prevention; societal issues; materials &amp; manufacturing; powertrains, fuels &amp; emissions; design processes; and intelligent systems &amp; sensors.</li> <li>▪ Third generation of project funding was launched on April 1, 2008 with a \$20 million two-year investment.</li> <li>▪ In partnership with ACCELERATE Canada, introduced an Industrial Research and Development Internship (IRDI) program, which provides placements for graduate and post-doctoral fellows across Canada.</li> <li>▪ Created the AUTO21's Feasibility Fund to help resolve R&amp;D issues and foster new industry partner relationships through exploratory, short-term, targeted research projects that test the feasibility of a specific research approach.</li> </ul>
Partners:	240 industry, public sector, and academic partners.
<b>Canadian Arthritis Network (CAN)</b>	
Focus:	To improve the quality of life of people with arthritis, decrease the personal, societal and economic burden of the disease, and promote the growth of the Canadian economy through arthritis R&D.
Key 2008–2009 Accomplishments:	<ul style="list-style-type: none"> <li>▪ Was successful in its mid-term review, securing 2<sup>nd</sup> cycle funding until 2012.</li> <li>▪ Hosted a Public Forum in partnership with the Arthritis Society to provide a historical overview of arthritis research and a preview of what's to come.</li> <li>▪ Increased focus on Knowledge Translation and Exchange (KTE) starting with adding two new KTE templates to the CAN website to give Network Investigators and trainees the tools they need to enhance their KTE abilities.</li> <li>▪ Saw the Canadian Rheumatology Research Consortium (CRRC)—which was launched in 2003 with CAN funding—celebrate its fifth anniversary and form two new partnerships.</li> </ul>
Partners:	265 industry, public sector, and academic partners.
<b>Canadian Institute for Photonic Innovations (CIPI)</b>	
Focus:	To stimulate innovations in photonics and promote their exploitation to generate wealth and enhance the quality of life for Canadians.

Key 2008–2009 Accomplishments:	<ul style="list-style-type: none"> <li>▪ Was successful in its mid-term review, securing 2<sup>nd</sup> cycle funding until 2012.</li> <li>▪ Initiated 4 innovative photonic application projects and 34 collaboration / technology projects.</li> <li>▪ A total of 396 publications; 2 patents issued, another 17 filed; 2 licenses granted; 2 companies created.</li> <li>▪ 167 post graduate students working on CIPI network research projects.</li> <li>▪ Among many CIPI members recognized for their contributions to photonics science, Paul Corkum received the 2009 NSERC G. Herzberg Award</li> </ul>
Partners:	122 industry, public sector, and academic partners.
<b>Canadian Language and Literacy Research Network (CLLRNet)</b>	
Focus:	To improve language and literacy skills in Canadian children, enabling them to contribute more effectively to the social and economic life of their communities.
Key 2008–2009 Accomplishments:	<ul style="list-style-type: none"> <li>▪ Published National Strategy for Early Literacy –Report and Recommendations in French and English</li> <li>▪ French distribution of Foundations for Literacy: An Evidence-based Toolkit for the Effective Reading and Writing Teacher' Resource Kit.</li> </ul>
Partners:	47 industry, public sector, and academic partners.
<b>Canadian Obesity Network (CON)</b>	
Focus:	To prevent and reduce the health threat of obesity through multidisciplinary initiatives, which include nutrition, physical activity, education, and health care.
Key 2008–2009 Accomplishments:	<ul style="list-style-type: none"> <li>▪ The network's outreach and capacity building activities included: <ul style="list-style-type: none"> <li>▪ CON's Student Thesis Award, which honours and supports undergraduate and graduate student theses that have the potential to make a contribution to the field of obesity;</li> <li>▪ <i>CONDUIT</i> magazine, CON's official publication, which won a bronze award in the Canadian Council for the Advancement of Education (CCA)E Prix d'Excellence; and</li> <li>▪ CON's annual Boot Camp, which is a nine-day teaching and networking exercise, offered to 24 of the top young obesity researchers in the country (attendees came from 19 different universities across Canada).</li> </ul> </li> <li>▪ The value of CON's work was endorsed by the Canadian Medical Association (CMA), which formally encouraged provincial medical associations to address the growing obesity epidemic by specifically partnering with CON at its 141st annual meeting in August.</li> </ul>

Partners:	105 industry, public sector, and academic partners.
<b>Canadian Stroke Network (CSN)</b>	
Focus:	To reduce the burden of stroke through leadership in research innovation.
Key 2008–2009 Accomplishments:	<ul style="list-style-type: none"> <li>▪ Began the largest-ever trial into stroke recovery in eight centres across Canada.</li> <li>▪ Supported clinical trials aimed at reducing the risk of stroke.</li> <li>▪ Worked with international researchers to identify emerging risk factors.</li> <li>▪ Expanded expertise by delivering training programs for researchers, students, and health professionals.</li> <li>▪ Established new prevention clinics and championed stroke prevention through sodium101.ca campaign.</li> <li>▪ Helped improve health-care systems through the Canadian Stroke Strategy.</li> </ul>
Partners:	68 industry, public sector, and academic partners.
<b>Canadian Water Network (CWN)</b>	
Focus:	To establish and nurture national partnerships and communities of practice that bring together multidisciplinary research excellence and water managers providing innovation and highly qualified personnel to address complex high-priority water resource management issues.
Key 2008–2009 Accomplishments:	<ul style="list-style-type: none"> <li>▪ Awarded the UBC Program on Water Governance (PoWG) a four-year grant to lead a team of researchers from five Canadian universities on a project to improve water security in Canada.</li> <li>▪ 105 partners made contributions (cash and in kind) that totaled 83% of CWN research funding.</li> <li>▪ 179 peer reviewed articles from CWN funded research were submitted, accepted or published.</li> <li>▪ Created the Canadian Municipal Water Management Research Consortia. The Consortium program creates close connections between the decision maker and research communities.</li> <li>▪ Representatives from all user sectors formed a Consortia Advisory Group.</li> <li>▪ 30 participants were selected by application to attend an intensive residential one-week workshop for students and young professionals. This workshop, held in the Columbia River watershed in BC, is one of a successful series of workshops designed to demonstrate the importance of multidisciplinary approaches to water challenges.</li> </ul>
Partners:	163 industry, public sector, and academic partners.

<b>Geomatics for Informed Decisions Network (GEOIDE)</b>	
Focus:	To consolidate and strengthen the domestic geomatics industry while making optimum use of R&D resources, and to create a sustainable network that integrates all sectors of the geomatics community.
Key 2008–2009 Accomplishments:	<ul style="list-style-type: none"> <li>▪ Was successful in its mid-term review, securing 2<sup>nd</sup> cycle funding until 2012.</li> <li>▪ Developed partnerships with videogaming industry (Ubisoft) and Québec Ministère de l'Éducation in order to produce educational materials about the environment.</li> <li>▪ Held a workshop in August 2008 that was attended by over 50 participants from all over the world, resulting in a peer-reviewed publication.</li> <li>▪ Created draft charter of global network for networks, engaging partnerships with Australia, South Korea, Mexico and others</li> <li>▪ GEOIDE harnessed the power of a newly launched satellite to demonstrate a much faster (and therefore safer) response to ice dam flooding.</li> </ul>
Partners:	301 industry, public sector, and academic partners.
<b>Intelligent Sensing for Innovative Structures Network (ISIS)</b>	
Focus:	To maximize, in the last year of funding, the benefits of ISIS research by transferring the technology to the user sector through structural health monitoring field demonstration projects. Research emphasis is being placed on filling the gaps of current knowledge, which will overcome continuing barriers to widespread use of ISIS technologies by 2010.
Key 2008–2009 Accomplishments:	<ul style="list-style-type: none"> <li>▪ Updated Canadian Highway Bridge Design Code (CHBDC) section 16.</li> <li>▪ Obtained Certification of FRP materials (CSA Standard S807).</li> <li>▪ Updated ISIS Design manuals</li> <li>▪ Established the ISIS Resource Centre. The objective is to provide national service for the advancement of structural health monitoring (SHM) as a means of establishing the safety and useful life of existing bridges, structures and buildings and to employ the use of fibre reinforced polymers (FRPS) as a reinforcing and strengthening material for civil infrastructure. The Centre is funded mostly by the Province of Manitoba with its contribution of half a million dollars.</li> </ul>
Partners:	<ul style="list-style-type: none"> <li>▪ 14 universities, 30 Project Leaders (principal researchers), 275 researchers, 190 associated organizations, and 45 multidisciplinary demonstration projects</li> </ul>

<b>Mathematics of Information Technology and Complex Systems (MITACS)</b>	
Focus:	To lead the generation, application, and commercialization of mathematical tools and methodologies within a world-class research program.
Key 2008–2009 Accomplishments:	<ul style="list-style-type: none"> <li>▪ Was successful in its mid-term review, securing 2<sup>nd</sup> cycle funding until 2012.</li> <li>▪ Partnered with several international organizations to hold the second Canada – France Congress in Montreal; 400 speakers, 800 graduate students attended.</li> <li>▪ Held workshop in Botswana to train African and Canadian graduate students in latest mathematical tools and techniques to help control spread of diseases such as HIV, malaria, and tuberculosis.</li> <li>▪ Globalink, a program designed to facilitate collaboration between Canadian and Indian researchers, brought 17 3<sup>rd</sup> and 4<sup>th</sup> year undergraduate students from India to British Columbia for three-month mathematical sciences research internships at the University of British Columbia, Simon Fraser University, and the University of Victoria.</li> <li>▪ Held an Interactive Media Workshop in October 2008 to promote understanding of challenges faced by interactive media industry.</li> <li>▪ French Prime Minister François Fillon and Canada’s Stephen Harper recognized a Memorandum of Understanding between MITACS and INRIA (L’Institut national de recherche en informatique et en automatique) in a ceremony on Parliament Hill in Ottawa.</li> <li>▪ Outreach programs included MathAmaze, a free, internet-based, multiplayer mathematics quiz game aimed at elementary and high school students, and ShowMath, a live, multimedia stage show for high school students.</li> </ul>
Partners:	345 industry, public sector, and academic partners.
<b>National Initiative for the Care of the Elderly (NICE)</b>	
Focus:	To help develop and improve practices for the care of Canada's seniors, as well as develop and improve educational initiatives aiming at introducing basic geriatric knowledge into core courses in medicine, nursing, and social work, and to provide specific training programs in geriatric specializations.

Key 2008–2009 Accomplishments:	<ul style="list-style-type: none"> <li>▪ NICE held its third Annual NICE Knowledge Exchange (June 2008) in Toronto, Ontario.</li> <li>▪ Provided funding for a new Student Mentorship Program, which provides the opportunity for students (up to 15 per year) to engage activities such as knowledge transfer to receptor communities, co-authoring paper presentations, attending conferences, networking, and writing for publication.</li> <li>▪ Through our international arm, the International Collaboration for the Care of the Elderly (ICCE), NCE has researcher and student partners in nine countries: Australia, China, England, Germany, India, Israel, Scotland, South Africa and Switzerland.</li> </ul>
Partners:	71 industry, public sector, and academic partners.
<b>Promoting Relationships and Eliminating Violence Network (PREVNet)</b>	
Focus:	To promote safe and healthy relationships for Canadian children and youth.
Key 2008–2009 Accomplishments:	<ul style="list-style-type: none"> <li>▪ Numerous events across the country for Bullying Awareness Week 2008 (e.g., three “Stand Up” rallies as part of the Family Channel’s nationwide bullying prevention campaign).</li> <li>▪ The release of “Understanding and Addressing Bullying: An International Perspective” and work on a second volume, “Rise Up for Respectful Relationships!” based on the workshops from PREVNet’s Second Annual conference in May 2007.</li> <li>▪ A comprehensive literature review, conducted by graduate students, on the topics relevant to each of PREVNet’s working groups, (e.g., Aboriginal, Assessment, Cyber-Risk, Education and Training, Policy, Prevention and Intervention, Social Aggression and Workplace Harassment) as well as a review of knowledge translation research, which together form one of the most comprehensive specialized databases in the field.</li> </ul>
Partners:	87 industry, public sector, and academic partners.
<b>PrioNet Canada</b>	
Focus:	To enhance human and animal health by addressing prion challenges posed by bovine spongiform encephalopathy (BSE, commonly known as mad cow disease), chronic wasting disease (CWD), and Creutzfeldt-Jakob disease (CJD).

Key 2008–2009 Accomplishments:	<ul style="list-style-type: none"> <li>▪ Was successful in its mid-term review, securing 1<sup>st</sup> cycle funding until 2012.</li> <li>▪ Increased partnerships from 40 to over 50 different organizations, providing cash and in-kind contributions to PrioNet’s activities.</li> <li>▪ Granted 19 projects in PrioNet Canada’s second open call for proposals—with the largest budget envelope awarded to date.</li> <li>▪ Inaugurated the Business Advisory Committee that assists in the review of applications to Bootstrap, PrioNet’s Business Opportunity Support and Technology Assessment Program linking academia and industry.</li> <li>▪ Experienced PrioNet’s largest and most successful PrP<sup>CANADA</sup> conference in partnership with the Alberta Prion Research Institute. With over 300 attendees, this conference has become the second-largest prion conference in the world.</li> </ul>
Partners:	74 industry, public sector and academic partners.
<b>Stem Cell Network (SCN)</b>	
Focus:	To be a catalyst for enabling translation of stem cell research into clinical applications, commercial products, or public policy.
Key 2008–2009 Accomplishments:	<ul style="list-style-type: none"> <li>▪ Carried out an experimental treatment for two patients suffering from pulmonary hypertension. They were treated using their own gene-modified stem cells thanks to research sponsored by SCN and lead by SCN researcher Jacques Galipeau.</li> <li>▪ Welcomed a new international collaboration on cancer stem cells between California and Canada, the principal Canadian partner being the Cancer Stem Cell Consortium, which SCN was a co-founder of.</li> <li>▪ Received new funding for a clinical and translational research project involving partnership between SCN, the BC Cancer Agency, and several biotech partners. The project studies the use of cord blood cells for adult patients who need stem cell transplants.</li> <li>▪ Published findings of ethical, legal, and social issues relevant to emerging stem cell therapies in the journal <i>Cell Stem Cell</i>. The study concludes that advertising by online stem cell clinics is overoptimistic and that patients should be wary of their claims.</li> </ul>
Partners:	167 industry, public sector, and academic partners.

<b>Sustainable Forest Management Network (SFM)</b>	
Focus:	To enable industry and government partners to develop strategies and tools to sustain Canada's forests.
Key 2008–2009 Accomplishments:	<ul style="list-style-type: none"> <li>▪ Six research teams were formed to address six critical research areas: natural capital and ecosystem valuation; implications for water resources on the forested landbase); forest vulnerability to climate change; ecological implications for altering mixed-wood forest composition; innovations regarding protected areas in SFM; and reviewing the Canadian experience in harmonizing Aboriginal and industry interests.</li> <li>▪ Held a series of workshops—Forest Futures: Alternative Futures for Canada's Forests and Forest Sector (Edmonton, AB) and Role of Protected Areas in SFM (Prince George, BC) in December 2008</li> <li>▪ Held a series of e-lectures and tele-roundtables (“The Relationship between Protected Areas and Sustainable Forest Management”) in October and November 2008, and another series of e-lectures in conjunction with the Canadian Institute of Forestry from September to December 2008.</li> </ul>
Partners:	<ul style="list-style-type: none"> <li>▪ 130 industry, public sector, and academic partners.</li> </ul>

## Annex B: CECR Accomplishments in 2008–2009

<b>GreenCentre Canada (GCC)</b>		
<b>Environmental sciences and technologies</b>	Focus:	To develop, de-risk, and commercialize early-stage Green Chemistry discoveries (products and processes that use benign substances, reduce waste and energy consumption, and optimize use of non-renewable resources).
	Key 2008–2009 Accomplishments:	<ul style="list-style-type: none"> <li>▪ Received \$9.1M to establish CECR.</li> </ul>
<b>Ocean Networks Canada Centre for Enterprise and Engagement (O)</b>		
<b>Environmental sciences and technologies</b>	Focus:	To manage the NEPTUNE Canada and VENUS cabled ocean observatories.
	Key 2008–2009 Accomplishments:	<ul style="list-style-type: none"> <li>▪ Received \$6.58M to establish CECR.</li> </ul>
<b>Centre for Drug Research and Development (CDRD)</b>		
<b>Health and related life sciences and technologies</b>	Focus:	To increase the probability that research discoveries will be translated into medically important therapeutics by advancing them to the point where they become attractive for clinical development and commercialization.
	Key 2008–2009 Accomplishments:	<ul style="list-style-type: none"> <li>▪ Attracted over 250 investigators and have approximately 300 projects in its database.</li> <li>▪ Secured over \$75 million funding.</li> <li>▪ On average has supported researchers with grant applications and other funding to leverage its in-kind support on a 5:1 ratio.</li> <li>▪ Constructed fully functional Drug Research Institutes at UBC, BC Cancer Agency and SFU.</li> <li>▪ CDRD has grown to 74 employees including 10 post doctoral fellows, and 26 co-op students/interns.</li> <li>▪ Funded 19 investigator projects, 4 have been completed.</li> <li>▪ Launched its commercialization arm, Drug Development Inc., which will provide cost recovery opportunities for CDRD and move it towards self-sustainability in the long-term.</li> </ul>

<b>Centre of Excellence in Personalized Medicine (CEPMed)</b>		
Focus:	To optimize therapies by capitalizing on recent genomics discoveries, working in partnership with both the pharmaceutical and biotechnological industries.	
Key 2008–2009 Accomplishments:	<ul style="list-style-type: none"> <li>▪ CEPMed has developed a close working relationship with the Montreal Heart Institute’s technology transfer office, Innovacorp.</li> <li>▪ CEPMed is collaborating with Roche Diagnostics on a phase III clinical trial.</li> </ul>	
<b>Health and related life sciences and technologies</b>	<b>Centre for Probe Development and Commercialization (CPDC)</b>	
	Focus:	To develop and commercialize molecular imaging probes, used in disease detection and monitoring.
	Key 2008–2009 Accomplishments:	<ul style="list-style-type: none"> <li>▪ Initiated several novel, in-house research projects to diagnose and characterize cancer, and received regulatory approval for its first candidate.</li> <li>▪ In the process of fulfilling contracts for two industry clients, and was approached by other international companies interested in the production, validation, assessment, and clinical trial support services.</li> <li>▪ Initiated its first Investigator-Sponsored Research Project competition.</li> </ul>
<b>Health and related life sciences and technologies</b>	<b>Centre for Surgical Invention &amp; Innovation (CSII)</b>	
	Focus:	To facilitate the development and validation of the next generation of Canadian medical robotic technologies.
	Key 2008–2009 Accomplishments:	<ul style="list-style-type: none"> <li>▪ Received \$14.81M to establish CECR.</li> </ul>
<b>Institute for Research in Immunology and Cancer - Commercialization of Research (IRICoR)</b>		
	Focus:	To accelerate the identification of oncology (cancer) drug candidates and novel therapies through partnership with pharmaceutical companies.

Health and related life sciences and technologies	Key 2008–2009 Accomplishments:	<ul style="list-style-type: none"> <li>▪ Engaged all but one of the requisite 12 Board members, and hired a number of new dedicated staff including the CEO.</li> <li>▪ Completed integration of a drug discovery chain and implemented a Strategic Project Review Committee.</li> <li>▪ Established the Partnership and Commercialization Office and hired personnel with business expertise in the biopharmaceutical sector.</li> <li>▪ Financed four projects that successfully met the first evaluation.</li> <li>▪ Conducted market research to explore the research needs and partnering possibilities for the immunology and cancer markets in international pharmaceutical biotech manufacturers.</li> </ul>
	<b>MaRS Innovation (MI)</b>	
	Focus:	To convert important discoveries into a new generation of products, services and high value jobs.
	Key 2008–2009 Accomplishments:	<ul style="list-style-type: none"> <li>▪ MI established fully functioning corporate development and commercialization operational divisions.</li> <li>▪ From late December 2008 to March 31, 2009, MI received 33 invention disclosures (80% in the health field).</li> </ul>
	<b>The Prostate Centre's Translational Research Initiative for Accelerated Discovery and Development (PC-TRIADD)</b>	
	Focus:	To conduct pre-clinical and clinical proof of concept studies on projects originating in academia and industry.
	Key 2008–2009 Accomplishments:	<ul style="list-style-type: none"> <li>▪ Initiated 13 new clinical trials in their first year of operation</li> <li>▪ 24 patent actions filed in their first year of operation, building on the Prostate Centre's research.</li> <li>▪ Launch and funding of the Australian-Canadian Prostate Alliance, supported by a \$2-million grant from the Queensland government.</li> <li>▪ Formalized its management structure, and established its Board of Directors.</li> </ul>
	<b>Pan-Provincial Vaccine Enterprise (PREVENT)</b>	
	Focus:	To accelerate promising Canadian human and animal vaccine discoveries through preclinical and early clinical evaluation, phases which currently hamper development of new and safer vaccines.

Health and related life sciences and technologies	Key 2008–2009 Accomplishments:	<ul style="list-style-type: none"> <li>All Board of Director positions and the key management positions have been filled.</li> <li>PREVENT consulted with over 50 collaborators on the identification of vaccine candidates and to gauge receptor interest for development, including public sector stakeholders (public health officials, universities, hospitals, and research institutions), existing NCEs (AllerGen and PrioNet) and a number of biotech/biopharm industries.</li> </ul>
	<b>Centre of Excellence for the Prevention of Organ Failure (PROOF)</b>	
	Focus:	To discover, develop, commercialize and implement biological markers (biomarkers) to assist in the diagnosis, treatment and prevention of heart, lung and kidney failure.
	Key 2008–2009 Accomplishments:	<ul style="list-style-type: none"> <li>The team has submitted three invention disclosures and eight provisional patents from April 2008 to March 2009.</li> <li>11 articles have been published by the Biomarker in Transplantation (BiT) team including the cover story for <i>Transplantation</i>, four more are in press, and several more are in development.</li> <li>Has begun working with the US Food and Drug Administration towards the regulatory approval of their Biomarkers in Transplantation Initiative.</li> </ul>
Information and communications technologies	<b>Advanced Applied Physics Solutions Inc. (AAPS)</b>	
	Focus:	To facilitate the commercialization of advanced physics research for applications ranging from health to geological exploration and industrial applications.
	Key 2008–2009 Accomplishments:	<ul style="list-style-type: none"> <li>Attracted three top post-doctoral fellows.</li> <li>Hosted 2009 Particle Accelerator Conference, attracting over 1000 international delegates.</li> <li>Successful leading consortium of application for \$2.55 M for new detector technologies.</li> <li>Assembled a Task force of North American Experts on sustainable sources of medical isotopes.</li> <li>Completed facility upgrades for Diamond-like Carbon foil laboratory, and integrated operations (via an acquisition) with a private firm to market resulting commercial products.</li> <li>Submitted proposal with MDSNordion to the Federal Task Force on Medical Isotopes Production.</li> </ul>

<b>Information and communications technologies</b>	<b>Centre for the Commercialization of Research (CCR)</b>	
	Focus:	To translate knowledge into wealth generating commercial applications, to train and develop the next generation of entrepreneurs, innovators, and business leaders who will better enable Canadian companies to succeed in a knowledge-based global economy, and to expand the network of Canadian and international operations.
	Key 2008–2009 Accomplishments:	<ul style="list-style-type: none"> <li>▪ Designed a commercialization database for senior management.</li> <li>▪ Appointed a Managing Director and Commercialization Manager.</li> <li>▪ Established arrangements for the provision of corporate and other services by OCE Inc.</li> </ul>
	<b>Canadian Digital Media Network (CDMN)</b>	
	Focus:	To link Canada's digital media clusters from coast to coast, creating a digital convergence corridor and enabling collaboration between researchers, implementers, and entrepreneurs. Two complementary digital media hubs—the Stratford Institute and Waterloo Region's Digital Media Convergence Centre (DMCC)—will provide the facilities for sustainable digital media activity
	Key 2008–2009 Accomplishments:	<ul style="list-style-type: none"> <li>▪ Received \$10.72M to establish CECR.</li> </ul>
<b>Natural resources and energy</b>	<b>Bioindustrial Innovation Centre (BIC)</b>	
	Focus:	To become a world leading centre for the commercialization of large-scale industrial biotechnology and related sustainable chemistry technologies by taking renewable resources, such as agricultural and forestry by-products and wastes, and turning them into energy and value-added chemicals for use in applications ranging from construction to automotive parts.
	Key 2008–2009 Accomplishments:	<ul style="list-style-type: none"> <li>▪ Retrofit of Commercialization Centre laboratory space on target.</li> <li>▪ Attracted many tenants, including a start-up and a multinational tenant.</li> <li>▪ Hosted National Bio-Conversion Workshop May 2008.</li> <li>▪ Completed two roadmap projects to support full-scale commercialization of industrial biotechnology.</li> <li>▪ SCA incorporated, and established its Board of Directors; 12 potential projects were identified, and 1 has been recommended to BIC for funding.</li> </ul>

**Centre of Excellence in Energy Efficiency (C3E)**

Focus:	To become a vehicle for economic development specializing in energy efficiency and new energy technologies. Its ultimate goal is an improvement in the quality of life for Canadians through job creation and better energy usage.
Key 2008–2009 Accomplishments:	Received \$9.6M to establish CECR.

**Tecterra**

Focus:	To develop intelligent, integrated resource management technology tools to observe, monitor, forecast and manage land and natural resources (e.g. water levels, temperature changes, water content in soil).
Key 2008–2009 Accomplishments:	Received \$11.69M to establish CECR.

## Annex C: Approved Business-Led Networks in 2009

### Canadian Forest NanoProducts Network (ArboraNano)

ArboraNano is a research and development collaboration involving Canada's major industrial sectors (forestry, aerospace, automotive, medical, chemicals) in an effort to develop a new Canadian bio-economy based on sustainable, innovative, highly-engineered, nanotechnology-based carbon-neutral products created from Canada's vast forest resource. These products will have applications in a number of industrial sectors including aerospace, automotive, medical, pharmaceutical, forest products, chemicals, composites and coatings.

Many of the new products will be based on a plant-derived nanomaterial, NanoCrystalline Cellulose (NCC), while others will use other nanomaterials in the development of new forest products. Research has shown that NCC has many remarkable properties, some of which are unique while others are comparable to those of many well-known nanomaterials. Since NCC can be economically extracted from trees, plans are already underway to construct commercial-scale production facility.

FPInnovations will provide the resources and support systems required to lead and manage ArboraNano from its facility in Pointe-Claire, QC.

<b>BL-NCE Budget</b>	\$8.99 million	<b>Total Budget</b>	\$16.55 million
<b>Private Sector Members</b>	FP Innovation, Kruger, Bell Helicopter, Nanoledge, Woodbridge, Alberta Pacific Forest Industries.		
<b>University Members</b>	University of Toronto, University of Guelph, University of British Columbia, Université du Québec à Trois-Rivières, Université Laval		
<b>Other Members</b>	Ontario BioAutoCouncil, MaRS, NanoQuebec, Fonds québécois de la recherche sur la nature et les technologies, Ministère du développement économique, innovation, et de exportation		

**Consortium québécois sur la découverte du médicament (CQDM)**

The Québec Consortium for Drug Discovery (CQDM) is a strategic initiative that brings together players from the pharmaceutical and biotechnology industry and the university and hospital communities with the express purpose of subsidizing Canadian precompetitive research in the field of drug discovery. CQDM is the first initiative emerging from the Canadian Life Sciences Sector, which directly addresses this problem of creativity, productivity, and industrial impact in drug discovery.

CQDM has a twofold goal: to accelerate the drug discovery process and to develop safer and more effective drugs. To achieve this, CQDM is financing innovative research activities, primarily of a pre-competitive nature, where the needs of the pharmaceutical industry are at the focus of the research agenda, and developing a unique meeting ground for reflection that welcomes the various stakeholders involved in drug development.

CQDM will make it easier for hospital and university researchers to forge ties with the industrial sector, thereby fostering the development of drug-discovery research clusters that are multi-institutional, multidisciplinary, and more synchronized with the needs of industry, for the greater benefit of Québec and Canada.

In 2008-2009, CQDM held its first competition to select three to five innovative projects for up to \$3 M per project (\$1 M/year for 3 years). 78 letters of intent were received in late 2008 and 12 projects were selected and invited to submit a full application in February 2009. Evaluation of the proposals involves an international peer review led by the Fonds de la recherche en santé du Québec (FRSQ) and the final selection will be announced in April 2009.

<b>BL-NCE Budget</b>	\$8.0 million	<b>Total Budget</b>	\$48.0 million
<b>Private Sector Members</b>	Funding Members: Pfizer, AstraZeneca, MerckFrosst, Network Investigators: SNC-Lavelin Pharma, BioSignal/Perkin Elmer, Caprion, Médicago		
<b>University Members</b>	Université de Montréal, McGill University, Université de Sherbrooke, Université Laval		
<b>Other Members</b>	Fonds de la recherche en santé du Québec (FRSQ), Ministère du Développement économique, de l'Innovation et de l'Exportation (MDEIE)		

**Green Aviation Research and Development Network (GARDN)**

Green Aviation Research and Development Network (GARDN) is a network of government, academic, and industrial partners working to ensure Canadians, along with the rest of the world, continue to enjoy the benefits of aviation while minimizing the aerospace industry's impact on the environment. GARDN's activities are in support of the competitive excellence of Canadian aerospace products and services, the economic success of the member companies, and the development and training of highly qualified personnel in the aerospace environmental field.

In order to achieve its objectives, GARDN will focus on eight research themes: noise, emissions, materials and manufacturing processes, performance, icing, aircraft operations, alternative fuels, and product lifecycle management. Within these themes, nine research projects led by Pratt & Whitney Canada (5), Bombardier Aerospace (3) and CMC Electronics (1) will be conducted during the first phase of the program.

<b>BL-NCE Budget</b>	\$11.82 million	<b>Total Budget</b>	\$22.65 million
<b>Private Sector Members</b>	Bombardier Aerospace, Pratt and Whitney Canada, CMC Electronics, Messier-Dowty, Aercoustics Engineering, Integran Technologies, and Standard Aero		
<b>University Members</b>	École de Technologie Supérieure, McGill University, École Polytechnique Montréal, Université de Sherbrooke, Concordia University, University of Waterloo, Ryerson University, and University of Toronto Institute for Aerospace Studies		
<b>Other Members</b>	Aerospace Industry Association of Canada, Consortium de recherche et d'innovation en aérospatiale au Québec, Sustainable Development Technology Canada, Future Major Platforms		

**Petroleum Technology Research Centre – Sustainable Technologies for Energy Production Systems (PTRC-STEPS)**

Sustainable Technologies for Energy Production Systems (STEPS) is an inclusive, sharply-focused, collaborative, and cooperative initiative within the Petroleum Technology Research Centre (PTRC) in Regina that is led by industry to meet growing energy demand while taking into account environmental sustainability. Engaging industry in the hands-on design of technology development, prototypes, and demonstrations projects will provide the capacity to build upon industry's existing workforce and further attract professionals, researchers, and students from across Canada and around the globe to the critically-important oil industry-focused work being undertaken at STEPS.

The BL-NCE will improve access to hydrocarbon resources in Canada and around the world by developing advanced technologies and innovations that address economic and environmental sustainability challenges. The test bed will be Saskatchewan resources and those in the rest of the Western Canadian Sedimentary Basin, which serve as a proxy to the currently unrecoverable 70 per cent of oil reserves worldwide. The STEPS program builds on and significantly expands the Enhanced Oil Recovery (EOR) Research Program at the Regina-based Petroleum Technology Research Centre (PTRC). The PTRC is a not-for-profit research and development organization involved in managing the world's largest CO<sub>2</sub> Storage Project (Weyburn-Midale CO<sub>2</sub> Project), potentially the world's largest avoided CO<sub>2</sub> emissions project (JIVE Project), collaborating with SaskPower on the world's first zero emissions coal-fired power plant, and advancing enhanced oil recover technologies.

The goal of STEPS is to ensure that Canada's heavy and extra-heavy oil production expands to keep pace with domestic and international demands, while developing the technological means to achieve this goal in a way that leaves the smallest possible environmental footprint. The Research Program supports projects that fall mainly under five areas of EOR: heavy oil (post) cold production, enhanced waterflooding, solvent vapour extraction, gas flooding (miscible/immiscible), and improving heavy oil predictability.

<b>BL-NCE Budget</b>	\$10.5 million	<b>Total Budget</b>	\$52.805 million
<b>Private Sector Members</b>	BP (Alaska), Canadian Natural Resources Limited, ConocoPhillips, Devon Energy, Husky Energy, Nexen, Penn West, Statoil, Shell, Total		
<b>University Members</b>	University of Alberta, University of Calgary, University of Saskatchewan, University of Regina		
<b>Other Members</b>	Alberta Research Council, Saskatchewan Research Council, Natural Resources Canada, Enterprise Saskatchewan, Saskatchewan Ministry of Energy and Resources, Western Economic Diversification Canada		