



**NSERC
CRSNG**

Strategy for Partnerships and Innovation

University of British Columbia
December 7, 2010



Natural Sciences and Engineering
Research Council of Canada

Conseil de recherches en sciences
naturelles et en génie du Canada

Canada 

Outline

- NSERC
- Strategy for Partnerships and Innovation (SPI)
- Research Partnership Programs – Toolbox
- New initiative: Frontiers
- Successful Partnerships
- Questions

CONNECT. COLLABORATE. PROSPER.



Prosperity and high quality of life for Canadians

Vision and Mission

Natural Sciences and Engineering Research Council of Canada

We invest in:



discovery

Competitive research in science and engineering, providing access to new knowledge from around the world

innovation

Productive use of new knowledge in all sectors of the economy and society

EXCELLENCE

people

Highly skilled, well educated and capable of lifelong learning

Our goal is Canadian excellence in:

CREATING KNOWLEDGE

Research Grants for basic research in the universities

WORKING IN ALL AREAS OF SCIENCE AND TECHNOLOGY

Scholarships and fellowships for undergraduate and postgraduate students, postdoctoral fellows and some university faculty

USING NEW KNOWLEDGE

Partnerships of universities with industry and other sectors for project research

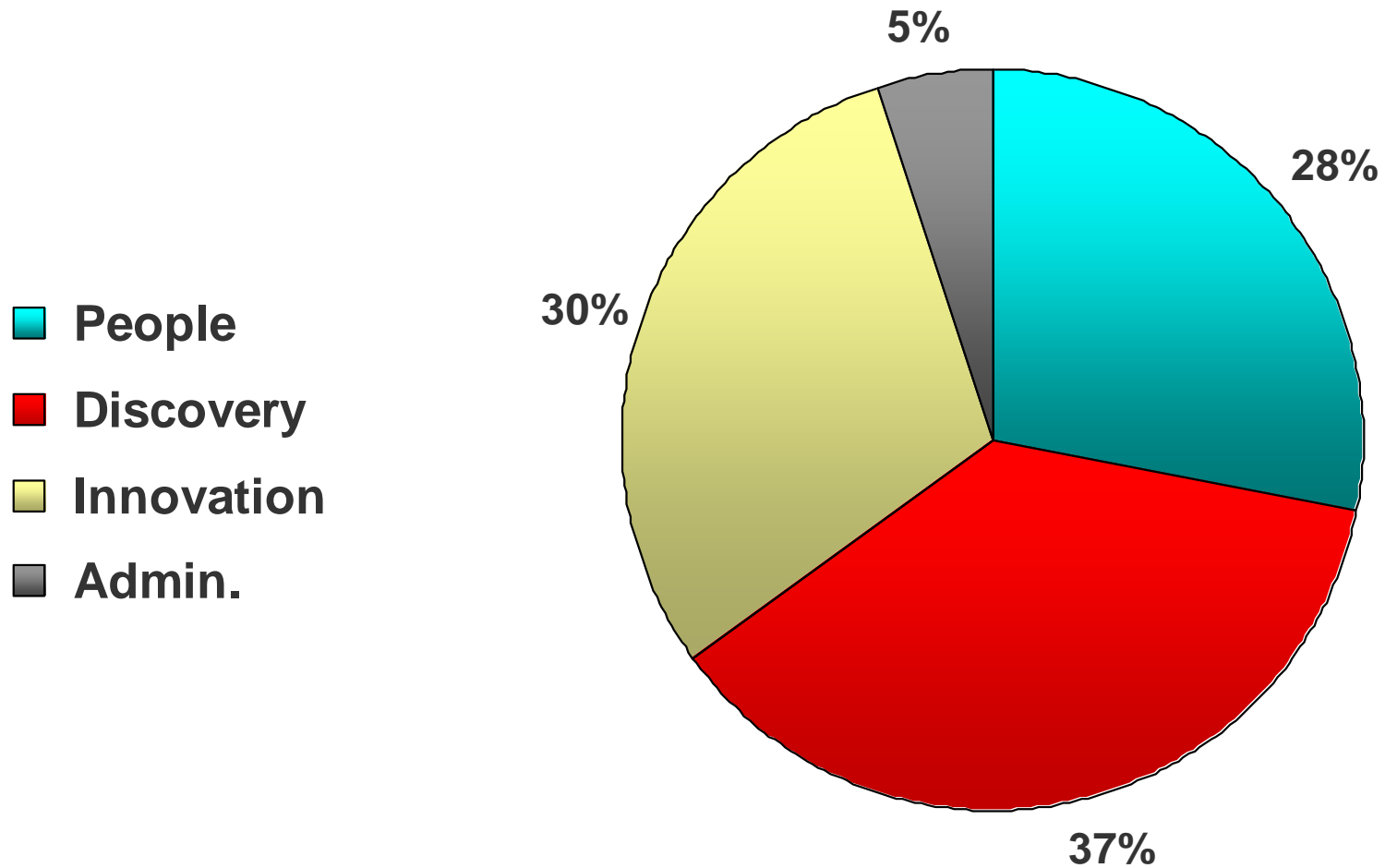
We do this through peer-reviewed competitions in three programs

CONNECT. COLLABORATE. PROSPER.



NSERC Budget 2010-11

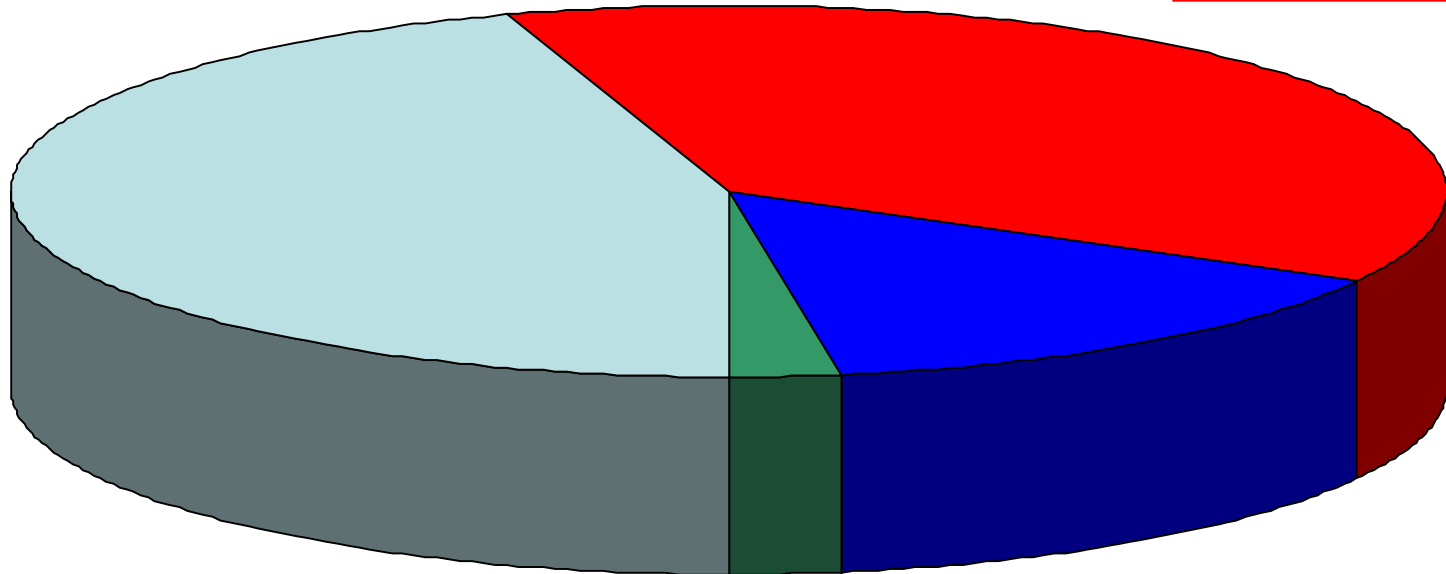
Total: \$1.08 billion



2010-2011 RPP Budget

**Strategic Partnerships
Programs (45.0%)**

**Industry-Driven
Programs (38.1%)**



AUTO (2.6%)

**Technology
Transfer / Commercialization
Programs (14.3%)**

Total: \$255.9M

Strategy for Partnerships and Innovation

- NSERC is Canada's largest source of grants for public-private R&D partnerships,
- NSERC works with many of the largest corporations that conduct R&D in Canada
- Only 7% of the some 20,000 R&D performing companies in Canada have partnered with NSERC.
- **Plan : DOUBLE the number of companies participating in NSERC innovation-focused programs over the next 5 years.**

CONNECT. COLLABORATE. PROSPER.



Strategy for Partnerships and Innovation

Four themes of SPI:

1. Building sustainable relationships
2. Streamlining access
3. Connecting people and skills
4. Focusing on national priorities

CONNECT. COLLABORATE. PROSPER.



Research Partnerships Toolbox

Strategic Partnerships (targets national priorities)

- Strategic Projects
- Strategic Networks
- Partnership Workshops
- Collaborative Health Research Projects
- **Innovation Frontiers**



Industry-Driven (Industry participation)

- Collaborative R&D
- Industrial Research Chairs
- Chairs in Design Engineering
- **Interaction**
- **Engage**



Regional Offices

- Bring perspectives and intelligence from across the country
- Forge linkages at local level
- Exercise more influence

Technology Transfer/Commercialization

- Idea to Innovation
- College and Community Innovation

CONNECT. COLLABORATE. PROSPER.



Interaction Grants

- Give companies that operate from a Canadian base and researchers from Canadian universities an opportunity to meet and identify a company-specific problem they could solve by collaborating in a subsequent research partnership.
- Maximum of \$5,000, for 3 months
- Trial started in late 2009
- Delivered by NSERC Regional Offices



CONNECT. COLLABORATE. PROSPER.



Engage Grants

- Foster the development of new research partnerships between academic researchers and companies that have never collaborated together before, by supporting short-term research and development projects aimed at addressing a company-specific problem.
- 6 month projects, maximum of \$25,000 from NSERC
- Not peer-reviewed, 4-6 week turn-around
- Partner owns the IP
- 412 applications received, 347 awarded; 89% success rate
- Delivered by NSERC Regional Offices



NEW!

CONNECT. COLLABORATE. PROSPER.



Strategic Projects and Strategic Networks



Focus on Strategic Target Areas

1. Environmental Science and Technologies
2. Information and Communication Technologies
3. Manufacturing
4. Natural Resources and Energy

CONNECT. COLLABORATE. PROSPER.



Strategic Projects and Strategic Networks

- Strategic Projects
 - 3 years, annual competition, \$150,000/yr (average)
- Strategic Networks
 - 5 years in length, \$1 Million/year maximum
- Partnership Workshops Program
 - funds workshops focused on building new collaborations between Canadian university researchers and government organizations and industry

CONNECT. COLLABORATE. PROSPER.



Collaborative Research and Development Grants (CRD)

- 1 to 5 years duration, usually 2 to 3 years
- Average grant \$55,000 per year, but can vary from \$10K/year to > \$400K/year
- *Industry responsible for at least 1/2 costs & must exploit results*
- Flexible leverage: cash and in-kind
- 80-85% success rate
- No fixed application deadlines
- **Can now include project management costs**



CONNECT. COLLABORATE. PROSPER.



Chairs For Women in Science and Engineering (CWSE)

Goal: to increase the participation of women in science and engineering and to provide role models for women considering careers in these fields.

- 5 Regional Chairs across Canada
- Flexible partners
- Maximum contribution from NSERC is \$70,000/yr
- Maximum of 2 terms

**BC-Yukon Chair is
Elizabeth Croft,
Professor in Mechanical
Engineering, UBC**

CONNECT. COLLABORATE. PROSPER.



Chairs in Design Engineering (CDE)

- Goal: To improve the level and quality of design engineering activity within Canadian universities
- working to establish 16 Chairs across Canada
 - Co-Chairs at UBC are Philippe Kruchten and Antony Hodgson
- flexible partners
- maximum contribution from NSERC is \$200,000/yr
- maximum number of two 5-year terms
- proposal can have multiple Chair holders and multiple eligible institutions

CONNECT. COLLABORATE. PROSPER.



Industrial Research Chair (IRC)

- Prestigious appointment of a distinguished researcher
- Industry provides 50% of cost in cash
- Initial appointment is for 5 years (renewable)
- Currently over 180 active Chairs
- A significant university research program is established or enhanced in area of interest to industry

CONNECT. COLLABORATE. PROSPER.



Technology Transfer Idea to Innovation (I2I)

- Support research and development projects with identifiable technology transfer potential
- To reduce technical risk and to demonstrate the commercial potential of university discoveries
- University ILO must commit to the project & work with the researcher/partners

CONNECT. COLLABORATE. PROSPER.



I2I is about products

- Goal is to generate economic activity for inventions originating from the university sector
- **Measure of Success?**
 - Technologies funded in Phase I are taken up by a Company; either licensed out or through the creation of a viable spin-off
 - Phase II projects lead to new market products

CONNECT. COLLABORATE. PROSPER.



Entry points into I2I

- **Phase I – Researcher without a partner**
 - **Objective: advance concept to attract partner**
 - **100% of direct costs, up to \$125k, 1 Year**
- **Phase II – Researcher with a partner**
 - a) **Early stage investor**
 - **NSERC 2/3 of direct costs**
 - **Maximum \$125,000 per project, 6 to 18 months**
 - b) **Company**
 - **NSERC 1/2 of direct costs**
 - **Company cash at least 40% of contribution**
 - **Maximum \$350,000 per project, 2 years**
- **New initiative: Market Assessment**



New Program - Frontiers



- Address national research priorities and global challenges by supporting a small number of major new transformative and integrative initiatives
- Generate substantial impact from a one-time injection of funding for a defined period, addressing challenges in areas of national importance
- An agile, flexible and responsive approach will promote strategic partnerships at the global level.
- No imposed structure; training of **HQP** not students is a requirement; not only advancing solutions to one company; strong focus on Benefit to Canada, focused on industrial innovation needs; **Scale** of project is imposed

CONNECT. COLLABORATE. PROSPER.



NSERC Frontiers: Two elements

Discovery and Innovation Frontiers

Discovery Frontiers – Interdisciplinary Discovery research group to address a major research challenge in a research area selected in consultation with COGS

2010-11 topic: Northern Earth System Research

Innovation Frontiers – Exceptional research opportunities of large scope and scale focused on enabling transformative industrial innovation and addressing issues of national importance

Not targeted, open call

CONNECT. COLLABORATE. PROSPER.



NSERC Innovation Frontiers

- Minimum amount from NSERC - \$1M/yr
 - Contribution from partners – \$500K/year (at least 1/3 of direct costs)
- Rapid turn around: 4 months; closely work with staff
- Management structure to best address national challenge
- HQP structure to best address national challenge
- Linkages to international initiatives and/or leading research groups in the given field of research required
- Lead applicant must have experience in leading large, complex, multi-stakeholder project

CONNECT. COLLABORATE. PROSPER.



Representative Opportunities

- Transformational research that industry by itself cannot or will not support due to its high risk but where success would provide dramatic benefits for Canada
- Early stage proof-of-concept level research and development efforts
- New technology development to meet different policy objectives with a view to sustainable development
- Consolidation of a critical mass of expertise to address a challenge of national importance that is impacting the competitiveness of Canadian industry

CONNECT. COLLABORATE. PROSPER.



Successful Partnerships

Letter of support clearly reflects the project

- confirms cash and in-kind contributions for each year.
- outlines the expected benefits – what is the company hoping to get out of the research
- the organization's support for and agreement with the proposal submitted to NSERC
- how the organization expects to integrate the results into its operations or to otherwise benefit from the anticipated outcomes;

CONNECT. COLLABORATE. PROSPER.



Successful Partnerships

- the further effort required to exploit the results in Canada;
- the potential for benefit to the Canadian economy and the relevant time frame;
- the anticipated interaction of the organization's personnel with researchers from postsecondary institutions

CONNECT. COLLABORATE. PROSPER.



Successful Partnerships

- in-kind contributions are well justified, essential to the project and supported with calculations
- proposal addresses the partner's need
 - For Engage – this is the whole point of the project
 - For other programs, this is integrated into the project

CONNECT. COLLABORATE. PROSPER.



Successful Partnerships

During the project

- Active collaboration
- Close communication
- Yearly letters of support from the partners
- Student placements/internships strengthen the relationship and help technology transfer

CONNECT. COLLABORATE. PROSPER.



Questions?

Monika Michalska

monika.michalska@nserc-crsng.gc.ca

Account Manager

Research Partnership Programs

NSERC**PARTNERSHIPS.CA**

