Mitacs

Mitacs 15 YEARS

Inspiring innovation

The Mitacs Story - Universities at the Forefront of Innovation

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Agenda

- The Mitacs Story
- Innovation – The Canadian Landscape
- How Mitacs fits
  - Policy
  - Programs
  - Evaluating Outcomes

The Mitacs Story – who we are

- National research network
- 15 years in operation
- Almost 10,000 research projects
- 60+ academic partners
- Owned by Canadian universities

Annual snapshot - 2013

$10.4M
PRIVATE SECTOR INVESTMENT

2000+
INNOVATIVE RESEARCH PROJECTS

900+
INDUSTRY PARTNERS

1700+
RESEARCH INTERNSHIPS

6300+
STUDENTS CAREER-READY

280+
INTERNATIONAL STUDENTS BROUGHT TO CANADA

60+
UNIVERSITY PARTNERS

260+
PROFESSIONAL SKILLS WORKSHOPS

The Mitacs network

- ✓ Computer science
- ✓ Engineering
- ✓ Anthropology
- ✓ Economics
- ✓ Chemistry
- ✓ Geography
- ✓ Health sciences
- ✓ Genetics
- ✓ Social work
- ✓ Forestry
- ✓ History
- ✓ Languages & linguistics
- ✓ Mathematics
- ✓ Business
- ✓ Education
- ✓ Interactive arts
- ✓ Psychology
- ✓ And more…

- **Small & medium business**
- **Large business**
- **Government**
- **Not-for-profit & hospitals**

Innovation – The Cdn Landscape
Where Canada Excels

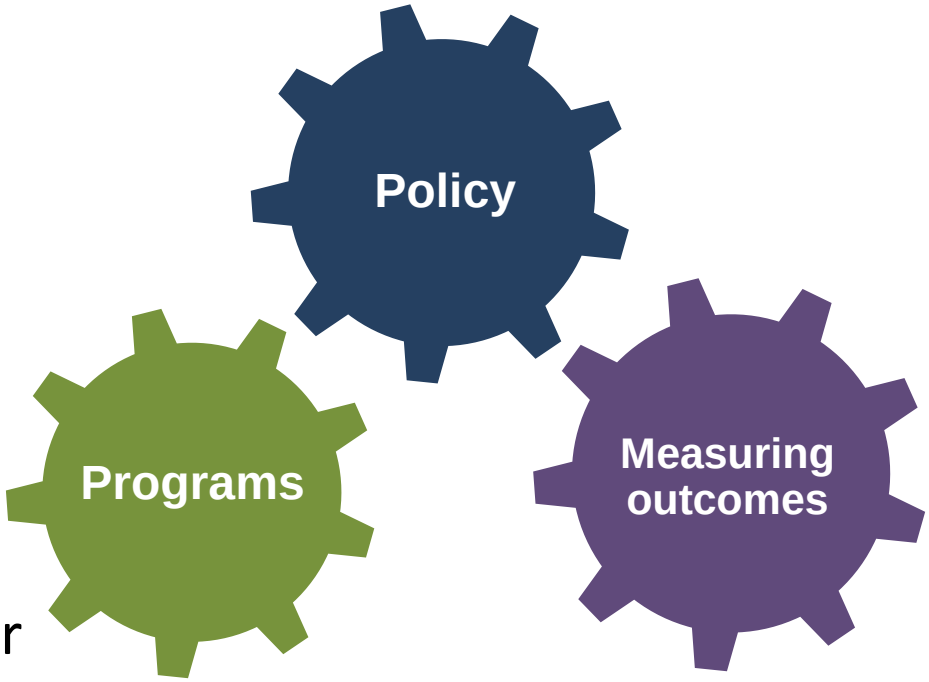
- **Extraordinary universities**
  - 0.5% of population produces …
  - 4.4% of leading academic publications
- **Highly educated**
  - First in % of population with PSE credentials
- **Entrepreneurial**
  - An international leader in forming start-ups

Where we need to improve

- **Canadian Productivity**
  - 38% lower than the US
  - Below the OECD average (and falling)
  - Most recently turned negative
- **Canadian R&D Performance**
  - Government spend to stimulate R&D: 1st in G7
  - Higher Education R&D spend: 2nd in G7
  - Business R&D spend: 6th in G7 (25th in OECD)
  - PhD production: 21st in the OECD

Mitacs

- Grown out of perceived gaps in innovation system
- Attract private sector funding
- Maintain high quality research
- Support all disciplines
- Attract international students to Canada
- Train graduates and postdocs for their careers
- Graduate students are the innovators of the future

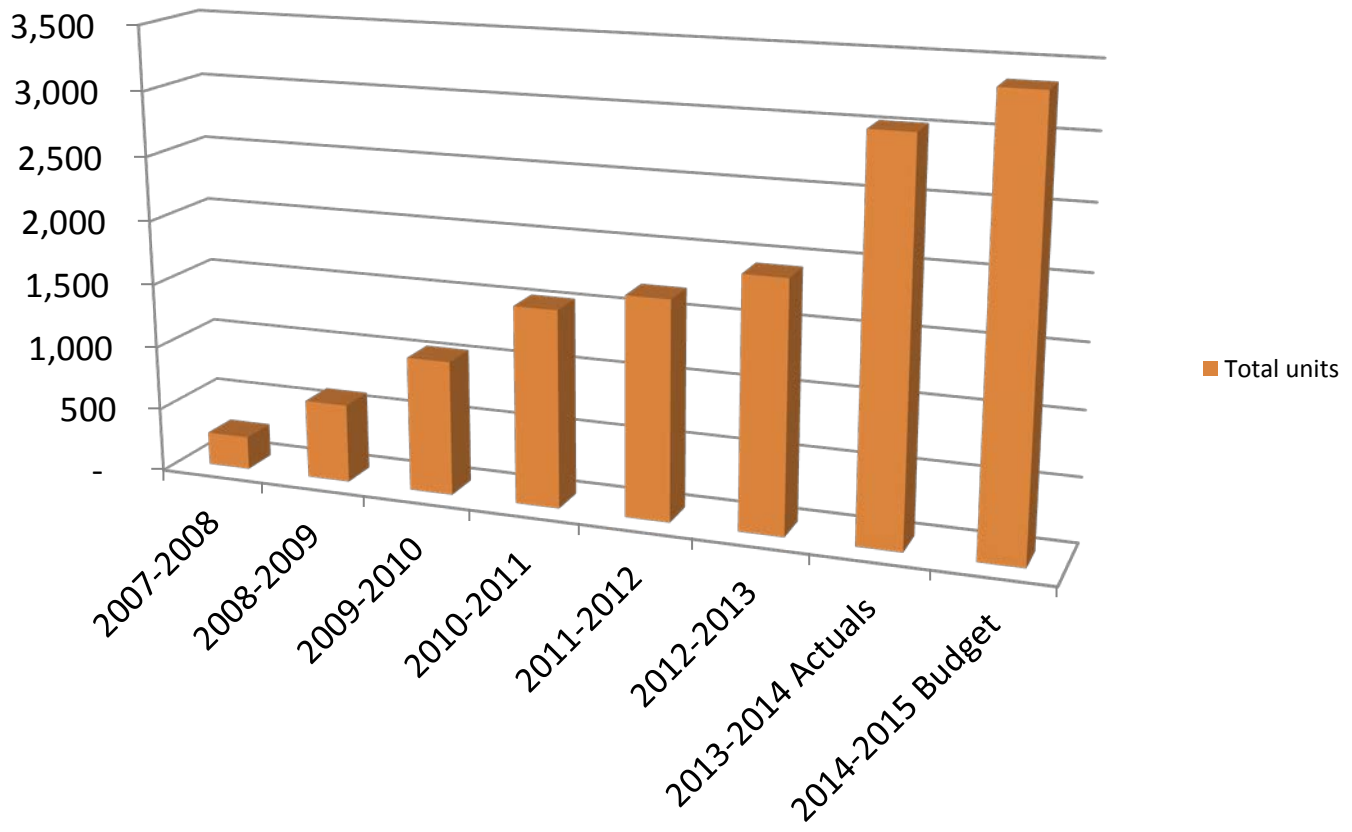


Mitacs Outcomes

- Over $190M direct research funding to Cdn universities in past 6 years
- Industrial funds invested in R&D activities through Mitacs $127M in past 6 years
- For Every $1 Federal Govt Invests, we leverage an additional $2.30
- Results suggest Mitacs responsible for the creation of 200 new R&D jobs annually
- Annual longitudinal studies
- Creation of Performance Measurement Frameworks for Mitacs major programs (Accelerate, Elevate and Globalink – in collaboration with Industry Canada)

Program growth

Mitacs research projects



Accelerate

- Provide graduate students with opportunity to apply research to industrial problems
- Provide industry with opportunity to work with graduate researchers
- Industry sees first hand value of applied research through improved processes or products
- Funding – one third industry (Cash), one third province and one third Federal
- Constraint is government funding

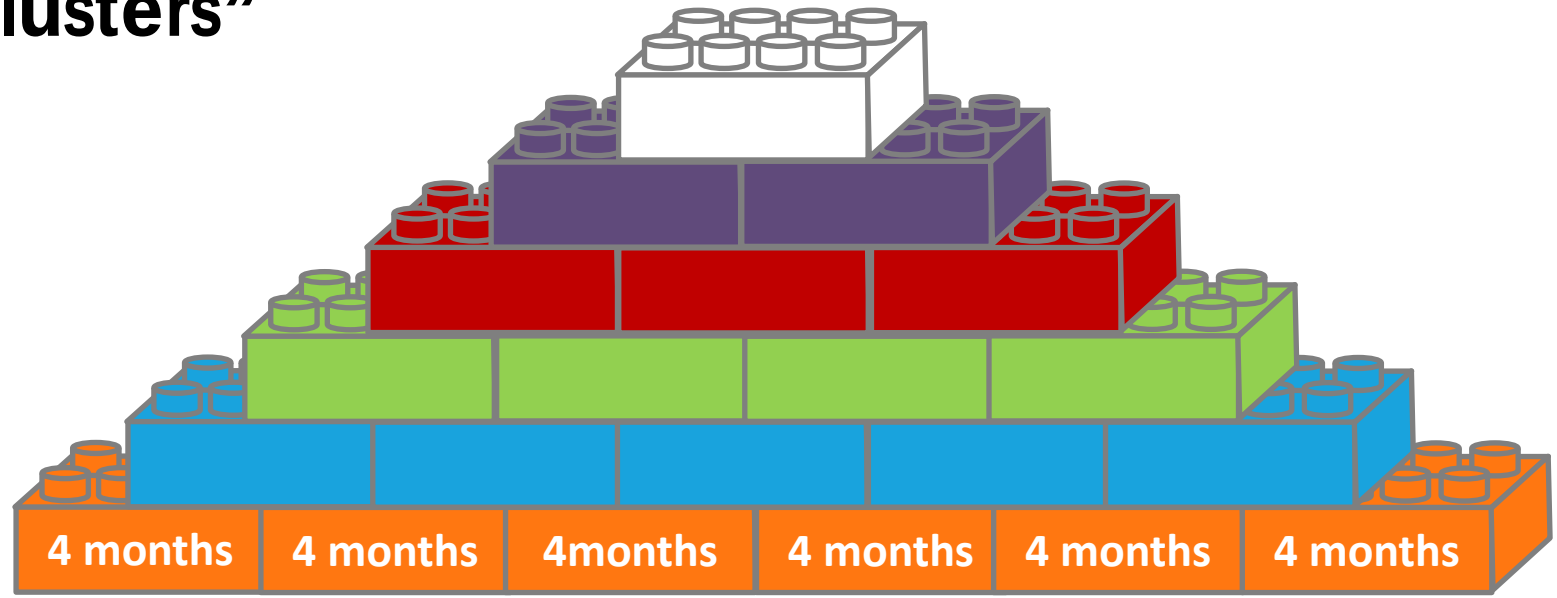
Mitacs Accelerate

Building research collaborations

- Large-scale, multidisciplinary projects
- 2,500+ research units a year
- From $15,000 to $2M+
- All disciplines
- Supports grad students and postdocs, including international students
- Peer reviewed

Mitacs Accelerate

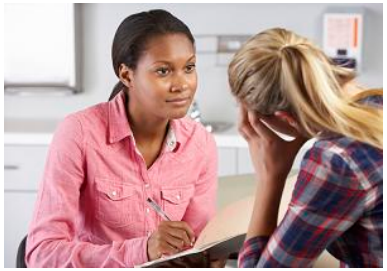
Scalability: build large-scale projects, “clusters”



- Access researchers from multiple disciplines for the same research project

Results of Longitudinal Study

- Positive impact on academic experience and skill development
  - 96% would recommend to a friend
  - Most interns feel more employable
- Positive impact on employment
  - 51% working in industry (48% with industry partner)
  - 14% started own company
  - 67% working in R&D environment
- Positive impact on retention
  - 91% currently live in Canada


Accelerate- the Next 5 Years

- Goal is 10,000 internships per year – currently at 2500
- Demand for program far exceeds government funds
- Looking at:
  - Sector strategy
  - Embedded internships in Masters programs
  - Co-Funded Business Development
  - Industry Account Management

Mitacs Accelerate

Elevate - Creating R&D leaders

- 12th in OECD in R&D Worker Deployment
  - 11% Canadian managers hold advanced degrees
  - 19% of US managers hold advanced degrees
  - Severe shortage of Science/Innovation Managers

Mitacs Elevate

Elevate - Creating R&D leaders

- Create R&D management leaders
- Focus on Professional skills and leadership development
- Two year fellowship - For postdoctoral fellows
- Research collaboration with private sector partner
- Open to any discipline
- Very competitive with peer review

Mitacs Elevate

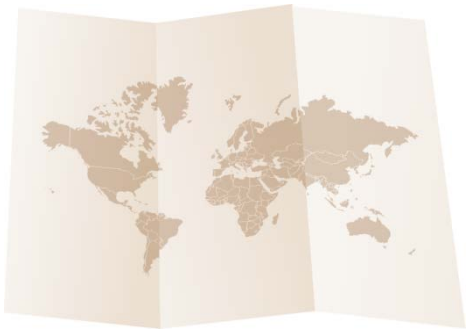
Elevate - the Next 5 Years

- Goal is 2,000 Fellowships per year – currently at 150
- Demand for program far exceeds government funds

Globalink Creating International Networks

- Research collaborations for senior undergraduate and graduate students
- Building international research networks
- Bringing the world's brightest students to Canada
- Overseas research opportunities for Canadian students
- Partner countries: Brazil, China, India, Mexico, Turkey and Vietnam

Two-way research mobility



Research Internship
Graduate Fellowship

Research Award
International Internships

Professional development exclusively for researchers
Step

- Taught by industry professionals
- For graduate students and postdocs
- Transferable skills increase employability
- No charge to participants
- Workshops include leadership, management, communications, relationship building entrepreneurialism



Mitacs – Internal Innovation

- **Pilots**
  - Converge

Connecting global industry with Canadian innovation
The Need

- Canada a company of small companies
- Research into how firms grow
- Many MNEs start out as suppliers
  - Microsoft (to IBM for PC software)
  - IBM (to US Government for Census taking)
- Supply Chain Innovation Clusters
  - Around anchor firm
  - May be government initiative (NASA)
- Large firms anchor the SME ecosystems
- How to create cluster effect without anchor

Global Innovation Supply Chains

Growing Firms through Connecting to Global Supply Chain- The Timeline

- 2007: First Contact
  - Business development meeting with UBC UILO
- 2008-10: Initial Exposure
  - First project (UBC/SFU) leverages Accelerate in BC
  - Additional Accelerate-leveraged projects in Ontario and Nova Scotia
- 2009-11: Systematic Study
  - Understand needs of obligors
  - Realize Public Private Consortiums (PPC) are under utilized
  - Develop Mitacs-managed PPC model

Connecting global industry with Canadian innovation- Timeline

- 2011-12: Strategic Partnership (Boeing)
  - Leverage Mitacs Programs at four universities
  - International collaboration
  - Three projects approved by Industry Canada by December 2012
- 2012: Formal Launch
  - Agreement templates and reporting processes
  - Analysis of delivery models

Growing Firms through Connecting to Global Supply Chain- The Challenge

- Create a methodology that:
  - Responds to the R&D needs of the MNE
  - Matches MNEs with Canadian firms (SMEs) and universities to create multiple “instant” simple PPCs
  - Grows Canadian firms by connecting them with global innovation supply chains
  - Utilizes Mitacs matchmaking expertise
  - Provides access to funding for Research, Innovation and Pre commercialization
  - Is non-competitive with university direct relationships with ITB obligors
  - Includes HQP training and retention

The Solution: Converge

- Converge “aims to grow Canadian firms by connecting them to global markets through innovation partnerships with MNEs and Canada’s world-class academic community”.
- Developed from the public-private consortium model that was the core of Mitacs IRB (now ITB) strategy.
- Mitacs role:
  - MNE and topic identification
  - Identifying suitable partners within Canadian industry and academia
  - Managing and disbursing project funding
  - Supervision and management of individual projects
  - Reporting

The Solution: Converge

- MNE, in consultation with Mitacs, nominates innovation challenge/topic and allocates funding “envelope”
- Mitacs issues call for Letters of Intent (LoI). Responses can come from companies (mainly SMEs), universities, or existing partnerships
- LoI submissions reviewed by Mitacs and MNE.
- Selected applicants are invited to submit a full proposal.
- Full proposals can be developed without going through the call/LoI steps if the MNE/SME relationship already exists

Program Status - Converge

- Proof of concept established through IRB projects
- Strong encouragement from Federal and Provincial stakeholders
- First “Converge”-branded CFP closed April 30
- University and SME-recruitment partnerships in place
- MNE engagement under way (30+ MNEs, approx 50% non-ITB)
- 3 calls forecast over next 3 months

Mitacs Policy

- Released The 2013 Canadian Postdoc Survey: Painting a picture of Canadian Postdoctoral Scholars in collaboration with the Canadian Association of Postdoctoral Scholars (CAPS)
- Follow-up analyses of postdoc data resulting in: 22 university-specific postdoc reports and 8 province-specific postdoc reports); a report on international postdocs; and a report on postdoc training and career options (to be released shortly)

Mitacs Policy

- Collaborating with the Public Policy Forum on a research project to explore what drives the decisions of large multinational corporations to set up R&D and other innovation-related activities in Canada
  - understand the impact that the presence of universities (research expertise, academic-industry collaboration opportunities, and access to HQP) has on these decision-making processes

Mitacs Policy

- Drafted white paper on evaluation of innovation programs titled Innovation Program Evaluation: a framework for measuring effectiveness, efficiency
- Congress 2014 - Led panel titled Life after graduation: Preparing for a career after graduate school or postdoctoral research
- Measuring the impact of Humanities, Social Sciences, and Arts research
- CSPC 2014 leading panel at titled Looking to 2020 and beyond: Training the next generation of innovation leaders in Canada (October, 2014)

Thank You