

Evaluation of Commercialization of Research - CECR

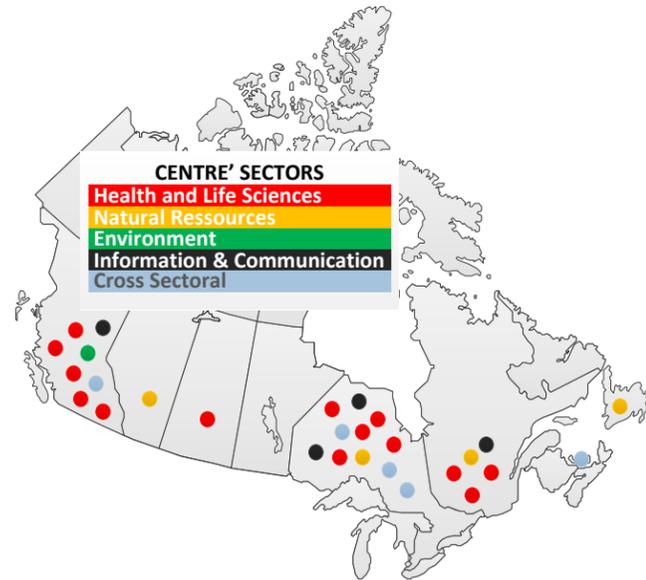
NSERC/SSHRC EVALUATION DIVISION 2017

Relevance

- Canada has gaps in innovation and commercialization capacity which the program aims to fill by bridging academia to industry, increasing access to early-stage funding, skill development, and enabling access to commercialization infrastructure. Few other federal initiatives address this niche.
- Acknowledging the complexity of innovation needs, the program allows for broad flexibility in centre design and implementation.
- Program objectives are consistent with all three funding agencies priorities. However, none of the centres funded focuses on commercializing innovations that have emerged from the SSH.
- Current implementation of the program may be shifting away from the notion of bridging the gap between academic research and commercialization. The requirement for self-sustainability has likely contributed to such a shift.

1: Continue to deliver the CECR program and allow flexibility in centre delivery models

- Relevance of the CECR program objectives to Canadian needs and agency priorities as well as achievement of commercialization outcomes justify continued delivery.
- Centres are naturally adopting a range of delivery models which correlate with different positive outcomes. This suggests that flexibility is an asset, allowing the program to address multiple commercialization challenges.
- Management should consider the value of/need for direct connection to academia as well as the value of/need for incorporating a broader perspective on what constitutes innovation.



Self-Sustainability Outcomes

- For every \$1 the CECR program provided, centres leveraged an additional \$2.30.
- Most centres continue operations after CECR program funding. However, discontinuation of CECR funding often results in scaling back activities and may undermine centre alignment with CECR program objectives.
- Centers need longer to become self-sustainable, particularly health centres (i.e., Commercialization Arms and Investors) due to longer time frames, higher costs, and more demanding regulatory requirements.
- Stakeholders are unclear on how the CECR program defines self-sustainability.

2: Allow more time for centres to achieve self-sustainability and clarify how the CECR program defines self-sustainability. Specifically, the CECR program should:

- Lengthen funding cycles or provide additional extension opportunities.
- Clarify the program's definition of self-sustainability, distinguishing between independence from CECR funding and total independence from public sector funding.
- Provide guidance on expectations regarding centre activities and impacts after CECR funding.

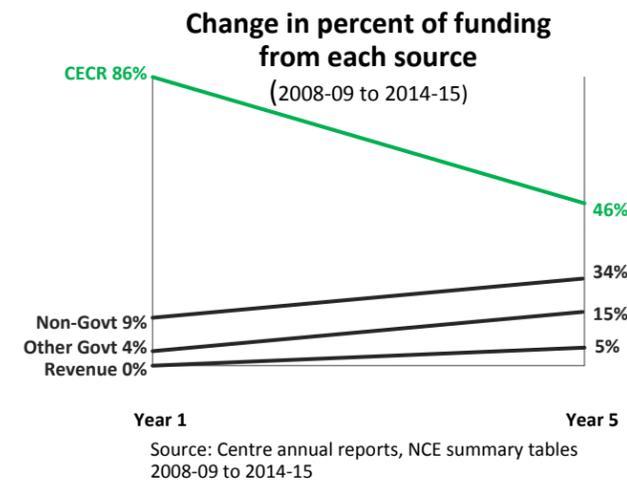
Efficiency & Economy

- Administrative costs are 5% of program expenditures.
- Operational efficiency is comparable to the NCE and BL-NCE programs.
- The CECR program is generally believed to be well delivered.
- Advantages to not-for-profit requirement are believed to outweigh challenges.
- Respondents identified areas for improvement.

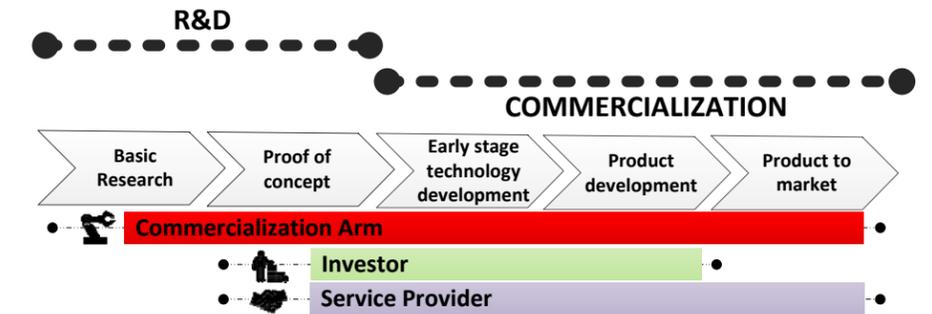
3: Consider appropriateness and feasibility of the following potential areas for improvement:

- Clarifying: definition of 'benefit to Canada', relative importance of regional vs. national representation for centres.
- Providing additional opportunities for communication with PSAB as part of the review process & more clarification to applicants regarding respective PSAB and Expert Panel roles and mandates.
- Increasing/formalizing coordination with provincial commercialization strategies & opportunities to share lessons learned across centres.

Most centres have decreased reliance on CECR funds



Evaluation Findings: The CECR program is highly flexible. As a result, it is difficult to compare outcomes across centres or aggregate outcomes in a meaningful way. To address this limitation, the evaluators developed a typology in which centres are grouped according to key design and delivery characteristics. Outcomes were then analyzed based on this typology, allowing the evaluators to draw conclusions based on centre type. Where appropriate and possible, analysis was also conducted based on sector.



	Commercialization Arm	Investor	Service Provider
PREDOMINANT SECTOR	Health	Mainly health (4/5)	Non Health
CLIENT	Self (i.e., the centre)	Academics	SMEs, start-ups
MAIN ACTIVITY	Advance own technology	Advance technology or provide services/advice	Provide services and advice
PROCESS TO ACCESS	Exclusive	Competitive	Competitive or not
SUSTAINABILITY MODEL	Core asset development: centre develops its own company and/or technology	Investment: Centre supports other companies/IP holders in exchange for equity or license	Fee for service/memberships
APPROACH TO REVENUE GENERATION	Royalties/license fees Selling equity Income from sales	Royalties/license fees Selling equity	Royalties/license fees; Selling equity; Income from sales
# OF CENTRES (from case study sample n=14)	2	5	7

Source: CECR Evaluation Case Study. Case study sample: 14 centres/29, (104 interviews)

Commercialization/Economic Outcomes

- Centre-supported companies outgrow comparators in: sales, R&D expenditures, number of employees, and wages expenditures.
- Flexibility in program design contributes to different centres achieving different outcomes. Investors/health centres most often support new company creation and IP protection. Service Providers/non-health centres most often support speed to market, company growth, and company competitiveness.
- It is too early to assess commercialization or economic outcomes for Commercialization Arms.

Between 2010-11 and 2014-15, centres supported:

- Bringing 643 new products/services to market;
- Obtaining 313 new patents;
- Granting 112 new licences; and
- Creating 222 new companies.

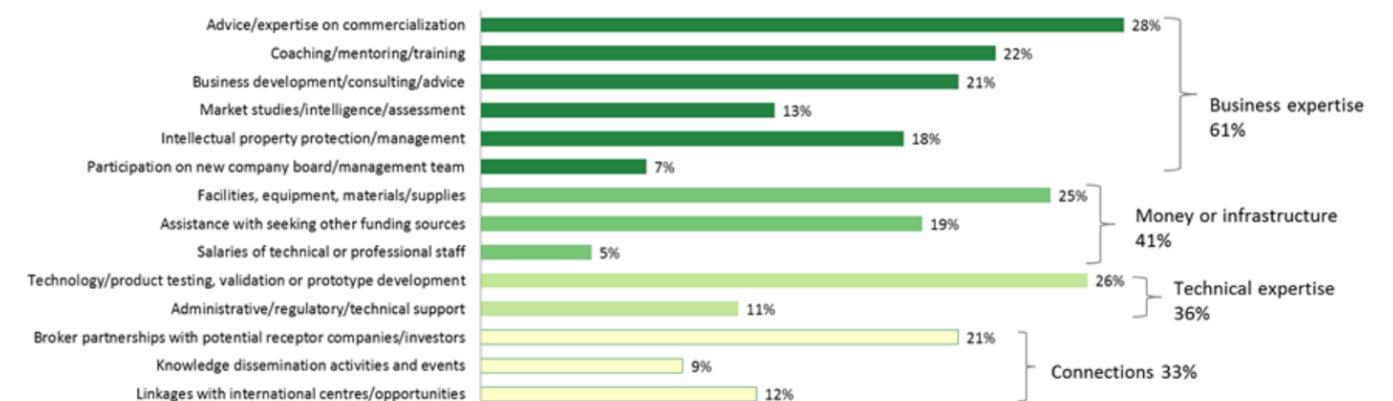
Centre-supported companies have better commercialization and economic outcomes than unsupported companies. Specifically, they see a significant growth premium in sales (54%), R&D expenditure (25%), number of employees (24%) and wages (8%) in comparison to unsupported companies. **Note:** Growth premium refers to the absolute difference in growth between centre-supported companies and the comparison group at year three

	Health	Non-Health
Increased organisation competitiveness	39.5% (n=56)	60% (n=231)
Economic, social, cultural benefits	10% (n=50)	39% (n=159)
Accelerated time to market	24% (n=58)	50% (n=178)
Growth of organization	14.5% (n=48)	37% (n=173)

Figure 11A shows, out of those clients that indicated they have already achieved each of the specified outcomes, the proportion that are clients of centres in the health and life sciences and the proportion that are clients of centres in other sectors. **Note:** only outcomes with statistically significant variations between sectors or delivery models are shown (P<.05)

Source: Web-Based Survey with centre participants (n=427, 32% response rate)

Types of assistance considered by clients to be most useful



Source: CECR Evaluation Survey of centre-supported organizations 2016, (n=427, 32% response rate). For this question: n=126