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CANADA FOUNDATION FOR INNOVATION | FONDATION CANADIENNE POUR L'INNOVATION

Innovation Fund 2023

Canada Foundation for Innovation (CFI)

Budget and Benefit Workshop – June 2021

Today's talk

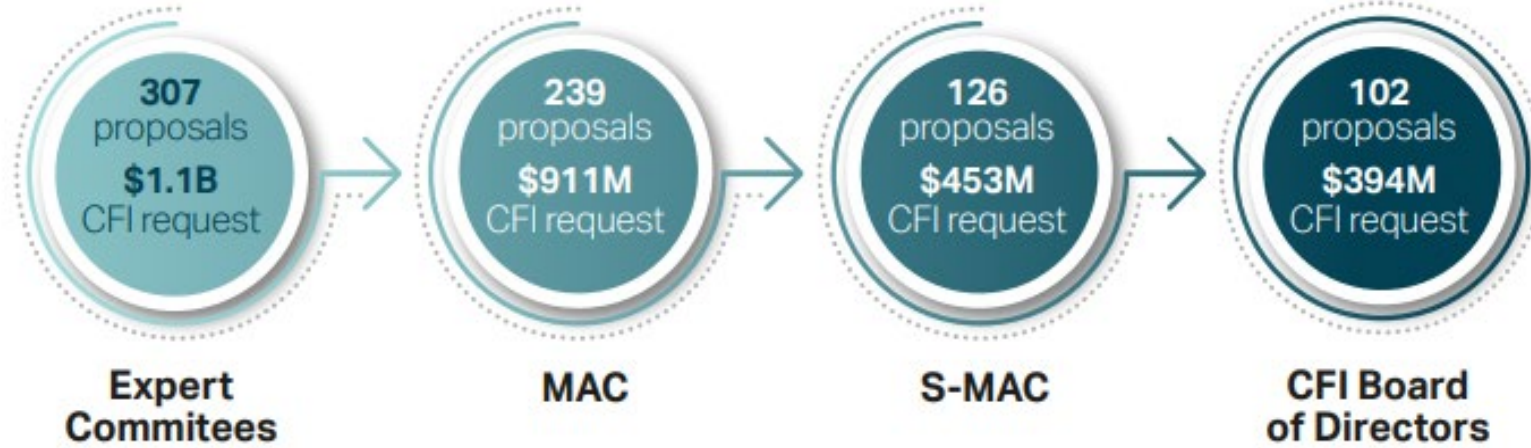
- CFI Innovation Fund
 - 2020 competition – by the numbers (post mortem)
 - Funding model
 - Capital Budget and Eligibility
 - Financial Module
- Operations and Maintenance (IOF) Budget Eligibility
- Socioeconomic Benefits
- Q&A (throughout the presentation or after)

CFI Innovation Fund: objectives

The CFI Innovation Fund supports ***transformative infrastructure*** projects that underpin cutting-edge, globally competitive research. Its objectives are to:

- ***Enable global leadership***
- ***Enhance and optimize the capacity of institutions and research communities***
- ***Lead to social, health, environmental and/or economic benefits***

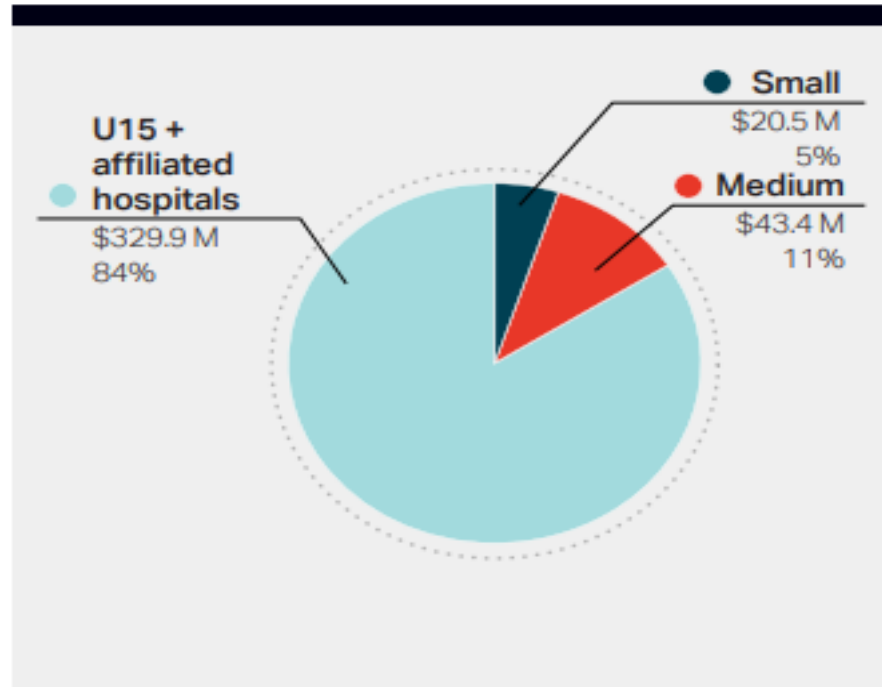
Summary of the Merit review results for the 2020 Innovation Fund



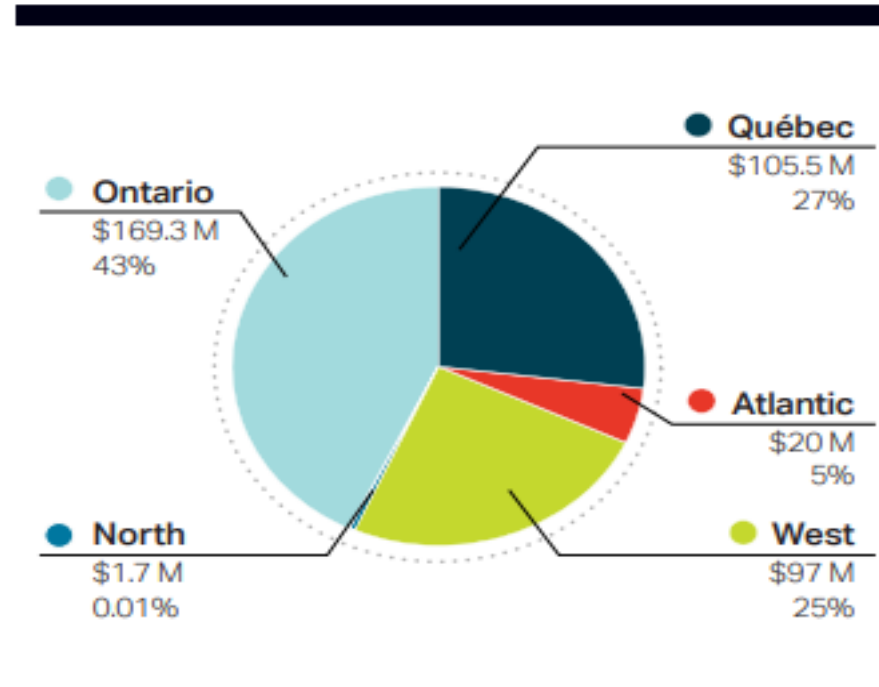
*O&M costs are not included in these \$ amounts

Distribution of awards

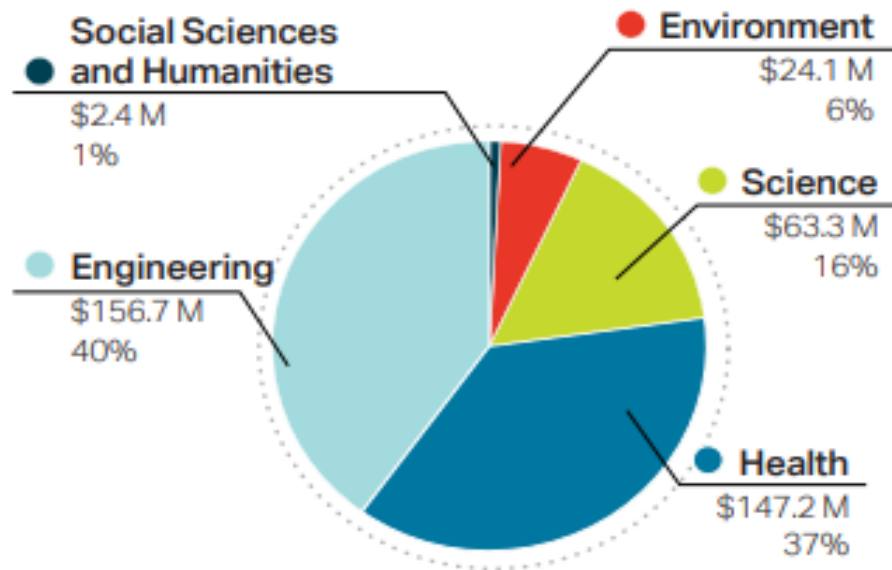
By size of institution



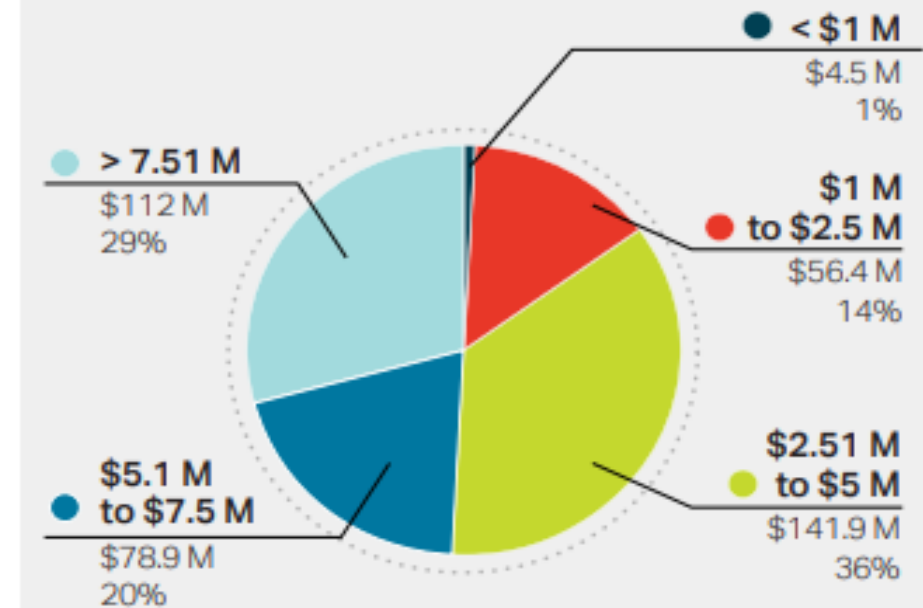
By region



By sector

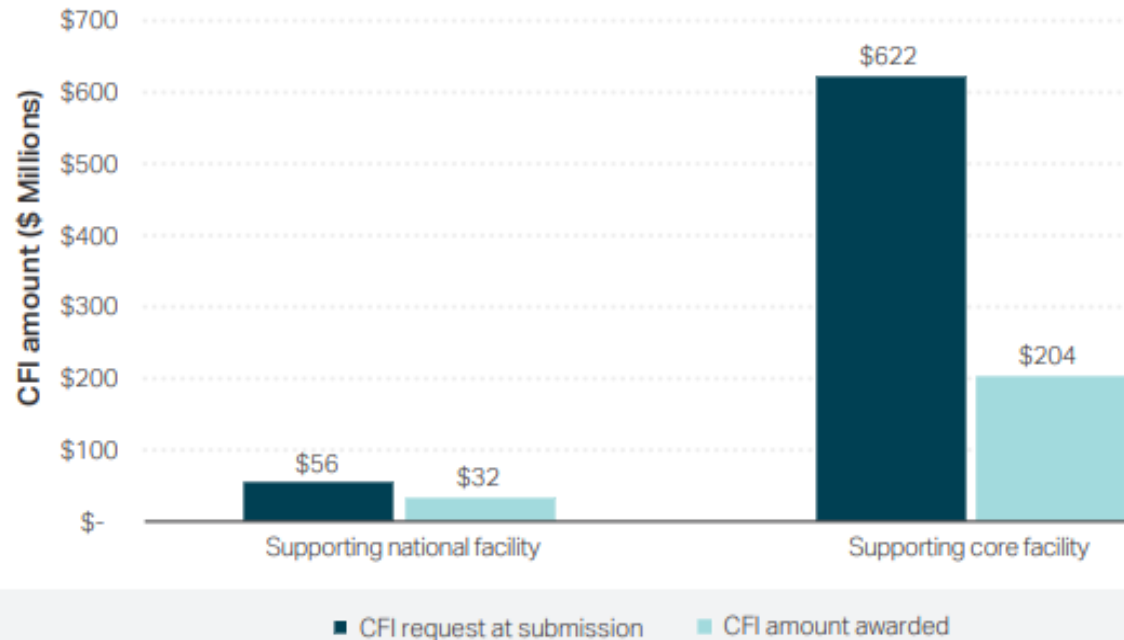


By CFI requested amount



Awards that will support core or national facilities

Support for core or national facilities by amount awarded / requested



Of the \$394M awarded:

National = 8%

Core = 69%

60% of funding went to core or national facilities

CFI Capital Funding Model

- **CFI 40% (maximum)** / Province 40% / Eligible Match 20%
- Provincial Funder – British Columbia Knowledge Development Fund (BCKDF) and/or ***other provinces for national projects***
- BCKDF approval follows CFI approval (2 steps)
- Eligible Match:
 - CFI “in kind” discounts and/or select items at \$0 cost
 - Other cash sources – internal or external, not tri-agency

CFI Matching Support

- For CFI in-kind discounts, CFI-priced quotes are required to support the match. Must be a “CFI” discount
- Other sources of cash must be identified with written confirmation from the source (internal & external purposes)
- All match needs to be confirmed / expected prior to proposal submission

What is eligible capital?

- Acquisition and development of infrastructure that enables the proposed world-class research program
- Personnel – design, engineer, manufacture, installation
- ***Personnel – Project Management****
- Construction and renovation, exclusively for research
- Databases, digital libraries, advanced research computing (ARC)
- ARC over \$100k will normally be managed and operated by Compute Canada (discussed in proposal)

CFI Financial Module

- ISA has an internal spreadsheet for budget development
 - CFI lead, Financial Analyst, and ISA assigned RPM to assist teams
- Budget is developed based on quotes received from research team
- Populated in CFI Awards Management System (CAMS) by ISA – sample
- As these are institutional awards, all financials are CFI lead's responsibility

Cost of individual items

Item #	Type	Item description	Number of items	Eligible costs		Total \$	Date acquired (YYYY/MM) or to be acquired (YYYY)
				Cash \$	In-kind \$		
HUMAN							
2	13	Motor Function of the Upper Body	1	340,807	78,763	419,570	2018
3	13	Motor Function of the Lower Body	3	272,593	70,532	343,125	2018
4	13	Balance	3	50,979	11,532	62,511	2018
5	13	Physiological Parameters	2	98,412	18,659	117,071	2018
MECHANICAL							
7	13	Rapid Manufacturing	3	264,437	70,219	334,656	2018
TRANSDUCERS AND ELECTRONICS							
9	13	Printing	2	1,616,884	464,148	2,081,032	2018
10	13	Doping	2	1,491,870	532,908	2,024,778	2018
11	13	Polymeric Filaments	2	337,635	13,815	351,450	2018
12	13	Films and Coating	3	236,862		236,862	2018
13	13	Electronics	5	101,712	22,065	123,777	2018
SMART GARMENTS							
15	13	Knitting Machines	7	777,371	73,033	850,404	2018
16	13	Embroidery Machine	1	127,772	25,266	153,038	2018
17	13	Sewing Machines	5	27,217	10,225	37,442	2018
18	13	Steaming and Vacuum Pressing	1	10,409	4,919	15,328	2018
19	13	Thermo Welding Machine	1	40,938		40,938	2018
20	15	Personnel - Consulting	1	120,000		120,000	2018
CHARACTERIZATION							
22	13	Characterizing the Technology	4	740,712	268,069	1,008,781	2018
Total eligible costs				\$6,656,610	\$1,664,153	\$8,320,763	

Cash and in-kind
clearly delineated

Item # to follow
same order as
presented in
infrastructure
section of the
assessment criteria

Capital Budget Examples

\$5M Regional Health Care Facility (SFU-led)

\$2M CFI (40%)
\$2M BCKDF (40%)
\$800K Vendor CFI in-kind discount
\$100K Regional Hospital cash donation
\$100K Secure database development in-kind
\$5M Total

Contribution breakdown

\$4.1M cash
\$900K in-kind
\$5M Total

\$15M National Health Care Facility (SFU led)

\$5M CFI (40%)
\$3M BCKDF
\$1M Ontario provincial match
\$1M Quebec provincial match
\$1.5M Vendor CFI in-kind discount
\$250K Multiple Regional Hospital cash donations
\$250K Secure database development in-kind
\$500K Private Donations
\$15M Total

} (40%)

Contribution breakdown

\$10.25M cash
\$4.75M in-kind
\$15M Total

CFI Operating Fund

- CFI contributes up to 30% of their capital contribution towards the operations and maintenance of the CFI capital = Infrastructure Operating Fund (IOF)
- E.g. CFI capital award of \$1M = \$300,000 for IOF
- Match is not required but other sources contribute to longer term sustainability plan and covers the 'useful' life of the equipment
- IOF but one part of the sustainability plan
- Once IOF account set up internally, **centrally-held funds** can be accessed via ISA for up to five years or until the allocation runs out – whichever comes first
- 5 year IOF - in project module and aligned with sustainability criteria

Financial resources for operation and maintenance

These tables outline annual costs and sources of support committed to ensuring effective operation and maintenance of the infrastructure for the first five years after it becomes operational. They do not include costs related to research and/or technology development. When applicable, funding from CFI's Infrastructure Operating fund (IOF) is included in the institutional contributions category.

Operation and maintenance budget summary

Costs	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Personnel	130,000	130,000	140,000	150,000	160,000	710,000
Supplies	80,500	80,500	85,500	90,500	96,492	433,492
Maintenance and repairs	0	20,000	50,000	50,000	50,000	170,000
Services	0	0	0	0	0	0
Other (specify)	0	0	0	0	0	0
Total	\$210,500	\$230,500	\$275,500	\$290,500	\$306,492	\$1,313,492

Funding sources

Funding sources	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Institutional contributions	170,500	175,500	215,500	210,500	226,492	998,492
Other organizations	20,000	30,000	30,000	40,000	40,000	160,000
User fees	20,000	25,000	30,000	40,000	40,000	155,000
Other (specify)	0	0	0	0	0	0
Total	\$210,500	\$230,500	\$275,500	\$290,500	\$306,492	\$1,313,492

Eligibility?

Only costs related to operate and maintain the approved CFI infrastructure

Transition ...

Objective 3: Lead to social, health, environmental and/or economic benefits for Canadians

Requirements:

- A well-defined plan for the **transfer and/or translation of the research or technology development results** is articulated.
- The research or technology development results are likely to lead to **socioeconomic benefits for Canadians**.
- A clear plan for **training and enhancing the skills of highly qualified personnel** is articulated.

IF 2020: Strengths

- Partnerships with industry, direct links
- Capability to generate IP, patents etc.
- Successful track record of the team
- Multidisciplinary projects and industry internships for HQP
- Transferable skills for HQP
- Detailed analysis of career paths of HQP

IF 2020: Weaknesses

- Missing important details, vague, underdeveloped
- Limited breadth of potential impact
- Not enough detail on scientific impact
- Missing contingency plans
- Unclear how benefits will be achieved
- Unclear how the research will translate to policy

IF 2020: Recommendations

Comments from external review panel:

- Don't use rhetoric or hyperbole – demonstrate that the benefits are real and tangible
- Don't try to be “all things to all people” – focus on the key benefits

Benefits should be:

- S – specific
- M – measurable
- A – achievable
- R – relevant (to Canadians)
- T – time-bound AND **tied to the infrastructure request**

Benefits to Canada - Example

“The wearable technology industry was worth ~\$40B in 2018 and is forecast to grow quickly to reach \$150B by 2026 [32]. In Canada, numerous start-ups such as SonicWear (Toronto) and OmSignal (Montreal) are developing transformative products. The proposed research will help position the Canadian wearable tech industry at the forefront of this emerging and rapidly growing sector, by giving it a strong technology advantage over other global competitors. Furthermore, the technology developed through this project will be commercialized and manufactured in Canada, thus directly creating further jobs for Canadians.”

Benefits to Canada - Example

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Benefits to BC - Example

*“In **BC**, startups such **Wiivv** (custom footwear from a phone app), with headquarters in **Vancouver**, and **XCO Tech** (human health and performance), headquartered in **Penticton**, are developing transformative products.”*

*“Opportunities for job creation as a result of this program are anticipated in apparel.... Today, **Vancouver** has **>200** apparel companies ... all enabling the **BC** apparel industry to gain a share of both Canadian and global markets [2,3]. This sector has experienced substantial growth since **2010** and is expected to continue to grow, with forecasts of at least **11,000** jobs by **2025** [4].”*

HQP Training

- # of HQP to be trained (students, PDFs, RAs etc.)
- Development of both technical and professional skills
- Unique training opportunities
- Demand for HQP and possible career trajectories
- Collaborative or interdisciplinary training
- Exposure to other sectors (government, industry)
- National/international mobility opportunities
- Synergies with other training programs (e.g. NSERC CREATE)
- **Diverse and inclusive training environment (EDI)**

HQP Training

- **Diverse and inclusive training environment (EDI)**
 - Use inclusive language on job postings and advertise widely
 - Develop transparent evaluation criteria and standard interview questions
 - Establish policies for distributing training and mentoring opportunities
 - Provide EDI training and resources for team members
 - Plan lectures/visits by members of underrepresented groups
 - Allow flexible work schedules
 - Conduct an accessibility audit
 - Integrate trainees into governance/management structure
 - Collect and report data; monitor and evaluate progress



SFU Resources

- [SFU Knowledge Mobilization](#)
- [SFU Innovates](#)
- [Technology Licensing Office](#)
- [Partnerships Hub](#)
- [Big Data Hub](#)
- [Community Engaged Research Initiative](#)
- [Centre for Educational Excellence](#)
- [Institutional Strategic Awards](#)

The ISA Team

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Javier Tavitas

Fiona Haynes

Award Specialist

Joanne Kienholz

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Associate Director, Post-Award & CFI Lead

Charlene Allard

Research Project Managers

Mark Campbell

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Kim Sivak

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Discussion/ Questions

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