



2015 REPORT ON RESULTS

An analysis of investments in
research infrastructure

ABOUT THE CANADA FOUNDATION FOR INNOVATION

Created by the Government of Canada in 1997, the Canada Foundation for Innovation (CFI) strives to build our nation's capacity to undertake world-class research and technology development to benefit Canadians.

The CFI's expected results are to enhance the capacity of institutions to:

- attract and retain the world's top research talent;
- train the next generation of researchers;
- enable researchers to undertake world-class research and technology development that lead to social, economic and environmental benefits for Canada; and
- support private-sector innovation and commercialization.

Since its creation, the CFI has committed more than \$6.6 billion in support of 9,111 projects at 145 research institutions in 70 municipalities across Canada (as of July 2015). For more information about the CFI, please visit <http://www.innovation.ca>.

THE REPORT ON RESULTS

The purpose of the Report on Results is to provide a summary of the outputs and outcomes achieved through CFI-funded infrastructure as they relate to the overall objectives of the CFI, based on information provided through annual Project Progress Reports (PPRs). The PPR is an online questionnaire which is completed by the project leader and submitted by the host institution. Institutions are required to submit a PPR for each funded project by June 30 each year, for up to five years after the infrastructure becomes operational. The data collected pertains only to the past year (CFI fiscal year April 1 to March 31). Data is self-reported, and not independently verified.

For information on the composition of the 2015 PPR sample, see the Appendix.

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Researcher retention

93% of project leaders reported that CFI-funded infrastructure was important in their decision to stay at their institution. This demonstrates that infrastructure **played a key role in the retention of some of Canada's best researchers.**

Importance of infrastructure in decision to stay at institution

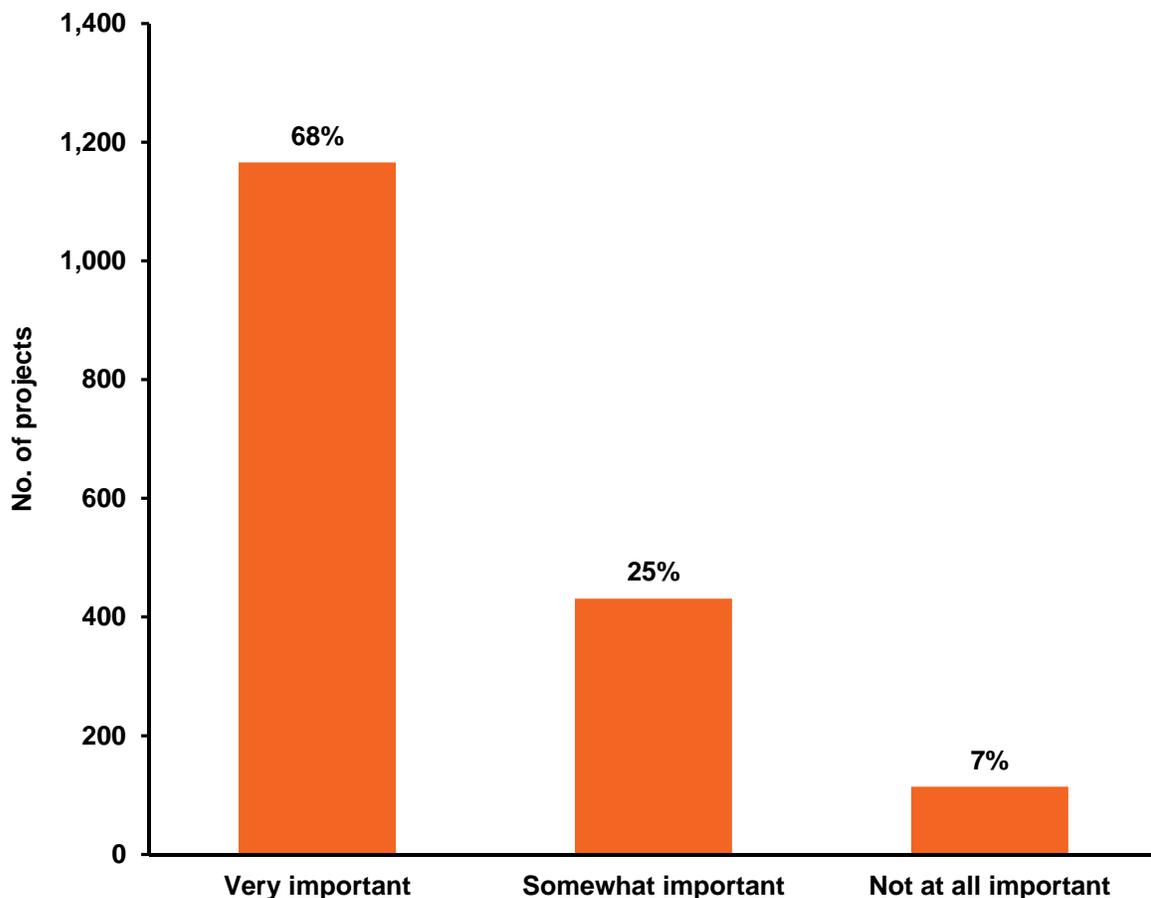
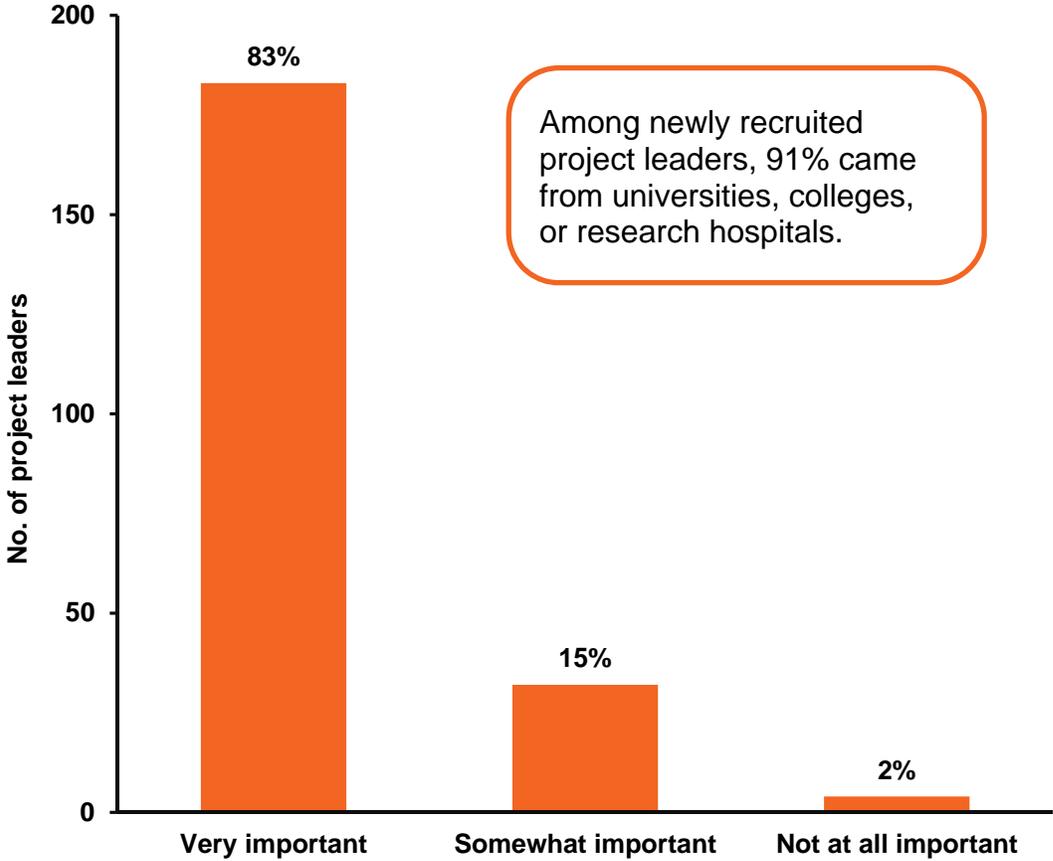


FIGURE 2

Researcher attraction

Among the 451 project leaders who submitted a report for the first time, 49% (219) reported that they were newly recruited to the institution. 98% of them stated that the availability of CFI-infrastructure was **an important factor in their decision to join the institution.**

Importance of infrastructure in decision to join the institution



International talent

Among 219 project leaders newly recruited to the institution, about half came from outside Canada with 58% of these international recruits coming from the United States. Of those from outside Canada, half were foreign citizens, suggesting CFI-funded infrastructure **contributed to attracting international talent**.

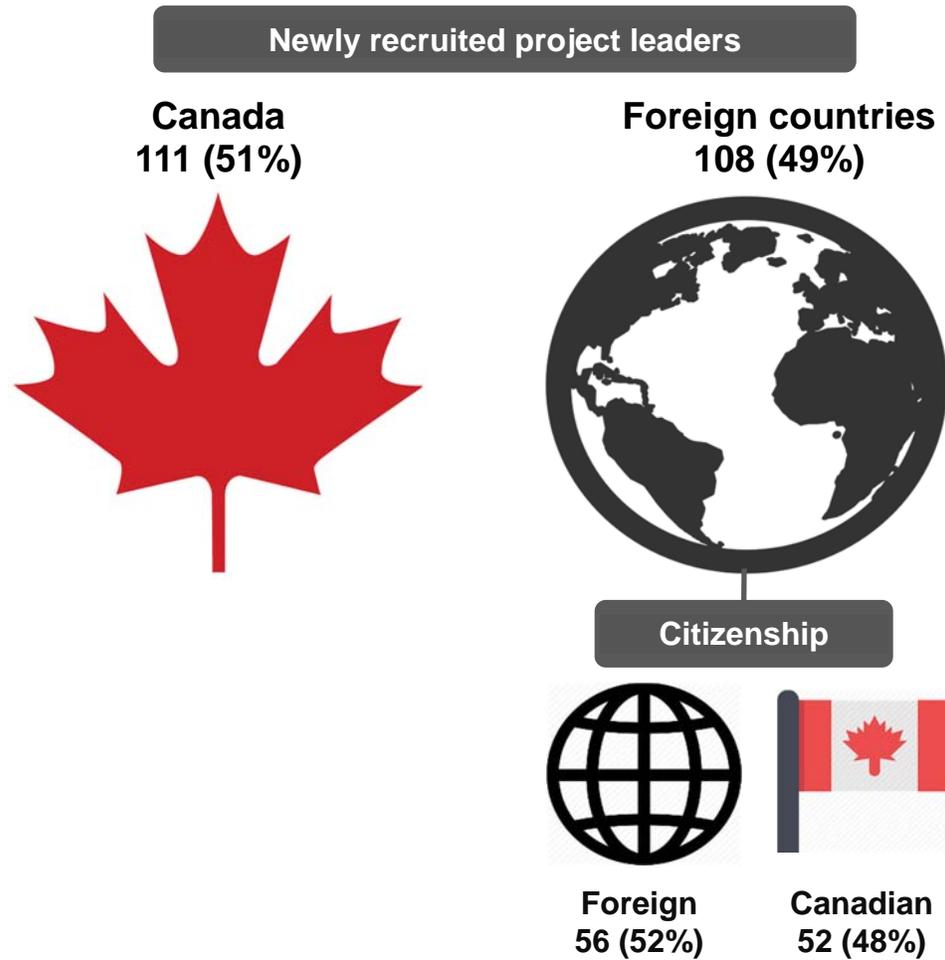


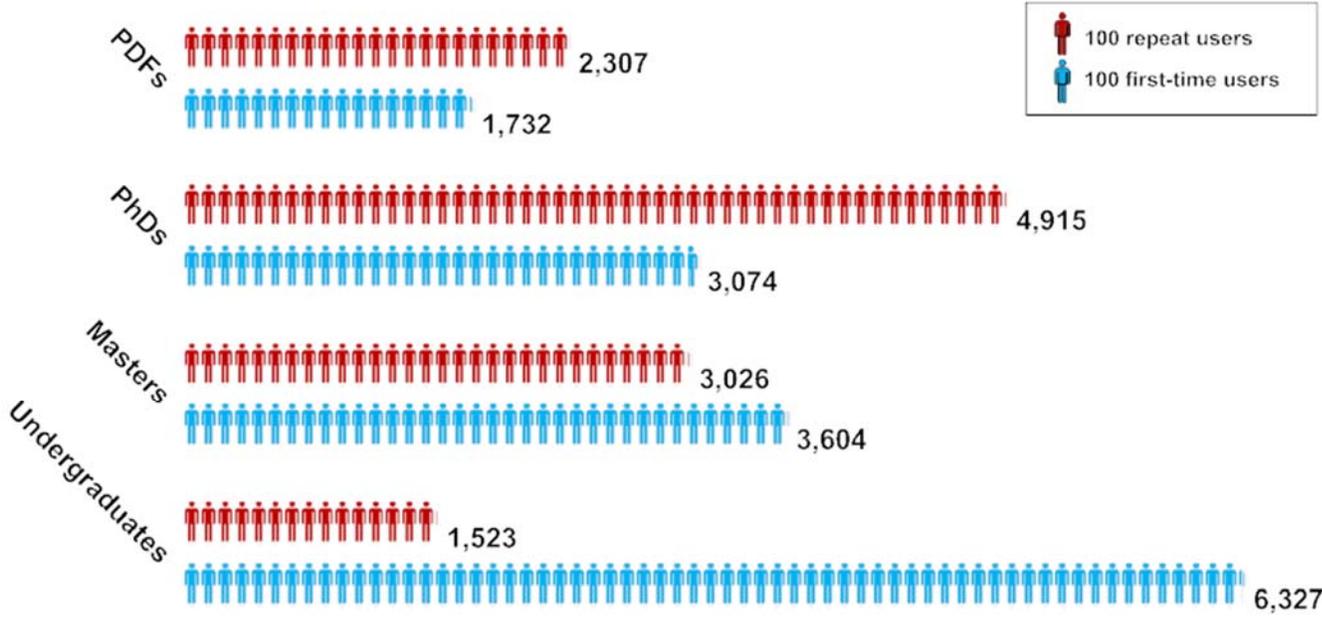
FIGURE 4

Trainees using infrastructure

97% of project leaders reported that CFI-funded infrastructure was a key resource for the next generation of research leaders.

Types of trainees using infrastructure

26,508 post-doctoral fellows (PDFs) and higher education students had the opportunity to expand their research skills using CFI-funded infrastructure. Of those, 56% used the infrastructure for the first time.



50% of project leaders reported a total of 2,599 technical personnel who were trained for the first time last year on the use and maintenance of the infrastructure.

Developing highly qualified personnel

Quality of training environment

92% of project leaders credited their infrastructure with having a high or very high impact on the quality of the training environment.

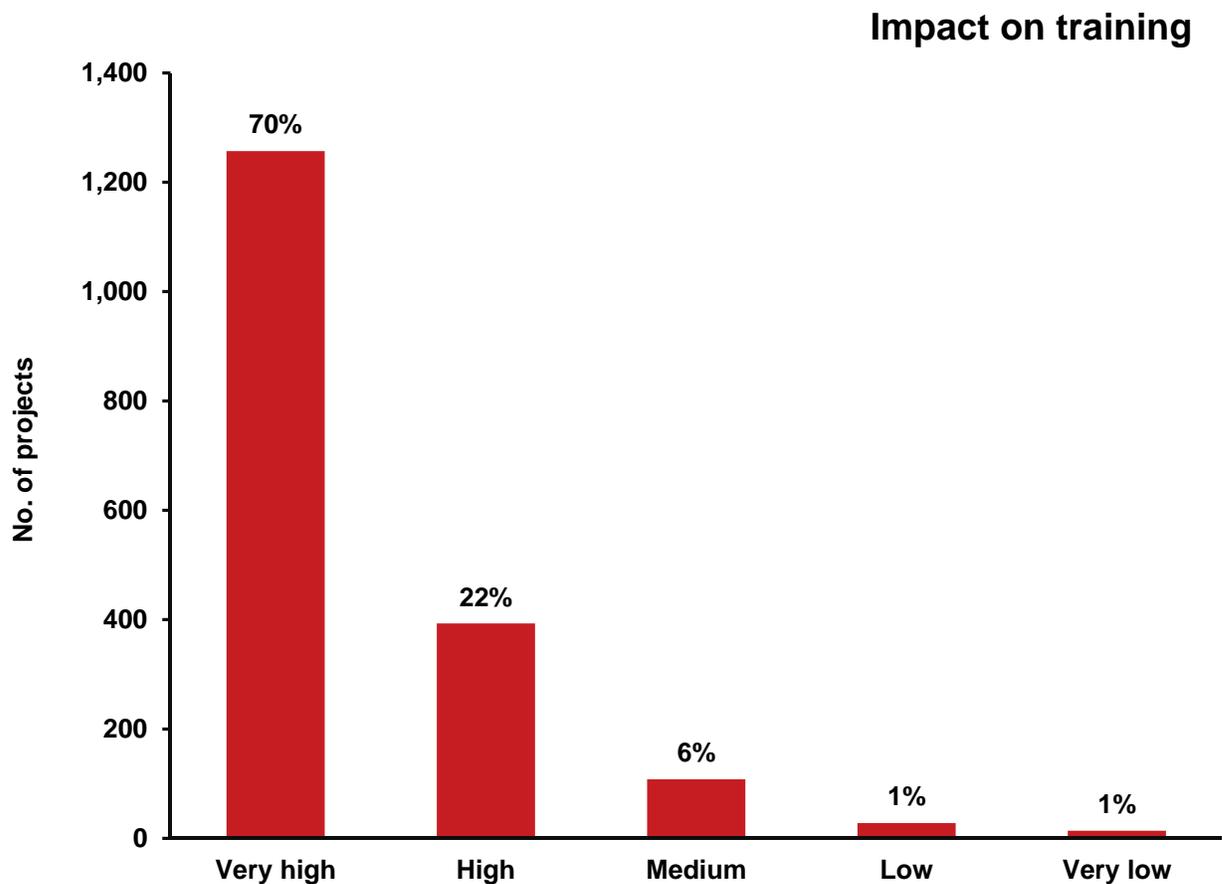
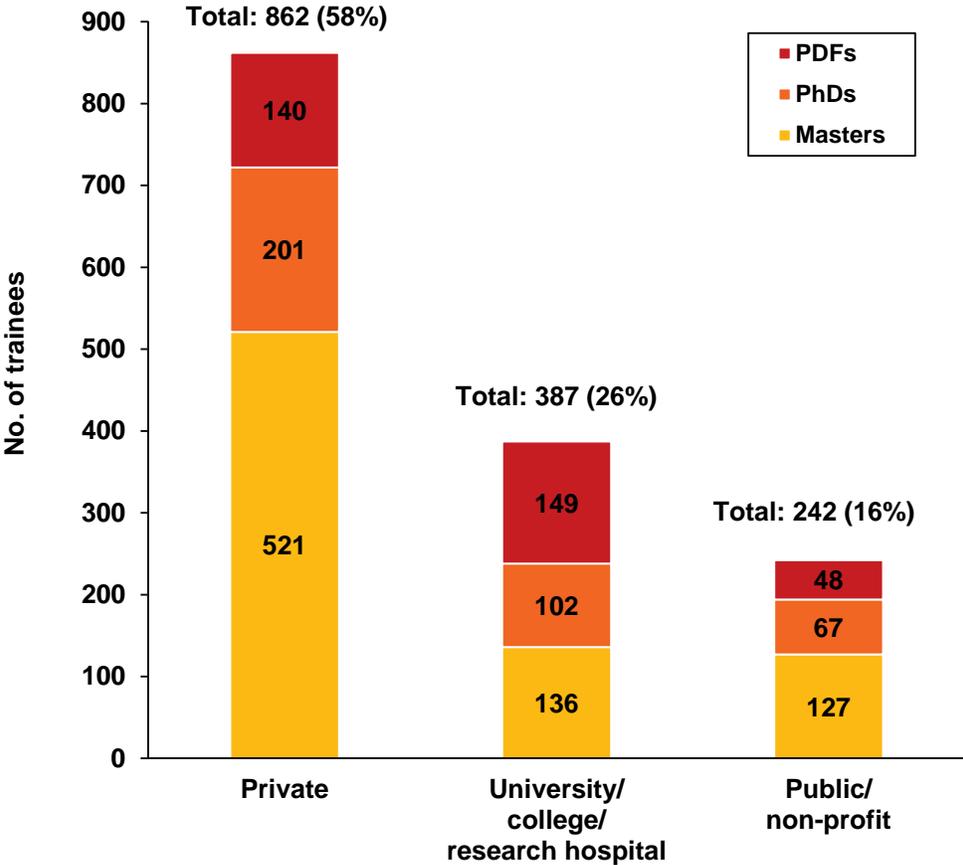


FIGURE 6

HQP employment

Highly qualified personnel (HQP) who have trained on CFI-funded infrastructure **support economic growth in Canada.**

Employment in Canada by sector



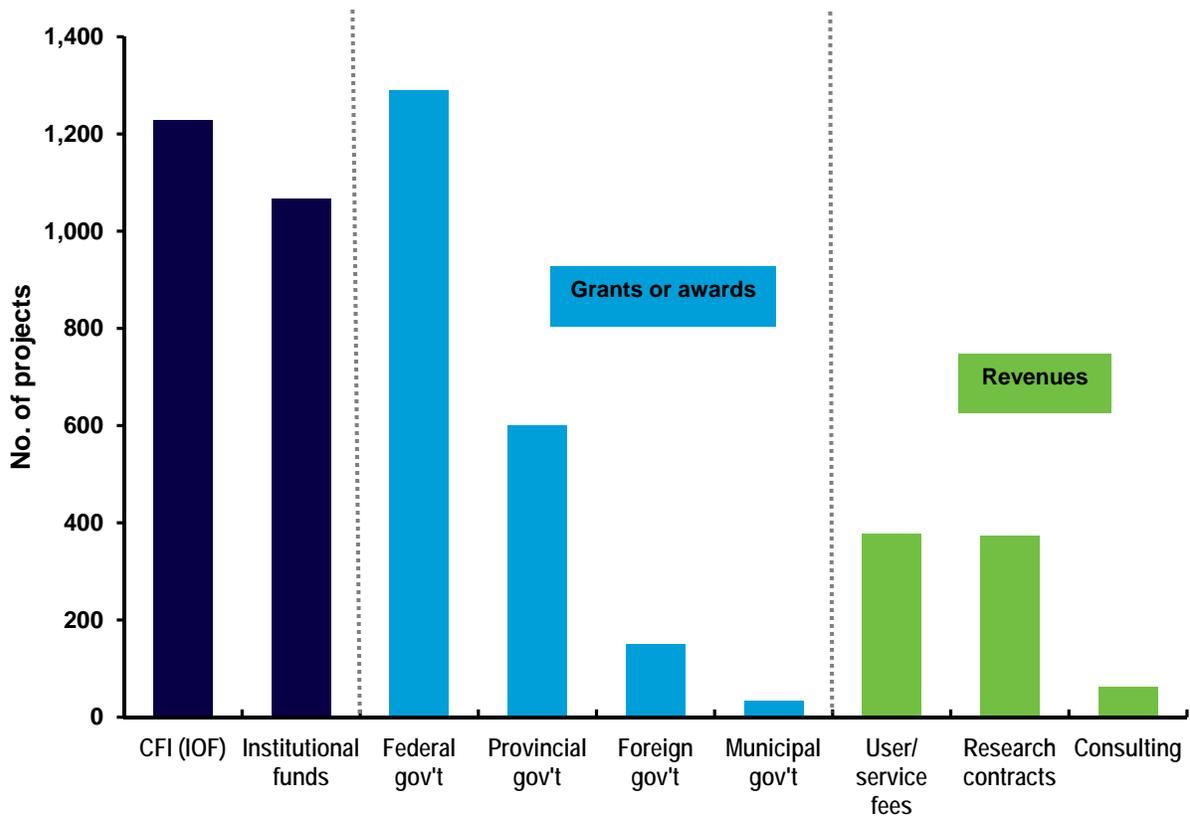
1,936 post-doctoral fellows (PDFs) and graduate students using the infrastructure last year completed their training and moved into the workforce. Among them, a large proportion (77%) stayed in Canada, while the remaining 23% were reported as working abroad.

Developing highly qualified personnel

Operation & maintenance

87% of project leaders reported that they **had both adequate financial and human resources** for the operation and maintenance (O & M) of the infrastructure.

Sources of funds for O & M



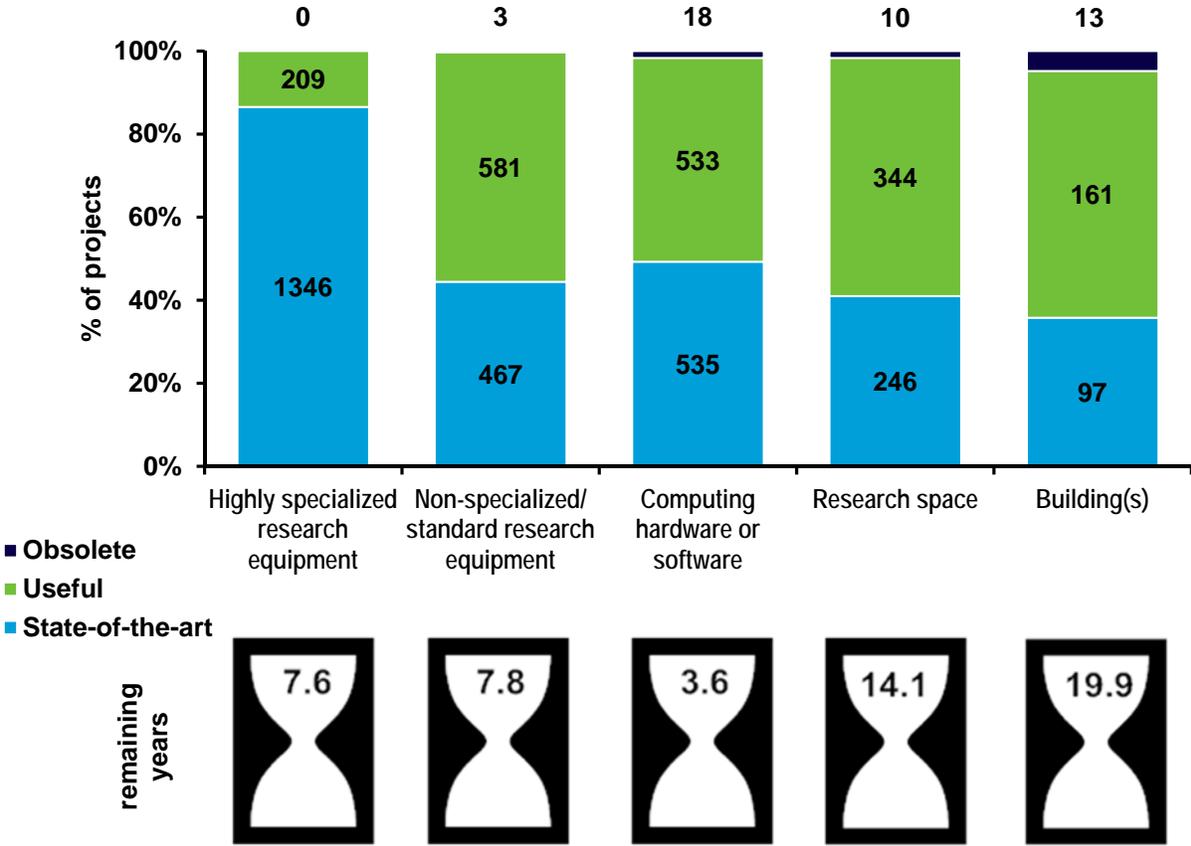
Use of diverse funding sources, including research contracts and user fees, contributes to the sustainability of the infrastructure.

FIGURE 8

Infrastructure quality & useful life

The quality of CFI-funded infrastructure was highly rated overall, with 87% of **highly specialized research equipment** reported as **state-of-the-art**.

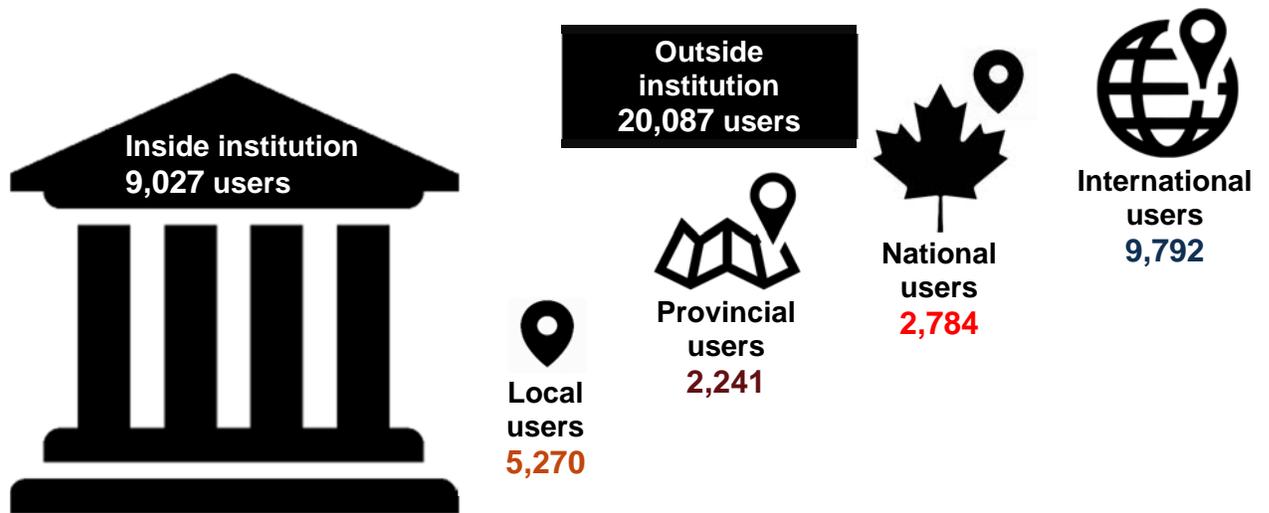
Infrastructure quality and remaining years of useful life



Infrastructure use

The majority of project leaders reported **full utilization of infrastructure**. 84% of project leaders (1,514) reported at least one researcher at their institution using the infrastructure to advance their research while 61% of project leaders (1,090) reported at least one user from outside their institution.

Types of infrastructure users



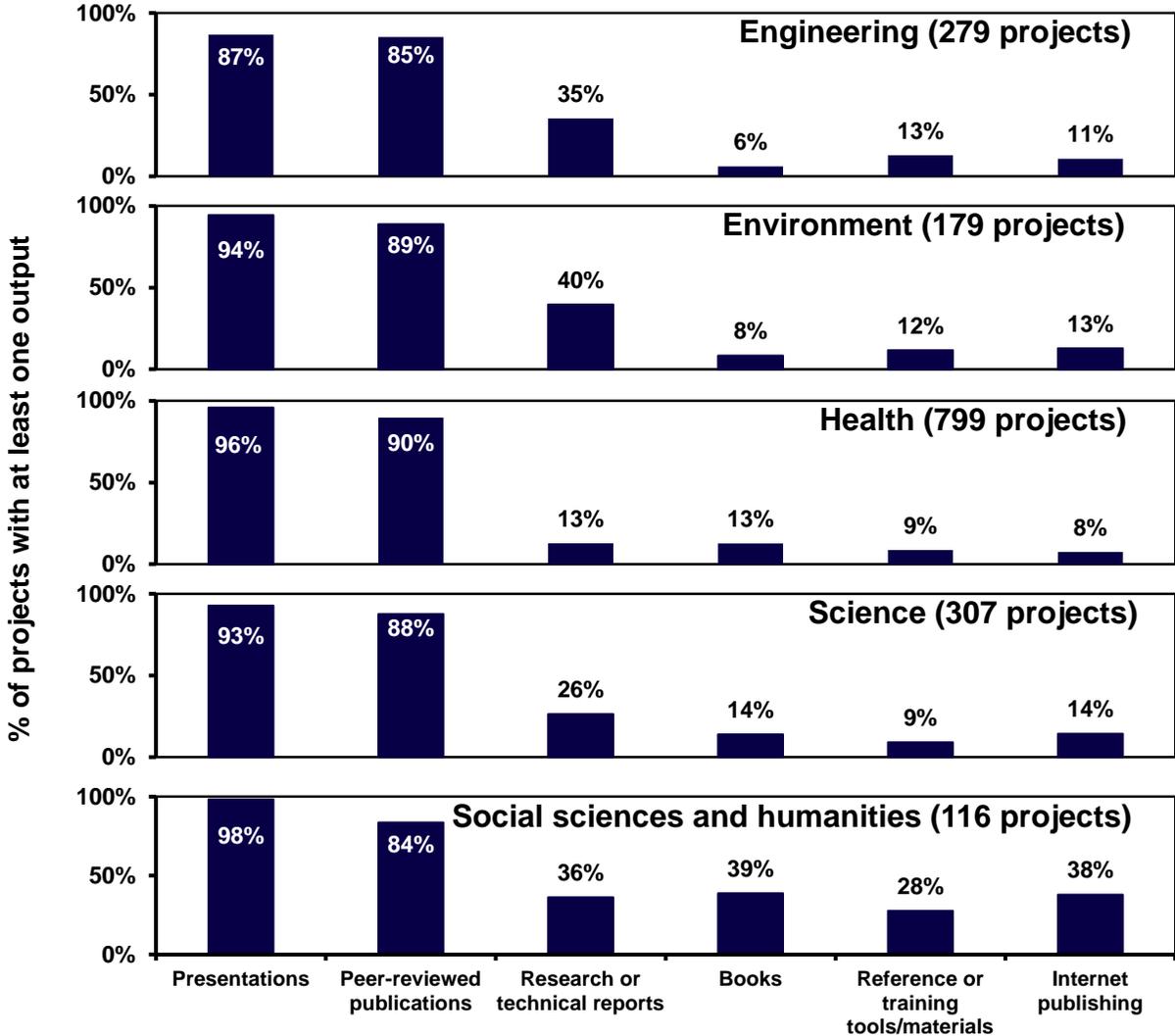
A recent analysis of PPR data over the past five fiscal years also demonstrated a consistent annual trend of full utilization (75%) of the CFI-funded infrastructure ([CFI report: Usage of CFI-funded Infrastructure, 2015](#)).

FIGURE 10

Sharing research results

As expected in an academic setting, **conferences, symposiums and workshop presentations** were the most frequently reported type of research output, closely **followed by peer-reviewed publications**.

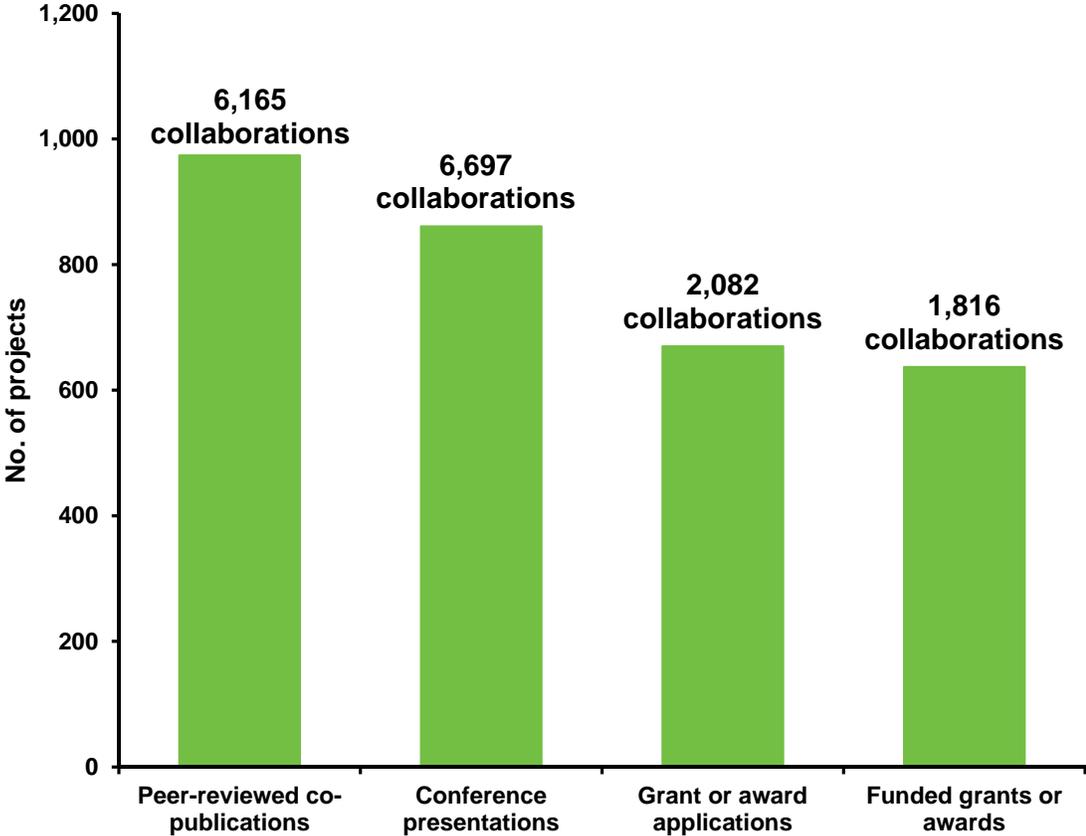
Dissemination by area of application



Research collaborations

Researchers have made use of infrastructure to enable external research collaborations that resulted in traditional academic activities and outputs such as funding applications and publications.

Types of external research collaborations



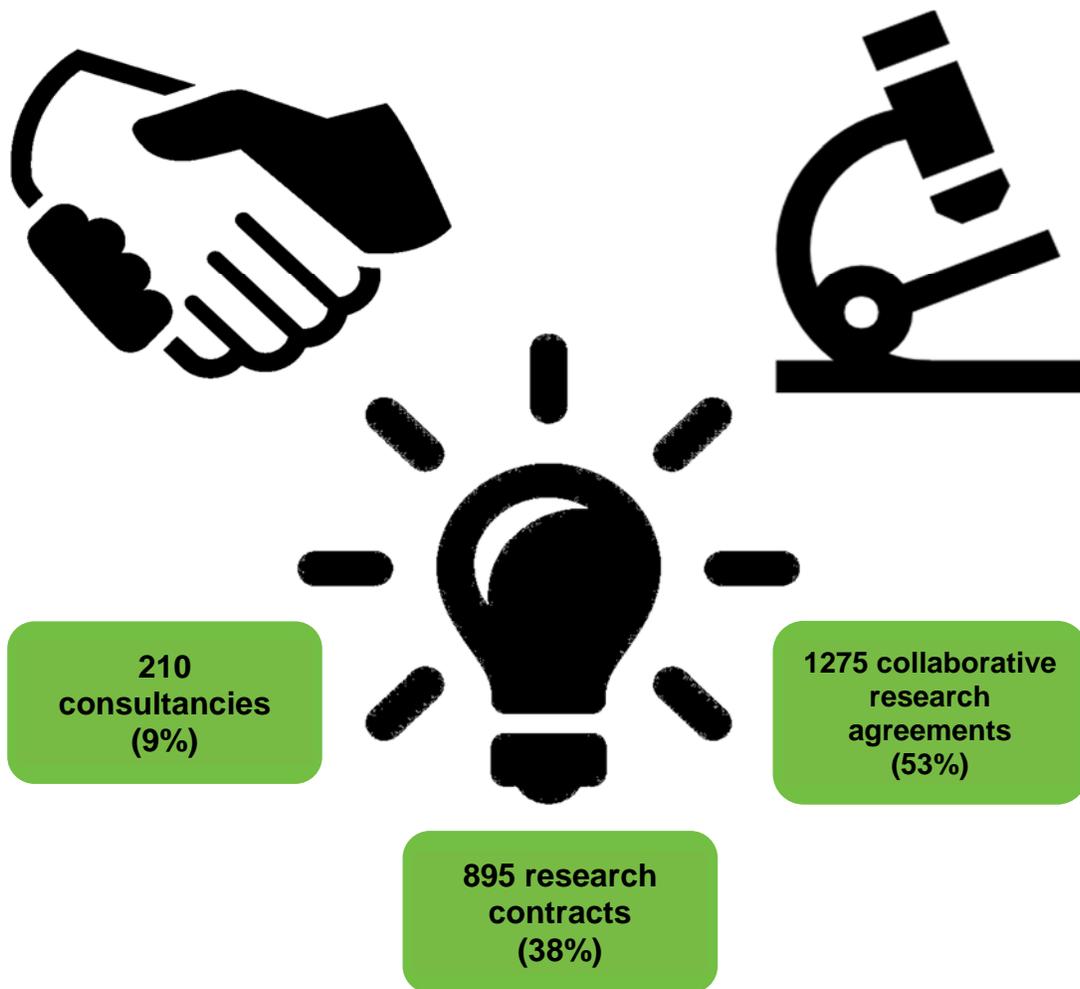
70% of project leaders reported at least one type of collaboration with individuals from outside their institution. Of those, 25% of project leaders reported all four types, suggesting CFI-funded infrastructure enables broad and varied collaboration.

FIGURE 12

Research agreements

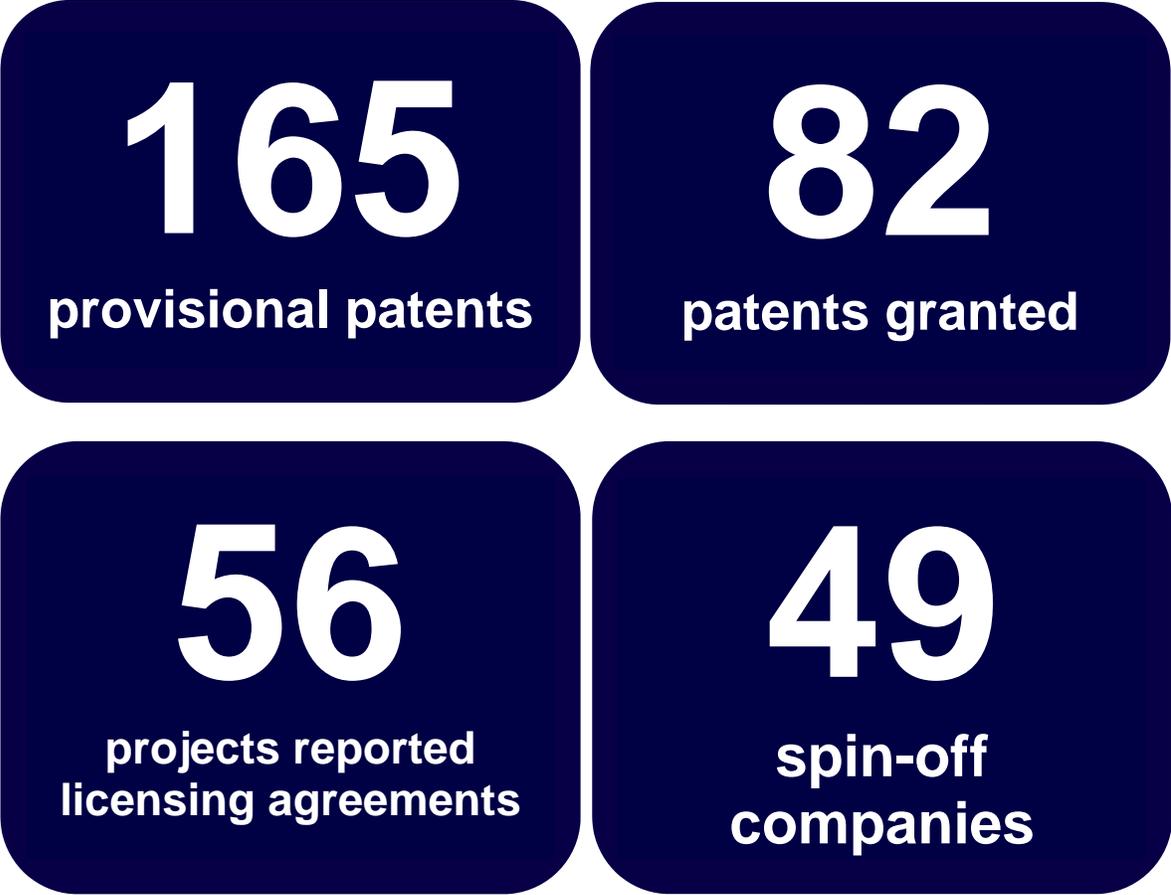
CFI-funded infrastructure **facilitated new formal collaborative research agreements** in 34% of projects, for a total of 2,380 agreements.

Agreements by type



From research to innovation

CFI-funded infrastructure has contributed to the development of new technologies and the creation of new companies.

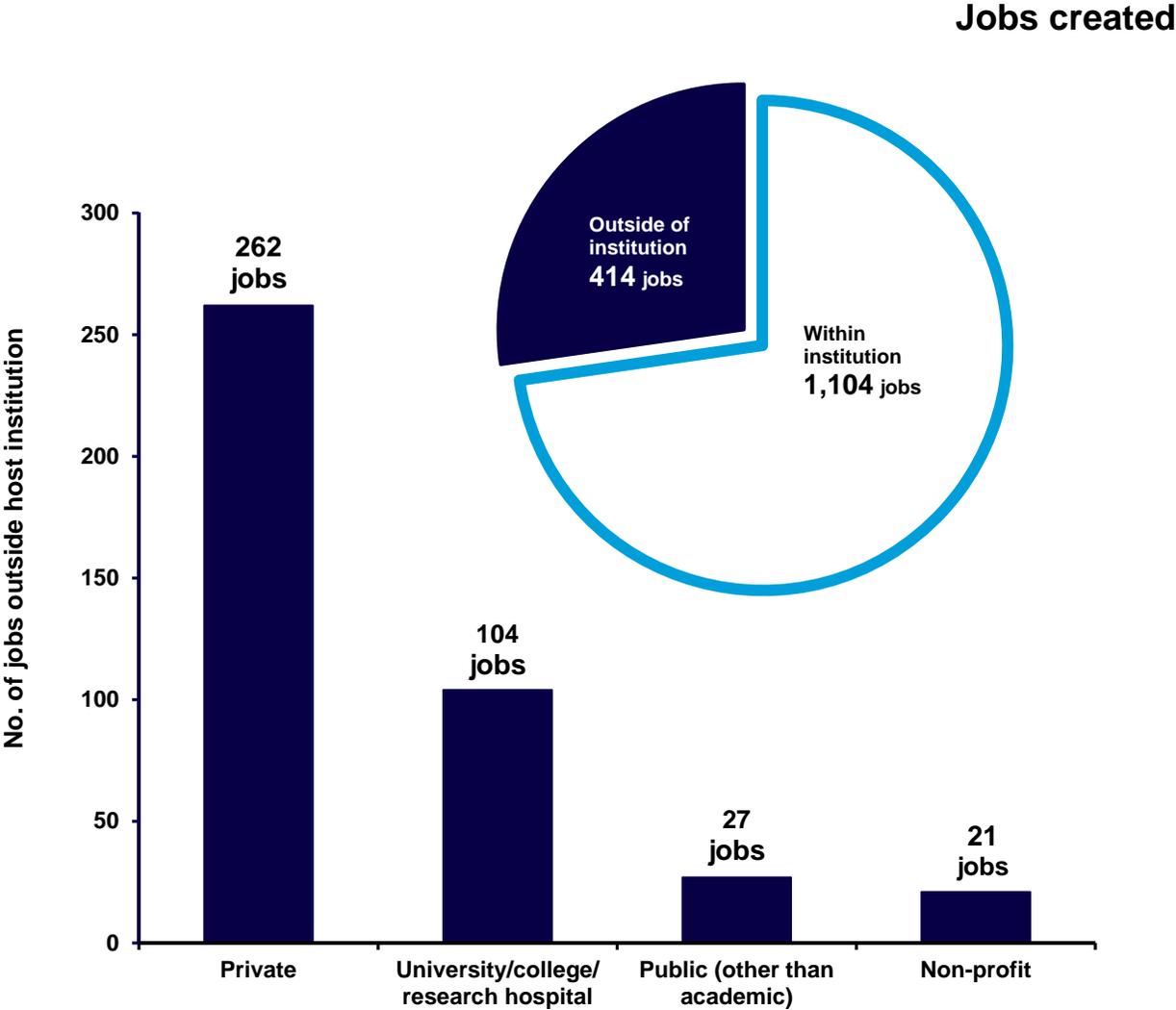


211 project leaders reported at least one of the above four types of innovation outcomes.

FIGURE 14

New jobs

29% of project leaders reported one or more jobs created due to the CFI-funded infrastructure.



Just under three-quarters (73%) of all jobs created were within the host institutions. Just under two-thirds of the 414 jobs created outside the institution were in the private sector.

A range of benefits

45% of project leaders reported at least one type of benefit, highlighting the role of CFI-funded infrastructure in enabling research that produces outcomes for Canadians.

Types of benefits reported

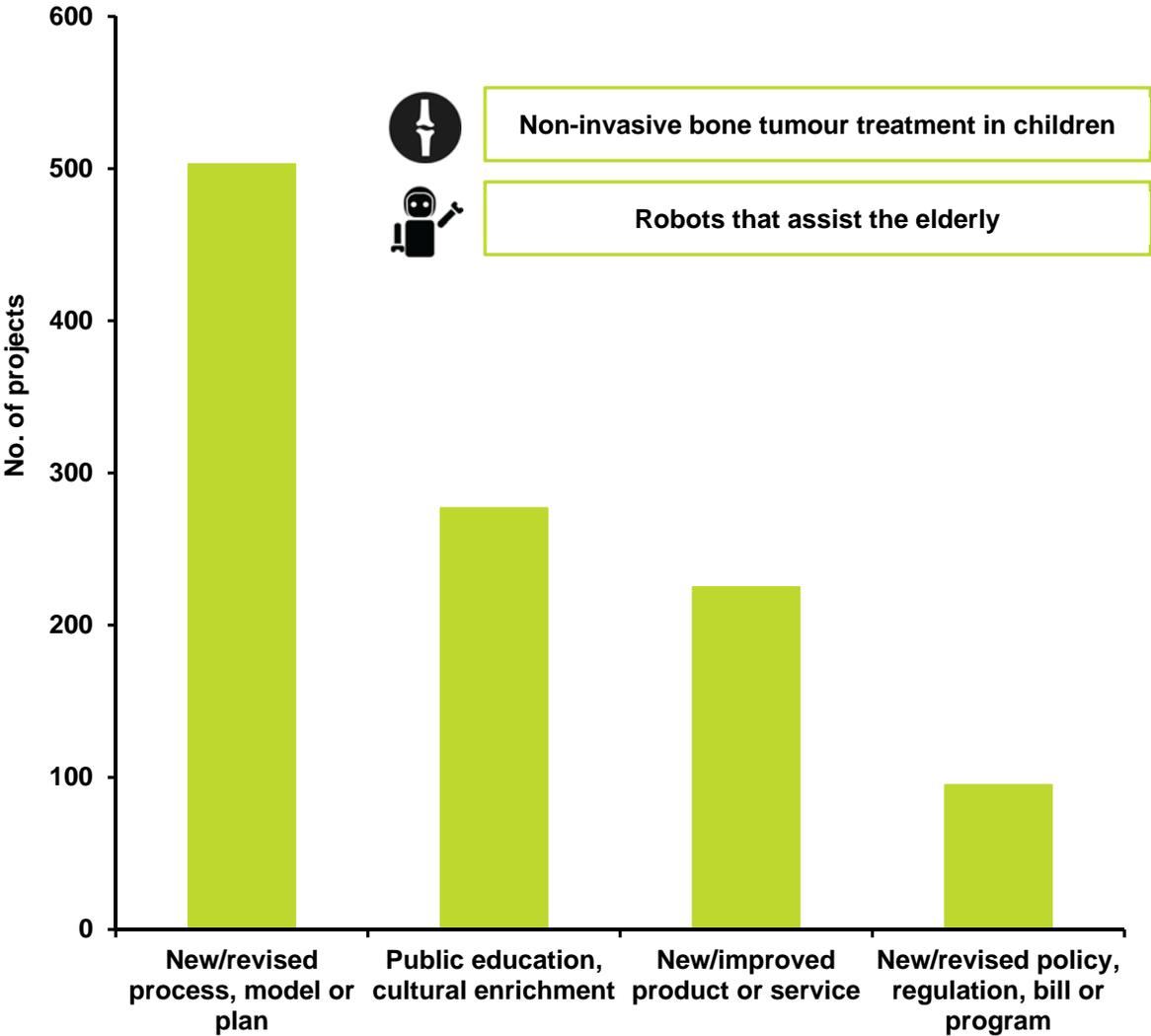
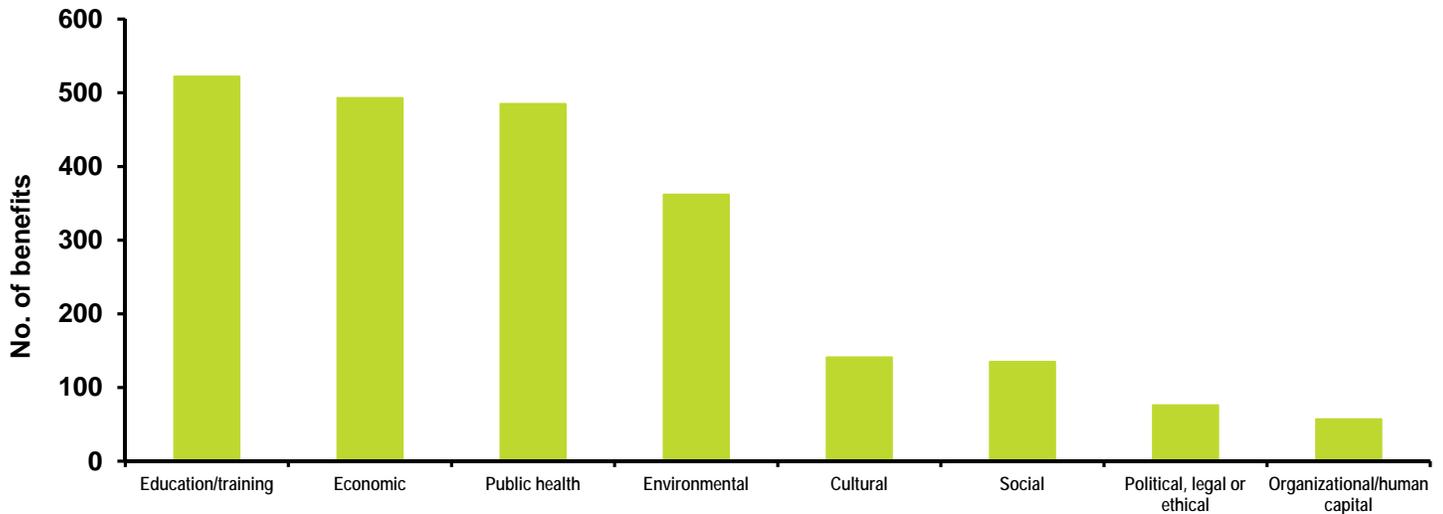


FIGURE 16

Areas of impact and user groups

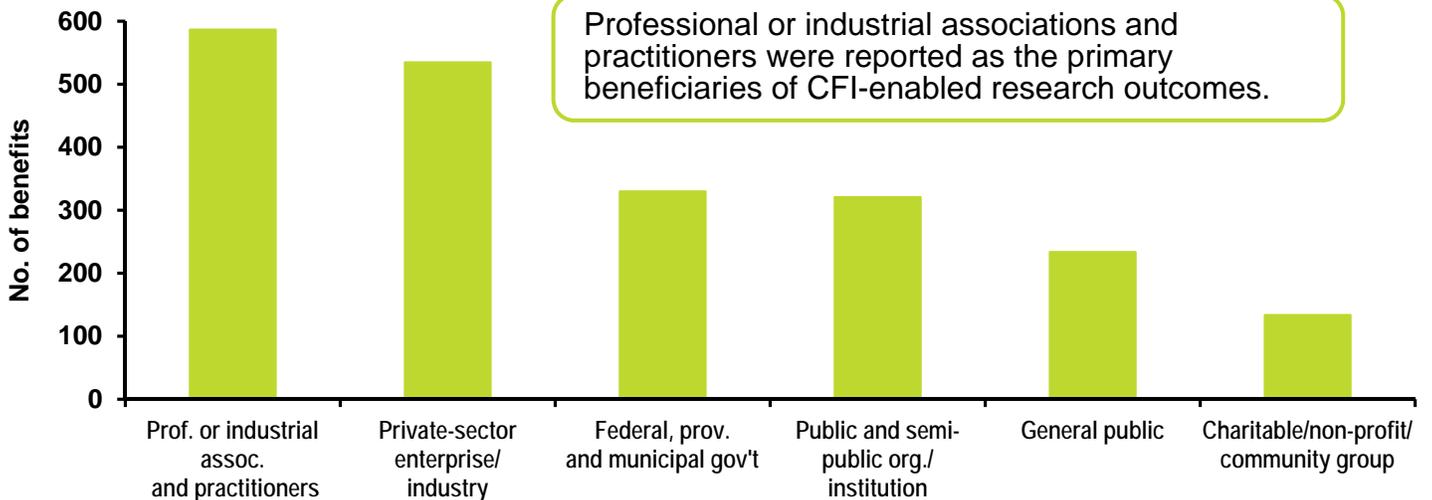
Areas of impact

Education/training, economic and public health were the most frequently reported areas of impact.



User groups

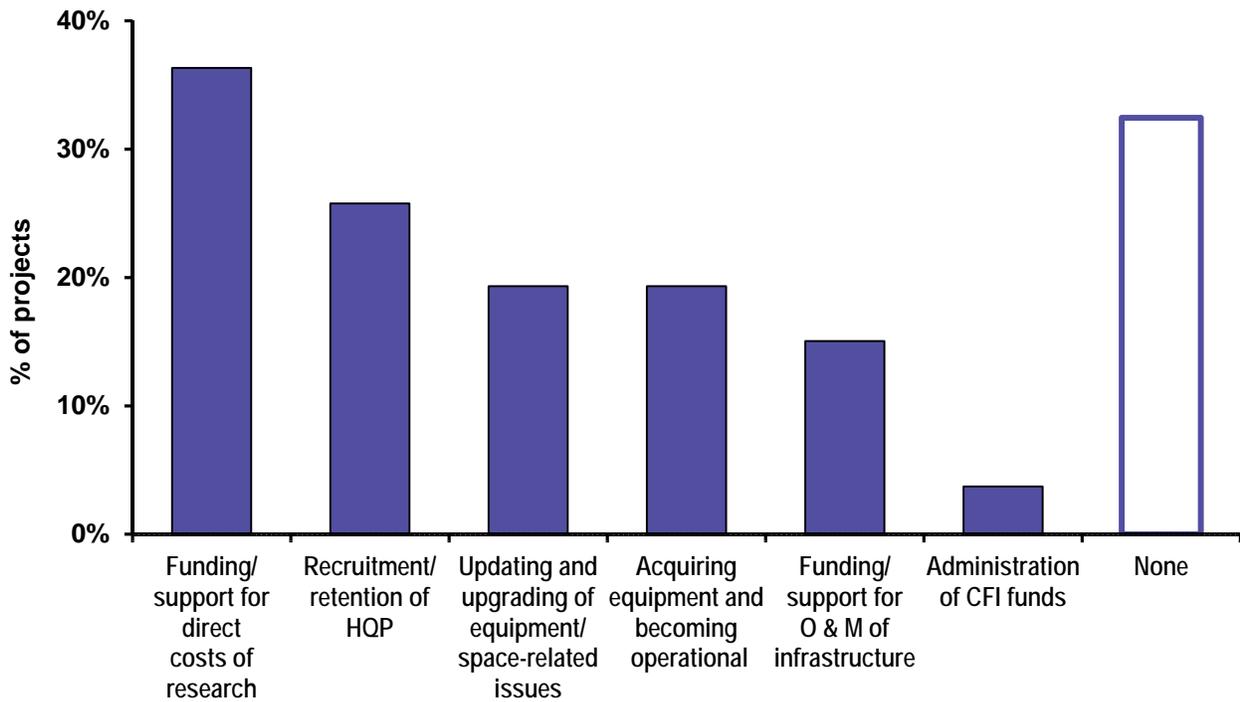
Professional or industrial associations and practitioners were reported as the primary beneficiaries of CFI-enabled research outcomes.



Challenges

The most frequently mentioned challenge by project leaders was **funding/support for research operating costs**.

Significant factors limiting research

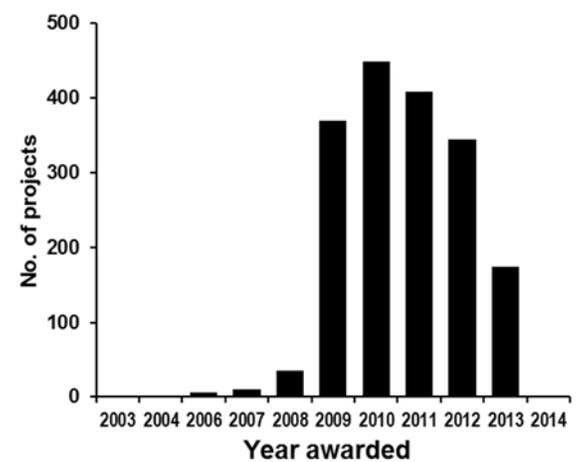
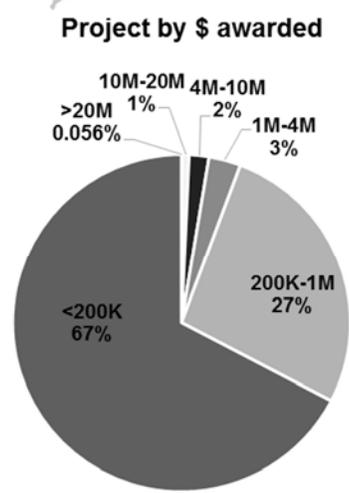
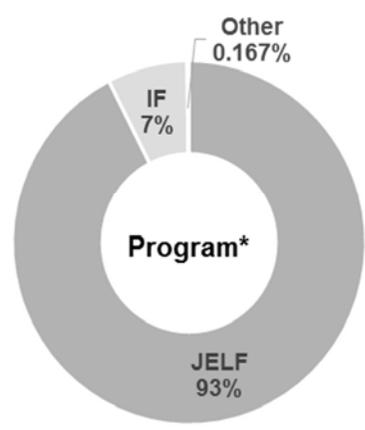
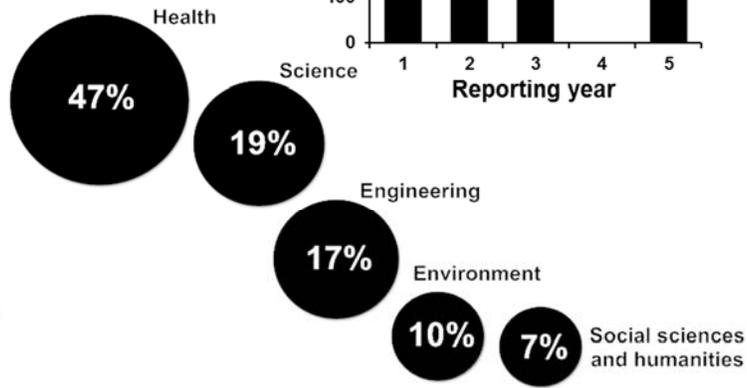
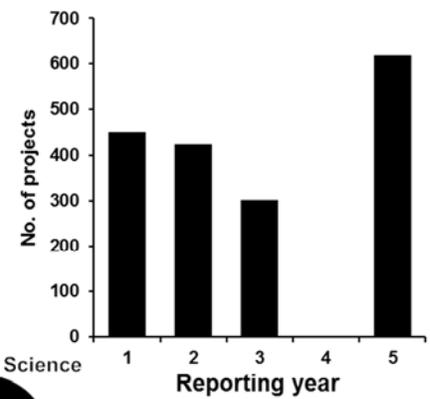


Although issues related to highly qualified personnel (HQP) and the acquisition and updating of equipment were also identified as important challenges, 32% of project leaders reported that they had no significant limiting factors in conducting their research.

APPENDIX

Composition of the 2015 Project Progress Report sample

1,815 expected → 1,808 received → **1,800** reports
 excluded: 8 (not yet operational)



* Innovation Fund (IF) type: IF 1999-2005; Leading Edge Fund 2006/2009/2012; and New Initiatives Fund 2006/2009/2012.
 John R. Evans Leaders Fund (JELF) type: Leaders Opportunity Fund (LOF)-\$1M to \$2M; LOF-Canada Research Chair; LOF-NSERC; LOF-SSHRC; JELF-Funding for research infrastructure; JELF-Canada Excellence Research Chair, JELF-NSERC and Canada Research Chairs Infrastructure Fund.
 Other programs: Research Hospital Fund (RHF)-Large Scale Institutional Endeavors; and RHF-Regional/National Clinical Research Initiatives.



Research builds communities
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