



# 2016 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 \$6.7 billion in support of 9,415 projects at 147 research institutions in 71 municipalities across Canada (as of October 2016). 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 2016 PPR sample, see the Appendix.

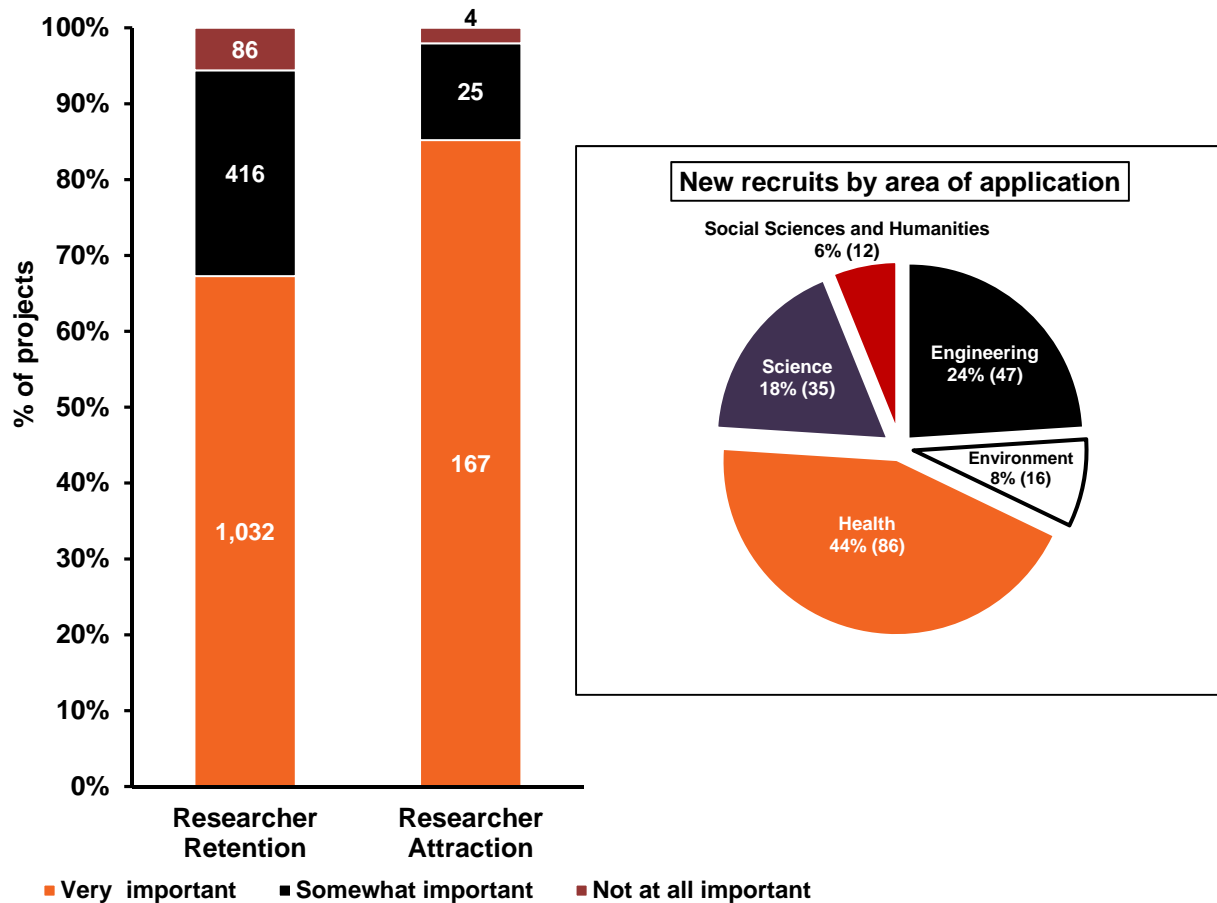
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# Researcher attraction & retention

The majority of project leaders indicated that CFI infrastructure was important in their **decision to join or remain at their institution**. Just under half of newly recruited researchers work in **health**.

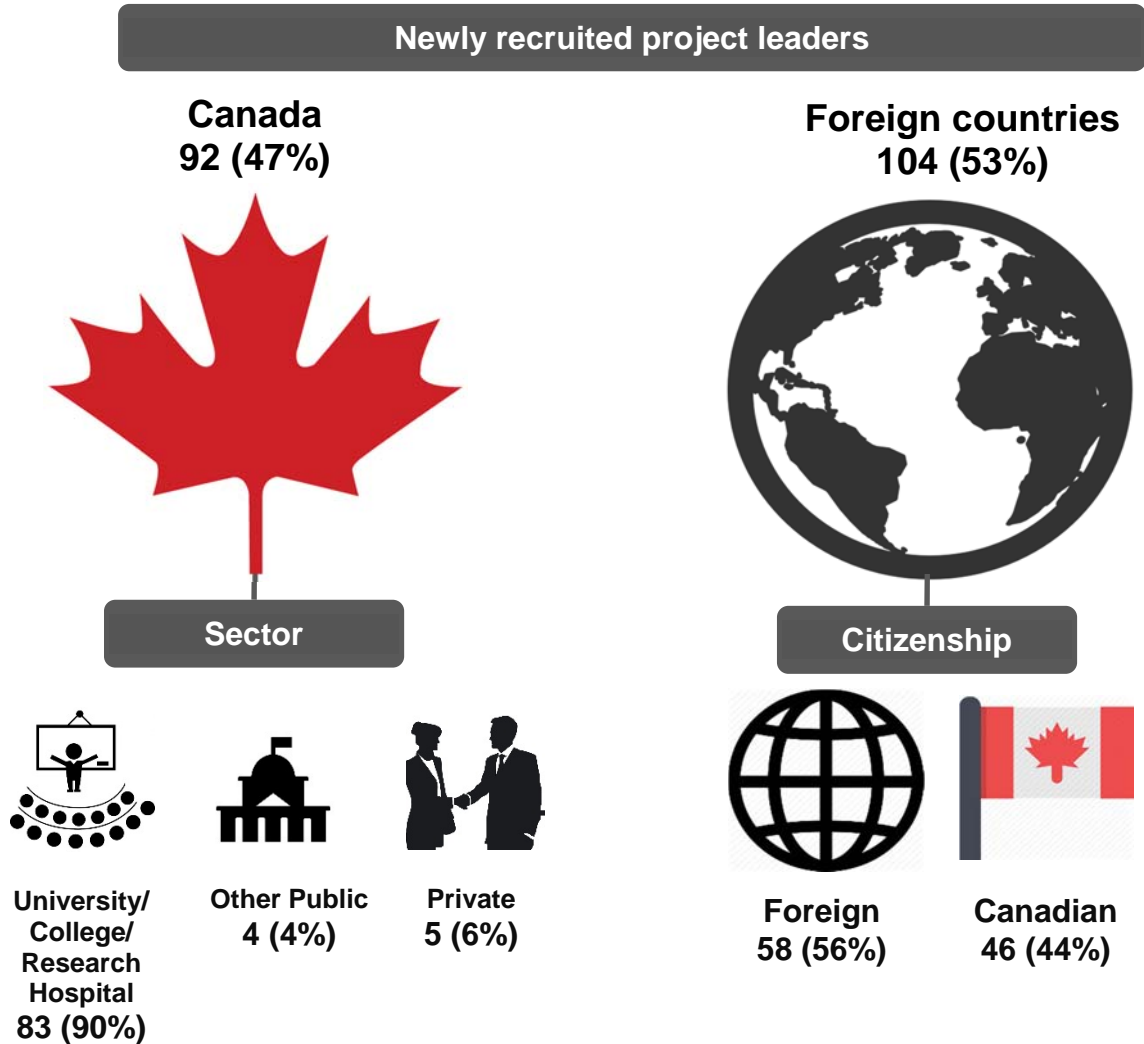
**Importance of infrastructure in decision to join or stay at institution**



**FIGURE 2**

# New talent

CFI-funded infrastructure helped attract a diverse pool of national and international talent. Among 196 project leaders newly recruited to the institution, just over half came from outside Canada. Of those already in Canada, 10% originated from outside of the academic sector.



# 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

23,062 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.

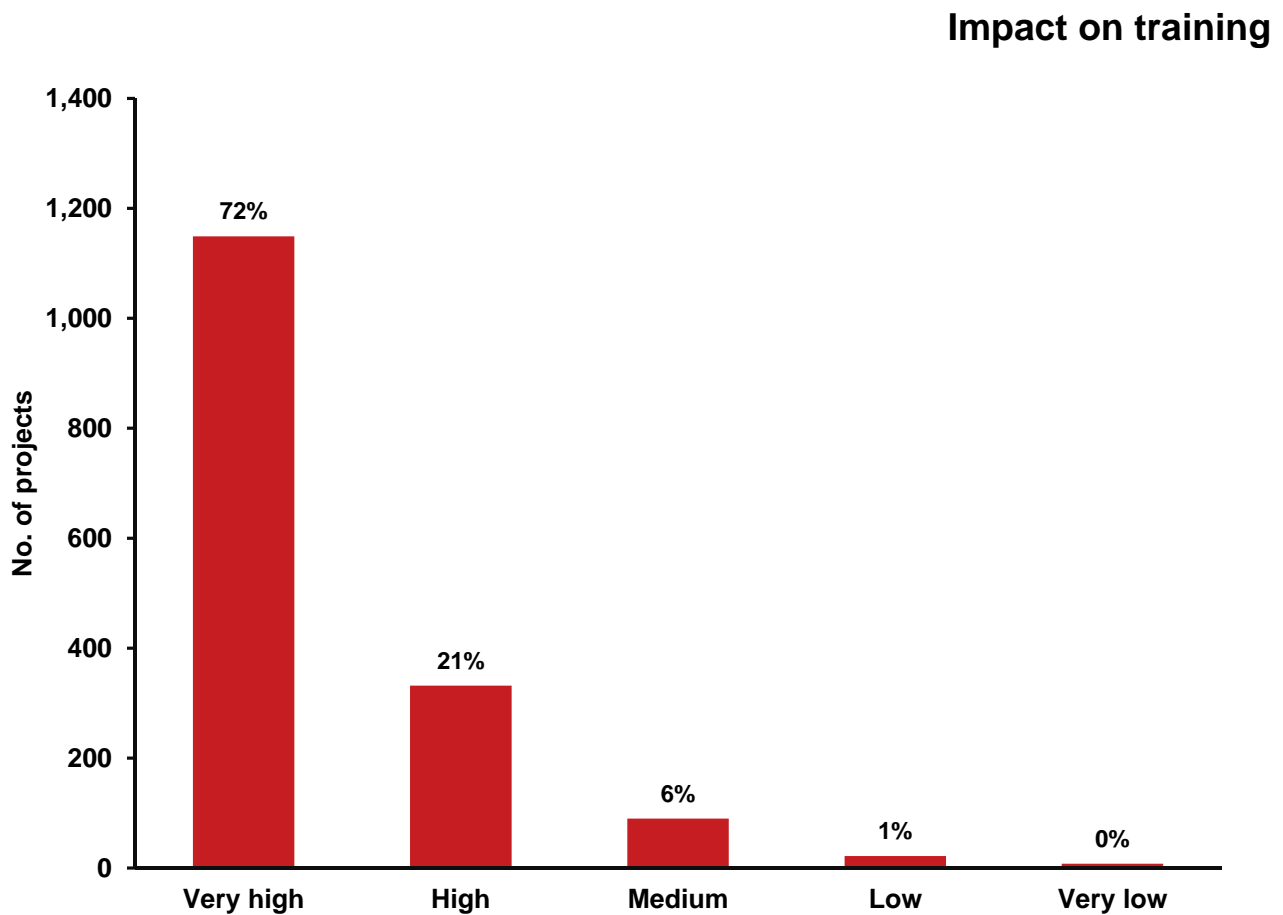


49% of project leaders reported a total of 2,001 technical personnel who were trained for the first time last year on the use and maintenance of the infrastructure.

**FIGURE 4**

# Quality of training environment

93% of project leaders credited their infrastructure with having a high or very high impact on the quality of the training environment.

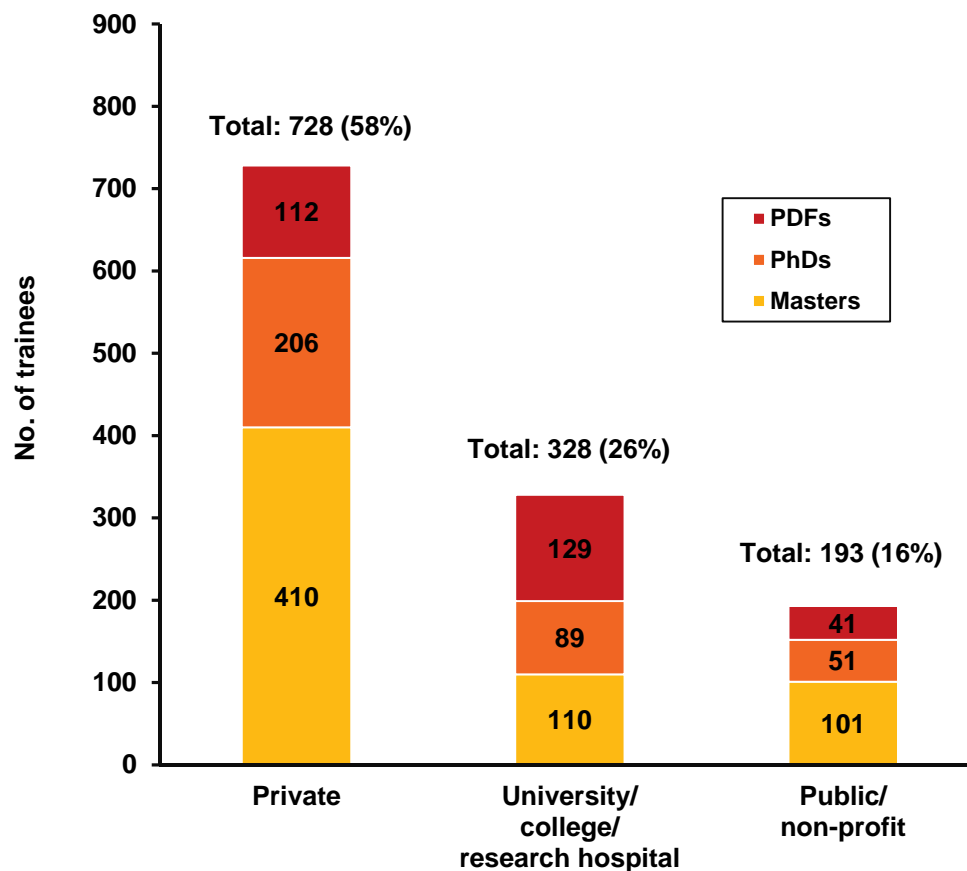




# HQP employment

A total of 1,584 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 (79%) secured **employment in Canada**.

**Employment in Canada by sector**



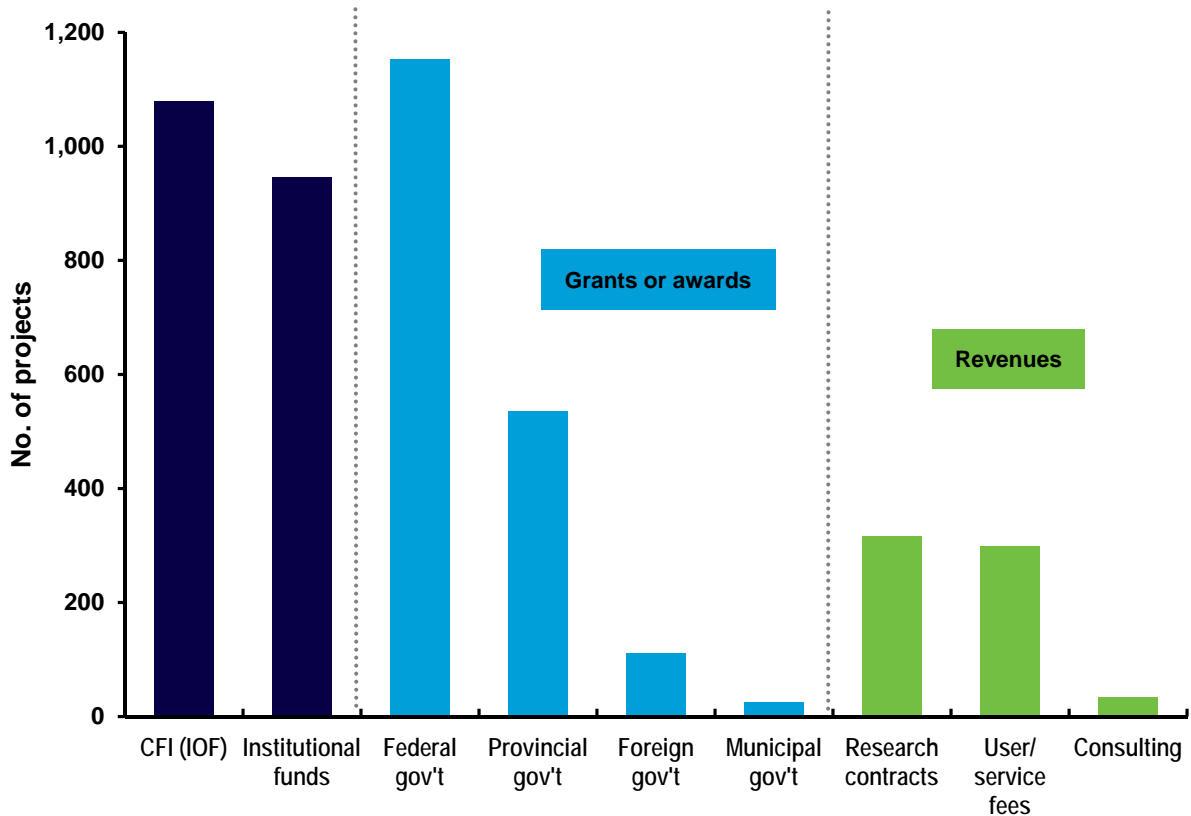
Close to 60% (728) of the highly qualified personnel (HQP) who completed their training and became employed in Canada joined the private sector.

**FIGURE 6**

# Operation & maintenance

The majority (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**

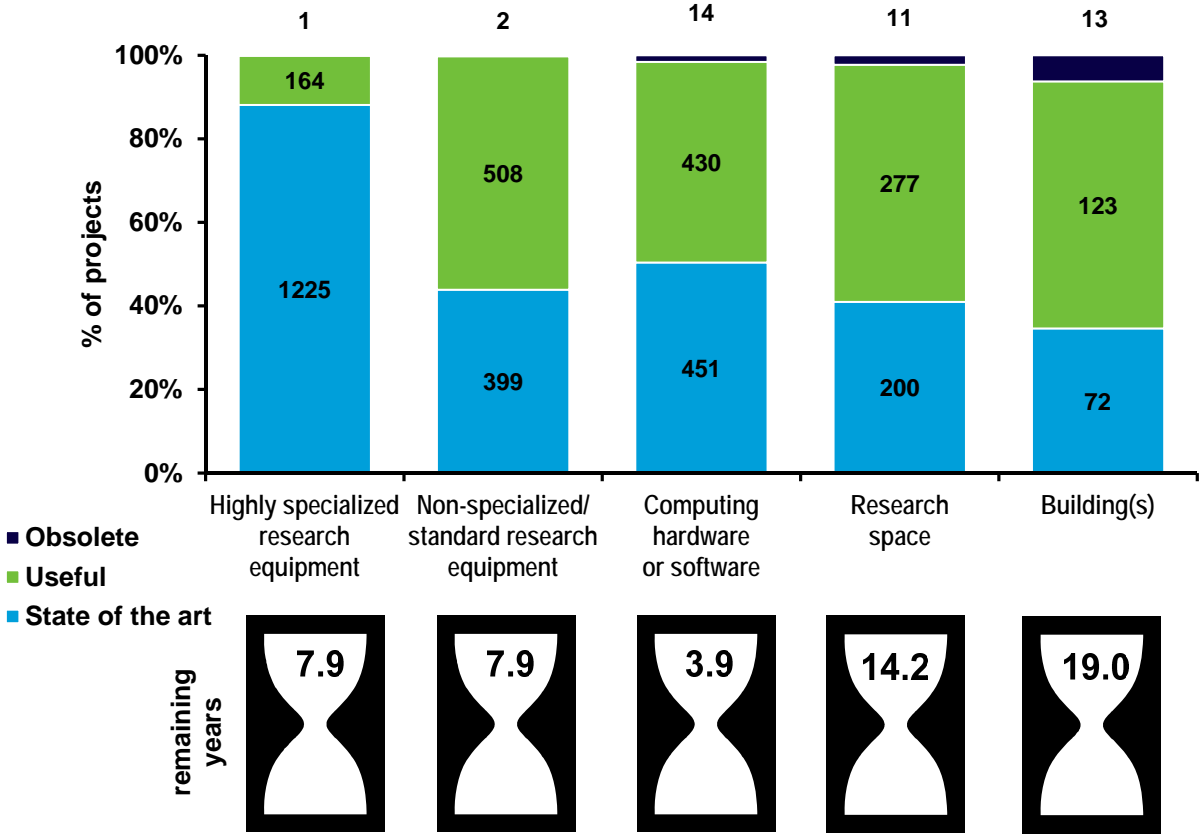


Use of diverse funding sources, including research contracts and user fees, contributes to the sustainability of the infrastructure.

# Infrastructure quality & useful life

The quality of CFI-funded infrastructure was highly rated overall, with 88% of highly specialized research equipment reported as state-of-the-art.

**Infrastructure quality and remaining years of useful life**

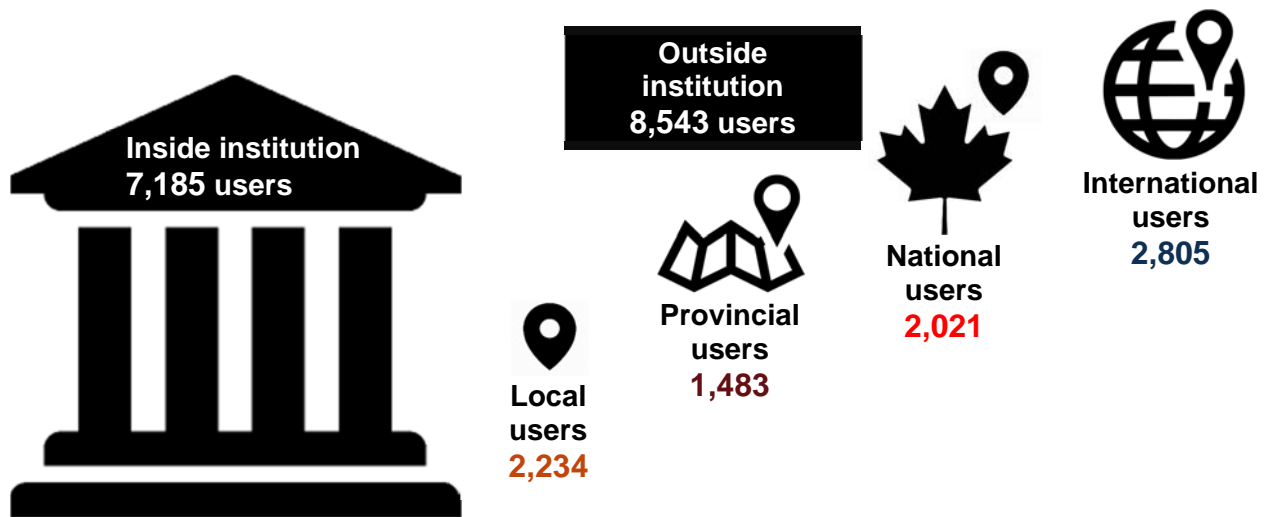


# FIGURE 8

## Infrastructure use

The majority of project leaders reported **full utilization of infrastructure**. 84% of project leaders (1,343) reported at least one researcher at their institution using the infrastructure to advance their research while 60% of project leaders (962) reported at least one user from outside their institution.

### Types of infrastructure users

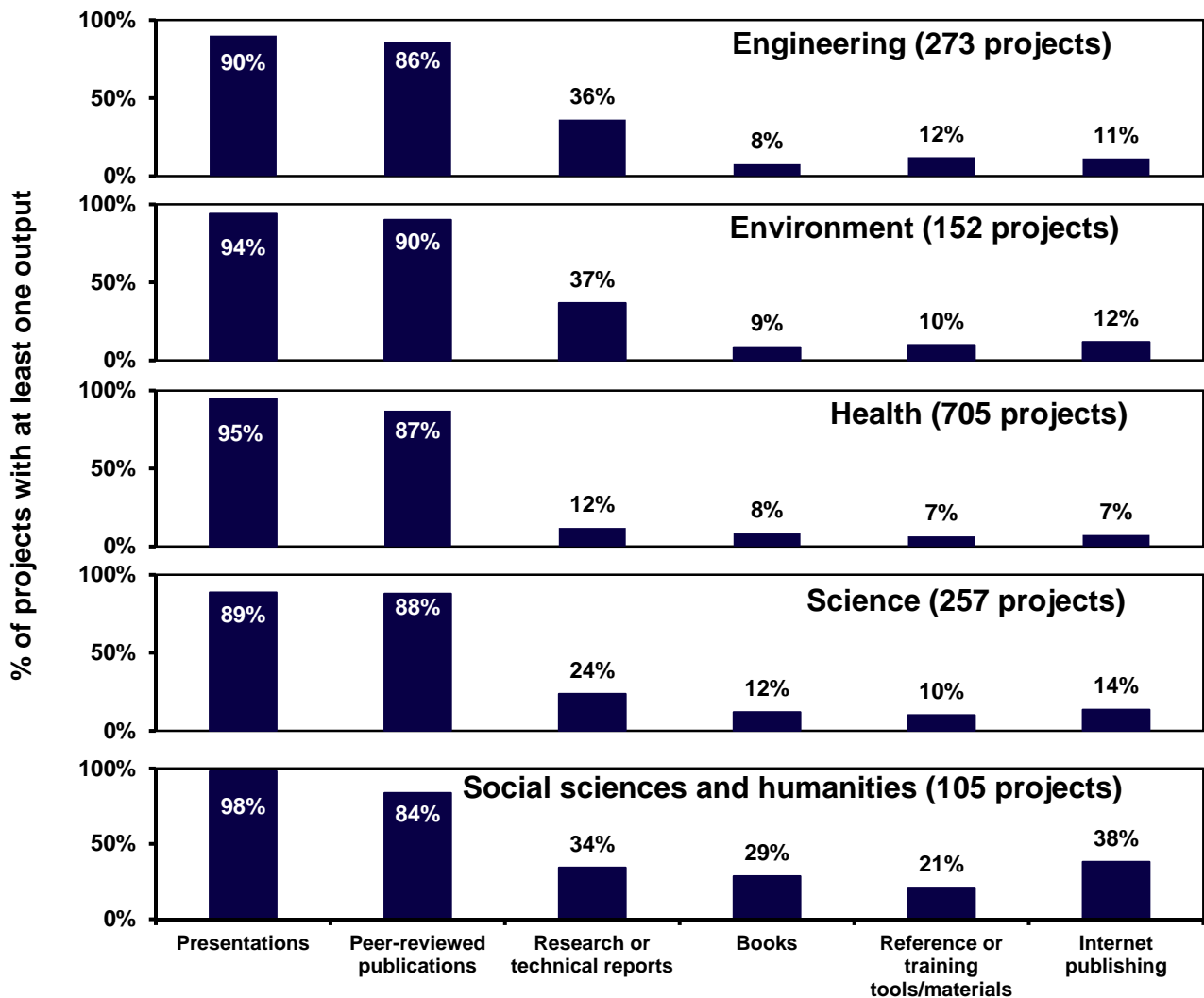


The majority of international infrastructure users were from the United States, France, the United Kingdom and Germany.

# Sharing research results

Conferences, symposiums and workshop presentations were the most frequent type of research output reported, closely followed by peer-reviewed publications.

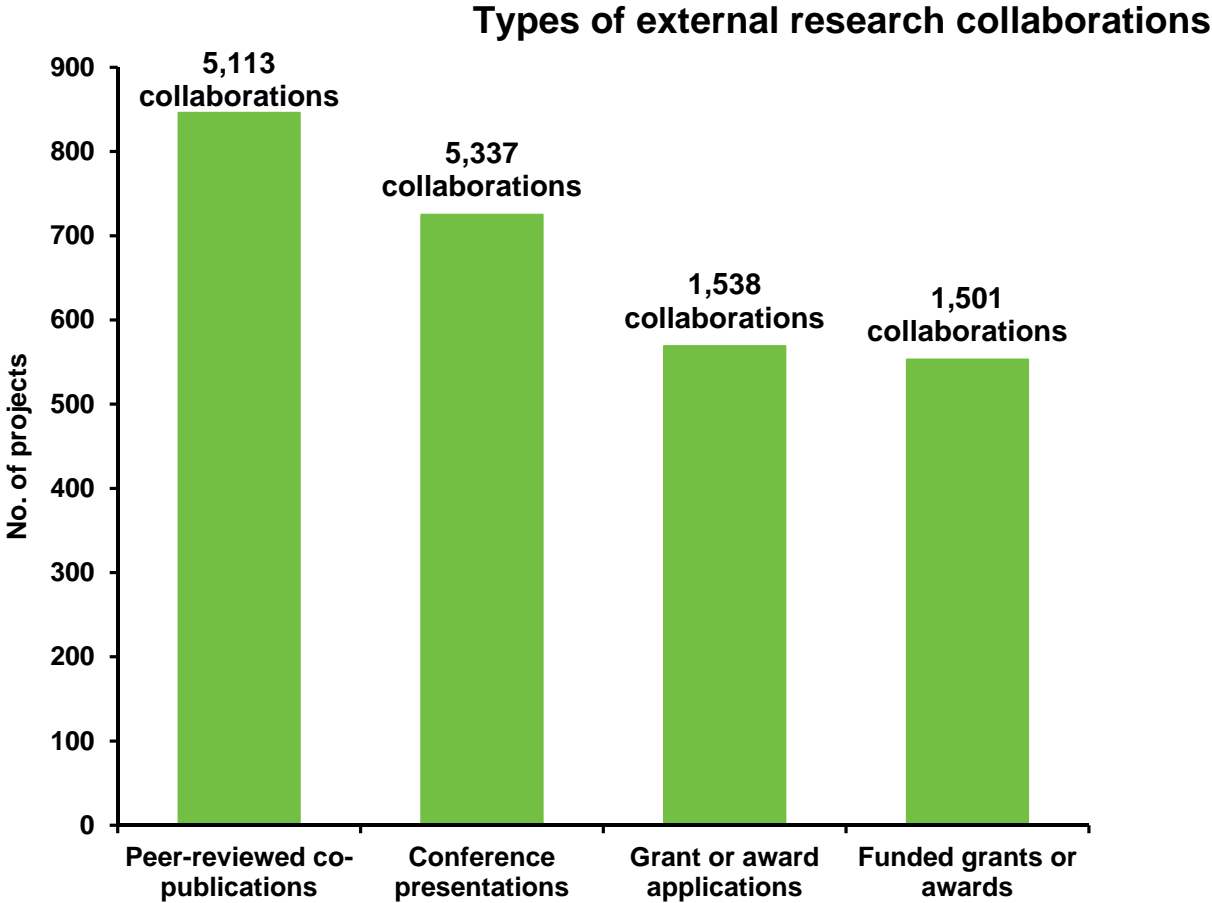
**Dissemination by area of application**



**FIGURE 10**

# Productive 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.

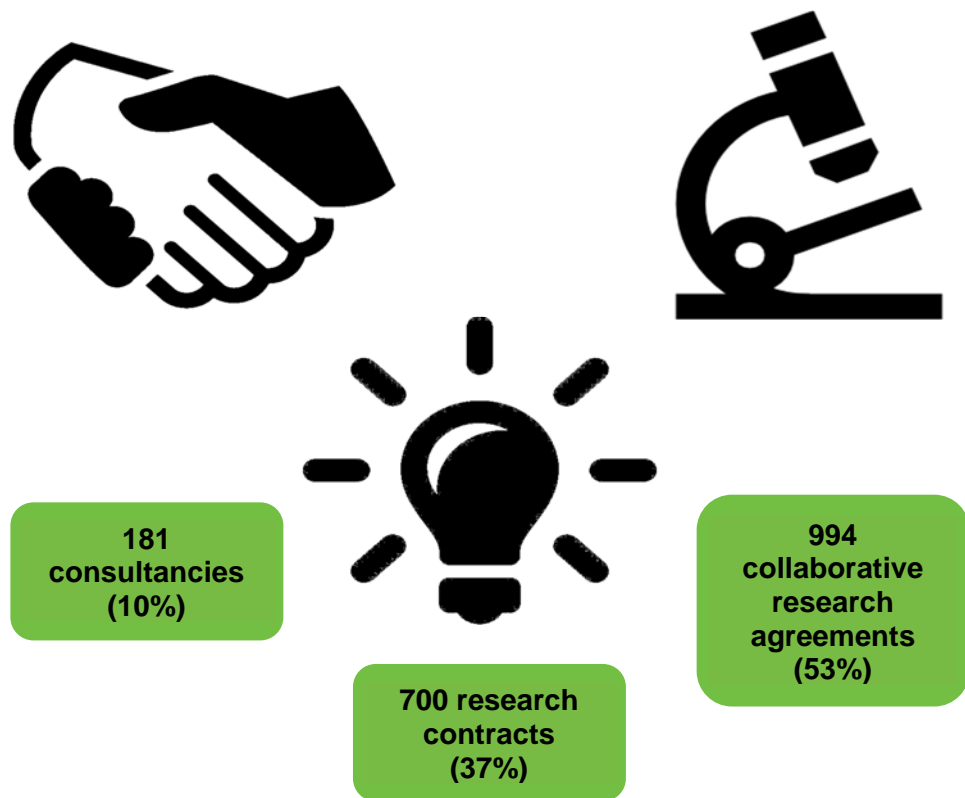


69% of project leaders reported at least one type of collaboration with individuals from outside their institution. Of those, 23% of project leaders reported all four types, suggesting CFI-funded infrastructure enables broad and varied collaboration.

# Research agreements

CFI-funded infrastructure facilitated new formal collaborative research agreements in 35% of projects, for a total of 1,875 agreements.

## Agreements by type

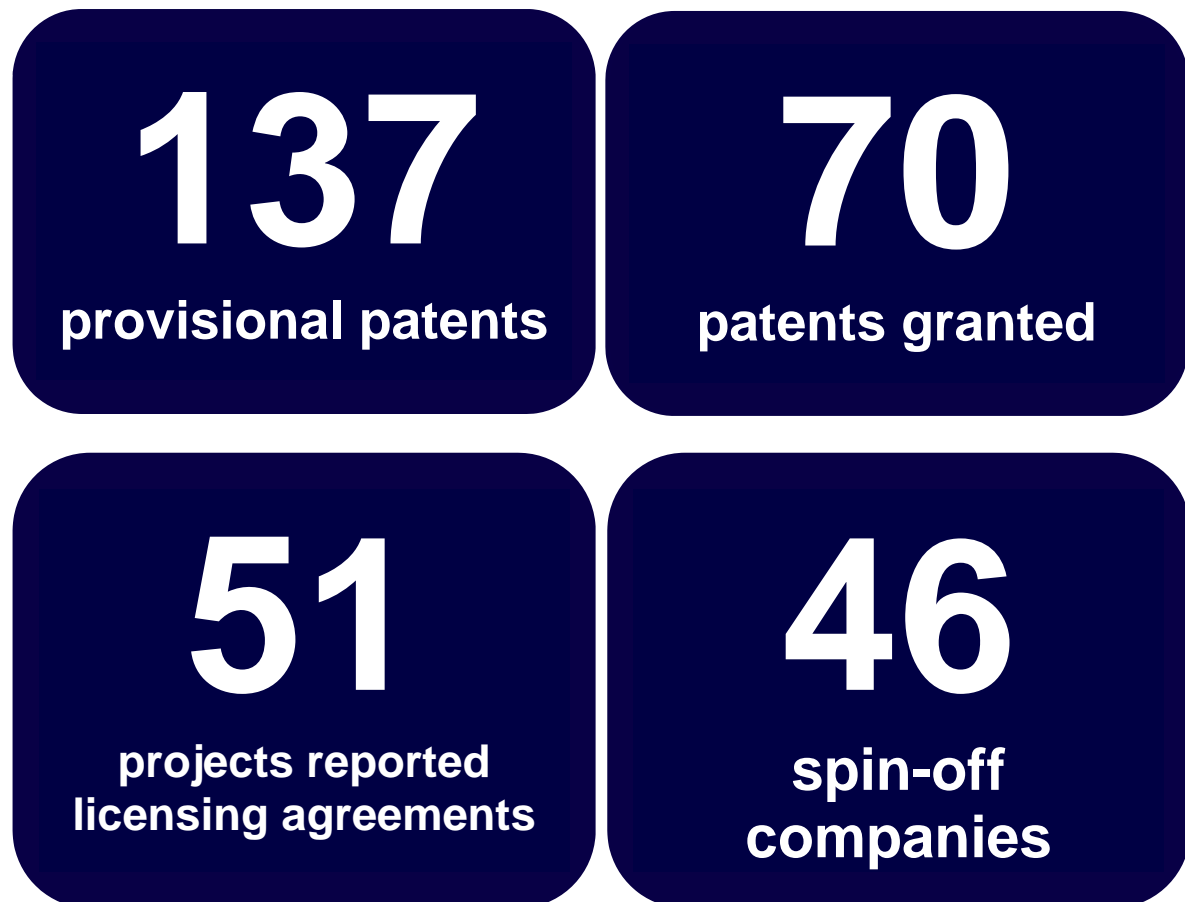


The private sector was the most often identified sector for both consultancies and research contracts while the academic sector was most frequently reported for collaborative research agreements.

**FIGURE 12**

# From research to innovation

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



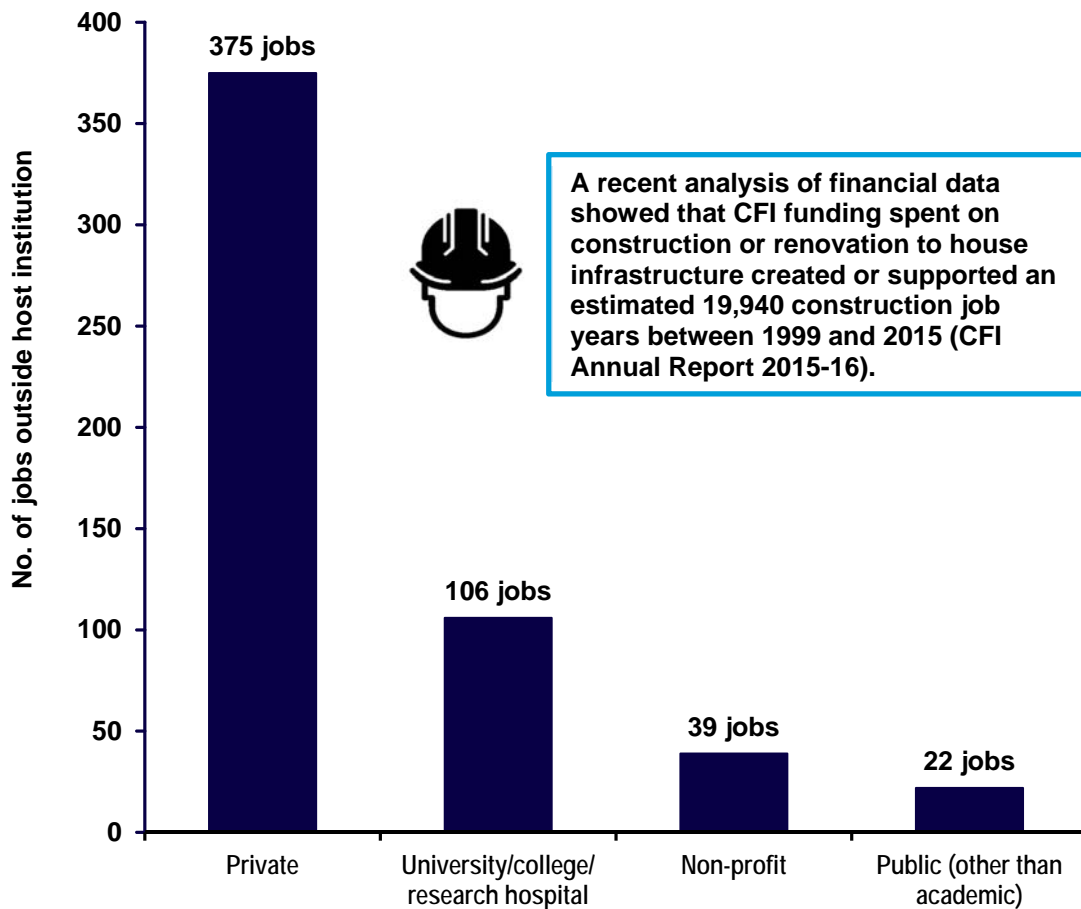
164 project leaders reported at least one of the above four types of innovation outcomes.



# New jobs

28% of project leaders reported one or more jobs created due to the CFI-funded infrastructure.

## Jobs created

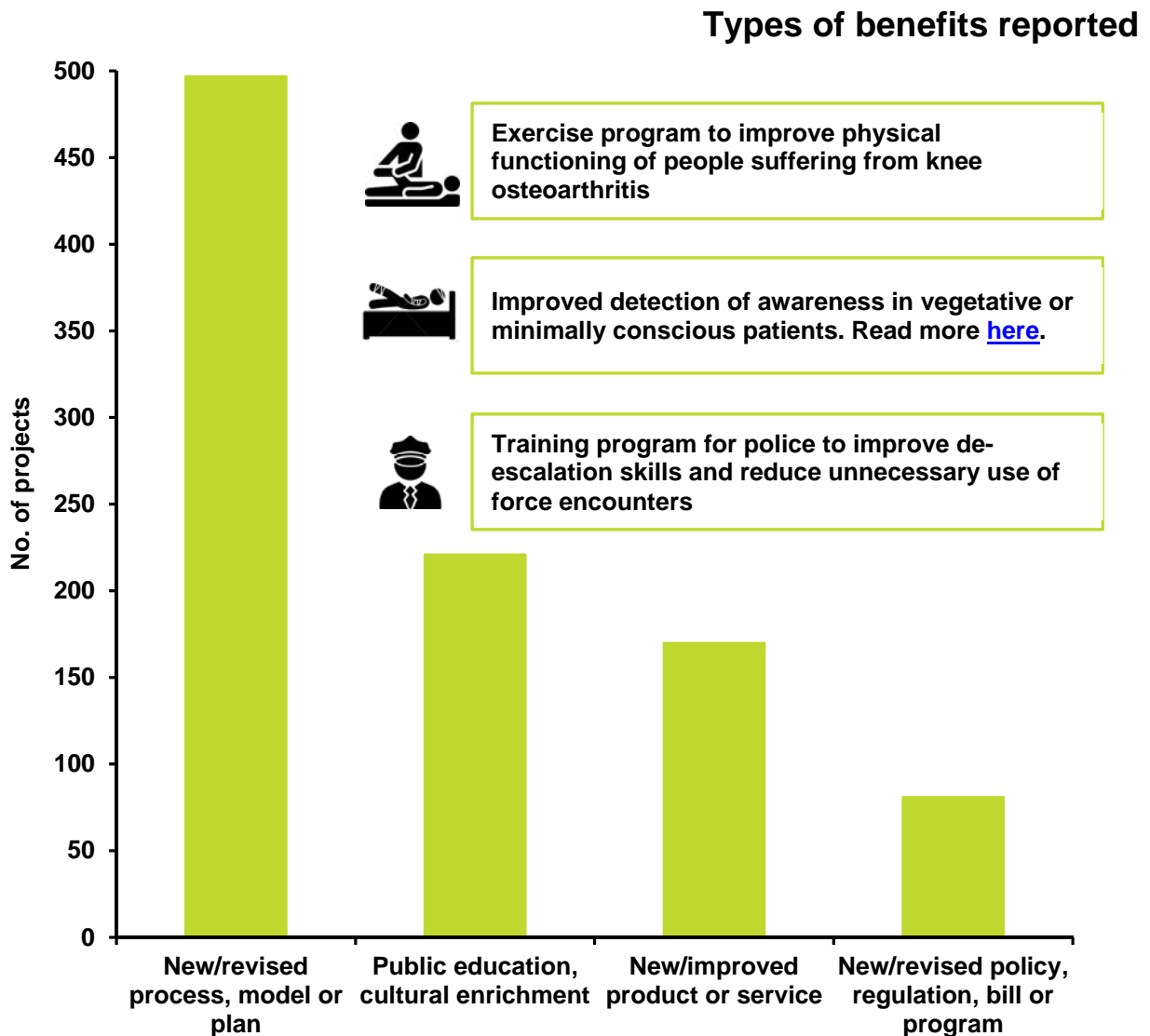


Three-fifths (60%) of all jobs created were within the host institutions. Just over two-thirds of the 542 jobs created outside the institution were in the private sector.

**FIGURE 14**

# A range of benefits

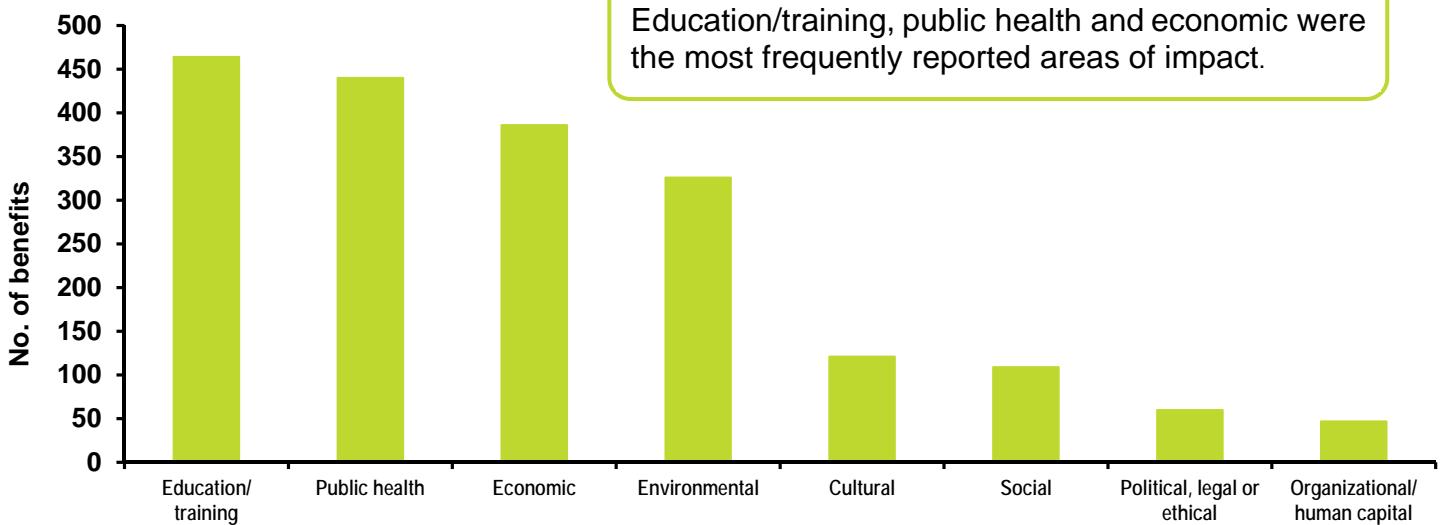
Almost half of project leaders reported at least one type of benefit, highlighting the **role of CFI-funded infrastructure in enabling research that produces outcomes for Canadians.**



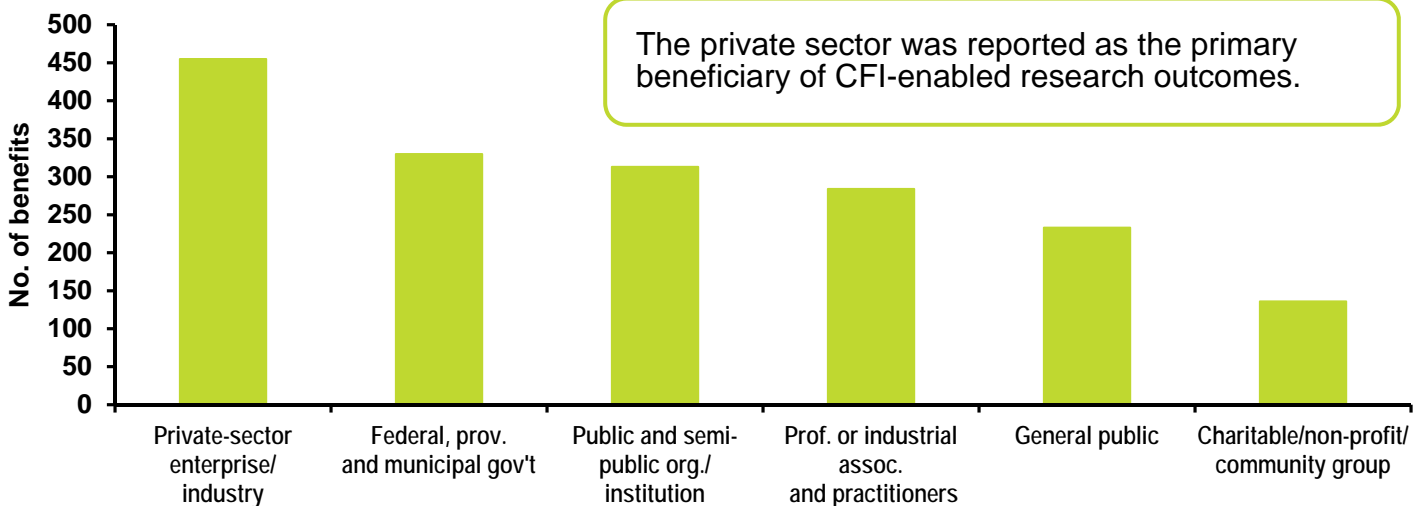
The proportion of projects producing each type of benefit remained consistent across reporting years.

# Areas of impact and user groups

**Areas of impact\***



**User groups**

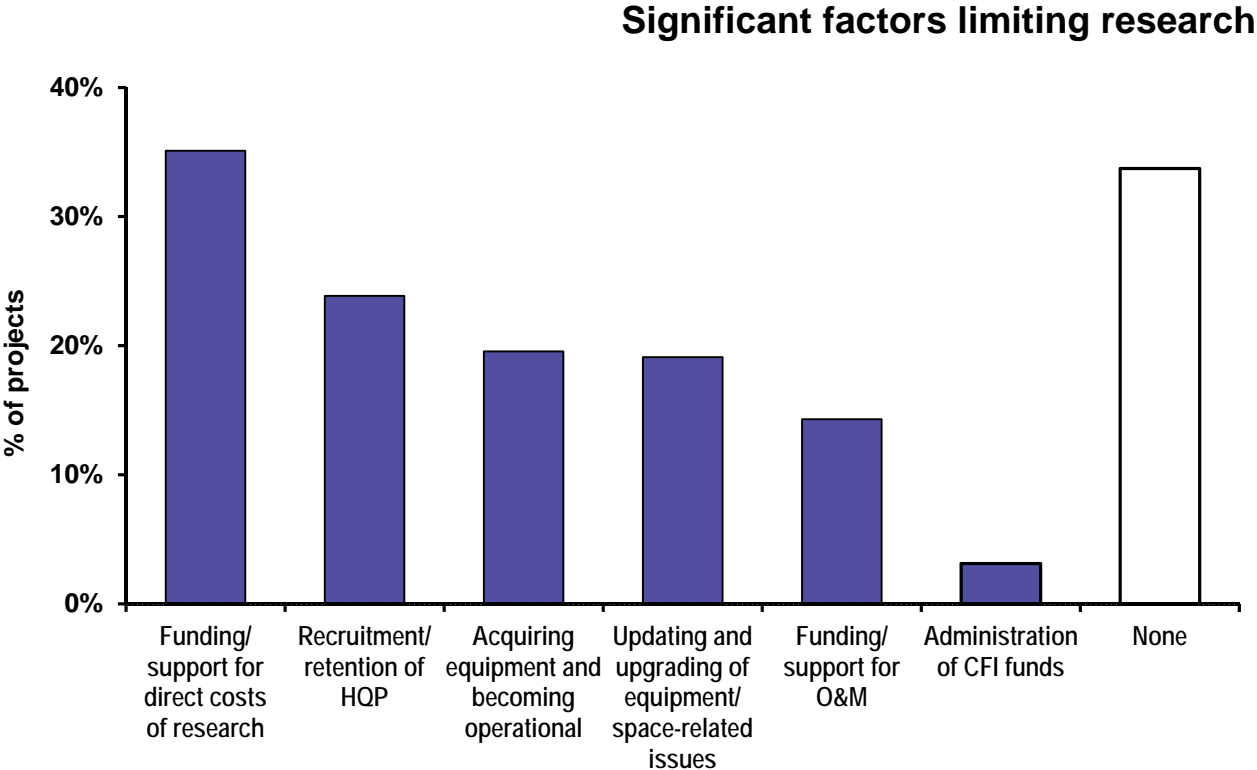


\*Area of impact categories as defined by the [Organisation for Economic Co-operation and Development](#).

**FIGURE 16**

# Challenges

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



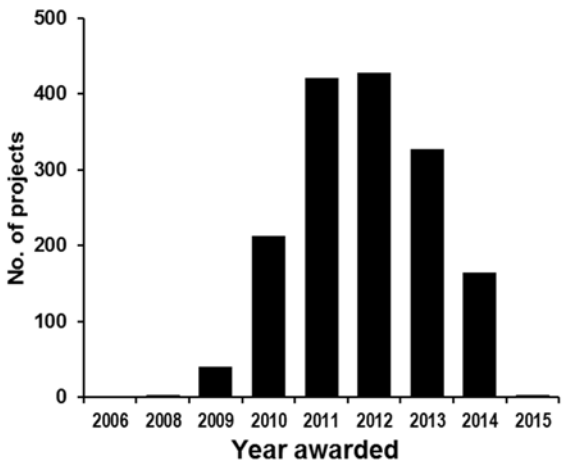
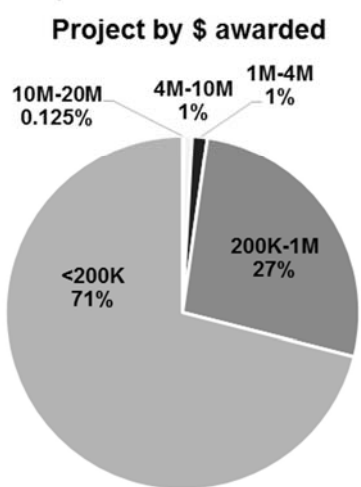
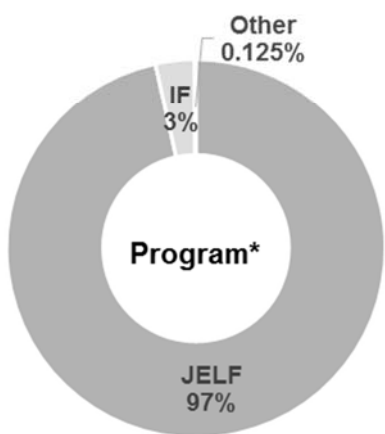
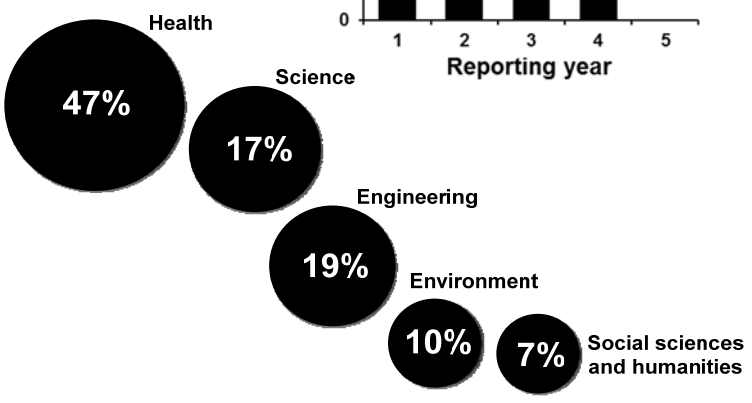
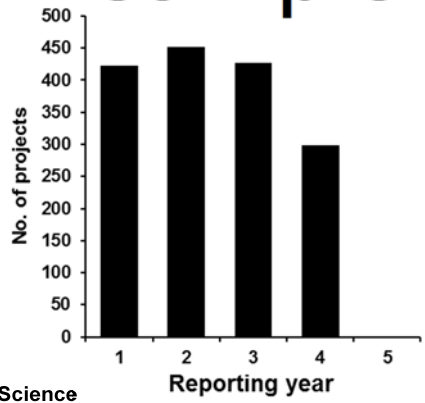
Although issues related to highly qualified personnel (HQP) and the acquisition and updating of equipment were also identified as important challenges, 34% of project leaders reported that they had no significant limiting factors in conducting their research.

# Composition of the 2016 Project Progress Report sample

1,611 expected



**1,601** reports



\* Innovation Fund (IF) type: Leading Edge Fund 2006, 2009, 2012 and New Initiatives Fund 2009, 2012.  
 John R. Evans Leaders Fund (JELF) type: Leaders Opportunity Fund (LOF) – \$1M to \$2M, LOF-CRC, LOF-NSERC, LOF-SSHRC, JELF – Funding for research infrastructure, JELF-CRC, JELF-CERC, JELF-NSERC, JELF-SSHRC  
 Other programs: Research Hospital Fund – Large Scale Institutional Endeavors and 2013 Digging into Data Challenge.



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