



# 2014 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;
- enable researchers to undertake world-class research and technology development that leads to social, economic and environmental benefits for Canada;
- support private-sector innovation and commercialization; and
- train the next generation of researchers.

Since its creation, the CFI has committed more than \$6 billion in support of 8,770 projects at 144 research institutions in 70 municipalities across Canada (as of January 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 2014 PPR sample, see the Appendix.

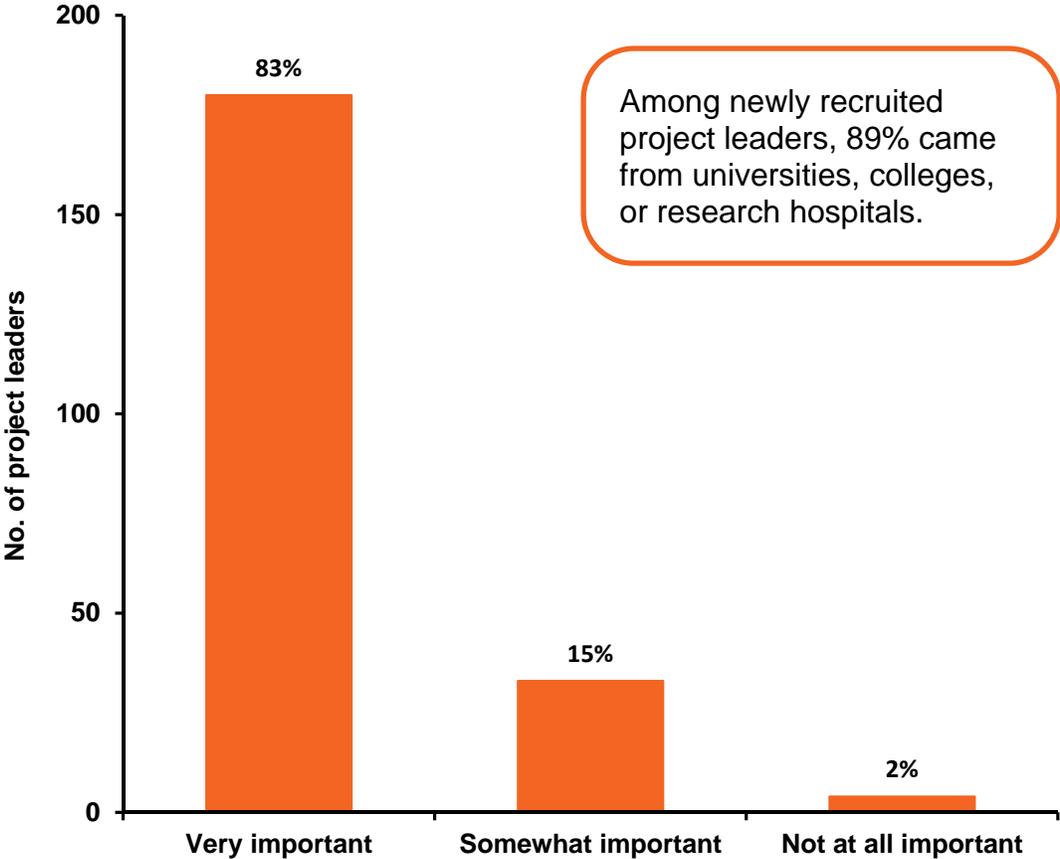
## TABLE OF CONTENTS

Figure 1. Researcher attraction .....	1
Figure 2. International talent .....	2
Figure 3. Researcher retention .....	3
Figure 4. Trainees using infrastructure .....	4
Figure 5. Quality of training environment .....	5
Figure 6. HQP employment.....	6
Figure 7. Operation & maintenance .....	7
Figure 8. Infrastructure quality & useful life.....	8
Figure 9. Infrastructure use .....	9
Figure 10. Sharing research results .....	10
Figure 11. Research collaborations .....	11
Figure 12. Research agreements .....	12
Figure 13. From research to innovation .....	13
Figure 14. New jobs .....	14
Figure 15. A range of benefits.....	15
Figure 16. Areas of impact and user groups.....	16
Figure 17. Challenges .....	17
Appendix. Composition of the 2014 Project Progress Report sample.....	18

# Researcher attraction

Among the 422 project leaders who submitted a report for the first time, 51% (217) 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.**

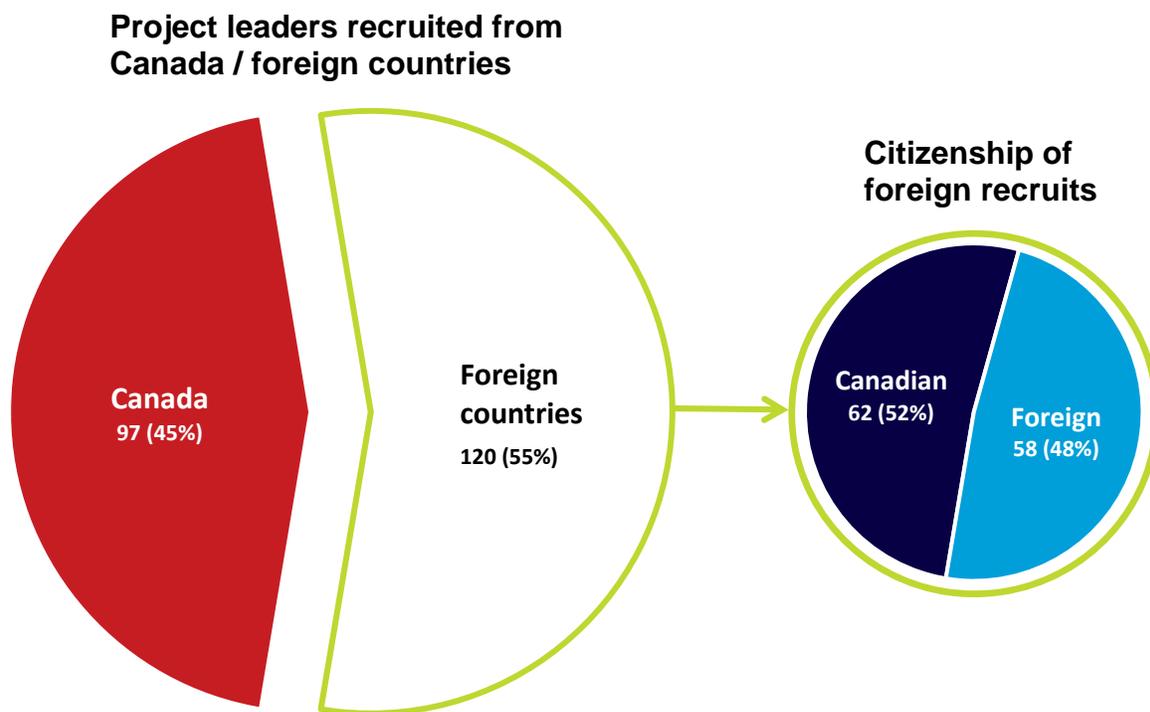
## Importance of infrastructure in decision to join the institution



**FIGURE 2**

# International talent

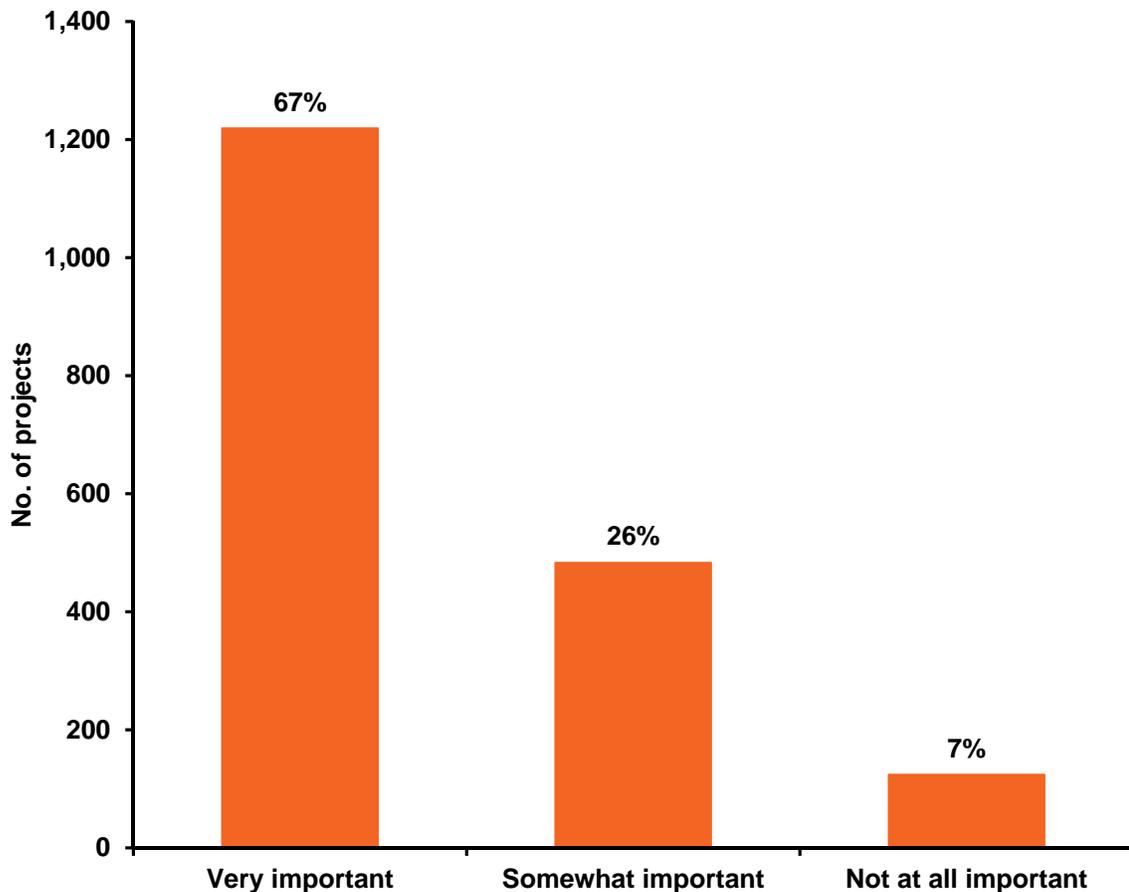
Among 217 project leaders newly recruited to the institution, 55% came from outside Canada with the majority coming from the United States. Of those from outside Canada, nearly half were foreign citizens, suggesting CFI-funded infrastructure **contributed to attracting international talent**.



# 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 **plays a key role in the retention of some of Canada's best researchers.**

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



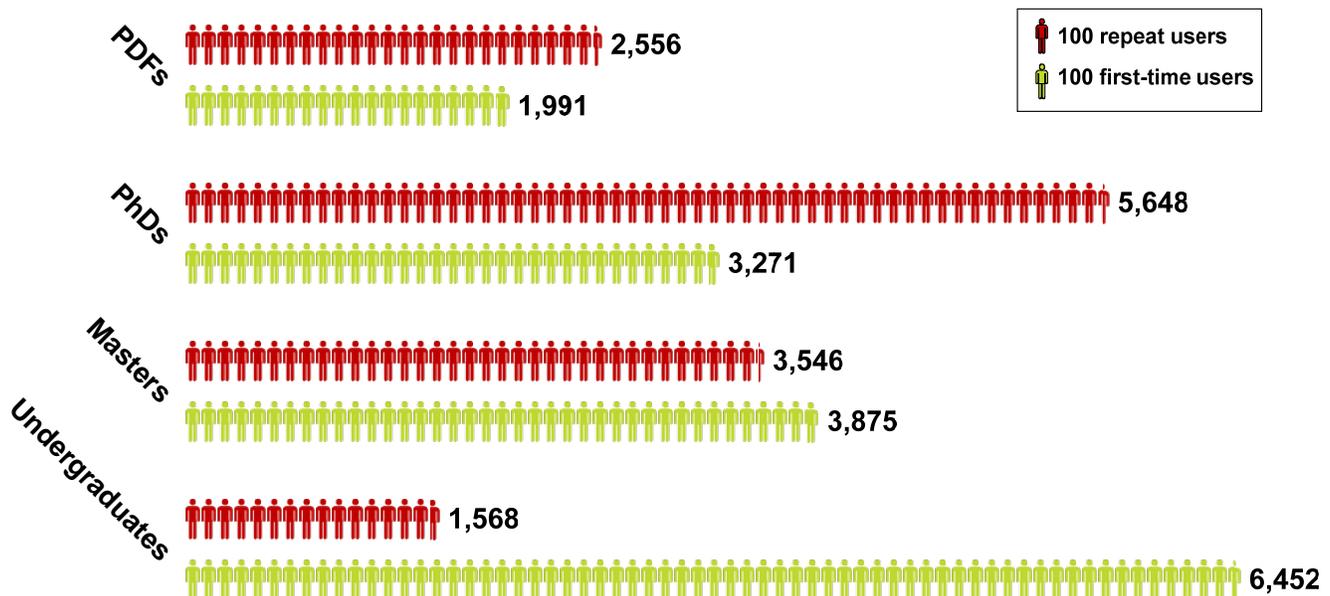
# FIGURE 4

## 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

28,907 post-doctoral fellows (PDFs) and higher education students had the opportunity to expand their research skills using CFI-funded infrastructure. Of those, 54% used the infrastructure for the first time.

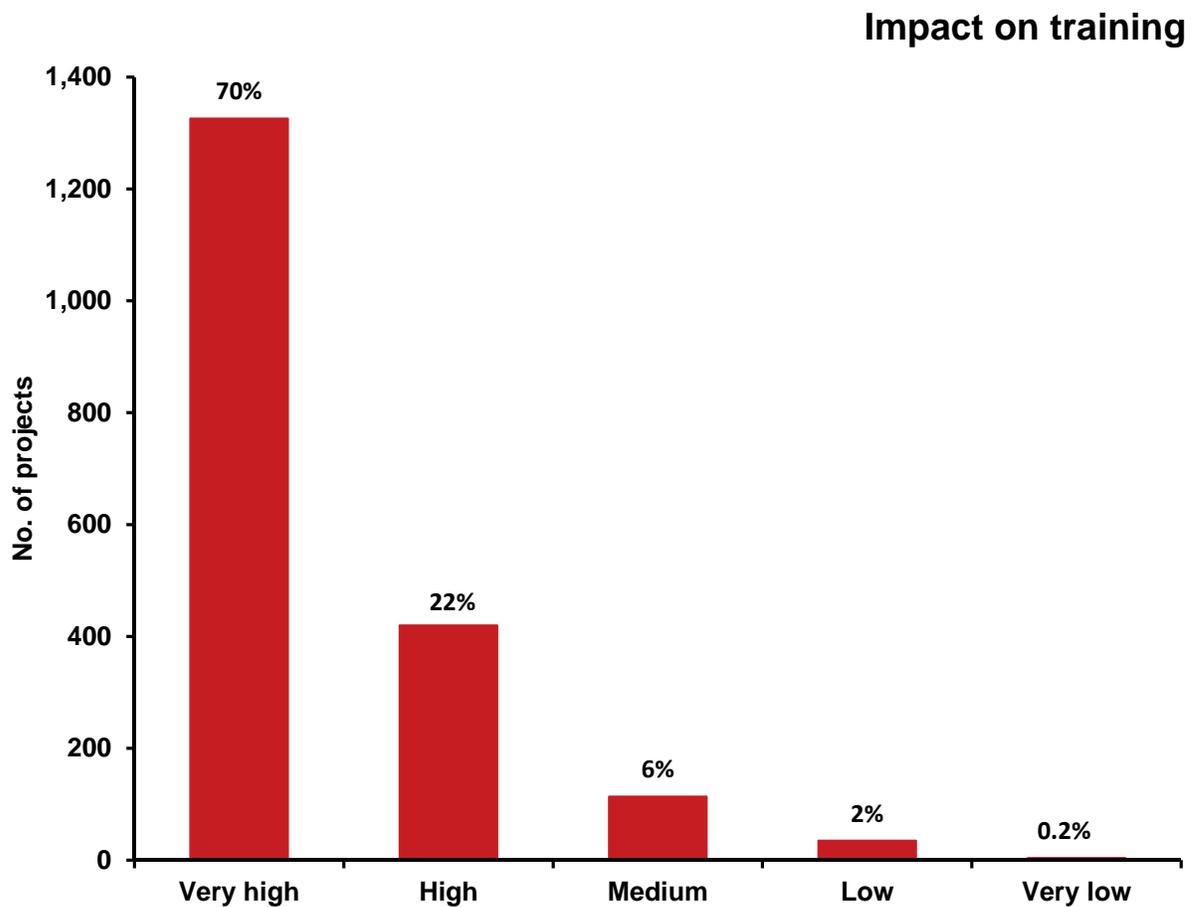


*Developing highly qualified personnel*

**FIGURE 5**

# 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.

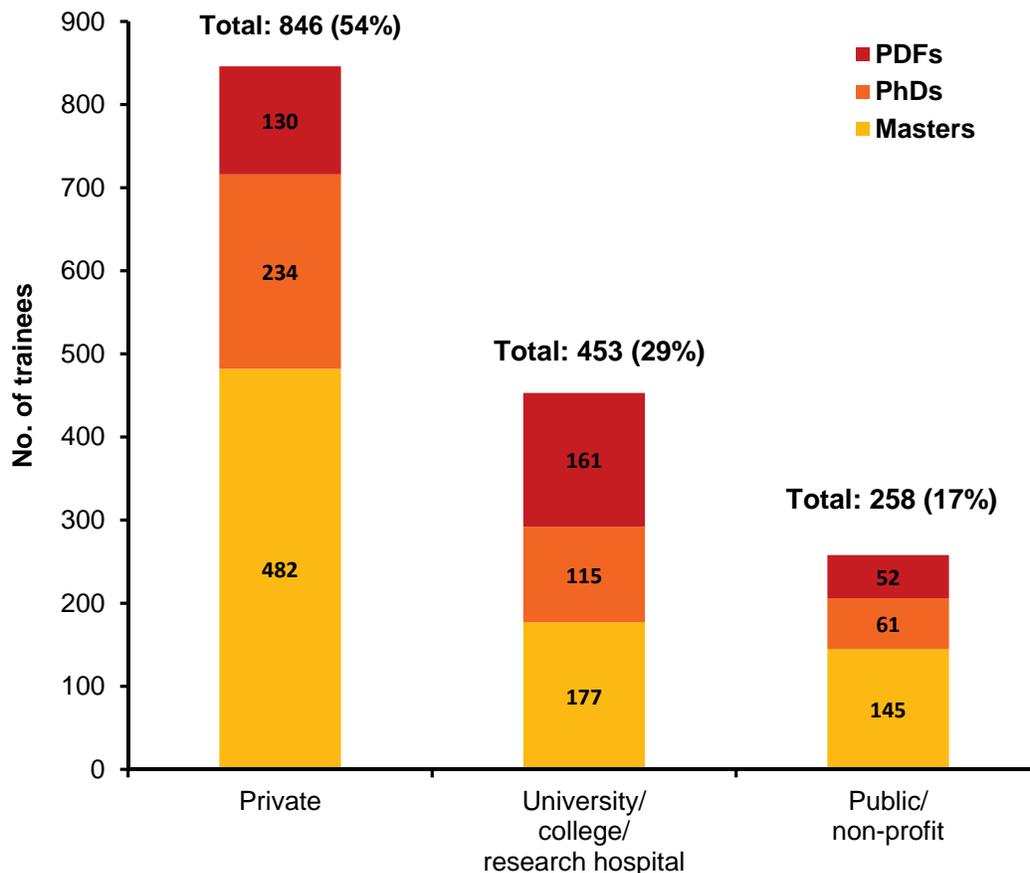


## FIGURE 6

# HQP employment

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

Employment in Canada by sector



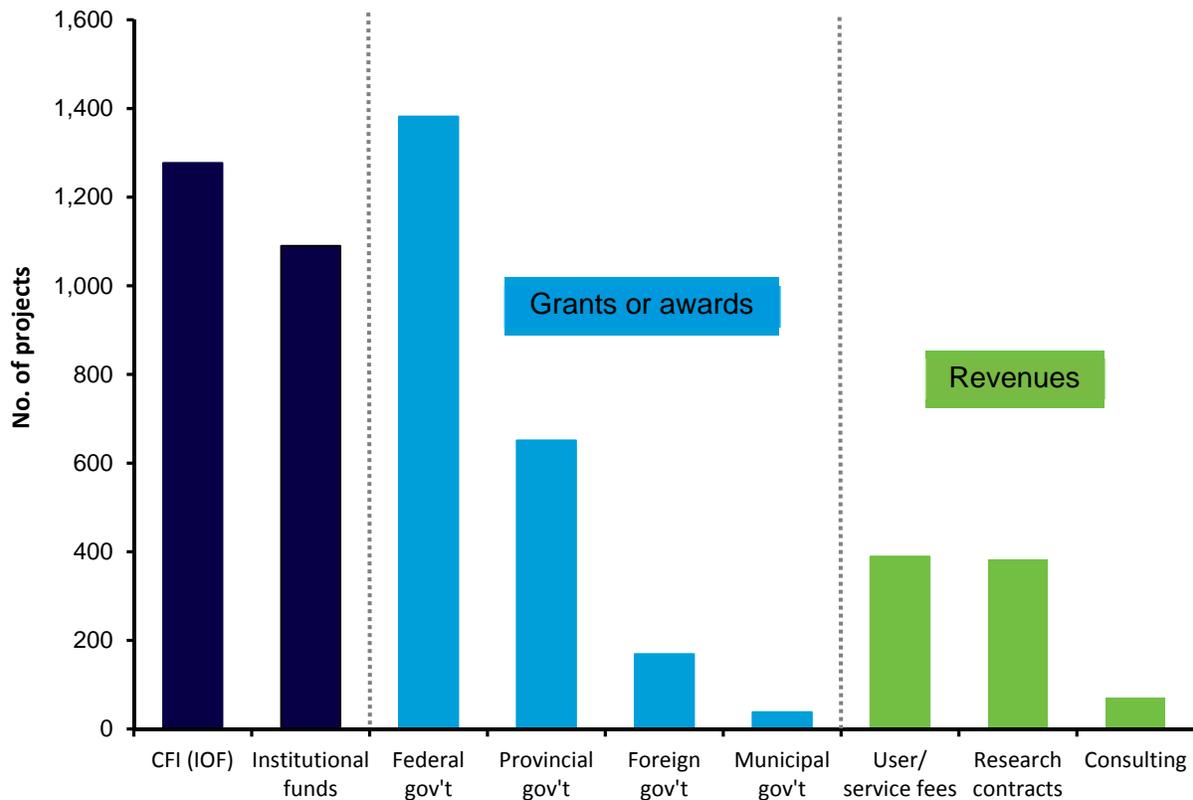
2,008 post-doctoral fellows (PDFs) and graduate students using the infrastructure last year completed their training and moved into the workforce. Among them, a large proportion (78%) stayed in Canada, while the remaining 22% were reported as working abroad.

***Developing highly qualified personnel***

# Operation & maintenance

85% 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.

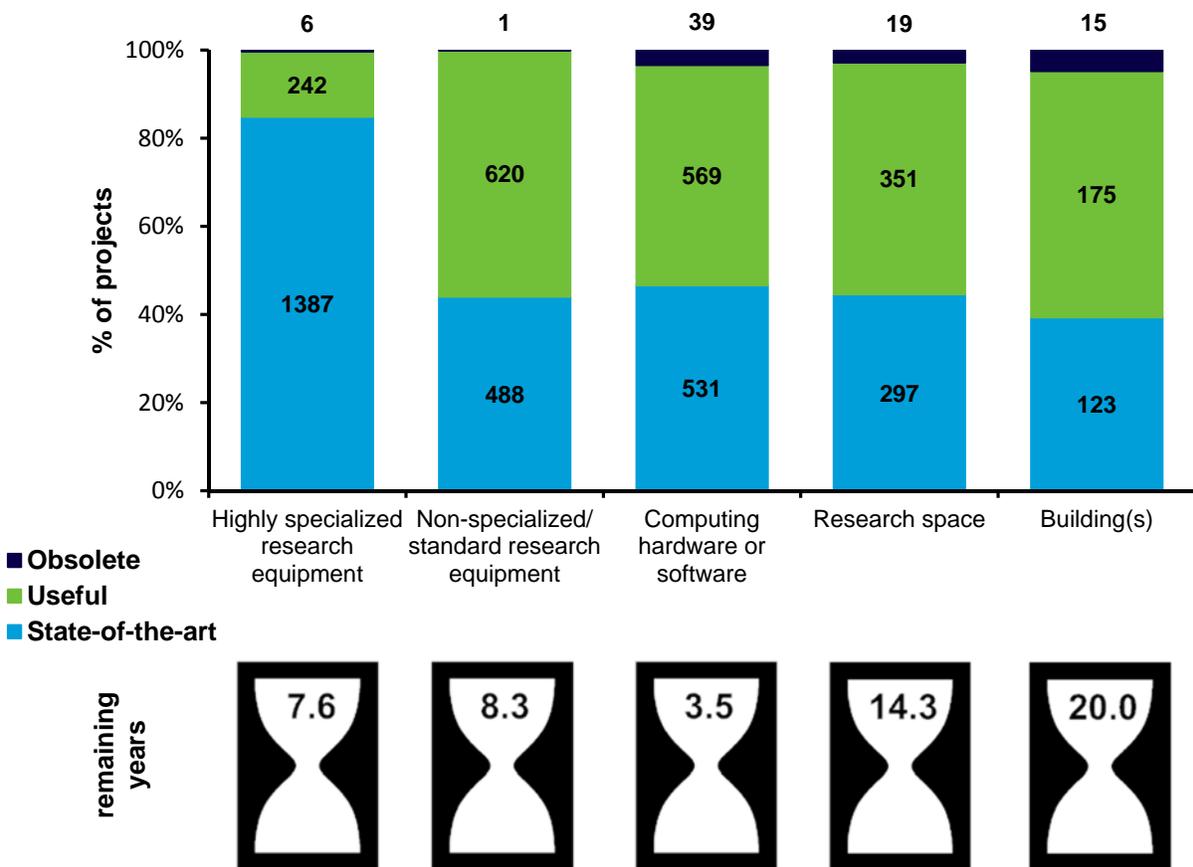
**Technical personnel**  
46% of project leaders reported a total of 2,572 technical personnel who were trained for the first time last year on the use and maintenance of the infrastructure.

# FIGURE 8

## Infrastructure quality & useful life

The quality of CFI-funded infrastructure was highly rated overall, with 85% of **highly specialized research equipment** reported as **state-of-the-art**.

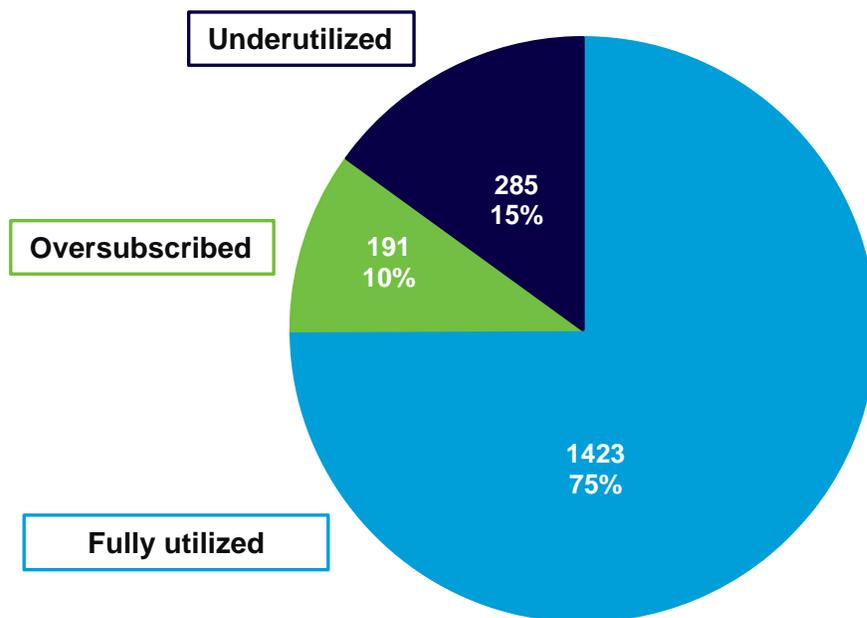
Infrastructure quality and remaining years of useful life



# Infrastructure use

The majority of project leaders reported **full utilization of infrastructure**. Most external infrastructure users were from universities, colleges or research hospitals with a high proportion in this sector being international.

**Level of infrastructure use**



### **Users within the institution**

84% of project leaders (1,588) reported at least one researcher at their institution using the infrastructure to advance their research, for a total of 9,172 internal users.

### **Users outside of the institution**

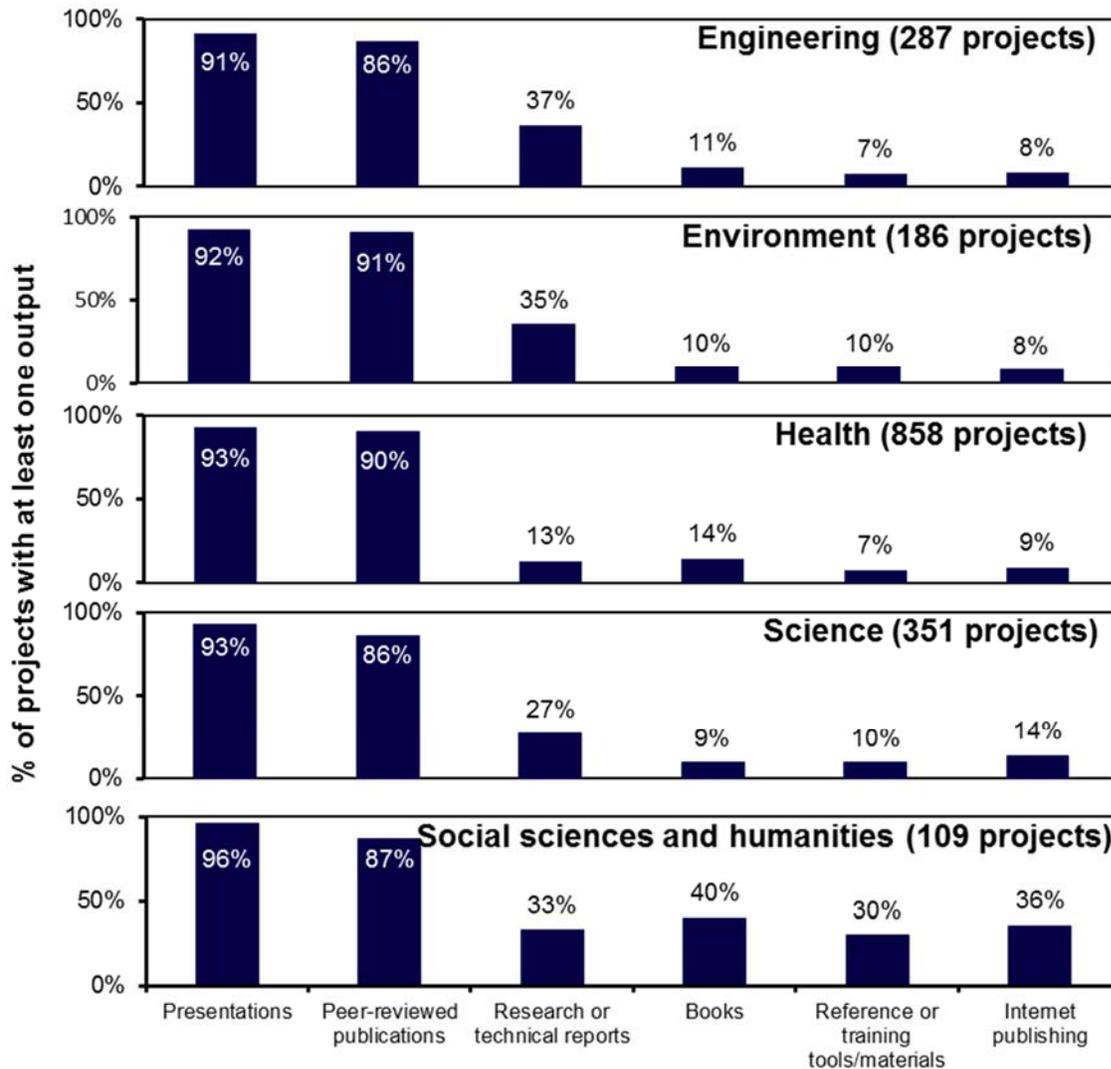
62% of project leaders (1,178) reported at least one user from outside their institution, for a total of 22,901 external users.

**FIGURE 10**

# Sharing research results

As expected in an academic setting, [conferences, symposiums and workshop presentations](#) were the most frequently reported research outputs, closely [followed by peer-reviewed publications](#).

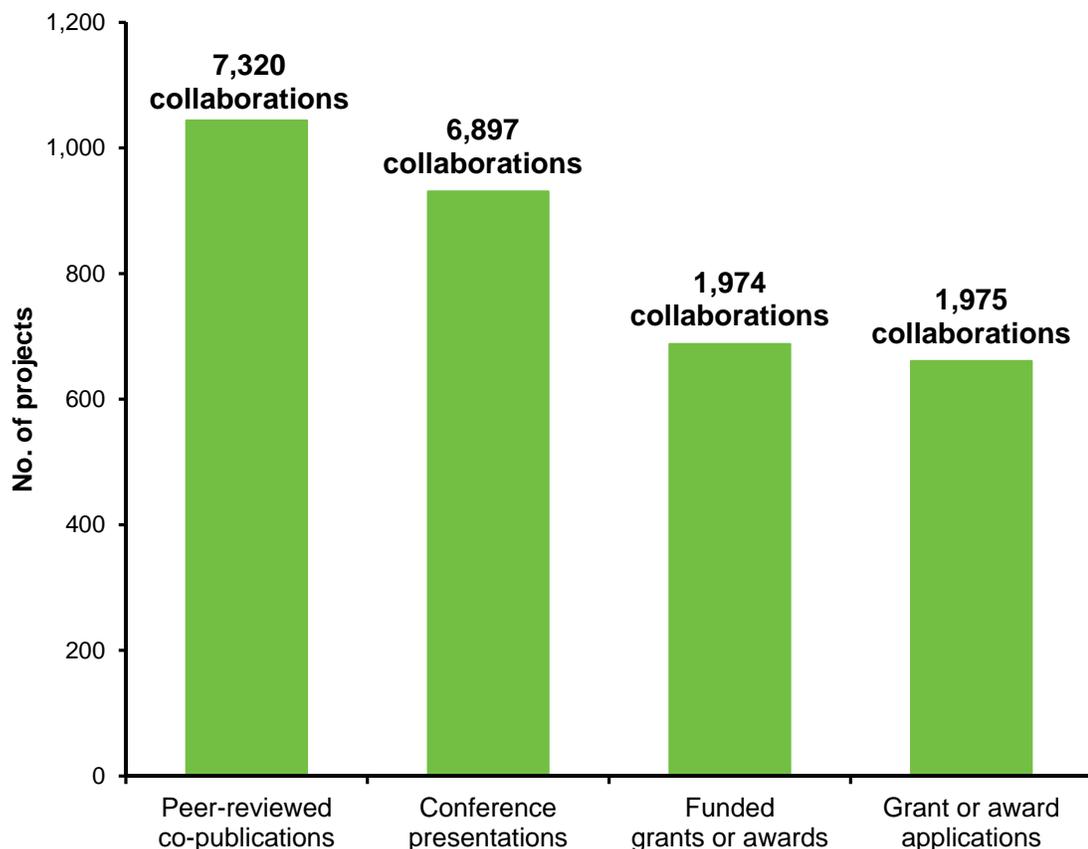
**Dissemination by area of application**



# Research collaborations

Researchers have made use of infrastructure to **serve collaborative research endeavours** for traditional academic activities and outputs such as funding applications and publications.

**Types of research collaborations**



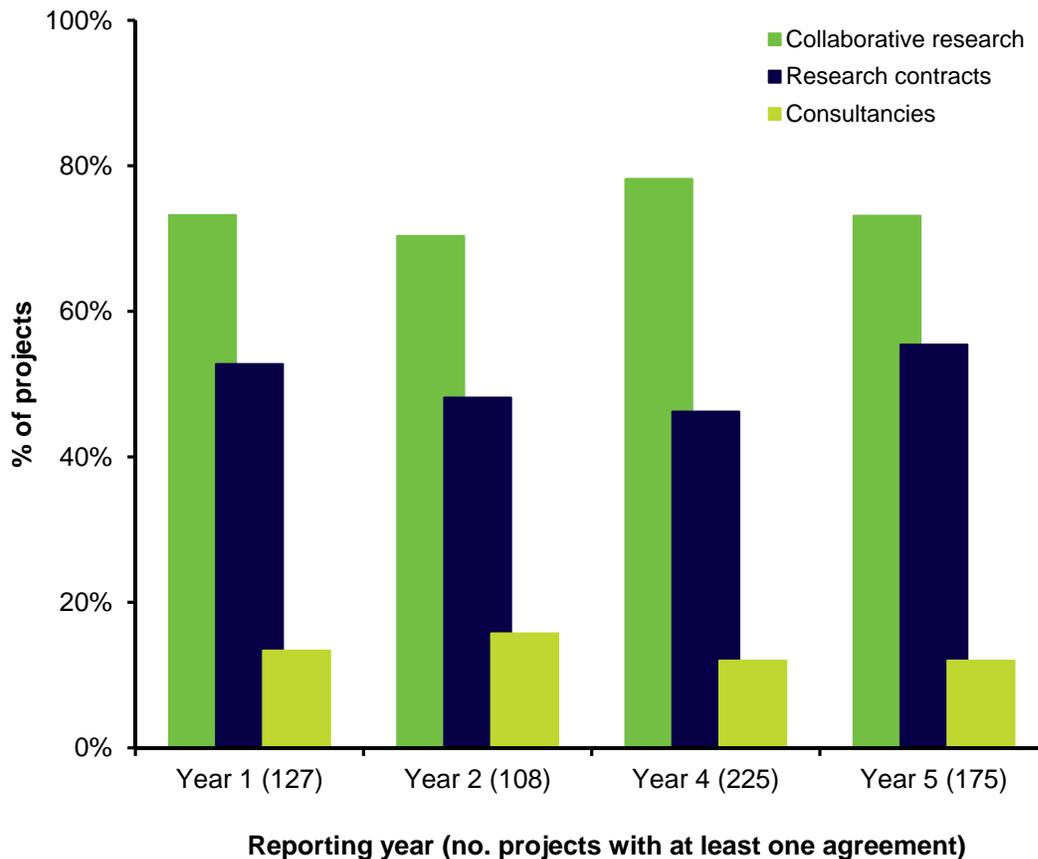
70% of project leaders reported at least one type of collaboration with individuals from outside their institution. Of those, 24% of project leaders reported all four types, suggesting CFI-funded infrastructure enables broad and varied collaboration.

**FIGURE 12**

# Research agreements

CFI-funded infrastructure **facilitated formal collaborative research agreements**. Project leaders reported a total of 3,942 agreements.

**Types of agreements by reporting year**



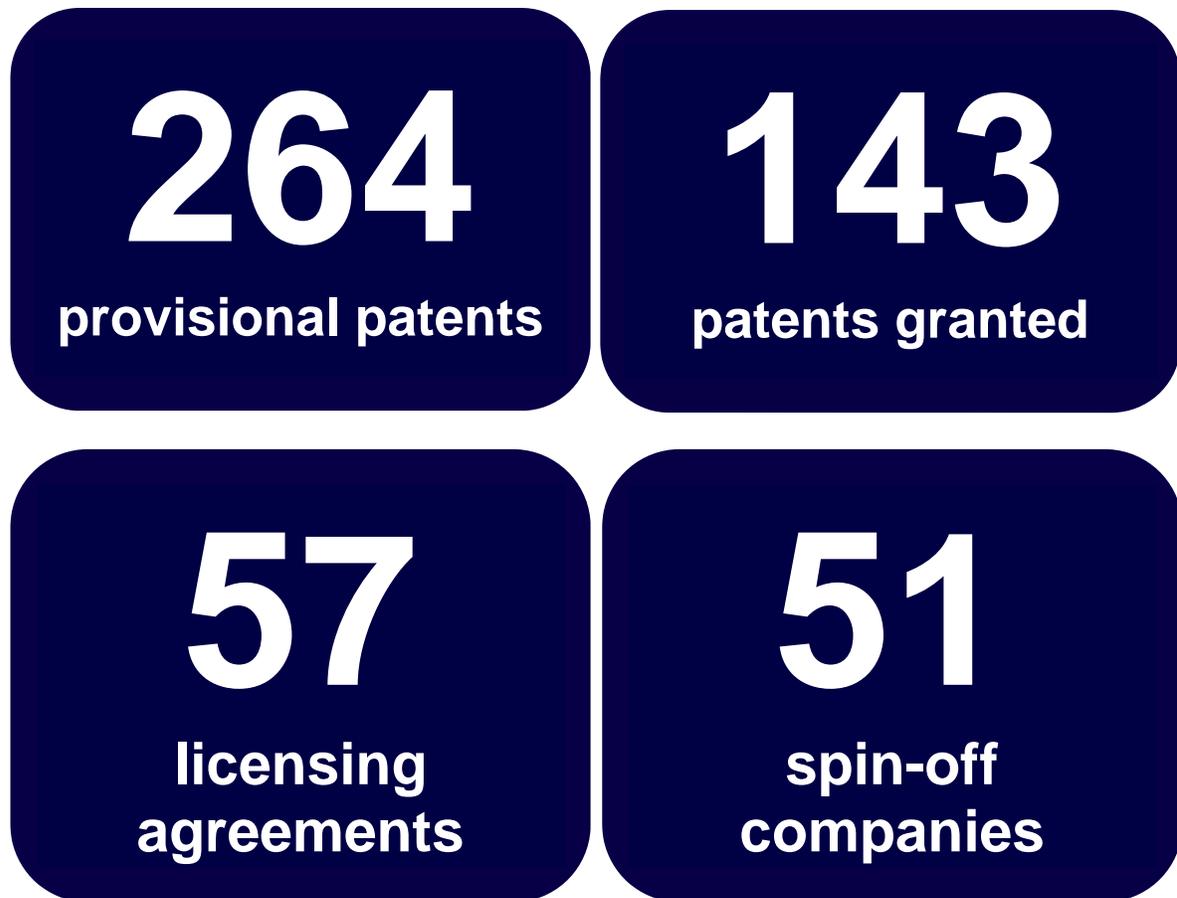
*Note: In 2014, no projects were reporting in Year 3 due to a change in the CFI's reporting rules.*

Among projects that reported agreements, the proportion for each type was consistent across the reporting years. This suggests that project year has little influence on the type of agreements entered into.

## **Productive networks and collaborations**

# From research to innovation

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

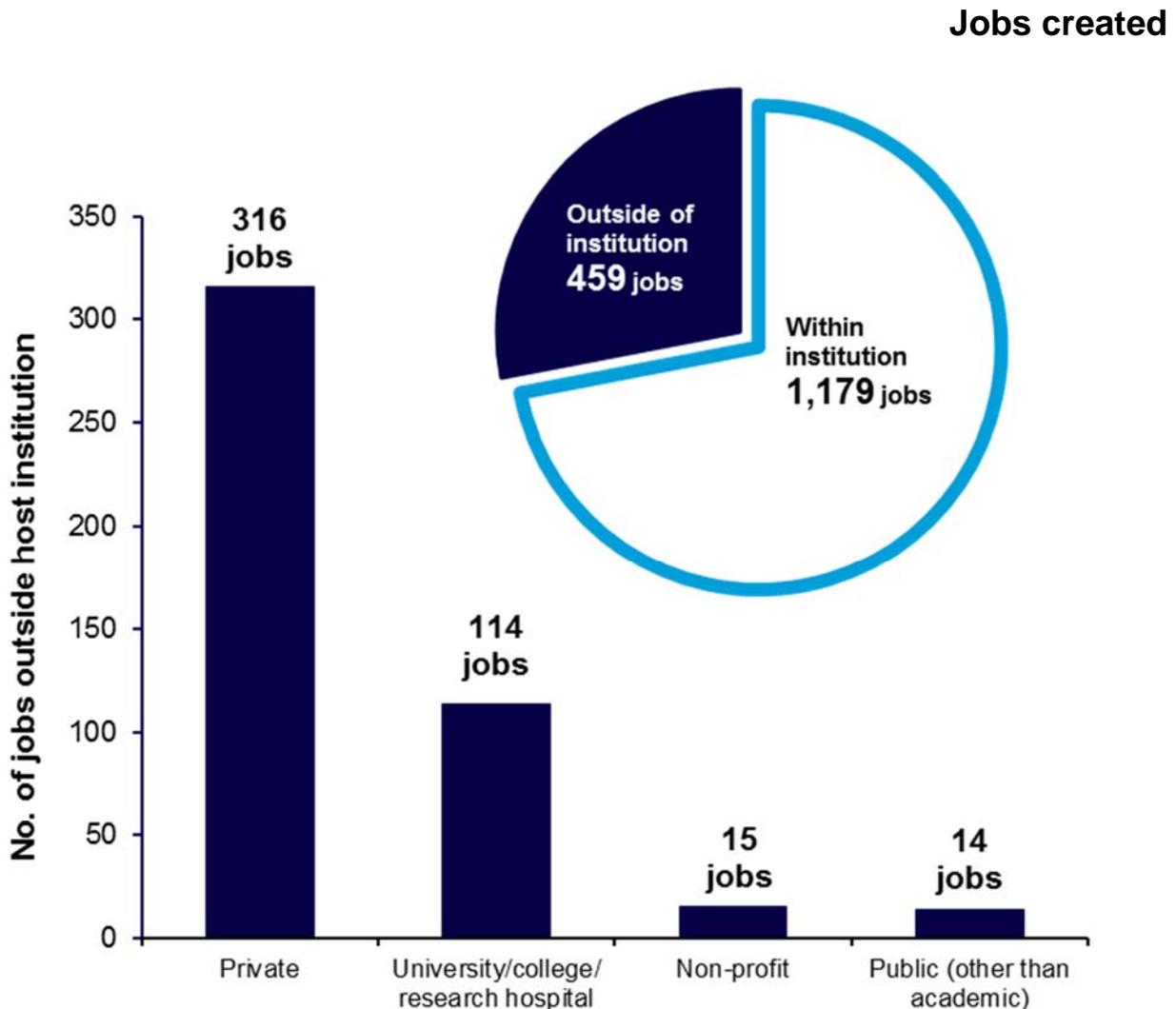


209 project leaders reported at least one of the above four types of innovation outcomes.

**FIGURE 14**

# New jobs

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

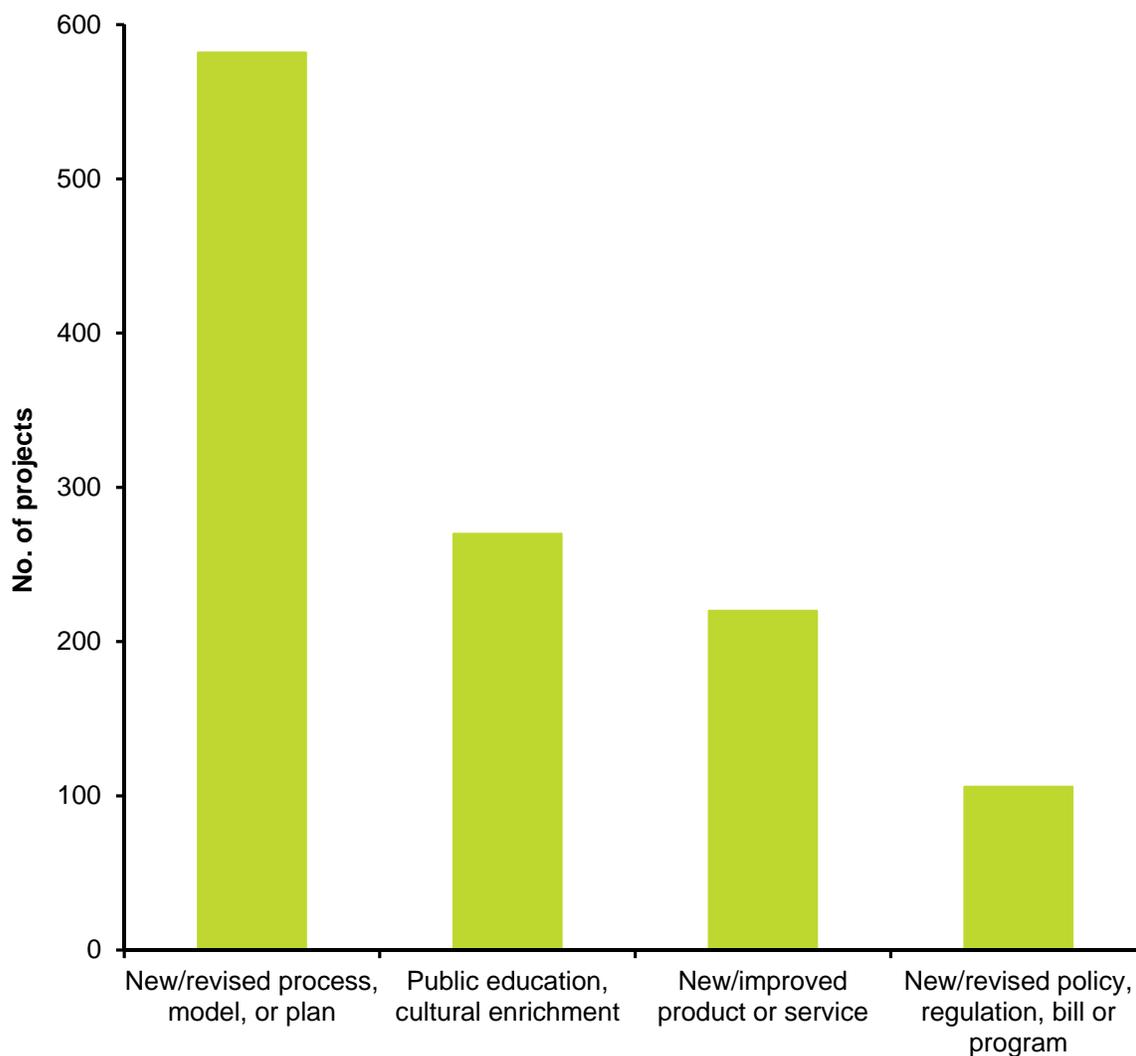


Just under three-quarters (72%) of all jobs created were within the host institutions. Just over two-thirds of the 459 jobs created outside the institution were in the private sector.

# A range of benefits

46% 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**

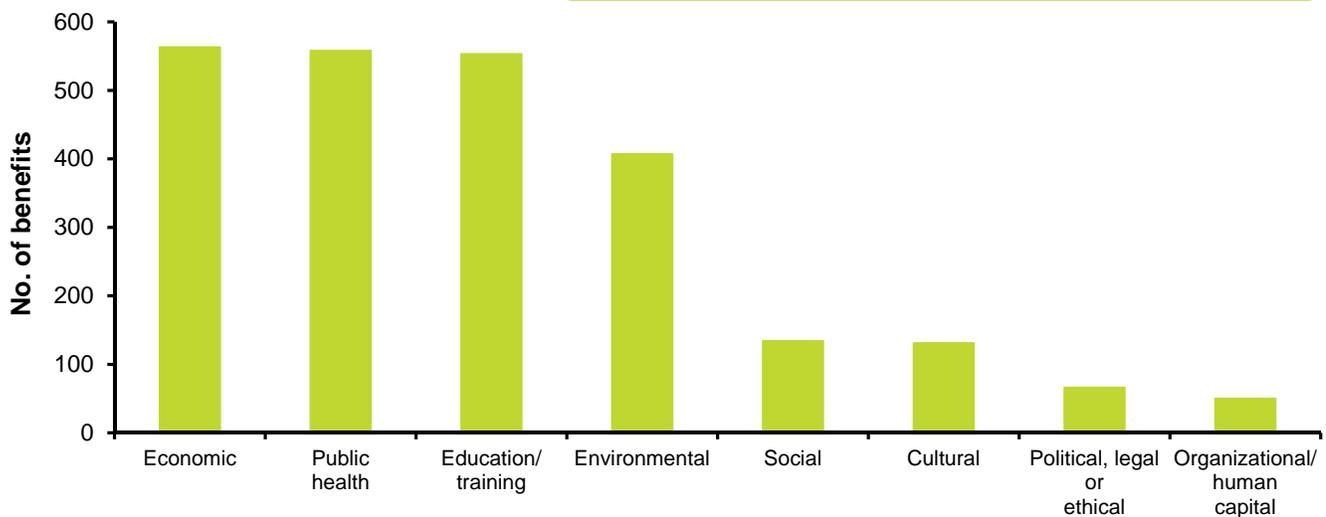


**FIGURE 16**

# Areas of impact and user groups

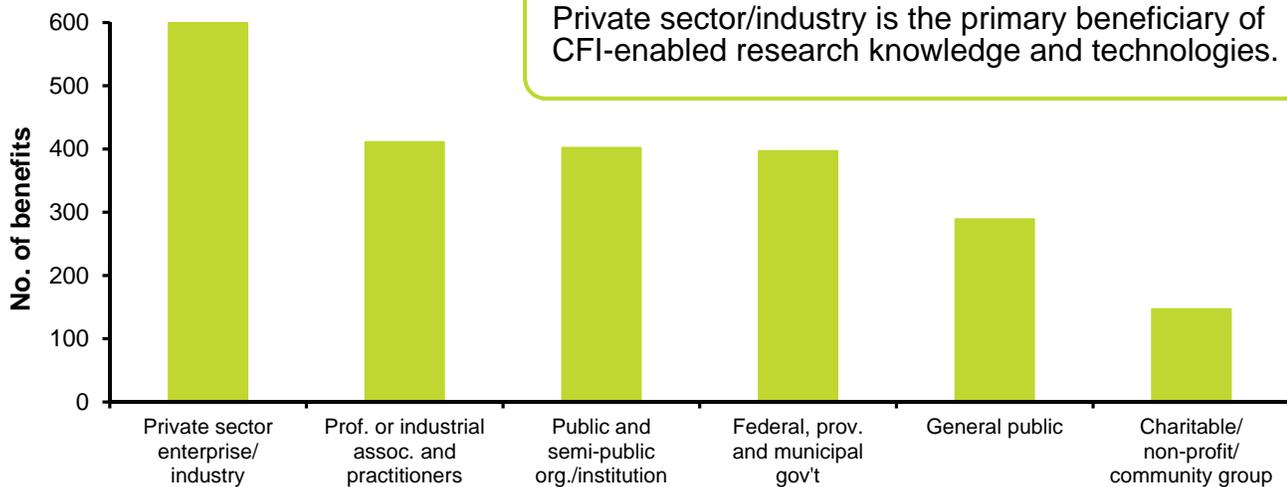
## Areas of impact

Economic, public health, and education/training were the most frequently reported areas of impact.



## User groups

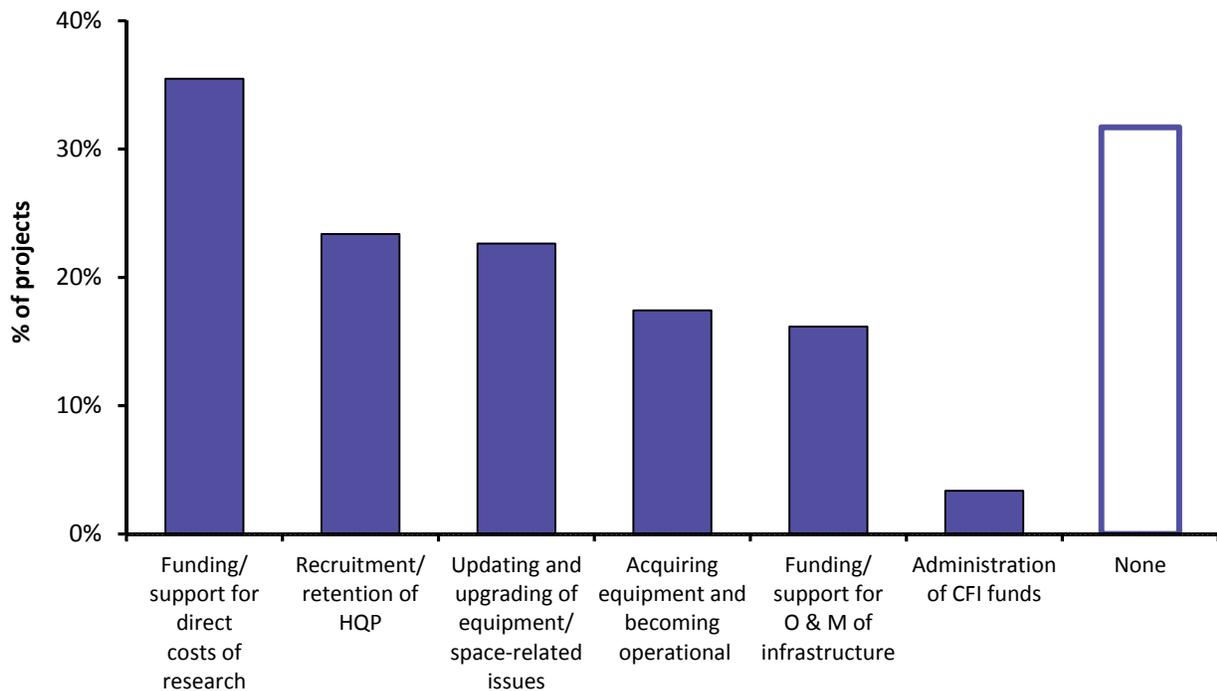
Private sector/industry is the primary beneficiary of CFI-enabled research knowledge and technologies.



# 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.

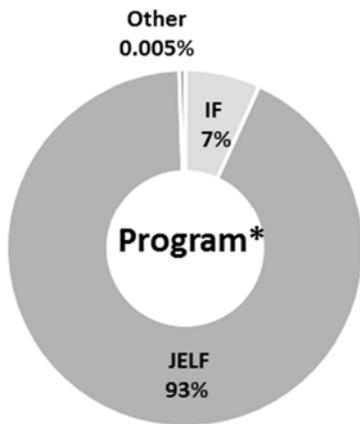
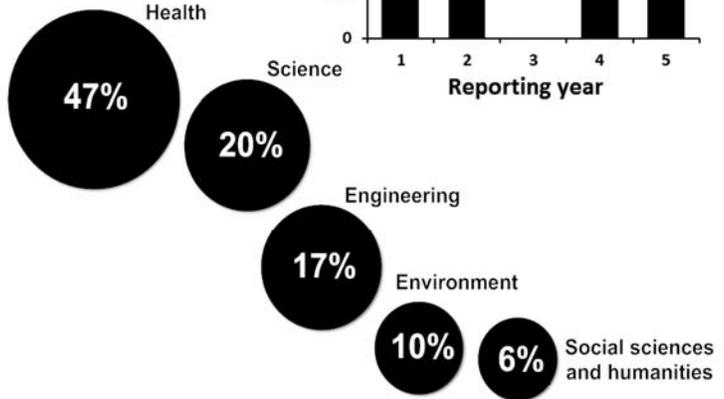
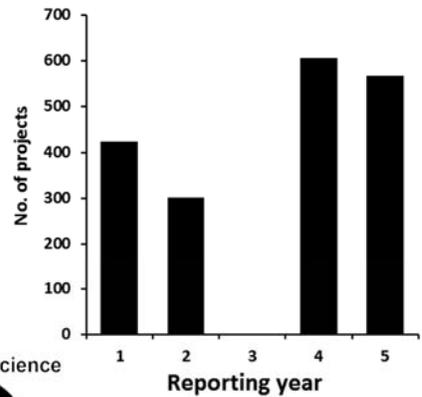
# APPENDIX

## Composition of the 2014 Project Progress Report sample

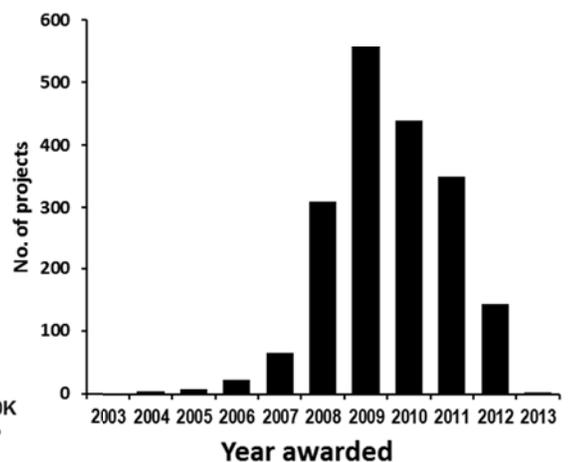
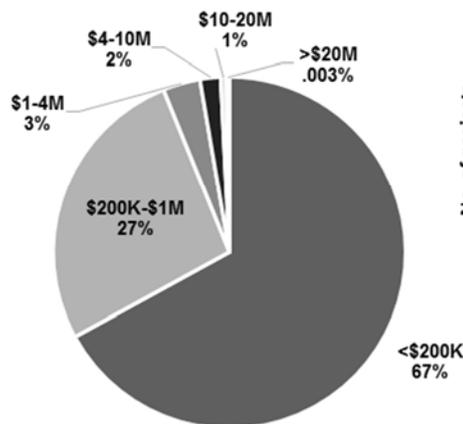
1,938 expected → 1,923 received → **1,899 reports**

excluded: 24  
(not yet operational)

**84** institutions  
included in the analysis



Project by \$ awarded



\* **Innovation Fund (IF) type:** IF 1998-2004; Leading Edge Fund 2006/2009; and New Initiatives Fund 2006/2009.  
**John R. Evans Leaders Fund (JELF) type:** New Opportunities Fund; Leaders Opportunity Fund (LOF)–\$1M to \$2M; LOF–Canada Research Chair; LOF–NSERC; LOF–SSHRC; LOF–CIHR; JELF–Funding for research infrastructure; and JELF–Canada Excellence Research Chair.  
**Other programs:** International Joint Venture Project 2005; Research Hospital Fund (RHF) 2004; RHF–Large Scale Institutional Endeavors; and RHF–Regional/National Clinical Research Initiatives.



**Research builds communities**  
**La recherche au service des collectivités**

450-230 Queen Street  
Ottawa ON K1P 5E4  
Tel 613.947.7260  
Fax 613.943.0227

450-230 rue Queen  
Ottawa ON K1P 5E4  
Tél 613.947.7260  
Télé 613.943.0227