
KEY FINDINGS

from the 2010-2011 project progress reports



RESEARCH



TALENT



INNOVATION

EVERY YEAR, PROJECT PROGRESS REPORTS ENABLE THE CFI TO MONITOR PROGRESS TOWARDS ACHIEVING ITS MANDATE. THIS REPORT SUMMARIZES KEY FINDINGS FROM THE 2010-11 PROJECT PROGRESS REPORTS THROUGH THE MULTIPLE LENSES OF RESEARCH, TALENT AND INNOVATION.



RESEARCH

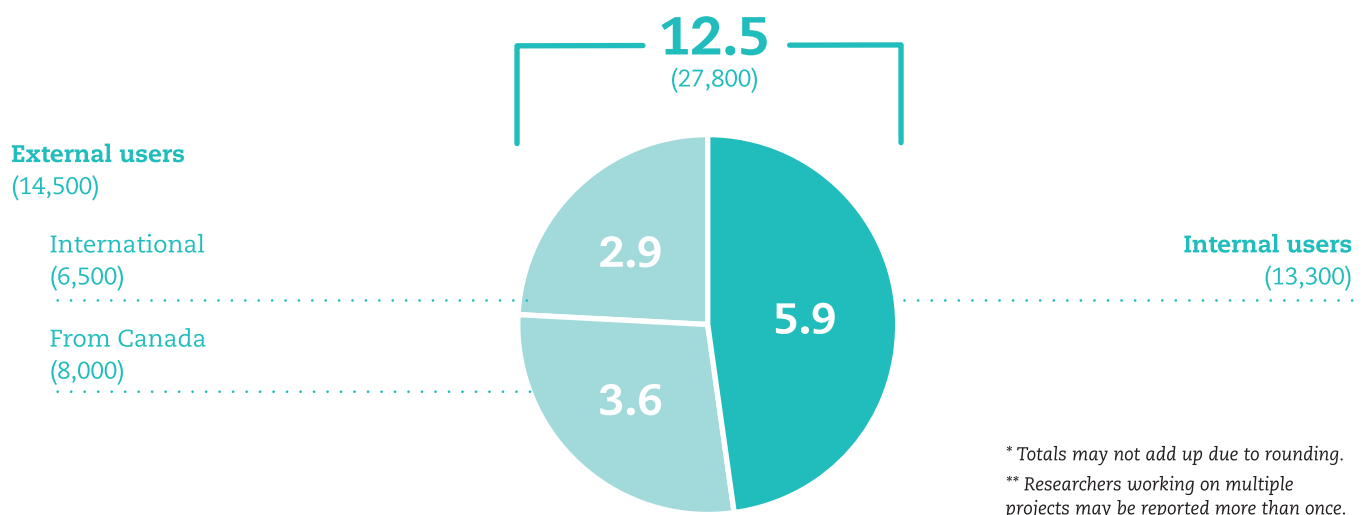
The CFI invests in projects that bring together researchers from all fields of science, sectors, and regions of the world, and that support international research linkages and the dissemination and exchange of research results. The CFI's contribution to world-class research can be measured by examining these elements.

Infrastructure is a magnet to attract researchers

The availability and accessibility of modern facilities and state-of-the-art equipment are key factors in improving the effectiveness and competitiveness of research and supporting innovation. In 2010-11, each infrastructure project was used by almost 13 researchers on average (not considering trainees), more than half being from outside the institution that houses the project, including more than a quarter from outside Canada. Many of those external users are from the private sector and the public/non-profit sector. This clearly suggests that the facilities act as magnets to attract researchers from other sectors and regions and to create a fertile environment for collaborations.

Average number of researchers per project

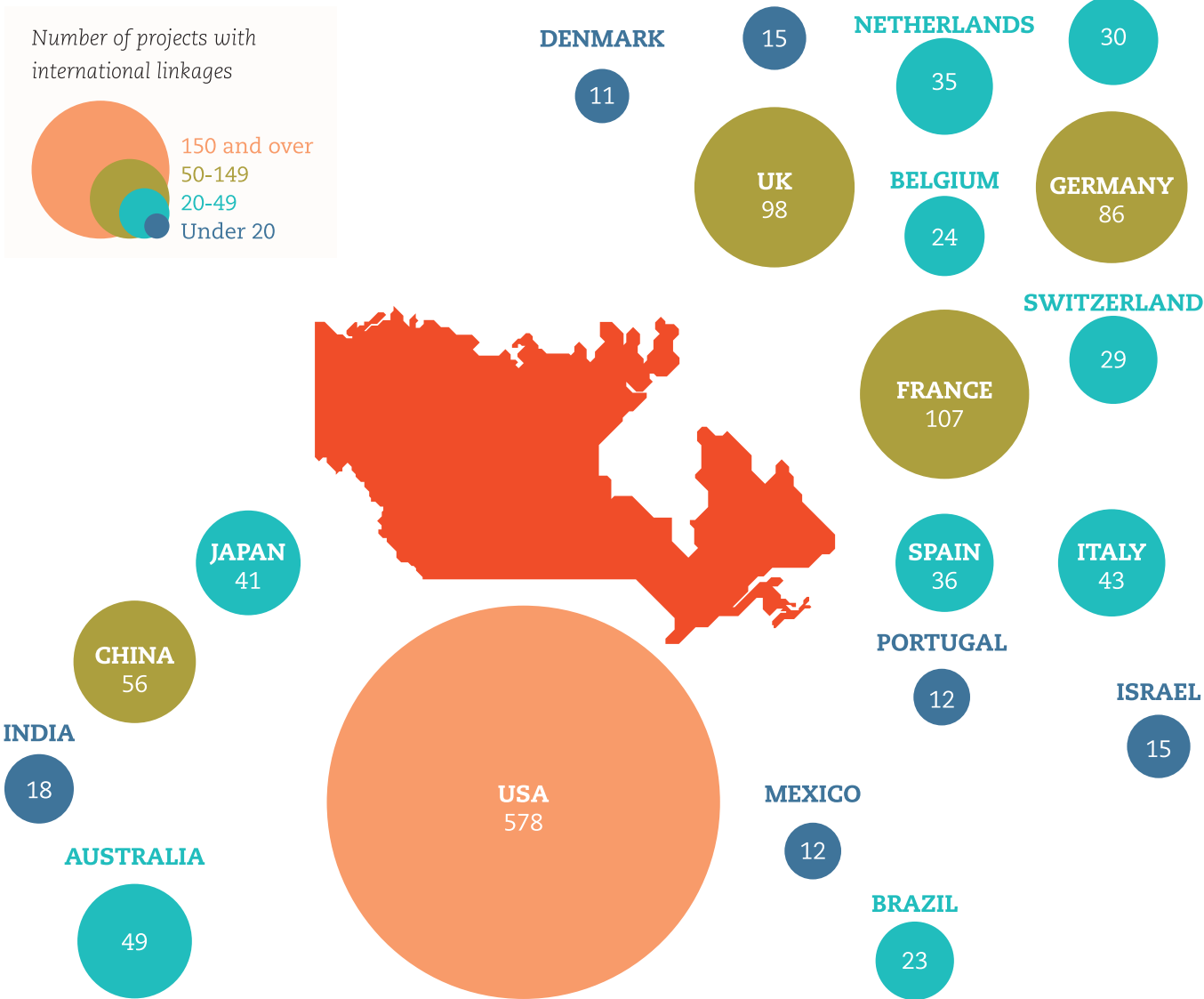
(total number of researchers)



Research linkages at the international level provide clear evidence of the quality of the Canadian research environment. International connections enhance the ability of Canada's higher education sector to compete with the best in the world by allowing participation in the global exchange of ideas and technologies, and by enhancing opportunities to attract highly-qualified personnel (HQP). The availability of infrastructure contributes to the establishment of these global ties. In the past year, out of the 1,487 projects with external linkages, 903 (61 percent) had linkages at the international level, in 73 different countries.

Infrastructure enables linkages

Top 20 countries for international linkages



Also attesting to a world-class research environment is the dissemination and exchange of research results through competitive channels (e.g. peer-reviewed publications). In the past year, more than 32,000 academic outputs were produced based on the use of the research infrastructure; these include 15,800 conference presentations, 13,800 peer-reviewed publications and close to 500 books.



TALENT

In a knowledge-based society, the production of new knowledge through research is essential for competitiveness, and HQP play a key role.

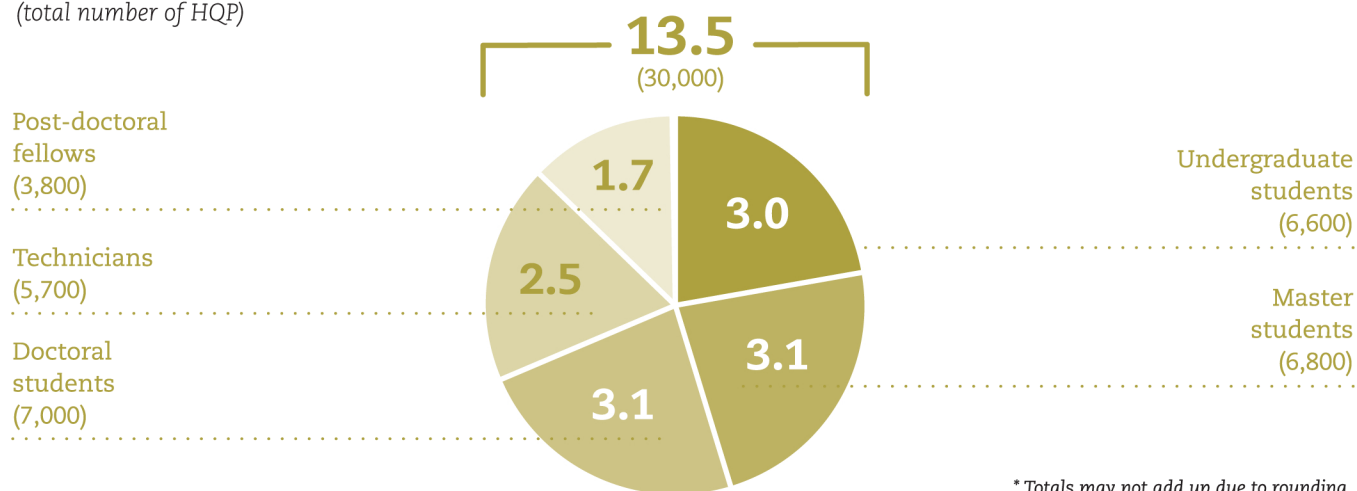
Infrastructure contributes to a more innovative workforce

The quality of facilities is often an essential factor in students' decisions on where to pursue their studies at the graduate level. Eighty percent of respondents stated that the availability of the infrastructure was an important factor in the decision of those students. In 2010-11, 8,000 graduate students and postdoctoral fellows were attracted to these laboratories and state-of-the-art facilities, including 2,040 from foreign institutions, or 25 percent of the total. This proportion is significantly higher than the national average of 20 percent international students at the graduate level.

Ninety-five percent of respondents reported that the infrastructure had been used as a key resource by students. A total of 30,000 students, postdoctoral fellows and technicians used the infrastructure for their training. It is interesting to note that even at the undergraduate level, 6,600 students used the infrastructure. This undergraduate experience may lead to graduate studies or the ability to enter the job market with specialized skills.

Average number of HQP trained per project

(total number of HQP)



Combining HQP in training with researchers using the infrastructure reveals that there are on average 26 users per project. This is noteworthy considering that 94 percent of the projects in the sample are funded under the Leaders Opportunity Fund and have a total cost of only \$400,000 on average.

Knowledge translated through HQP trained in a research-rich environment has substantial and lasting impacts. Of the 4,600 students and postdoctoral fellows who completed their training in the past year, 39 percent stayed in the Canadian academic sector as employees or contractors while 30 percent joined the Canadian public or private sector. These HQP are able to apply their innovative skills in other sectors of the economy, which is key to a vibrant national innovation system.

Users per project





INNOVATION

Innovation plays a vital role in meeting the needs and challenges of our society in order to attain economic and social progress. The research capacity created through infrastructure supports the national innovation system by acting as a catalyst for interactions across sectors and geographies. It also provides new or improved ways of doing things.

*Infrastructure acts as
a catalyst for collaboration
across sectors*

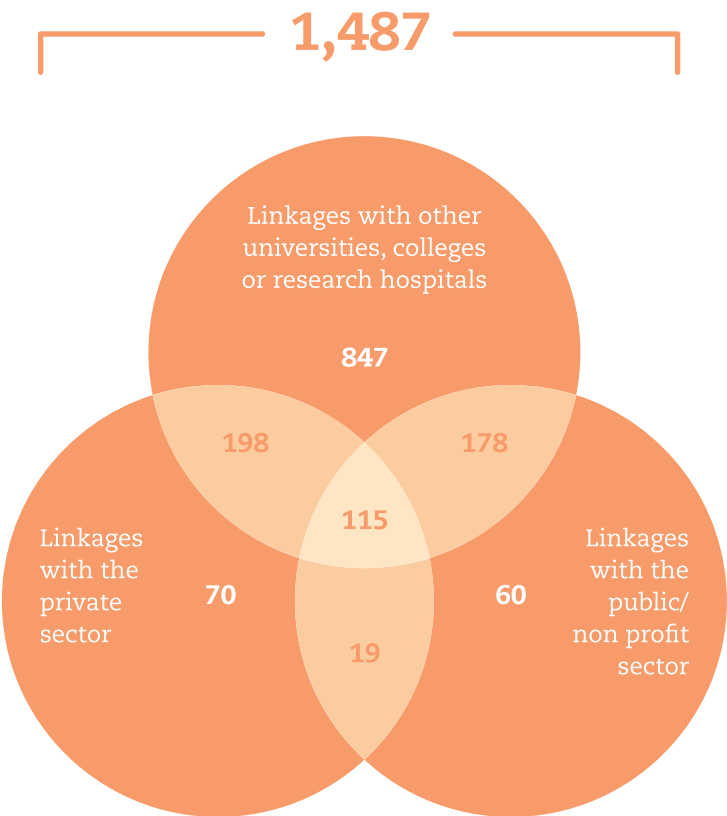
In today's highly competitive research environment, external linkages – an aggregation of external collaborations and formal agreements – are essential. A total of 1,487 projects (or 67 percent of the total) have external linkages.

Infrastructure acts as a catalyst for the emergence, development and sustainability of clusters. The geographical concentration of, and interconnections between innovation actors enhances the prospects of successful research. Although many of the 1,487 projects had multiple linkages from the local to the international level, local relationships are the most prevalent (51 percent). This facilitates links within and between sectors and enhances access to HQP. Local linkages are further reinforced by spin-off companies. Ninety percent of firms created from the use of the infrastructure are located in and around the same municipality as the institution where the research was conducted.

Linkages between universities and the private sector are a key element of the lab to market innovation process. It is widely recognized that in Canada, a gap exists in this area. Infrastructure plays a role in cultivating such linkages, with 403 projects supporting relationships with the private sector. Similarly, the infrastructure facilitates research activities with the public/non-profit sector. These sectors also face an innovation imperative in seeking solutions to emerging and future challenges such as demographic pressures, long-term budget constraints, and growing global competition. A total of 372 projects had linkages with the public/non-profit sector, demonstrating that research and innovation are essential in all sectors.

Located at the interface of various innovation actors, many researchers play a highly strategic role within the innovation system. About a quarter of projects have linkages with representatives from at least two sectors. Through such linkages, researchers are at the heart of knowledge and technology exchanges between sectors and geographical areas, creating a more integrated and more efficient research environment.

Number of projects with linkages across sectors



*Infrastructure
is making
a difference*

Innovation is about doing things in a new or improved way. Over both the short and long term, infrastructure is contributing to a wide range of meaningful results for Canadians, generated directly by the activities of researchers, or indirectly by other users of the research infrastructure. Overall, one third of projects (740) showed benefits outside of the academic realm. The most frequently mentioned were New or improved products, processes or services (340), followed by Improved health care protocols and diagnostics (270), Environmental benefits (269), New or improved public policies (203), Best practices (135), and Cost savings to society (91). This number of impacts is remarkable given the 10-20 year time horizon normally associated with the time from idea to application.