

Mitacs Accelerate

Outcomes:

Industry

Partner Survey



January 2015

Executive Summary

Report Objectives

The goal of this report is to summarize and present findings from a recent longitudinal survey of current and past Mitacs-Accelerate industry partners. This carefully designed survey allows Mitacs to capture intermediate and long-term outcomes and impacts of its Accelerate internship program.

Mitacs is proud to share these exciting results with its external stakeholders, including our funders and current and future program participants, demonstrating the significant and tangible impact that Accelerate is having on Canadian companies and their achievements.

Key Results

Program Satisfaction:

- Over 95% of companies indicated that Accelerate was successful in meeting their corporate needs
- 92% of companies would recommend Accelerate to others and 88% would participate in the program again

Business and R&D Outcomes:

- 66% of companies indicated that the project results have been (32%) or will be (34%) commercialized
- 30% of companies have hired one or several interns (25% into new positions; 10% into existing positions)
- 26% of companies hired other new employees based on their Accelerate experience
- 40% of companies invested \$100,000 or more of new money into R&D as a result of their Accelerate experience (including 10% that invested more than \$500,000)

Industry-Academic Research Collaborations:

- 66% of companies remained in contact with their Accelerate intern(s) in some capacity
- 82% of companies continued to collaborate with the academic supervisor involved in the Accelerate project
- 47% of companies engaged in *new* collaborations within the academic sector

Conclusion

The majority of Mitacs industry partners are extremely satisfied with their experiences to date, and their participation in the program has led to actions that are consistent with increased business investments in R&D and innovation.

Mitacs-Accelerate improves key industry partner business and R&D outcomes and promotes industry-academic relationships and collaborations.

We expect that as Accelerate continues to grow, the clear impact it is having on R&D investment, innovation, and productivity in Canada will continue to increase as well.

Table of Contents

- Executive Summary..... 1
 - Report Objectives 1
 - Key Results 1
 - Conclusion 1
- Table of Contents 2
- Introduction and Survey Objectives 3
 - Rationale & Survey Objectives 3
 - Methodology 3
 - Design..... 3
 - Distribution..... 3
 - Response Rate..... 3
 - Limitations..... 4
- Mitacs Industry Partner Demographics and Program Satisfaction..... 4
 - Industry Partner Demographics 4
 - Industry Partner Program Satisfaction..... 6
- Mitacs improves key industry partner business outcomes 7
 - Business Outcomes 7
 - R&D Outcomes 9
- Mitacs promotes industry-academic relationships and collaborations 11
- Conclusion..... 12

Introduction and Survey Objectives

Rationale & Survey Objectives

The goal of this report is to summarize and present findings from a recent longitudinal survey of current and past Mitacs-Accelerate industry partners. This carefully designed survey allows Mitacs to capture intermediate and long-term outcomes and impacts of its Accelerate internship program. These results supplement the rich data that is already collected through participant exit surveys and final reports that are limited to immediate program satisfaction, outputs, and short-term participant outcomes.

Mitacs is proud to share these exciting results with its external stakeholders, including our funders and current and future program participants, demonstrating the significant and tangible impact that Accelerate is having on Canadian companies and their achievements. These results will also be used internally to inform program improvements and identify new or changing client needs.

Methodology

Design

The survey instrument was designed by the Mitacs Policy Team and reviewed by representatives from multiple Mitacs departments. It was created, managed and distributed using FluidSurveys, an online tool with which program participants and Mitacs staff were familiar. Upon completion, the survey instrument was programmed online and underwent both internal and external pre-testing. Where applicable, recommendations were integrated into the survey. Once finalized, the survey instrument was translated into French to provide respondents the option of participating in either official language.

Distribution

The list of survey participants was created using multiple Accelerate program databases. All for-profit companies that participated in the Accelerate program for the first time between 2004 and 2013 were targeted. When Mitacs industry partners had participated in multiple Accelerate projects, each contact associated with one or more projects was contacted. A total of 1,421 past participants were reached representing 1,287 Mitacs industry partner organizations.

The survey was active between November 4 and November 27, 2014. Direct email invitations with an embedded survey link were sent on November 4. The original email invitation, and subsequent email reminders, were crafted in English and French, and outlined the goals of the survey as well as survey procedures. A first reminder targeting all participants who had not completed the survey was sent on November 20 and a final reminder was sent on November 26.

Response Rate

A total of 253 individuals responded to at least one question of the survey, including 214 complete questionnaires. This resulted in an overall response rate of 19% of all for-profit Mitacs industry partners. Table 1 provides a detailed breakdown of survey respondents.

“Our participation in the program was part of the R&D for the company's first product. As a result all sales and revenues will be the company's first!”

Anonymous Survey Respondent

Table 1: Mitacs industry partner response rates

	French	English	Total	Response Rate Overall	Response Rate Complete Only
Reachable individuals ¹	342	1,079	1,421	17.8%	15.1%
Reachable organizations ²	297	990	1,287	19.1%	16.1%
Incomplete & complete responses	63	190	253		
Complete responses only	48	166	214		

Limitations

While unlikely to have significant impact on the results of this survey, the following limitations are noted:

- Email invitations were sent to the identified primary project contact at companies that participated in the Accelerate program. As a result, it is likely that a greater number of more recent participants were still in their positions and thus, we were likely not able to reach as many participants from longer ago.
- Between 2004 and 2013, Accelerate has evolved both in terms of program scope and implementation. However, this limitation is unlikely to have significant impacts on the results as the vast majority of survey respondents participated in the program between 2008 and 2013.
- Selection of an appropriate control group to whom Mitacs industry partners could be compared proved to be a significant challenge. Instead, we opted for an implicit study design, where respondents are asked to evaluate and comment on what impact the program had on their company. Where appropriate, national metrics pertaining to industry-university collaborations and relationships will be used.

Mitacs Industry Partner Demographics and Program Satisfaction

Industry Partner Demographics

Survey respondents are a representative sample of Mitacs industry partners. They represent diverse companies with respect to size (figure 1), provincial distribution (figure 2), and industry sector (figure 3). Prior to their first experience with the Accelerate program, most industry partners were already active in R&D (87%) and most had previously collaborated with university researchers (80%; figure 4).

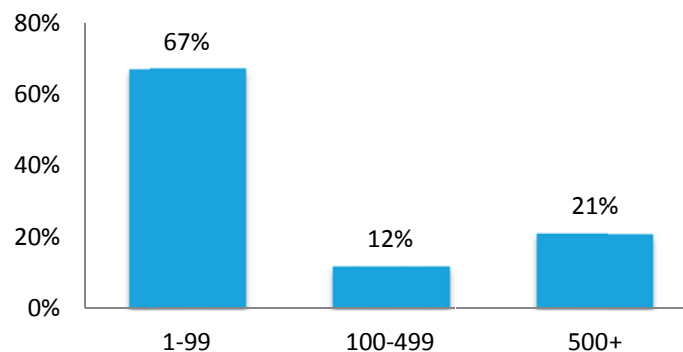


Figure 1: Mitacs industry partner size (number of employees)

¹Reachable individuals are defined as survey participants for which the email invitation did not bounce back

²The number of reachable organizations represents the total of different organizations associated with reachable individuals

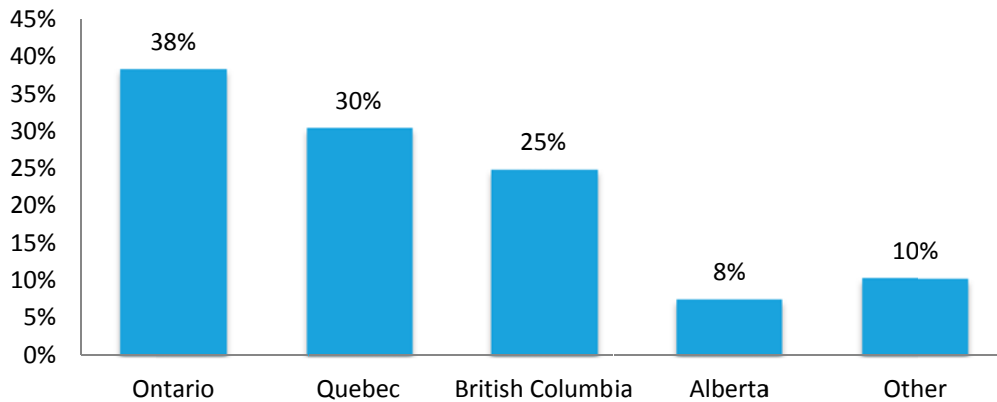


Figure 2: Province in which Accelerate project occurred (multiple responses permitted)

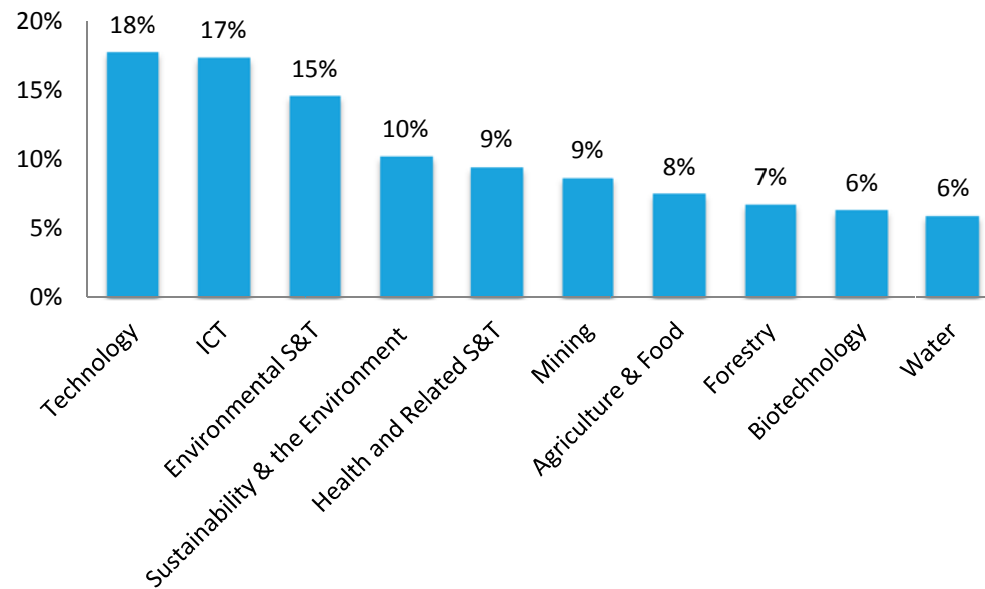


Figure 3: Industry sectors of survey respondents (top 10; multiple responses permitted)

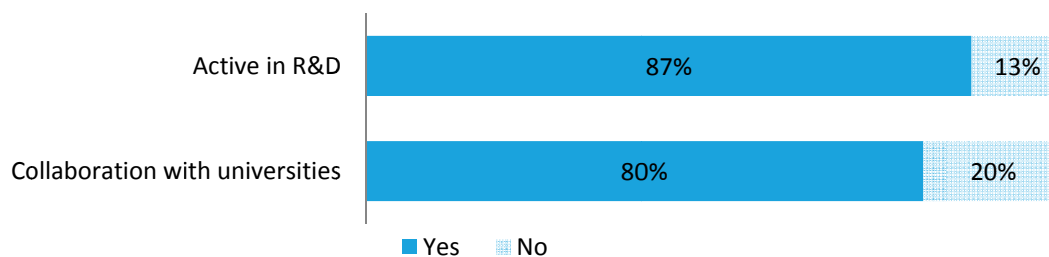


Figure 4: Proportion of Mitacs industry partners already involved in R&D and university collaborations

Industry Partner Program Satisfaction

Over 95% of survey respondents indicated that Accelerate was successful in meeting their corporate needs (to a moderate extent or more; figure 5).

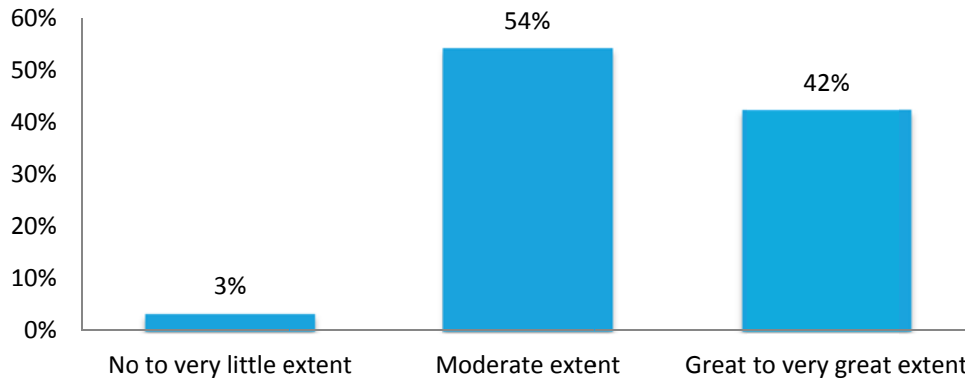


Figure 5: Extent to which Accelerate has helped Mitacs industry partner meet its corporate needs

In addition, the majority of Mitacs industry partners would participate in the program again (88%; figure 6a), or recommend Accelerate to other organizations (92%; figure 6b).

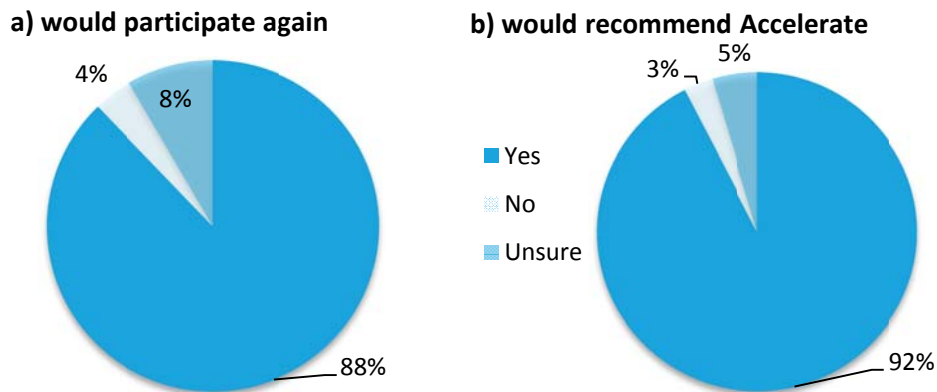


Figure 6: Survey respondent satisfaction with Accelerate program

Survey respondents identified several key factors that were important contributors to the success of their Mitacs experience. As shown in figure 7, survey respondents selected several success factors as being associated with the project(s) including: availability and expertise of the intern(s); time spent at the company facility; level of study of the intern(s); and expertise provided by the academic supervisor.

“Nous sommes très satisfaits de ce programme!”
- Dr. Silvia Todorova, President, Anatis Bioprotection



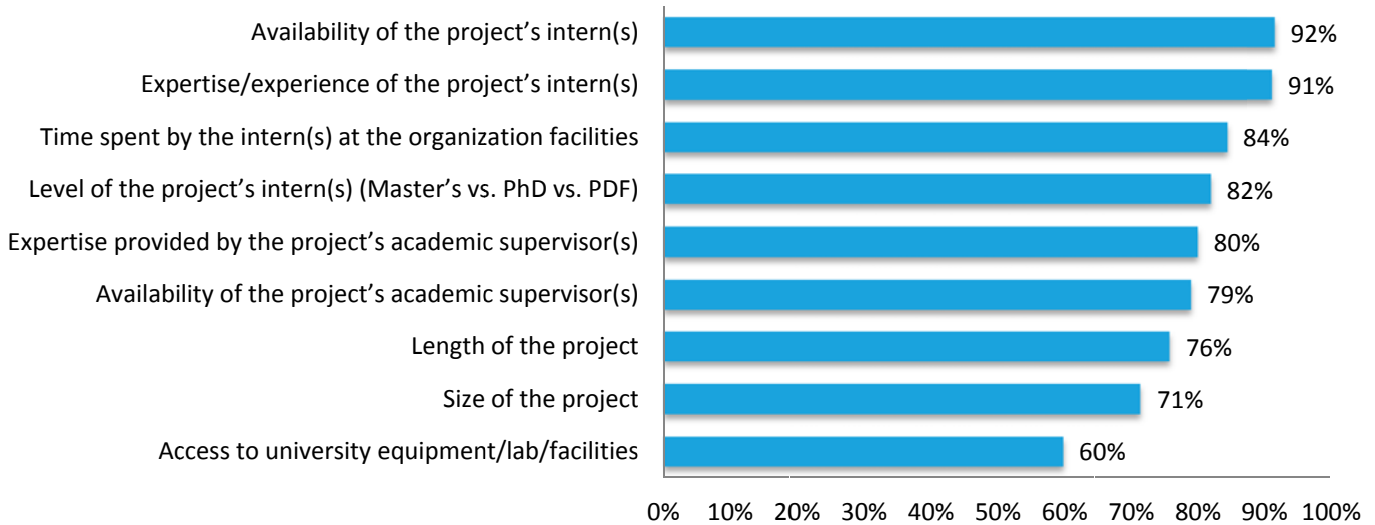


Figure 7: Mitacs program success factors selected by survey respondents (% of respondents who identified factor as moderately important or greater; multiple responses permitted)

Mitacs improves key industry partner business outcomes

To better understand what made their experiences with Accelerate so successful, industry partners were asked a series of questions about specific business and R&D outcomes directly related to their participation in the Accelerate program. Given the time delay associated with the completion of a project and when some of the results will be fully realized or implemented, the data below may underestimate the actual outcomes in some cases.

Business Outcomes

First, survey respondents were asked about the commercialization potential of results from Accelerate project(s). Figure 8 shows that two thirds of Mitacs industry partners indicated that the results have been (32%), or will be (34%), commercialized.

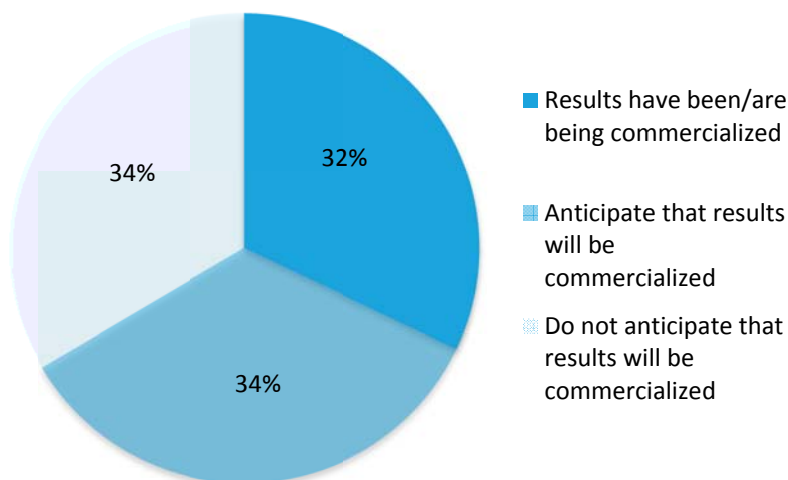


Figure 8: Proportion of survey respondents that have or intend to commercialize results from their Accelerate project(s)

Second, survey respondents indicated that their participation in the Accelerate program directly led to the creation of new jobs. As shown in figure 9, a total of 30% of industry partners have hired *at least one* of their interns (25% into newly created positions and 10% into existing positions). In addition, participation in the Accelerate program led to the hiring of other new employees for more than a quarter of partner organizations.

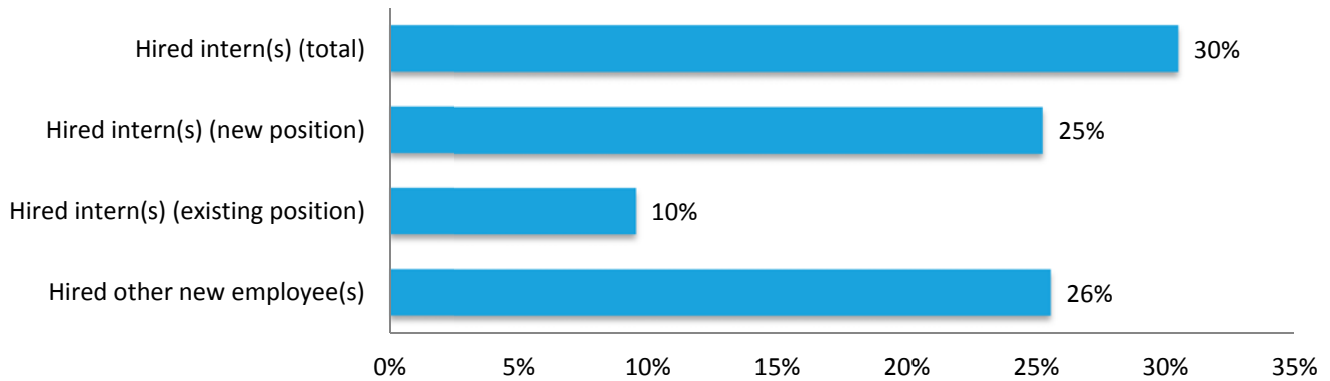


Figure 9: Proportion of Mitacs industry partners that hired new employees as a result of their Accelerate experience

Finally, in addition to commercialization and job creation, survey respondents identified several other important business outcomes resulting from their Accelerate experience (figure 10). The most commonly mentioned business outcomes included: identification of new (34%) or expanded (31%) market segments, cost savings (18%), and increased sales (11%).

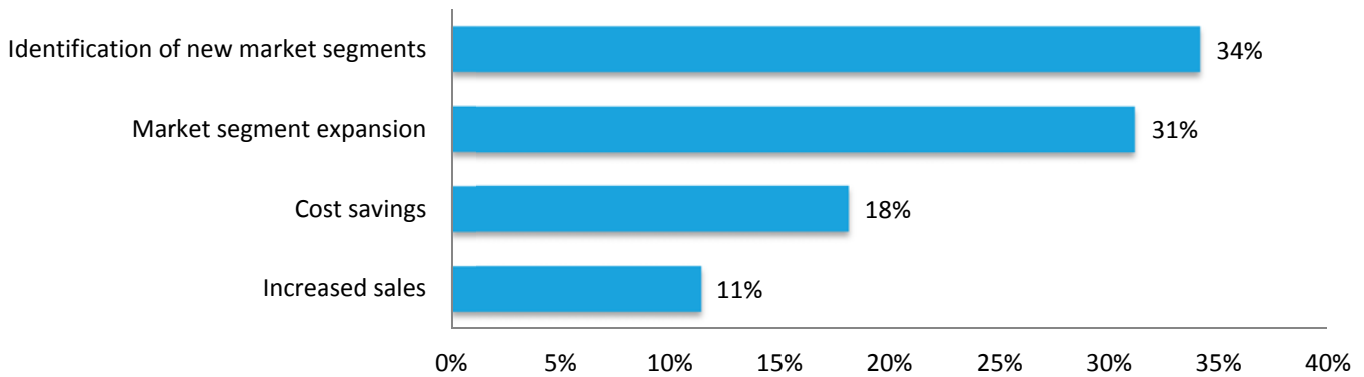


Figure 10: Additional positive business outcomes identified by survey respondents (multiple responses permitted)

"[It's] really hard to quantify the benefits, since we are just commencing commercialisation. However, we definitely increased the reliability of the technology which should have a big impact on the financial metrics.

- Ozgur Gurtuna, President, Turquoise Technology Solutions Inc.



R&D Outcomes

Figure 11 highlights that the vast majority of respondents have used, or are still using, the R&D results from their Accelerate project(s). These results include: techniques (processes and methodologies) and tools (algorithms, software, machinery, etc.) or newly generated knowledge.

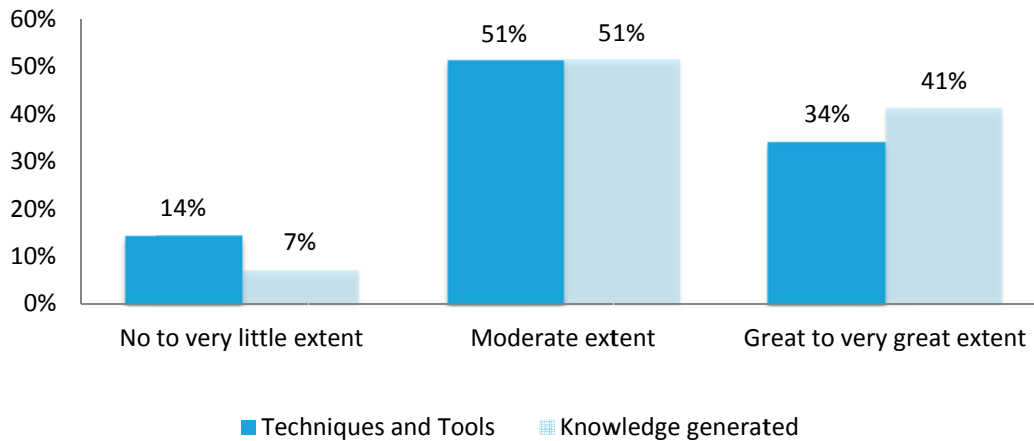


Figure 11: Extent to which Mitacs industry partner has used or is using R&D results from their Accelerate project(s)

Survey respondents were also asked about *specific* R&D-related outcomes that resulted from their Accelerate project(s). As shown in figure 12, the most cited outcome was significant progress made on a research problem (51%). Importantly, more than a third of respondents indicated that a new or enhanced product was developed as a result of the Accelerate project. Other R&D outcomes included: development of a new or enhanced process; a peer-reviewed publication; development of a new or enhanced service; patent or license application (figure 12).

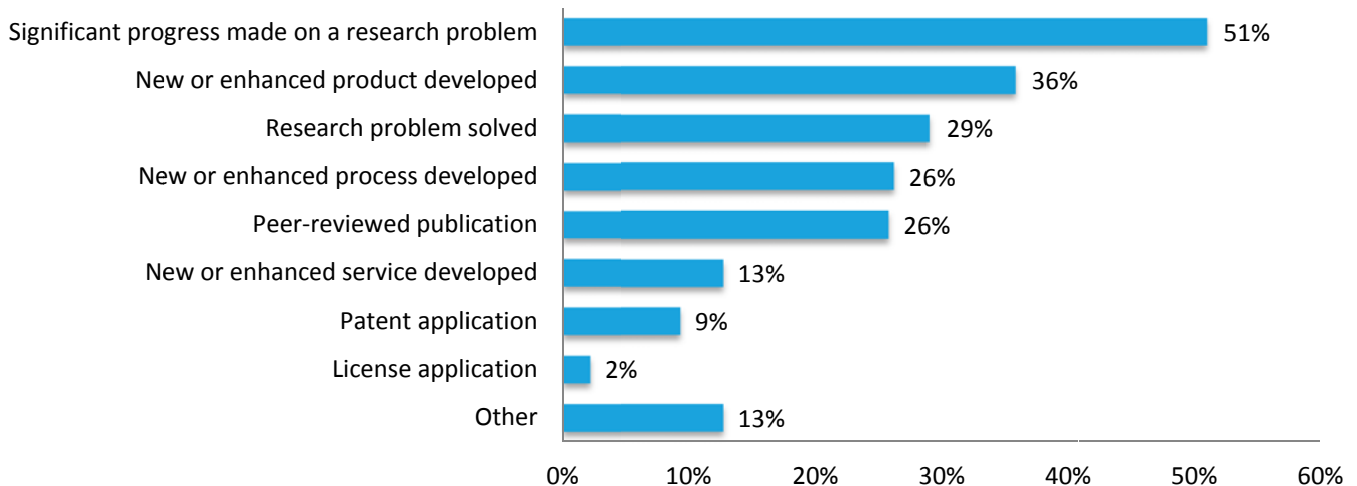


Figure 12: Most frequently identified R&D outcomes by Mitacs industry partners (multiple responses permitted)

In addition to understanding and identifying the outcomes of Accelerate program participation, we were also interested in knowing whether program participation had other longer term impacts on Mitacs industry partners. For example,

survey respondents were asked if new practices or behaviours could be identified within their organization as a result of their Accelerate experience.

Figure 13 details the R&D-related actions that resulted from Accelerate program participation including increasing overall investment in R&D activities, increasing the number and intensity of interactions with academic researchers, continuing existing or launching new R&D projects, and creating new positions in R&D or supporting roles.

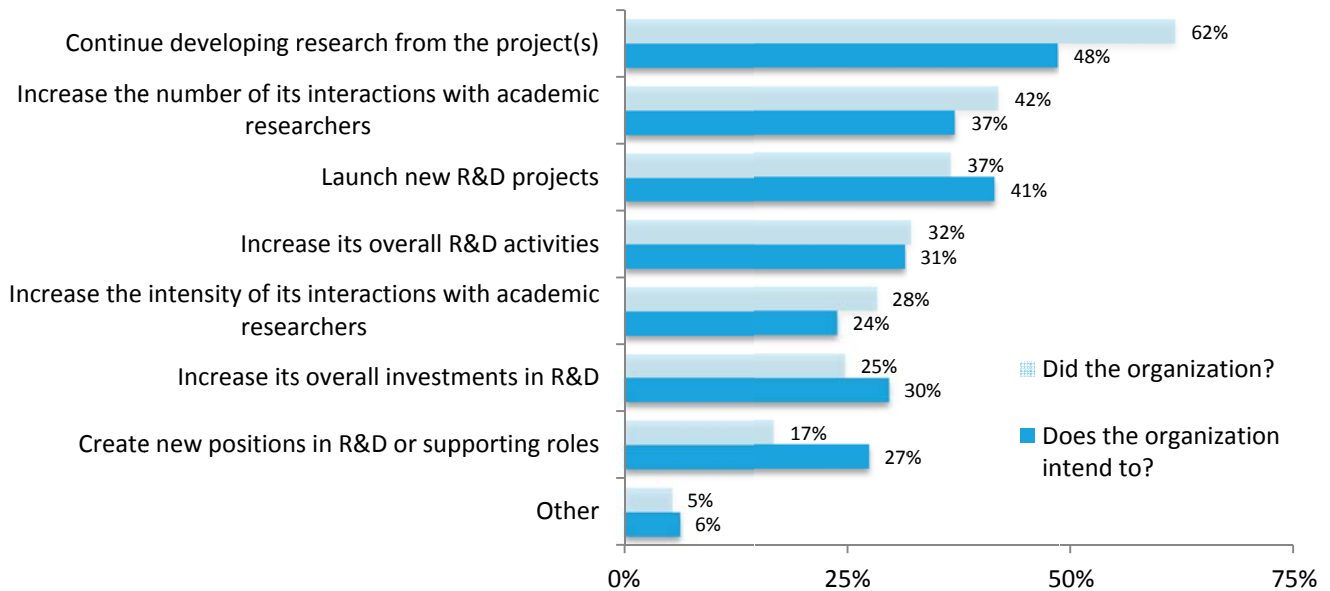


Figure 13: R&D-related changes resulting from Accelerate participation (multiple responses permitted)

Finally, survey respondents were asked about new R&D investments made at their company as a result of their Accelerate program participation. Figure 14 shows that participation in Accelerate led to significant new investments by industry partners. Ten percent of survey respondents indicated that they invested more than \$500,000 as a result of their participation in the program, while 30% invested between \$100,000 and \$500,000, and 41% invested between \$10,000 and \$100,000.

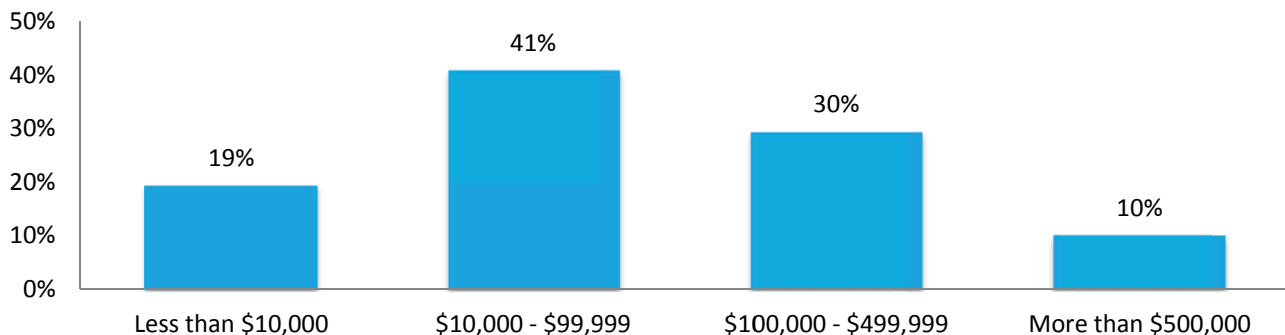


Figure 14: Value of new R&D investments by Mitacs industry partners as a result of Accelerate experience



Mitacs promotes industry-academic relationships and collaborations

While business-related successes are important outcomes of industry participation in Mitacs' Accelerate program, we also wanted to identify what impact participation had on industry partner research collaborations and relationships with academic researchers.

As shown in figure 15, two thirds of survey respondents remained in contact with their Accelerate intern(s) in some capacity (including through hiring the intern; see figure 9). When asked about the nature of the relationship with their intern, responses included through continued networking, continuing to support their academic research project, continuing to act as an advisor, or participation as a member of the intern's thesis committee (figure 15).

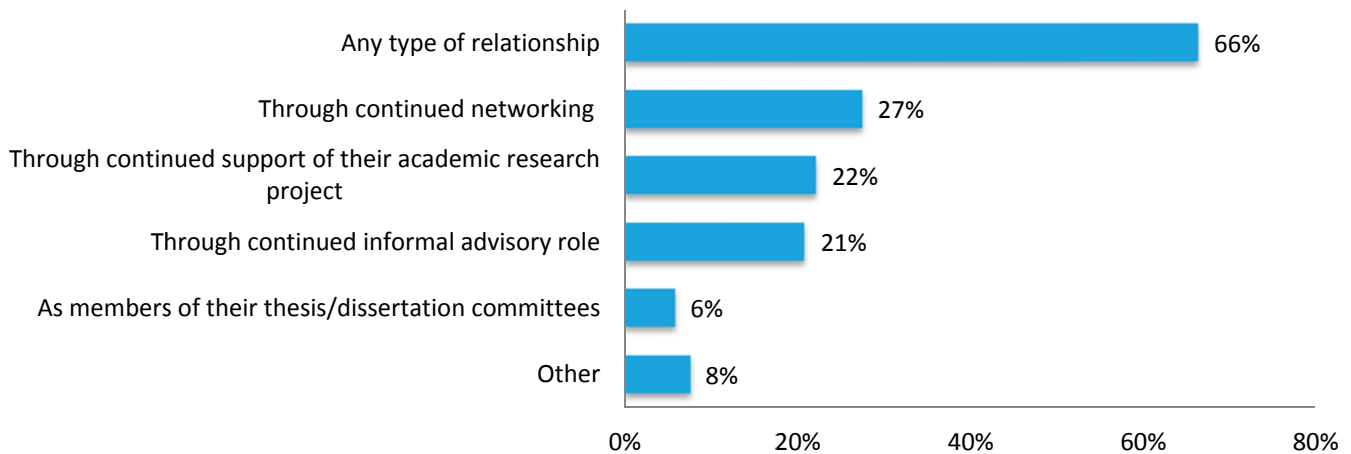


Figure 15: Proportion of Mitacs industry partners that maintained a relationship with at least one of their Accelerate interns following the project's completion (multiple responses permitted)

The majority of survey respondents also indicated that their companies remained in contact with the academic supervisor(s) associated to the Accelerate research project, either formally or informally (figure 16). Of note, nearly half of survey respondents engaged in *new* collaborations within the academic sector as a result of their participation in the Accelerate program.

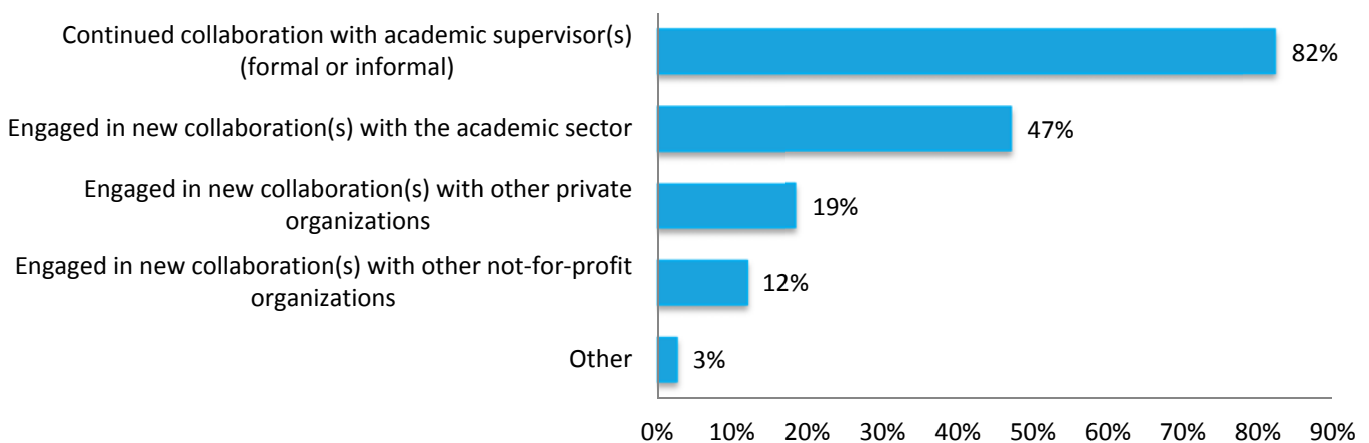


Figure 16: Academic collaborations resulting from Accelerate participation by Mitacs partner organizations (multiple responses permitted)

Finally, while most Mitacs industry partners were already active in R&D and collaborating with the academic sector prior to their first Accelerate project, figure 17 shows that for the vast majority of companies, participation in Accelerate led to at least a moderate increase in the value seen in R&D or in collaborating with the academic sector.

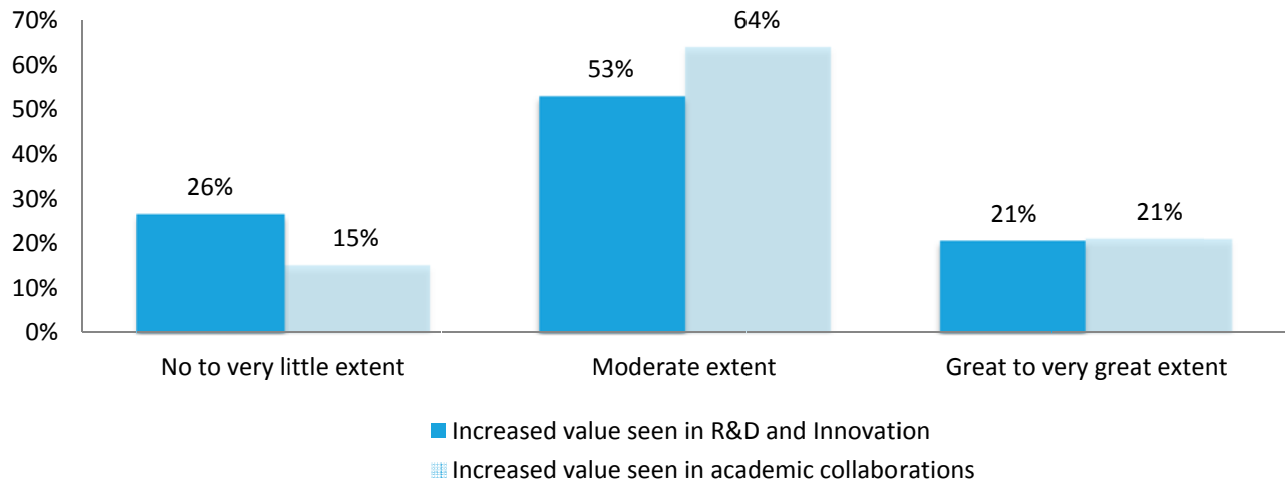


Figure 17: Increased value seen in R&D & innovation and academic collaboration as a result of Accelerate participation

Conclusion

The results of this survey indicate that Mitacs-Accelerate improves key industry partner business and R&D outcomes and promotes industry-academic relationships and collaborations. Overall, the majority of Mitacs industry partners are extremely satisfied with their experiences to date and their participation in the program has led to actions that are consistent with increased business investments in R&D and innovation. We expect that as Accelerate continues to grow, the clear impact it is having on business R&D investment, innovation, and productivity in Canada will continue to expand as well.

Mitacs gratefully acknowledges the Government of Canada, the Networks of Centres of Excellence's Industrial Research and Development Internship program, Western Economic Diversification, the Atlantic Canada Opportunities Agency, Alberta Innovates Technology Futures and the governments of British Columbia, New Brunswick, Nova Scotia, Ontario, Quebec through Le Fonds de recherche du Québec – Nature et technologies, Manitoba, Saskatchewan and Newfoundland and Labrador through its Research and Development Corporation for their support of Mitacs Accelerate.

