

UNIVERSITY-INDUSTRY COLLABORATION: RESEARCHERS WEIGH IN



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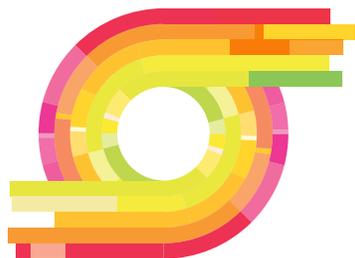


Presents

RENDEZ-VOUS DU SAVOIR

Gather.
Recognize.
Influence.

November 14 and 15, 2012
Palais des congrès de Montréal



In association with:



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INTRODUCTION

MESSAGE FROM THE PRESIDENT AND CEO OF THE BOARD OF TRADE OF METROPOLITAN MONTREAL



MICHEL LEBLANC

We will have to greatly expand the opportunities for universities and industry to get together.

This is the third year that the Board of Trade of Metropolitan Montreal has been working side by side with its seven partners to organize the Rendez-vous du Savoir. This annual event was created to bring together the academic and business communities.

Our province boasts 19 universities, places of higher learning where innovative research is happening every day. The metropolitan area is home to half of these institutions, or more if you take into account their satellite campuses. Greater Montréal is also where we find most of our industry clusters, all building on the strength of collaborations between business and academia.

The simultaneous presence of universities and companies in the knowledge economy might lead us to think that synergy and collaboration are easy to establish and develop. However, past editions of the Rendez-vous du Savoir have shown that our SMEs fall into two distinct groups: one that already engages in collaboration and understands the benefits of combining business and academic expertise, and one that is reluctant to do so or that simply doesn't see the potential of these collaborations. Meanwhile, we also found that the collaboration interfaces in universities need to be reviewed and improved in order to facilitate access for SMEs.

In our view, the latter group could reap immense rewards simply by stepping out of its comfort zone and engaging with academia.

This year we conducted another survey to gain more insight into the situation. After a year of political upheaval during which the relevance of university-industry ties were at times called into question, we felt it important to try to understand how Quebec's research centres and chairs perceive collaboration. What are the challenges and obstacles? What motivates them to engage with industry, and what are the actual benefits? Finally, does a rapprochement event like Rendez-vous du Savoir have a place?

The results this time around confirm a key conclusion drawn from last year's edition: when it comes to university-industry collaboration, trying is believing. What we also found is that more research centres and chairs than businesses see the merit of this type of partnership.

Moreover, while last year barely one out of two businesses said they had teamed up with a university, 80% of researchers claim to have partnered with industry. An encouraging finding from this year's survey is that contract and collaborative research are twice as prevalent as internships. This is an important indicator that tells us that universities are open to establishing common research goals whenever possible to take advantage of the complementary skills developed by both sides. This is especially true in sectors with high added value such as natural sciences, engineering and health sciences.

To get where we need to be, we will have to greatly expand the opportunities for these two worlds to get together. While Rendez-vous du Savoir is a perfect venue in this respect, there must be others. Only in this way will industry and academia be able to develop a common language, come to understand each other's reality and grasp the full benefit of collaboration.

MESSAGE FROM THE PRESIDENT OF LÉGER MARKETING



JEAN-MARC LÉGER

This year we
are asking
researchers to
reach out to
the business
community.

WHEN TWO SOLITUDES COME TOGETHER TO BUILD FOR THE FUTURE

We already knew from previous Rendez-vous du Savoir surveys that while business leaders are not maximizing the opportunities, they are in fact benefiting from their collaborations with academia. What we did not know was whether the opposite is also true, in other words, what do university researchers think about their joint achievements with industry?

This year's survey shed light on what Quebec university researchers think about their collaboration with the private sector. We learned that the findings of previous years, i.e. that collaboration pays off and that there is a desire for rapprochement, hold for researchers and business leaders alike.

While private funding for research centres certainly generates additional revenue, the benefits go far beyond monetary gain. Whether it's contract or collaborative research, internships or licensing agreements, forging ties with the private sector allows university researchers to test the practical applications of their theories, to secure new research contracts and to stay on top of industry developments.

Although bringing the academic and business communities together comes with its own set of challenges, for instance, organizational differences and a lack of understanding of the other's reality, the positive outcomes are tangible evidence of their relevance.

Last year we encouraged Quebec's business community to reach out to the university research community; this year we are asking researchers to respond in kind. When these two solitudes come together to build for the future, great things are bound to happen.

HIGHLIGHTS

Being better informed of collaboration opportunities is essential to facilitating future collaboration.

COLLABORATION WITH THE PRIVATE SECTOR IS RELEVANT AND NECESSARY FOR RESEARCH WORK.

- > Not only is collaboration considered **relevant to their work**, it is profitable as well since **the private sector provides a portion of the funding for research centres and chairs**. However, the relevance was considered much greater among researchers in natural sciences/engineering and health.
- > Research centres and chairs **collaborate with all sizes of business**: small (50 employees or less), medium (51 up to 500) and large (more than 500).
- > Nearly all the collaborations take the form of **contract or collaborative research**, mostly to **test the practical application of a theory, to secure new contracts and to stay on top of industry developments**. These collaborations seem to indicate a desire to establish common research objectives and to leverage the resulting complementary skills.
- > Researchers are generally **satisfied with their industry partnerships** in terms of return on investment. The outcomes meet their expectations and show that collaboration is a bona fide way to develop skills, partnerships and relationships over the long term.
- > Although researchers who have reason to collaborate were pleased with the results, the experience was not without its challenges, for example, requiring them to adapt to **a different organizational culture and deal with the fact that businesses do not understand the research environment and its realities**. Therefore, although academia and industry are prepared to work together more often, they need to find a common language and create opportunities to meet in order to better understand each other's reality and to determine what type of collaboration is possible.

> **Financial gain was a far less important reason for engaging with industry, ranking fifth.**

> Currently, **universities are the initiators of most collaborations** (77% according to the survey results). As mentioned in last year's survey, it is in their interest to better publicize these opportunities and how to go about it.

> **Being better informed of collaboration opportunities** is essential to **facilitating or making future collaboration more effective**. Both industry and academia share this opinion.

COLLABORATION WITH INDUSTRY IS HERE TO STAY.

> Almost 9 out of 10 research centres or chairs that collaborated with industry plan to do so again, confirming one of the conclusions of last year's survey, namely that trying is believing.

> Those that have not worked with industry in the past three years cite a **lack of human or financial resources** as the main reason. For this group, the **main incentive to collaborate** is the **possibility of obtaining funding for either a personal project or research work carried out by the centre or chair**.



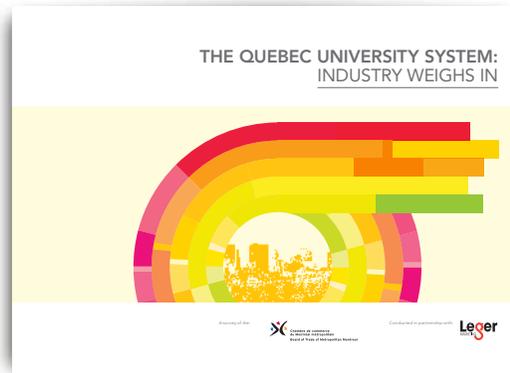
Research centres and chairs believe that more funding is needed for Quebec's university system.

UNIVERSITY FUNDING IS STILL A HOT TOPIC.

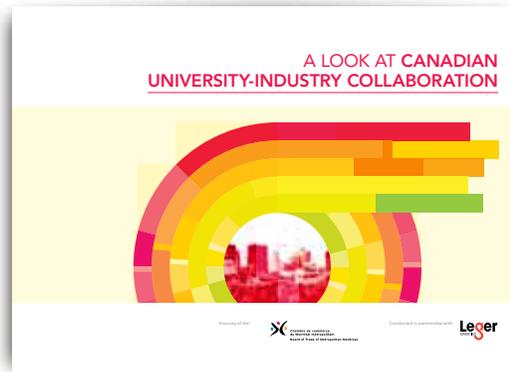
- > Although research centres and chairs give Quebec's university system top marks in research, teaching and overall system quality, they believe that **more funding is needed if it is to become a North American reference.**

BACKGROUND AND SURVEY OBJECTIVES

This year, the Board of Trade decided to turn its attention to university research centres and chairs.



2010



2011

UNIVERSITY-INDUSTRY COLLABORATION: RESEARCHERS WEIGH IN

In October 2010 and 2011, the Board of Trade of Metropolitan Montreal published two surveys conducted in partnership with Léger Marketing on university-industry collaboration titled *The Quebec University System: Business Weighs In* and *A Look at Canadian University-Industry Collaboration*. This year, we decided to turn our attention to university research centres and chairs.

Complementing the first two, this survey sets the stage for the next edition of *Rendez-vous du Savoir* by:

- > shedding light on how Quebec's research centres and chairs perceive university-industry collaboration, their reasons for engaging in it, the benefits of doing so, and the challenges and obstacles to this type of partnership, in order to obtain a complete picture of the situation; and
- > confirming certain trends identified in the previous surveys of businesses as well as the relevance of holding an annual event such as *Rendez-vous du Savoir*, created precisely to bring academia and business together.



We are extremely pleased that Léger Marketing agreed, for the third time in as many years, to conduct a survey on our behalf, this time of research centre directors and chairholders, to gain insight into their collaboration habits with the private sector and their perception of Quebec's university system.

The main objectives of this study were to determine:

- The relevance of industry collaboration for researchers;
- How much funding is obtained from the private sector;
- The type(s) of collaboration(s) carried out today between research centres and chairs and industry;
- The profile of the collaboration between research centres and chairs and industry;
- The main reasons for and the outcome of the collaborations;
- How satisfied researchers are with current and past collaborations;
- The challenges encountered when teaming up with the private sector;
- What would make future collaboration easier or more effective;
- Barriers and incentives to partnering with industry;
- Whether researchers intend to continue working with the private sector in the years ahead;
- What researchers think about the quality of Quebec's university system; and
- What improvements could be made to our university system?

Notes:

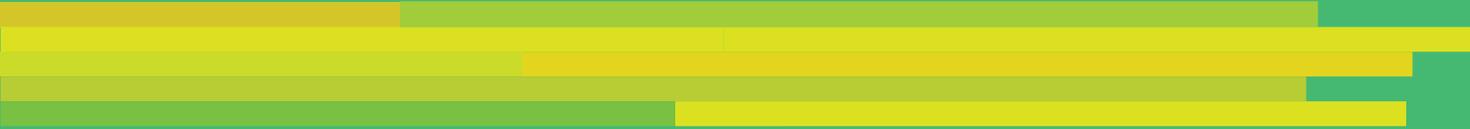
Discrepancies in or between totals in the graphs and tables (which are based on actual figures before rounding) are due to rounding.

In some areas of this report, reference is made to the results of the survey conducted from August 8 to 20, 2011, by Léger Marketing on behalf of the Board of Trade polling 202 Quebec business owners with 10 or more employees and sales of \$1 million or more. This comparison is relevant since it provides us with the points of view of both the research and business communities.

METHODOLOGY

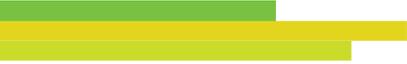
An online survey was conducted from September 4 to 17, 2012 of a representative sample of 131 chairholders and chair co-holders as well as research centre directors and associate directors in Quebec.

The respondents were selected from a list of 826 research chair holders and co-holders, and research centre directors and associate directors in Quebec found in the directory of research groups and chairs compiled by Expertise Recherche Quebec. The Board of Trade wishes to thank the organization for providing this directory.



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ANALYSIS OF SURVEY RESULTS



COLLABORATION VIEWED AS RELEVANT, PARTICULARLY IN THE FIELD OF NATURAL SCIENCES

The vast majority (82%) of the research centres and chairs polled feel that teaming up with industry is helpful to their work.

The vast majority (82%) of the research centres and chairs polled feel that teaming up with industry is helpful to their work. This sentiment is much stronger among researchers in natural sciences, engineering and health (92%) than those in social sciences/humanities and arts and literature (31%).

The reason for this is probably because there are many more industry clusters in natural sciences, engineering and health sciences than in social sciences/humanities and arts and literature. Greater Montréal¹ is home to most of these clusters, which draw their strength from engagement between local businesses and academia. Examples include the aerospace, life sciences and ICT clusters.

A closer look at the answers to the question on the relevance of collaboration with Quebec universities with which the respondents are affiliated reveals an especially high sentiment of relevance among those affiliated with institutions in the Montréal area (9 out of 19 institutions). In fact, for respondents affiliated with seven of them, the relevance is greater than the average (82%), while for three of them – HEC Montréal, École Polytechnique and École de technologie supérieure, which offer programs where internships and collaboration are encouraged – collaboration is viewed as relevant by all the respondents.²

By comparison, the 2011 survey of Quebec businesses found that only 50% viewed partnering with academia as useful for their growth.

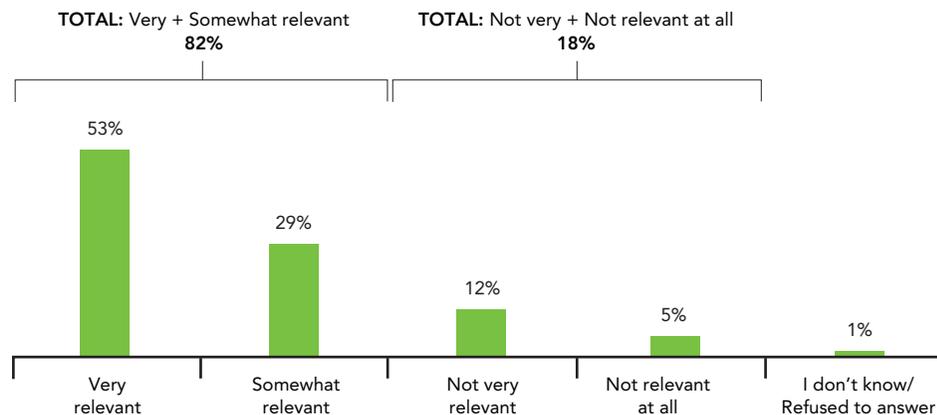
1 Sixty-three percent of respondents work at research centres or chairs in Montréal, 15% are in Québec City and 22% are elsewhere in the province.

2 Due to the small sample size, the results are provided for information only and should not be generalized.

The benefits of collaboration need to be better publicized.

Base: All respondents (n=131)

Do you believe that collaboration with businesses is very, somewhat, not very or not relevant at all to your research work?



Ninety percent of researchers who have partnered with the private sector in the past three years consider collaboration relevant, compared to fifty percent for those who have not. In light of the positive impact of such partnerships, the benefits of collaboration need to be better publicized.

FUNDING IS AVAILABLE BUT NOT MUCH

Close to 77% get less than 20% of their funding from industry.

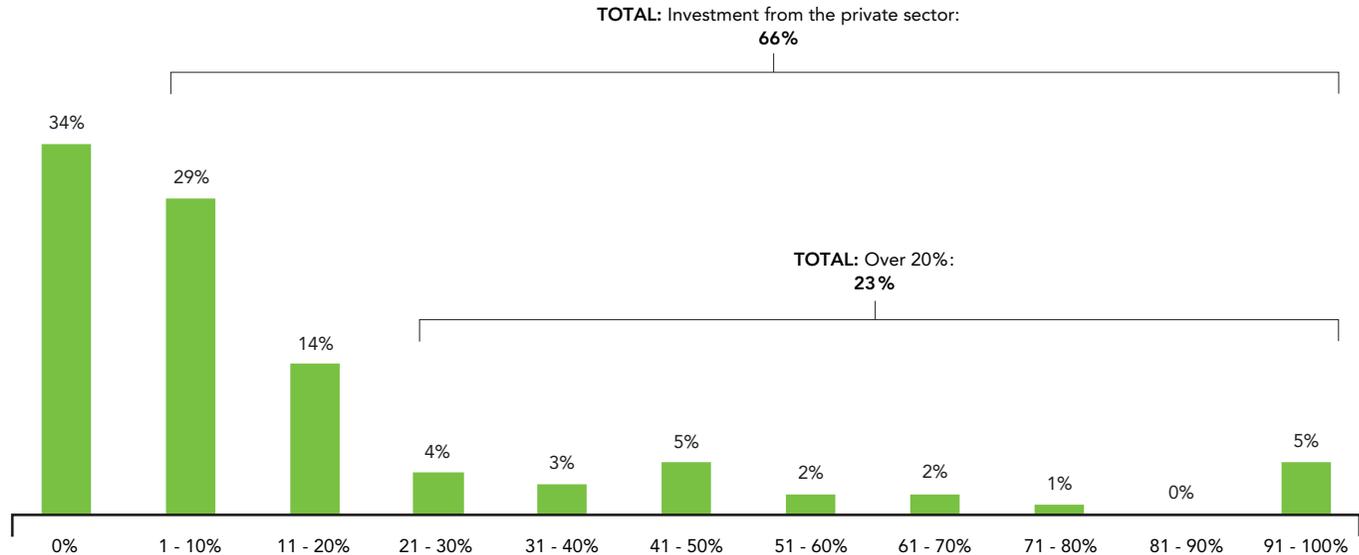
Two thirds of the respondents have been backed by industry, in the following proportion: 29% obtained 1-10% of their funding from the private sector, 14% obtained 11-20% and 23% obtained more than 20%.

In light of the many variables involved, for example, the type and structure of a project, and size of the company and/or centre or chair involved, more investigation would be required to determine whether this proportion is reasonable.

Thus, close to 77% get less than 20% of their funding from industry or do not have this funding source.

Of the research centres and chairs that obtain more than 20% of their funding from the private sector, many collaborate with big business (45%) or have been working with industry for a long time (11 years or more, 39%).

What proportion of your research centre's or chair's funding comes from the private sector?



Base: All respondents (n=131)

DIFFERENT TYPES OF COLLABORATION FOR DIFFERENT NEEDS

The most popular types of collaboration are contract research (53%) and collaborative research (52%).

The vast majority (79%) of the researchers polled said they have teamed up with the private sector in the past three years. Last year, 47% of Quebec businesses told us they collaborated with academia.

Consequently, while the private sector does not often take the first step, the findings of this study show that collaboration is in fact extensive. That said, there is always room for improvement (frequency, type and quality). The most popular types of collaboration are contract research (53%) and collaborative research (52%). At 26%, internship was the most frequently cited type of collaboration by Quebec businesses last year (36%).

In our view, the fact that contract and collaborative research are twice as popular as internships indicates that academia would like to establish common research objectives with the private sector so that both can leverage the complementary skills developed.

In the past three years, has your research centre or chair collaborated with private companies? If so, what type(s) of collaboration? Please select all applicable answers.*



Base: All respondents (n=131)

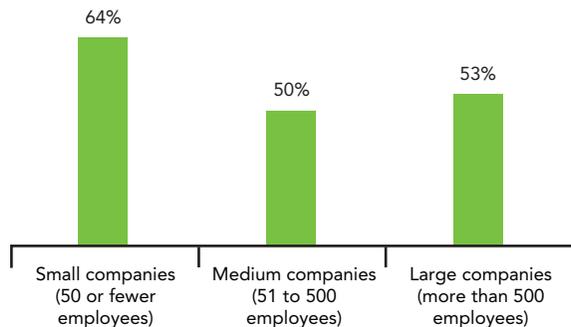
* Since respondents could choose more than one answer, the total mentions may add up to more than 100%.

79% of the respondents have engaged in at least one type of collaboration.

In all, 79% of the respondents have engaged in at least one type of collaboration. Of this proportion, 88% worked in natural sciences.

Small businesses (50 and fewer employees) accounted for 64% of the collaborations, mid-sized enterprises (51-100 employees) made up half, and large businesses (more than 500 employees) represented 53%.

With what type of company(ies) have you collaborated in the past three years?



Base: Those **who have collaborated** with the private sector in the past three years (n=105)

* Since respondents could choose more than one answer, the total mentions may add up to more than 100%.



COLLABORATIONS ARE MEETING EXPECTATIONS

The outcomes show that collaboration is a bona fide way to develop [...] relationships over the long term.

Generally speaking, the main reasons researchers team up with industry are:

- > To test practical applications of their theories (63%)
- > To secure research contracts (55 %)
- > To keep tabs on industry developments (47%)

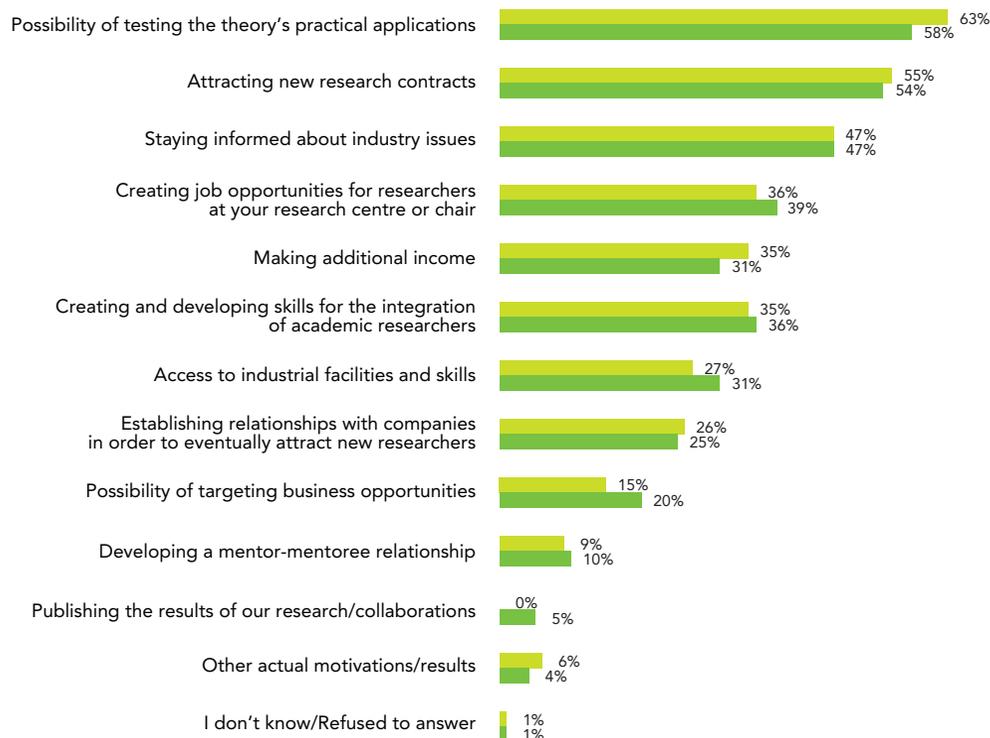
Looking at the outcomes of the collaborations, it seems that researcher expectations are being met, with 58% reporting that they were able to test practical applications of their theories, 54% securing new contracts and 47% feeling that the partnership allowed them to keep tabs on industry developments.

The outcomes show that collaboration is a bona fide way to develop skills, partnerships and relationships over the long term.

Interestingly, financial gain was only fifth among the reasons for collaboration, with slightly more than 35% of respondents expecting to generate additional revenue.

Without necessarily translating into action, what motivated your research centre or chair to collaborate, currently or in the past three years, with private companies? Please select all applicable answers.*

What were the actual results of your collaborations with private companies, currently or within the past three years? Please select all applicable answers.*



Base: Those **who have collaborated** with the private sector in the past three years. (n=105)

■ Motivations
■ Actual results

* Since respondents could choose more than one answer, the total mentions may add up to more than 100%.



These findings confirm one of last year's main conclusions: trying is believing!

These findings contrast sharply with the benefits cited by the Quebec businesses polled last year, when the top answers were access to competencies and expertise developed in universities (48%) and access to highly qualified labour (45%).

With an average score of 3.5 out of 5, researchers who teamed up with industry seem relatively satisfied with the results, as were the businesses polled last year (3.4 out of 5). Moreover, 89% of the former stated they plan to do so again, while only 11% were unsure. These findings confirm one of the main conclusions of last year's survey, namely that trying is believing.

THE CHALLENGES: FINDING A COMMON LANGUAGE AND CREATING COLLABORATION OPPORTUNITIES

52% of research centres and chairs answered differences in organization cultures were the main challenge of working with the private sector.

When asked about the main challenges of working with the private sector, 52% answered differences in organizational cultures while 50% cited industry's lack of knowledge about the research environment and its realities. In last year's survey, businesses felt the same way about universities, citing the latter's lack of knowledge of the business world as the biggest challenge to working together (28%).

According to the researchers polled, future collaboration would be made easier if they were more aware of collaboration opportunities (28%), if there was less administrative red tape (21%), if the financial incentives were greater (18%) and if business goals and research needs were better aligned (17%).

Interestingly, when the same question was put to businesses last year, almost the same proportion (29%) mentioned greater awareness of collaboration opportunities.

If applicable, what challenges or obstacles did you encounter during your collaboration with private companies? Please select all applicable answers.*



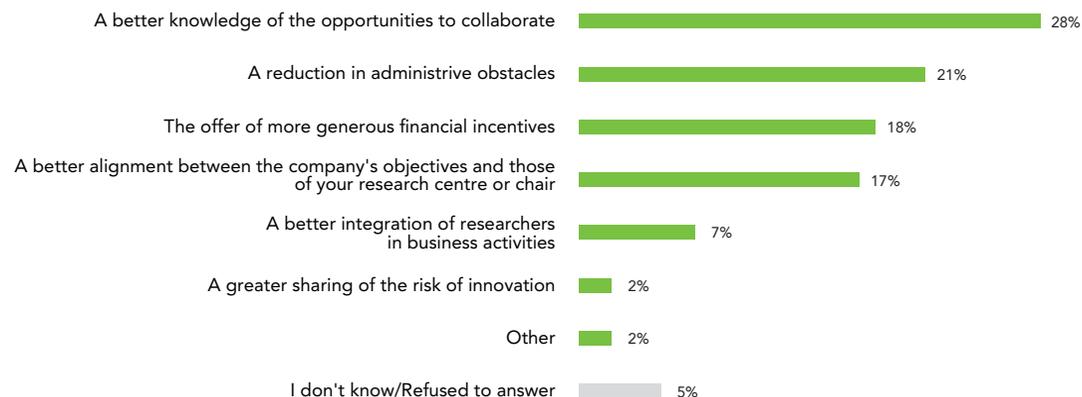
Base: Those **who have collaborated** with the private sector in the past three years. (n=105)

* Since respondents could choose more than one answer, the total mentions may add up to more than 100%.

Universities and businesses are ready to work together, but need to find a common language.

Base: All respondents (n=131)

Based on your perception, what could make it easier or more effective for any future collaboration between your research centre or chair and private companies? Only one answer possible.*

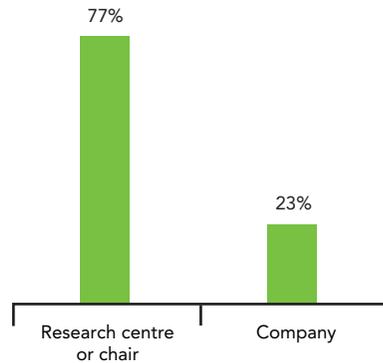


In the 2011 study, we mentioned that universities needed to do more to make the business community aware of collaboration opportunities and of how they can contribute to their success. The findings this year show that both sides are ready to work together; the problem is how to get there. Put differently, universities and industry need to find a common language and create more opportunities to get together so as to gain a better understanding of each other's reality and the kind of collaborations that are possible.

This need adds legitimacy to the Rendez-vous du Savoir, an event that seeks to bring the two communities together and foster dialogue. However, one meeting a year is hardly enough; more opportunities must be created for the two groups to meet so they can find a common language and develop clear, shared goals.

For their part, businesses need to get into the habit of reaching out more to academia since in 77% of cases, researchers are taking the first step. During the first edition of Rendez-vous du Savoir, held in October 2010, an interesting point was raised by the panel on university-industry collaboration and its ability to create wealth in Quebec,³ namely that businesses interested in partnering with universities often don't know who to contact to make it happen. Hence, the importance, stated in the 2011 survey, for universities to do a better job getting the word out and making sure businesses know to whom to turn to initiate the process.

Between the company or the research centre or chair, who initiated the collaboration?



Base: Those **who have collaborated** with the private sector in the past three years (n=105)

³ *Collaboration between business and universities: leverage for creating wealth in Quebec*, a panel made up of Judith Woodsworth, then president and vice-chancellor of Concordia University, Dr. Pavel Hamet, professor of medicine, Canada research chair, predictive genomics, and chief of gene medicine at CHUM, Michel Leblanc, president and CEO of the Board of Trade of Metropolitan Montreal, and Jacques St-Laurent, president and CEO of Montréal International.

WHAT MOTIVATES COLLABORATION?

42% of respondents who did not engage in collaborations gave money as the main reason.

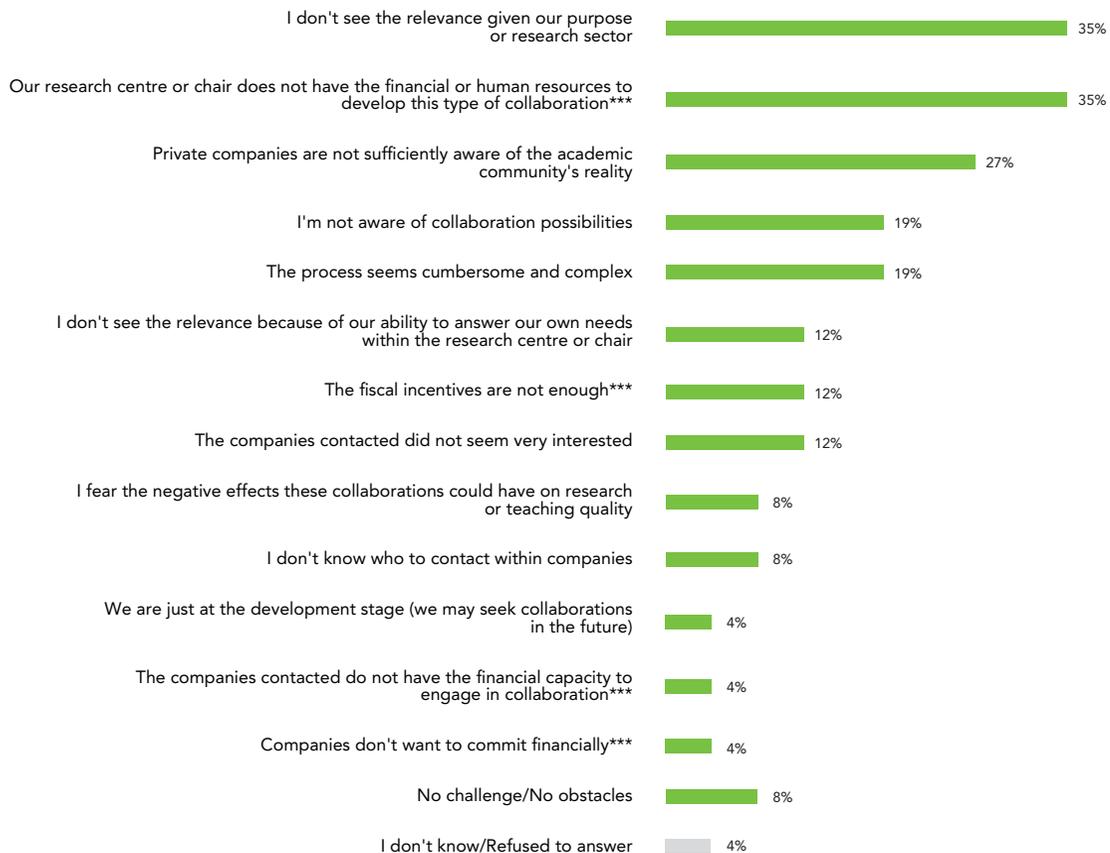
Of the 131 research centres and chairs polled, 26 said they have not engaged with industry in the past three years.⁴

When asked why, 42% gave money as the main reason, more specifically, lack of financial or human resources to do so, insufficient tax incentives or the companies contacted did not have the financial means to embark on such a project or were not prepared to commit financially.

Another reason, cited by 35% of respondents, was that collaboration was not relevant given their purpose or field of research. It is interesting to note that 47% of the businesses polled last year also felt that university-industry collaboration was not relevant to their line of business or activity sector.

⁴ Given the small number of respondents, the answers to the questions aimed at businesses that have not collaborated with universities are presented for information purposes only and should not be generalized.

What are the obstacles responsible for not collaborating with private companies in the last three years?* Please select all applicable answers.**



Base: Those **who have not collaborated** with the private sector in the past three years (n=26)**

* Given the small number of respondents (n<30), the data is presented for information purposes only.

** Since respondents could choose more than one answer, the total mentions may add up to more than 100%.

*** 42% of the mentions are associated with financial reasons.

For most of the respondents (69%), obtaining funding for research – either for a personal project or one undertaken by the centre or chair – was the strongest incentive to team up with the private sector. The second reason, albeit to a much lesser extent (27%), was the possibility of enhancing their scientific reputation.

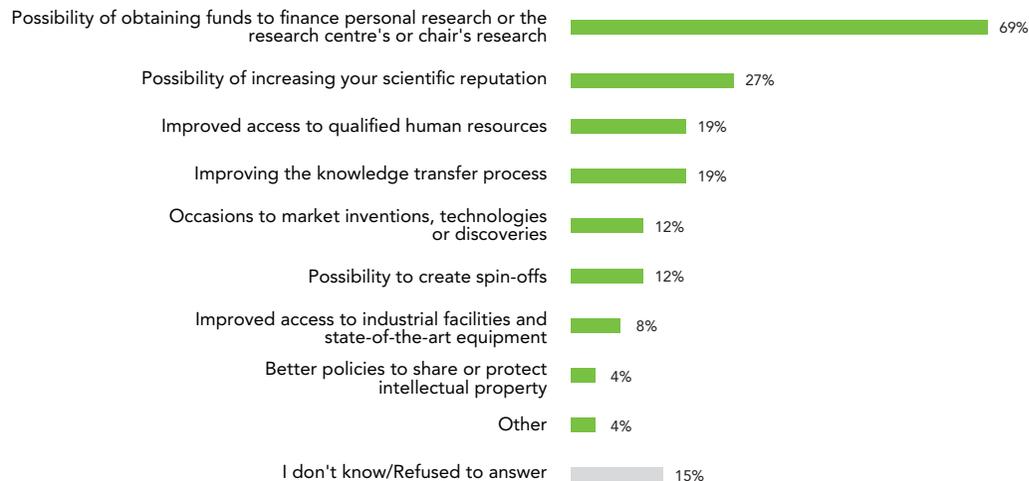
Tax incentives were also cited by 30% of Quebec companies in last year's survey. However, the main reason, given by 41%, was contribution to their development and growth.

Based on your perception, what would motivate researchers the most to collaborate with private companies?* Please select all applicable answers.**

Base: Those **who have not collaborated** with the private sector in the past three years. (n=26)**

* Given the small number of respondents (n<30), the data is presented for information purposes

** Since respondents could choose more than one answer, the total mentions may add up to more than 100%.



THE QUEBEC UNIVERSITY SYSTEM VIEWED FROM WITHIN

Research centres and chairs overwhelmingly agreed on the need for more funding (mentioned by 91%).

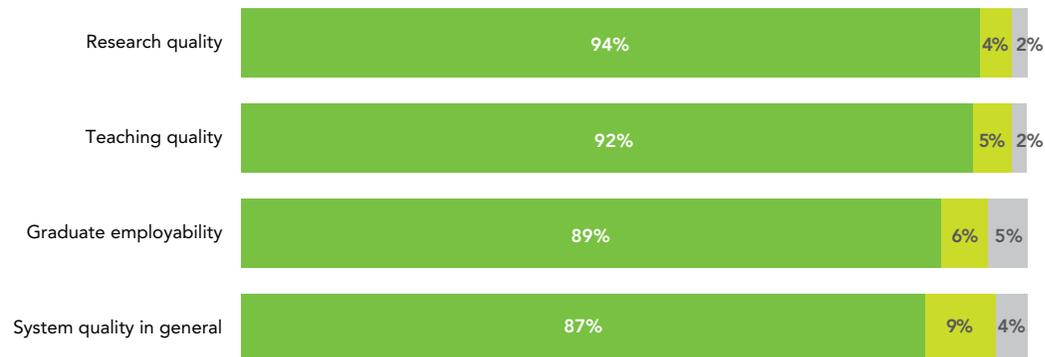
As we did last year with the business community, we asked Quebec research centres and chairs what they thought about the quality of our university system.

Not surprisingly, this group views the system more favourably than industry. Indeed, they were almost unanimous in their praise of our universities, rating the following aspects as good: research (92%), teaching quality (94%), graduate employability (89%) and overall quality (87%).

In comparison, last year's business respondents also generally rated these four aspects as good but to a lesser degree: 77% for research quality, 90% for teaching quality, 84% for graduate employability and 81% for overall quality.

What will it take for our university system to become a North American reference? The respondents overwhelmingly agreed on the need for more funding (mentioned by 91%). Over half (53%) felt we need more professors, more quality training (39%) and more research centres (29%).

In your opinion, is the Quebec university system very good, somewhat good, somewhat bad or very bad with respect to the following statements:



Base: All respondents (n=131)

- Total Good (Very + Somewhat)
- Total Bad (Somewhat + Very)
- Don't know

Based on your perception, what should the Quebec university system have more of to become the North American reference in terms of performance? Please select all applicable answers.*

Base: All respondents (n=131)	Total mentions*	First mention	Second mention**	Third mention**
More funding	91%	71%	24%	4%
More professors	53%	8%	30%	16%
More quality training	39%	7%	15%	20%
More research centres	29%	2%	10%	18%
More diversified training	15%	2%	2%	11%
More graduates	14%	1%	5%	8%
Better collaboration between the parties / Industry participation	6%	2%	3%	2%
Greater visibility and recognition of researchers' work	4%	2%	0%	2%
More universities	2%	0%	0%	2%
Higher admission standards	2%	2%	0%	0%
Less administrative red tape	2%	0%	2%	0%
Adapt more to market / Business reality	2%	1%	2%	2%
Hire more researchers / Think about succession	2%	1%	2%	0%
Do what it takes to make students stay in Quebec	1%	1%	0%	0%
Other	4%	0%	2%	2%
Nothing	0%	0%	2%	9%
Don't know / I prefer not to answer	2%	2%	1%	5%

* Since respondents could choose more than one answer, the total mentions may add up to more than 100%.

** Questions posed to those who provided first and second mentions (n=129 et n=124, respectively).

**RENDEZ-VOUS DU SAVOIR 2012:
POOLING OUR STRENGTHS TO
INNOVATE TO GROW OUR PROSPERITY**

MESSAGE FROM THE PARTNERS OF RENDEZ-VOUS DU SAVOIR

[Being] more competitive by promoting higher education, research and collaboration between universities and industry.

The Palais des congrès de Montréal, the Board of Trade of Metropolitan Montreal, the Conference of Rectors and Principals of Quebec Universities (CREPUQ), the Conférence régionale des élus (CRÉ) de Montréal, the Montréal Council on Foreign Relations (MCFR), Montréal International, Tourisme Montréal and the City of Montréal are pleased to present Rendez-vous du Savoir 2012, which will be take place on November 14 and 15 at the Palais des congrès de Montréal under the theme *Gather. Recognize. Influence.*

The two main objectives of this third edition are to pool our strengths to innovate to grow our prosperity, and to recognize our talents and creativity. With its stellar program, this year's Rendez-vous du Savoir will again foster lively discussions aimed at finding new ways to be more competitive by promoting higher education, research and collaboration between universities and industry.

On the agenda for the first time is a debate-lecture organized by CORIM called *Knowledge on a global scale: between competition and cooperation*. A party for international students will follow, organized by the CRÉ de Montréal, the City of Montréal and Montréal International. Over 1,500 newly-arrived students are expected to attend.

The next day will begin with a breakfast, organized by Raymond Chabot Grant Thornton, during which a panel will discuss *Partnerships between companies and universities and their impact on the development of Northern Quebec*. The morning will be capped off with a presentation of scholarships by Fondation Desjardins.

At noon, the Board of Trade of Metropolitan Montreal will hold a luncheon talk in which Julie Payette, Quebec scientific delegate to the United States, member of the Astronaut Corps and the Canadian Space Agency and accomplished researcher, will share her vision of excellence in research and innovation.

As in the last two editions, Rendez-vous du Savoir will end with the Recognition Award Gala, presented by the Palais des congrès de Montréal. Themed *Recognizing Excellence*, the Gala will pay tribute to the Palais' enthusiastic "Ambassadors," who contribute to raising Montréal's profile as an international destination, as well as to the winning star researchers in the "Ça mérite d'être reconnu!" competition.

With its two spokespersons, Monique F. Leroux, president and CEO of Desjardins Group, and Dr. Pavel Hamet, O.Q., M.D., Ph.D., professor with the faculty of medicine at the Université de Montréal and internationally renowned researcher, who have anchored the event since it was created, this third edition of Rendez-vous du Savoir will undoubtedly be the premier event for forging collaborations.

— *The partners of Rendez-vous du Savoir*



MESSAGES FROM THE SPOKESPERSONS OF RENDEZ-VOUS DU SAVOIR



MONIQUE F. LEROUX

Desjardins Group is the presenter sponsor of the Rendez-vous du Savoir.

Desjardins Group is pleased to be part of the third edition of Rendez-vous du Savoir, an event created to encourage rapprochement between industry and academia.

Ours is a global economy, where we share everything from systems to environmental issues. This greater interdependence means we need to learn how to work together better in order to take up our challenges. Through cooperation, our concerted efforts will be stronger, we will become more innovative, we will engage more effectively and we will achieve lasting prosperity for our communities.

Universities and industry are important actors in our society that must demonstrate exemplary leadership and reach out to one another. A closer, more productive relationship between academia and the business community should be at the forefront of our collective strategy for the future.

Rendez-vous du Savoir is a step in that direction and as such deserves our full support and active participation.

—
Monique F. Leroux
Chair of the Board, President and CEO
Desjardins Group



DR PAVEL HAMET

Years of experience have helped me understand the importance of collaboration between industry and universities. During my studies and through my medical research, I have had the opportunity to work with many players from both sides. These exchanges are vital to innovation, which in turn makes society even more dynamic and competitive.

If Quebec is to continue standing out and attracting investments, skilled workers and innovative projects, industry needs to realize that academia can play a considerable role in this regard. In turn, research centres and chairs must reach out and forge lasting relationships with the private sector.

Rendez-vous du Savoir is an excellent example of interaction between the academic and scientific communities, the business world and the general public. It is important to seize the

opportunity offered by this event to bring all these stakeholders together and explore new avenues for partnerships. There is also no better place than Rendez-vous du Savoir to promote research and give it the means to take its rightful place.

—
Dr. Pavel Hamet, O.Q., M.D., Ph.D.
Senior Professor in the Department of Medicine
at Université de Montréal
and Canada Research Chair, Predictive Genomics

MESSAGE FROM THE ASSOCIATED SPONSOR



EMILIO B. IMBRIGLIO

Raymond Chabot Grant Thornton is an associate sponsor of the Rendez-vous du Savoir

UNIVERSITY-INDUSTRY COLLABORATION: VITAL TO QUEBEC'S ECONOMIC DEVELOPMENT

Quebec's development and prosperity hinge on the strength of its educational institutions, the presence of a qualified workforce that meets industry needs, rewarding, well-paid jobs, and the ability to export unique, sought-after knowledge.

In this regard, Canada already stands out for its expertise, which it successfully exports, particularly in the fields of engineering and health. However, we have also built a reputation for the value we place on higher education. According to a study by the Organization for Economic Cooperation and Development (OECD) in 2012, Canada ranked first among those countries with the highest percentage of adult residents who completed graduate studies, and is the only country in the world where more than half of the adults hold university degrees. In 2010, 51% of the population had completed such studies. This is clearly a feather in our cap.

However, to ensure economic growth and prosperity in Quebec, we need greater synergy between the business community and academia. There are countless ways to collaborate and innovate. And because developing skills, in conjunction with the growth of Quebec businesses, and appropriating our province and its riches is essential, Raymond Chabot Grant Thornton (RCGT) is organizing, as part of the Rendez-vous du Savoir, an event called "*Partnerships between companies and universities and their impact on the development of Northern Quebec,*" whose goal is to come up with new ways for collaborating and promising development prospects for Quebec businesses in order to build highly specialized and exportable Quebec know-how while at the same time strengthening the ties between academia and industry.

By ensuring university-industry collaboration, we will be in a position to innovate and favourably position Quebec on the world stage, encourage entrepreneurship and ensure dynamic, competent succession. Our success hinges on having internationally recognized programs and universities, a quality labour force and the ability to attract foreign students and hold on to them once they have completed their studies.

Having worked for many years as both a university lecturer and a business professional, I can say without a doubt that researchers, academics and business people alike stand to gain from teaming up more often. Rendez-vous du Savoir offers an excellent opportunity to forge ties and work towards collaboration. It is also a wonderful opportunity to witness the collective wealth created by academia. This is why Raymond Chabot Grant Thornton has chosen to be a part of this special event that brings together the business and research communities. On behalf of our company, I hope you will take advantage of this broad reflection and leave inspired by promising, innovative partnerships.

—
Mr. Emilio B. Imbriglio
Chairman of the Board and Partner in charge
of the Corporate Finance Consulting Group
for Raymond Chabot Grant Thornton

APPENDIX:
SURVEY – DETAILED RESULTS

RESPONDENT PROFILE

Note: For each profile category, the complement to 100% corresponds to the answers "I Don't know" and "I prefer not to answer."

Profile of Research Centres and Chairs

Base: All respondents	Total (n=131)
Interuniversity research group	
Yes	37%
No	63%
Affiliated institutions	
McGill University	21%
Université de Montréal	21%
Université Laval	17%
École Polytechnique	11%
Université de Sherbrooke	11%
HEC Montréal	7%
Concordia University	5%
Université du Québec à Montréal	15%
Université du Québec à Trois-Rivières	5%
Université du Québec à Rimouski	5%
Université du Québec en Abitibi-Témiscamingue	5%
Université du Québec à Chicoutimi	2%
Université du Québec en Outaouais	1%
École de technologie supérieure	7%
Institut national de la recherche scientifique	5%
École nationale d'administration publique	1%
Other	2%

Base: All respondents	Total (n=131)
Number of researchers	
1 to 5	24%
6 to 10	24%
11 to 20	21%
21 to 30	6%
31 to 40	10%
41 to 50	4%
51 to 60	3%
61 to 70	3%
71 to 80	1%
81 to 90	1%
91 to 100	0%
More than 100	5%
Location of research centre or chair	
Montréal	63%
Quebec	15%
Elsewhere	22%
Research field	
Natural sciences and engineering	46%
Social sciences and humanities	38%
Health sciences	27%
Arts and literature	9%

Note: For each profile category, the complement to 100% corresponds to the answers "I Don't know" and "I prefer not to answer."

Profile of Research Centres and Chairs (cont'd)

Base: All respondents	Total (n=131)
Purpose of research	
Health/Health technology	27%
IT / Automation / Electronics / Electrical (distribution management, artificial intelligence, etc.)	9%
Ecology	6%
Urban planning / Land-use planning (architecture)	5%
Physics / Applied mathematics	5%
Chemistry / Biochemistry (including molecular biology)	5%
Concrete infrastructures	2%
Astrophysics	2%
Wood and composites	2%
Laser physics (e.g. photonics)	2%
Social science and humanities	17%
Political science	3%
Management (various types)	2%
Security / Cybersecurity	2%
Economics / Financial services	2%
SME and entrepreneurship	2%
Literature / History	5%
Art (film, music)	2%
Others	3%

Note: For each profile category, the complement to 100% corresponds to the answers "I Don't know" and "I prefer not to answer."

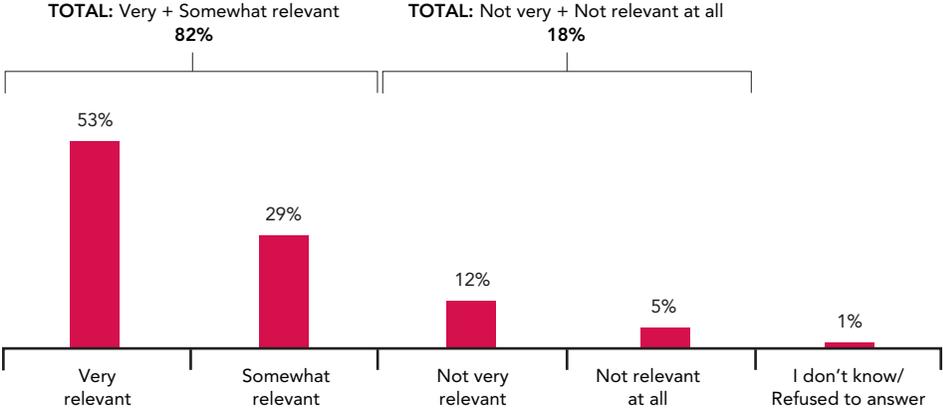
Base: All respondents	Total (n=131)
University attended	
Quebec universities	78%
Université de Montréal	27%
Université Laval	25%
McGill University	21%
Université de Sherbrooke	11%
École Polytechnique	8%
HEC Montréal	3%
Concordia University	2%
Bishop's University	1%
Université du Québec à Montréal	7%
Université du Québec à Trois-Rivières	5%
Université du Québec à Rimouski	2%
Université du Québec à Chicoutimi	1%
Université du Québec en Outaouais	1%
Université du Québec en Abitibi-Témiscamingue	1%
Institut national de la recherche scientifique	1%

Base: All respondents	Total (n=131)
University attended	
European universities	22%
France (various)	11%
England (various)	5%
Belgium (various)	2%
Other (various)	3%
American universities	17%
Massachusetts Institute of Technology (MIT)	3%
Princeton University	2%
Harvard University	2%
Harvard Medical School	2%
Other (various)	8%
Canadian universities (outside Quebec)	8%
University of Toronto	3%
University of Ottawa	2%
University of British Columbia (various)	2%
University of Ontario (various)	2%
Other	3%

COLLABORATION WITH THE PRIVATE SECTOR

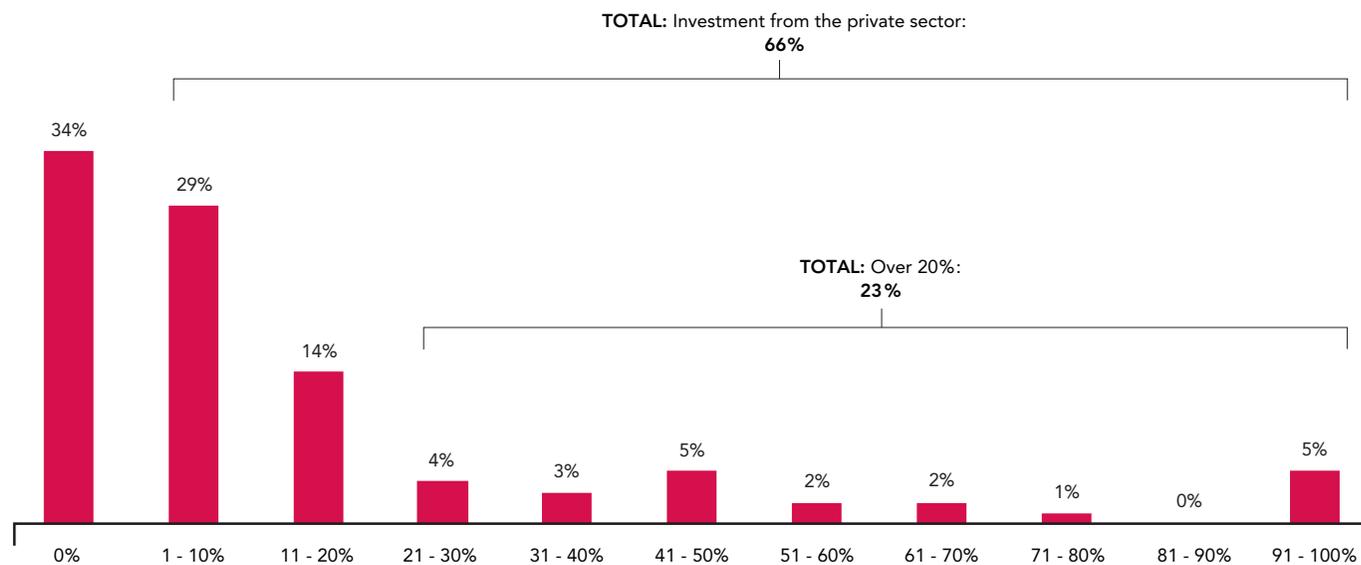
Q1 DO YOU BELIEVE THAT COLLABORATION WITH BUSINESSES IS VERY, SOMEWHAT, NOT VERY OR NOT RELEVANT AT ALL TO YOUR RESEARCH

Base: All respondents (n=131)



Q2 WHAT PROPORTION OF YOUR RESEARCH CENTRE'S OR CHAIR'S FUNDING COMES FROM THE PRIVATE SECTOR?

Base: All respondents (n=131)



Q3 IN THE PAST THREE YEARS, HAS YOUR RESEARCH CENTRE OR CHAIR COLLABORATED WITH PRIVATE COMPANIES? IF SO, WHAT TYPE(S) OF COLLABORATION? PLEASE SELECT ALL APPLICABLE ANSWERS.*

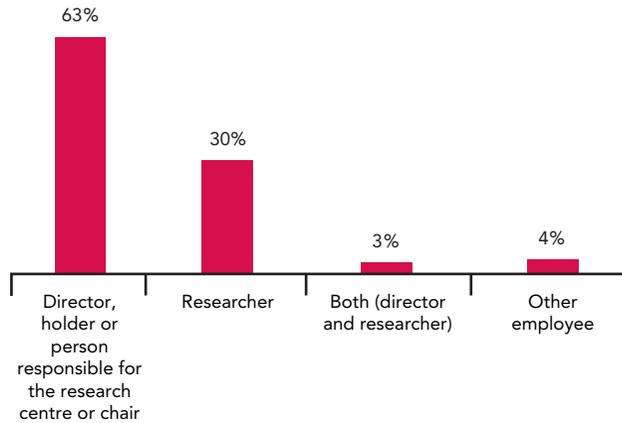
Base: All respondents (n=131)



* Since respondents could choose more than one answer, the total mentions may add up to more than 100%.

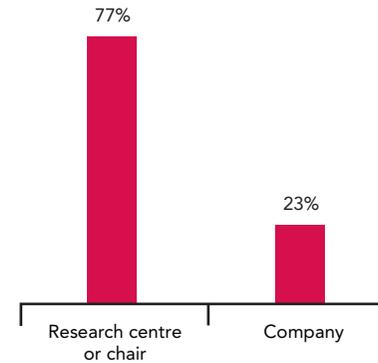
Q4 WHO (HIERARCHICAL STANDING) WITHIN YOUR RESEARCH CENTRE OR CHAIR ESTABLISHED THE PARTNERSHIPS WITH PRIVATE COMPANIES?

Base: Those **who have collaborated** with the private sector in the past three years (n=105)



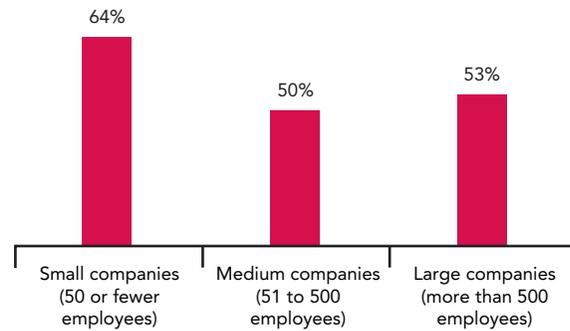
Q5 BETWEEN THE COMPANY OR THE RESEARCH CENTRE OR CHAIR, WHO INITIATED THE COLLABORATION?

Base: Those **who have collaborated** with the private sector in the past three years (n=105)



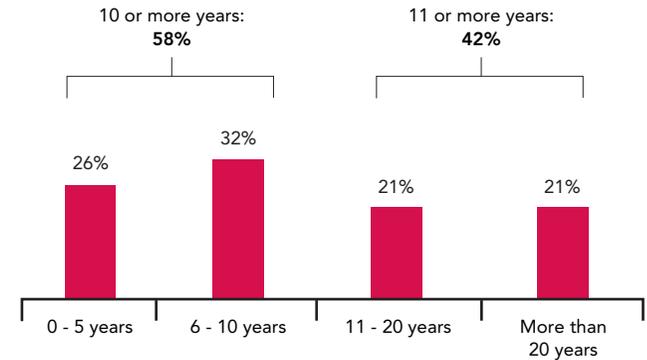
Q6 WITH WHAT TYPE OF COMPANY(IES) HAVE YOU COLLABORATED IN THE PAST THREE YEARS?

Base: Those **who have collaborated** with the private sector in the past three years (n=105)



Q7 FOR HOW MANY YEARS HAS YOUR RESEARCH CENTRE OR CHAIR COLLABORATED WITH PRIVATE COMPANIES?

Base: Those **who have collaborated** with the private sector in the past three years (n=105)



Q8 WITHOUT NECESSARILY TRANSLATING INTO ACTION, WHAT MOTIVATED YOUR RESEARCH CENTRE OR CHAIR TO COLLABORATE, CURRENTLY OR IN THE PAST THREE YEARS, WITH PRIVATE COMPANIES? PLEASE SELECT ALL APPLICABLE ANSWERS.*

+ Q9 WHAT WERE THE ACTUAL RESULTS OF YOUR COLLABORATIONS WITH PRIVATE COMPANIES, CURRENTLY OR WITHIN THE PAST THREE YEARS? PLEASE SELECT ALL APPLICABLE ANSWERS.*

Base: Those **who have collaborated** with the private sector in the past three years (n=105)

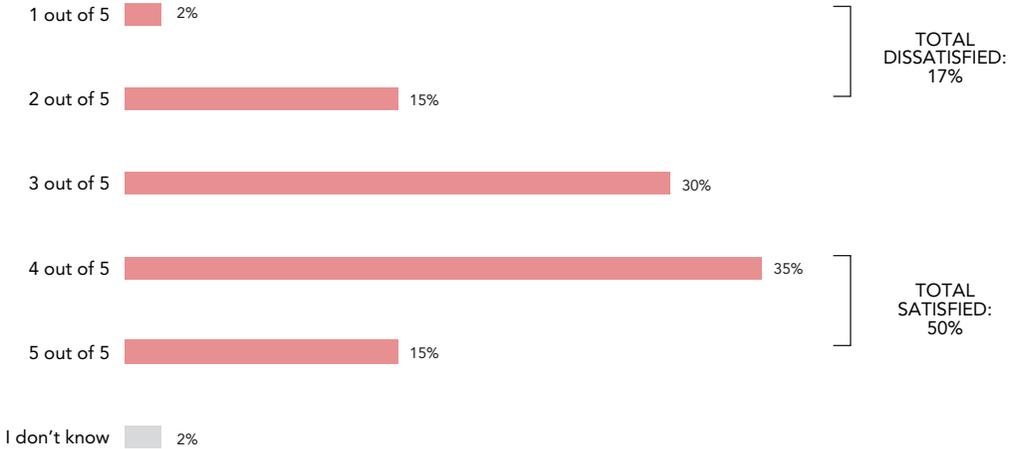


■ Motivations
■ Actual results

* Since respondents could choose more than one answer, the total mentions may add up to more than 100%.

Q10 ON A SCALE OF 1 TO 5, WHERE 1 MEANS VERY DISSATISFIED AND 5 MEANS VERY SATISFIED, WHAT IS YOUR LEVEL OF GENERAL SATISFACTION WITH YOUR COLLABORATION WITH PRIVATE COMPANIES IN TERMS OF RETURN ON INVESTMENT, THAT IS, TIME AND MONEY SPENT?

Base: Those **who have collaborated** with the private sector in the past three years (n=105)



Q11 IF APPLICABLE, WHAT CHALLENGES OR OBSTACLES DID YOU ENCOUNTER DURING YOUR COLLABORATION WITH PRIVATE COMPANIES? PLEASE SELECT ALL APPLICABLE ANSWERS.*

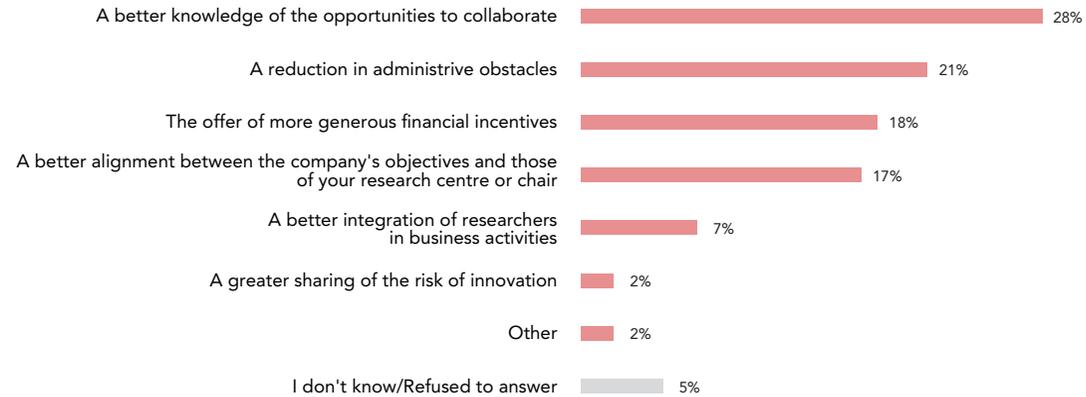
Base: Those **who have collaborated** with the private sector in the past three years (n=105)



* Since respondents could choose more than one answer, the total mentions may add up to more than 100%.

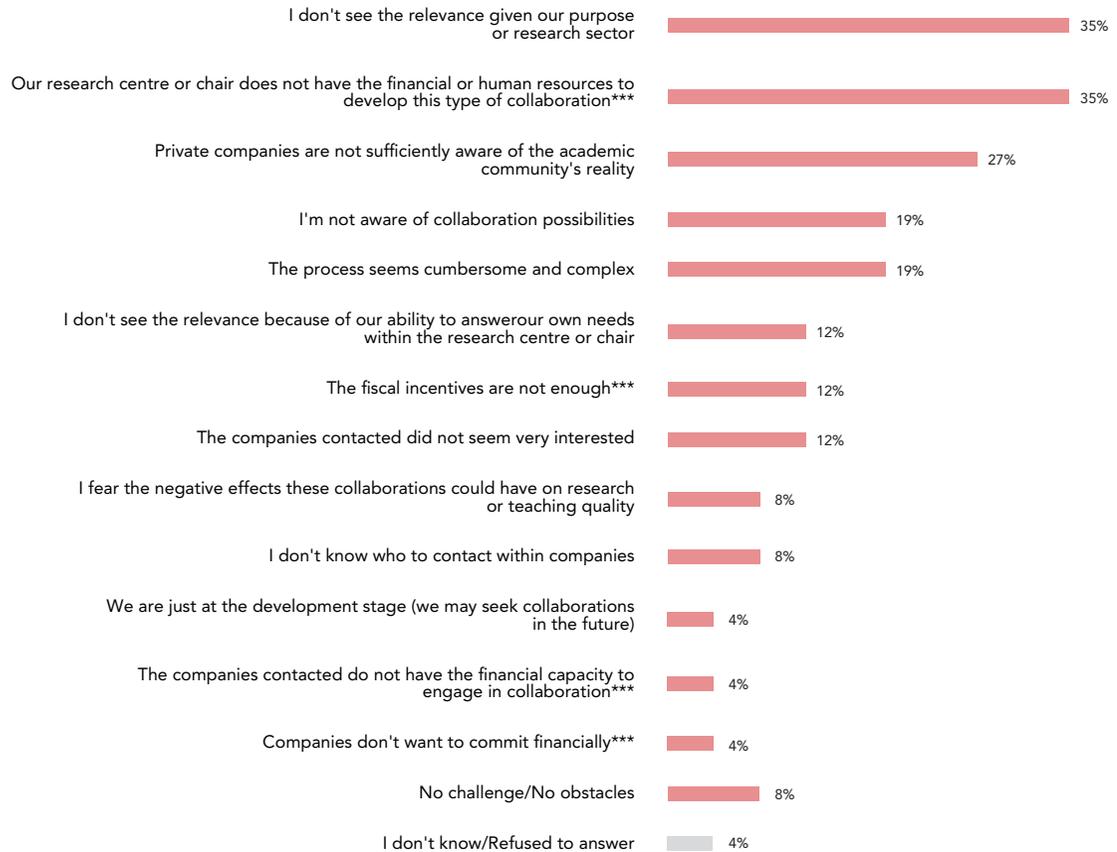
Q12 **BASED ON YOUR PERCEPTION, WHAT COULD MAKE IT EASIER OR MORE EFFECTIVE FOR ANY FUTURE COLLABORATION BETWEEN YOUR RESEARCH CENTRE OR CHAIR AND PRIVATE COMPANIES? ONLY ONE ANSWER POSSIBLE**

Base: All respondents (n=131)



Q13 WHAT ARE THE OBSTACLES RESPONSIBLE FOR NOT COLLABORATING WITH PRIVATE COMPANIES IN THE LAST THREE YEARS? PLEASE SELECT ALL APPLICABLE ANSWERS.*

Base: Those **who have not collaborated** with the private sector in the past three years (n=26)**



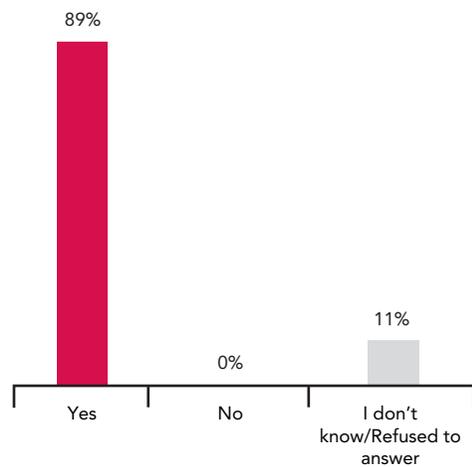
* Since respondents could choose more than one answer, the total mentions may add up to more than 100%.

** Given the small number of respondents (n<30), the data is presented for information purposes

*** 42% of the mentions are associated with financial reasons.

Q14 DO YOU INTEND TO CONTINUE COLLABORATING WITH PRIVATE COMPANIES IN THE NEXT FEW YEARS?

Base: Those **who have collaborated** with the private sector in the past three years (n=105)

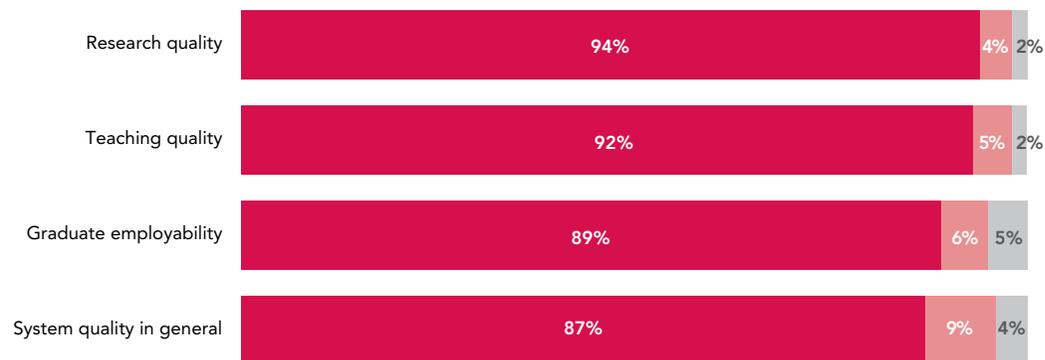


PERCEPTION OF THE UNIVERSITY SYSTEM

Q15 IN YOUR OPINION, IS THE QUEBEC UNIVERSITY SYSTEM VERY GOOD, SOMEWHAT GOOD, SOMEWHAT BAD OR VERY BAD WITH RESPECT TO THE FOLLOWING STATEMENTS:

Base: All respondents (n=131)

■ Total Good (Very + Somewhat)
■ Total Bad (Somewhat + Very)
■ Don't know



Q16 **BASED ON YOUR PERCEPTION, WHAT SHOULD THE QUEBEC UNIVERSITY SYSTEM HAVE MORE OF TO BECOME THE NORTH AMERICAN REFERENCE IN TERMS OF PERFORMANCE? PLEASE SELECT ALL APPLICABLE ANSWERS.***

Base: All respondents (n=131)	Total mentions*	First mention	Second mention**	Third mention**
More funding	91%	71%	24%	4%
More professors	53%	8%	30%	16%
More quality training	39%	7%	15%	20%
More research centres	29%	2%	10%	18%
More diversified training	15%	2%	2%	11%
More graduates	14%	1%	5%	8%
Better collaboration between the parties / Industry participation	6%	2%	3%	2%
Greater visibility and recognition of researchers' work	4%	2%	0%	2%
More universities	2%	0%	0%	2%
Higher admission standards	2%	2%	0%	0%
Less administrative red tape	2%	0%	2%	0%
Adapt more to market / Business reality	2%	1%	2%	2%
Hire more researchers / Think about succession	2%	1%	2%	0%
Do what it takes to make students stay in Quebec	1%	1%	0%	0%
Other	4%	0%	2%	2%
Nothing	0%	0%	2%	9%
Don't know / I prefer not to answer	2%	2%	1%	5%

* Since respondents could choose more than one answer, the total mentions may add up to more than 100%.

** Questions posed to those who provided first and second mentions (n=129 and n=124, respectively).



NOTES
