Q1: Building on the advice provided by the Expert Panel on Federal Support for Research and Development, what more can be done to improve business investment in R&D and innovation?

The expert panel reaffirmed the leading role that Canada's universities play in providing talent, discovery and ideas. It called for a series of measures to create closer links among university research, business and governments in order to create a more dynamic culture of innovation in Canada.

The University of Manitoba shares the view that more must be done to improve business innovation, and we are working to address this by introducing new innovation spaces, new programs in entrepreneurship open to undergraduate and graduate students from all disciplines; and are seeking opportunities to increase co-op and internship opportunities at every level to increase the two-way flow of talent and ideas.

Since the expert panel reported, the government has made significant progress to introduce measures aimed at enhancing business innovation. The funding announced in Budget 2013 to enhance innovation hubs aimed at "fostering entrepreneurial talent and ideas" will play an important role in helping to further integrate university and business innovation. The incubators and accelerators on university campuses, such as the Eureka Project at the University of Manitoba SmartPark, and the funding for a pilot credit note or voucher program will further strengthen links between universities and business.

In light of this, a few things can be done to improve business investment in R&D and innovation:

1) **Develop a better understanding within the private sector of the support available to them**

More work needs to be done in communicating to the private sector the ways in which universities can provide viable and cost-effective solutions to industry challenges. For example, through the current suite of federal and provincial government funded programs a private sector firm would only have to invest about $18,000 to receive approximately $250,000 worth of research value through the University of Manitoba. This is an excellent return on investment that the private sector would be hard pressed to find elsewhere. Collectively, we need to raise private sector awareness of such programs. Universities have the talent and the infrastructure at their disposal to address industry challenges in a timely and cost-effective manner and we need to deliver that message more broadly.

2) **Need to create a more supportive environment**

Another way to increase engagement with the private sector is to re-examine the rules of engagement. The University of Manitoba has created a new way of working with business by changing its intellectual property (IP) policy. Our new Transformational Partnerships approach has virtually done away with lengthy negotiations over potential royalty payments and control of IP. Instead, the University of Manitoba will now assign the IP management to private-sector partners giving them full control of the technology to incorporate it into their product or service or even sub-license it. Essentially, university research is available to industry partners with no financial commitment until the company itself starts making money from the technology. Although this policy is still in its infancy, the private sector is responding favourably to this shift in approach and sees the opportunities and benefits in increased collaboration with the University of Manitoba.
Q2: What actions could be taken, by the government or others, to enhance the mobilization of knowledge and technology from government laboratories and universities, colleges and polytechnics to the private sector?

Between discovery and utilization lies mobilization and mobilizing new knowledge generated through research occurs through a variety of channels, including graduates entering the workforce, graduate-founded start-ups, IP commercialization, the publication of research results, faculty consulting, public-private partnerships, and conferences. There are a number of ways in which mobilization could be further strengthened and supported:

1) Expand research partnerships
Public-private research partnerships can be effective, but need to be flexible enough to respond to business needs. To ensure private-sector partners get what they need from public-private research partnerships, government policy should focus on results and avoid prescriptive approaches to partnership creation.

2) Better leverage students and graduates in the workforce
A key path to enhancing business innovation is by harnessing the skills of talented university graduates, educated in a culture of innovation, with skills enhanced through hands-on research training, experiential learning and global experiences. As universities train the researchers, professionals and skilled graduates that are hired by the private sector, knowledge is transferred through people and their ideas.

3) Expand Canada’s supply of new ventures and experienced entrepreneurs
Start-up ventures that students and new graduates create are a powerful way to mobilize the research and knowledge generated within universities. One way to expand the supply of entrepreneurs is to appeal directly to Indigenous students. The University of Manitoba is committed to ensuring the success of the province’s growing Aboriginal demographic which by 2026 will make up nearly 19 percent of the population. The success of First Nations, Metis and Inuit communities is vital to the social, cultural and economic development of Manitoba and Canada. Targeted programs to encourage Aboriginal entrepreneurship would go hand-in-hand with programs that support Aboriginal success in postsecondary education. This rapidly growing demographic is young and, as a nation, we need to ensure that Aboriginal youth play a key role in Canada’s thriving innovation system.

Q3: How can Canada continue to develop, attract and retain the world’s top research talent at our businesses, research institutions, colleges and polytechnics, and universities?

The federal government has created incentives and fostered a favourable policy environment to help develop, attract and retain the world’s top research talent for Canada. Significant investments in programs aimed at attracting talent – such as Canada Research Chairs, Canada Excellence Research Chairs, Vanier and Banting scholarships – have resulted in Canada’s improving its ability to attract top students and researchers from around the world. In addition to this, supportive immigration policies, such as the Canadian Experience Class and the Ph.D. stream of the Federal Skilled Worker Program, are enabling the top international research students to remain in Canada and to transition smoothly into being productive members of the Canadian labour force.

However, a key factor in retaining the world’s top research talent is support for research excellence. A commitment to a principle of sustained, predicable research funding in the core budgets of the federal
research granting agencies, at globally competitive levels, will send a strong signal globally about Canada’s ambitions for research leadership.

Universities also believe the time is right for a strategic investment in research excellence, and are proposing the creation of an **Advantage Canada Research Excellence (ACRE)** Fund that will allow Canada to build and leverage on its investments in postsecondary research and innovation. Such a fund, which would be supplementary to current funding, inclusive, competitive, open and based on peer-review, would help Canada to attract and maintain the talent required to improve our research standing on the increasingly competitive international stage.

**Some additional recommendations for consideration by the federal government:**

1) Assist Canadian universities in being responsive and nimble in developing international research linkages. The international research community moves quickly and will easily move elsewhere if it believes Canadian universities are not ready to engage in partnerships. Combined with the fact that the toughest and most pressing research problems transcend borders, the Government should continue to support international research collaboration to avoid missed opportunities.

2) Consider the creation of a single decision-making body for international research collaboration projects, combined with dedicated funding to support these partnerships, to facilitate Canadian researchers’ participation in large-scale, global collaborations.

3) As per the previous point under Question 2 regarding fostering Aboriginal entrepreneurship, the University of Manitoba recommends a solid investment in Aboriginal education and a commitment to create Aboriginal talent in order to ensure that this rapidly growing demographic is active and engaged in Canada’s innovation system.

4) Ensure that the immigration system continues to be responsive to the unique needs of recruiting top research talent. The University of Manitoba has had cases where researchers were denied entry into Canada because they did not clearly indicate on their application when they would be returning to their home countries.

5) Provide additional resources to fuel the initiatives announced in Canada’s International Education Strategy, and implement the other recommendations contained in International Education: A Key Driver of Canada’s Future Prosperity.

6) Consider ways to leverage components of the International Education Strategy to support top faculty recruiting. This might include identifying researchers as a target audience for custom branding materials and ensuring Canada’s message highlights the strength of our research environment.

**Q4: How might Canada build upon its success as a world leader in discovery-driven research?**

In order to leverage our success in discovery-driven research, and to maintain and build upon Canada’s competitive advantage, Canada should commit to the principle of **multi-year, sustainable and predictable research funding** for the federal research granting agencies’ discovery-based research programs, coupled with increases to the Indirect Costs Program. Sustained, predictable and long-term funding for research infrastructure will continue to provide a home for Canadian-grown research and serve as a magnet for researchers from around the world.
Q5: Is the Government of Canada's suite of programs appropriately designed to best support research excellence?

It is important for the federal government to ensure that Canada has a strategically balanced research ecosystem. Overfunding or underfunding any of the ecosystems’ components (infrastructure, people, direct costs of research, indirect costs of research) could place it in jeopardy and negatively affect Canada's competitive advantage. Further research needs to be undertaken to determine what the optimal mix may be for Canada. However, it is evident that further study of the indirect costs of research is required as it remains a significant challenge for institutions.

Pursuing research excellence in this increasingly competitive environment requires some additional strategic investment in the form of the proposed ACRE Fund. ACRE will assist in making Canada an innovation nation and a place where researchers both home-grown and international will see the advantage that Canada has to offer.