



# **UNIVERSITY OF WATERLOO**

**» Pre-budget submission to the House of  
Commons Standing Committee on Finance**

August 5, 2016

## **Executive Summary**

The University of Waterloo is committed to working with the Government of Canada to advance the innovation agenda and create the opportunity for Canada to thrive in the knowledge-based economy.

The University of Waterloo is uniquely positioned to play a leadership role in accelerating innovation through its engagement with industry on many levels. For Canada to lead innovation and disruption in the new economy, government, universities and industry need to work together to remove the multiple barriers – both real and perceived – that exist between businesses and accessing the innovation taking place on university campuses.

### Recommendations:

- Provide funding for the Global Entrepreneurship and Disruptive Innovation (GEDI) initiative, enhancing the ability of universities to work together with industry to not only respond to disruption, but also address the gaps and barriers that exist in unlocking innovation and accelerating transformative ideas and products to the marketplace
- Fulfill the commitment that was made in support of the University of Waterloo's Science Research Complex
- Strategic investments that will strengthen the Toronto – Waterloo Innovation Corridor
- Continued transformative support for discovery research through meaningful, unfettered increases to both the federal research granting councils and the Canada Foundation for Innovation
- Provide more access to work-integrated learning opportunities, including co-op
- Continued support for international research and industry partnerships, learning opportunities, field programs, alumni connections and work placements

## **The University of Waterloo: An innovation partner to the Government of Canada**

The University of Waterloo, Canada's innovation leader, looks forward to partnering with the federal government to advance the innovation agenda through focused initiatives and strategic priorities that will attract the attention of global economic leaders, investment, talent, and industry- university partnerships to address the gaps that currently exist in Canada's innovation ecosystem.

The University of Waterloo is the optimal place in which the Government of Canada should invest in order to drive the nation's economic growth and prosperity, benefitting the lives of all Canadians and shaping the future of Canada's innovation economy.

### **Unlocking Canada's innovation potential**

Canada's research-intensive universities are well positioned to contribute to the Government of Canada's bold new vision: to build Canada as a global centre for innovation. With increasingly global competition in an era of profound economic and technological flux, universities play a critical role in driving Canada's innovation economy.

Canada has all the necessary ingredients to develop a strong culture of innovation: world-class discovery and scientific research, a highly-skilled and educated workforce, and top talent to harness new ideas and create globally leading enterprises.

But the evidence is clear that Canada has more work to do to compete globally.

As leading industry sectors continue to be disrupted at a rapid pace, and as markets and businesses are forced to adapt, the Government of Canada has an important opportunity to continue to improve the country's competitiveness through targeted support for big innovation ideas.

Canada's future economic success is dependent on our collective ability as a nation to make new discoveries, accelerate innovation, and equip our future workforce and innovation leaders with the knowledge, skills and experience they need to build new economies.

In response to the threat of disruption and with the goal of remaining globally competitive, industry must create lasting, profitable, and competitive innovation within newly defined operating models and ecosystems.

An emerging opportunity exists to create stronger connections between business and the innovation capacity of Canada's universities. Leveraging robust connections with industry, world-class research, and industry-disrupting startups, a new initiative developed and led by the University of Waterloo, the Global Entrepreneurship and Disruptive Innovation (GEDI) initiative, will enhance the ability of universities to work together with industry to not only respond to disruption, but to address both the gaps

and barriers that exist in unlocking innovation and accelerating transformative ideas and products to the marketplace.

Post-secondary institutions are often comprised of complex and decentralized organizational structures making it difficult to navigate the multiple activities and offerings available to industry. Likewise, universities are often better equipped to push relevant research activities and research outcomes to industry than respond to demand from industry to solve key challenges.

In working closely with government and industry, alongside partner institutions, the University of Waterloo will bridge the current gap that exists between the innovation happening across our campus and the demand from industry for solutions to current and future technological and business challenges.

### **Industry-connected research**

Canada's future depends on continued leadership in scientific research and discovery, and the ability to transform fundamental and applied research into marketable products and services producing economic and social change. From clean technologies, to quantum computing and cybersecurity, to machine learning and the Internet of Things, universities are leading Canada's next innovation revolution.

The University of Waterloo's robust industry-academic connections and multidisciplinary approach to research has contributed significantly to the region of Waterloo's entrepreneurial ecosystem. Based on the foundation of a "creator owns" intellectual property policy, Waterloo researchers have focused on the practical applicability of their research.

But solutions to the world's most complex challenges are too big for any researcher or institution to tackle alone, and Waterloo embraces research that ventures beyond conventional boundaries.

In working with Canada's universities through the GEDI initiative, strengthened collaborative supports will generate more innovation partnerships with industry. By offering a streamlined way to access research, expertise, talent and startups, universities will be better situated to respond to the demands of industry's challenges.

The University of Waterloo is urging targeted investments from the Government of Canada to enhance the capacity of research universities to develop and transfer knowledge, strengthen collaboration with the private sector, and accelerate the transfer of innovative products to market. These investments will position Canada as a global leader in entrepreneurship and disruptive innovation.

Existing entrepreneurship programming and innovation infrastructure will be leveraged and expanded through GEDI, resulting in increased opportunities for students and faculty to work together with industry to solve economic and social challenges and

accelerate the commercialization of new ideas to market.

Building on the Government of Canada's commitment to research excellence as part of the 2016 budget, and in support of the recommendations made by the U15 Group of Canadian Research Universities (U15) and Universities Canada, the University encourages continued transformative support for discovery research through meaningful, unfettered increases to both the federal research granting councils and the Canada Foundation for Innovation.

An important opportunity exists to enhance Canada's research and innovation-focused agendas by fulfilling the commitment to funding that was made in support of the University of Waterloo's Science Research Complex.

Announced in July 2015 with \$24.7 million in federal support through the New Building Canada Fund, the project was subsequently submitted through the Post-Secondary Institutions Strategic Investment Fund (SIF).

The project will expand Waterloo's capacity to produce world-class talent, continue with world-leading research in the sciences, and expand the unique and successful Velocity Science incubator for developing science-based startups.

There is no project more aligned with the criteria outlined under the Building Canada Fund innovation category or the Strategic Investment Fund than the Science Research Complex for innovation, entrepreneurship and discovery at the University of Waterloo.<sup>1</sup>

### **Fuelling the talent pipeline**

Industry's need for high-quality talent to increase productivity and drive innovation will only continue to rise with the growth and evolution of new economies.

The University of Waterloo has been the leader for almost sixty years in incorporating work-integrated learning as a key element of developing the broad skills needed for Canada's future workforce.

Waterloo's learning environment is experiential, research-intensive, and real-world relevant. Students gain meaningful employment and leadership experience through the world's largest co-operative education program and increasingly start successful ventures supported by university and community programs and partners.

The evidence for the success of this model is clearly a key contributor to economies both locally and globally, with Waterloo students earning a combined income of over \$250 million in 2014-2015 working with over 6,300 employers worldwide.

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<sup>1</sup> As of August 5<sup>th</sup>, 2016 no announcement has been made regarding the University of Waterloo's SIF proposals.

The GEDI initiative will bring together several key ingredients to create a competitive advantage in the global marketplace, including top talent and access to industry-disrupting startups coming out of the University of Waterloo.

The University of Waterloo supports recommendations made by the U15 and Universities Canada for the federal government to support the mechanisms needed to mobilize Canada's next-generation talent pool and build the broad-based skills of future researchers, innovators and entrepreneurs. This includes providing more access to work-integrated learning opportunities, including co-op.

### **Growing world class startups**

Many of the top innovation ecosystems in the world have one thing in common: a world-class research university at their core. The University of Waterloo plays a critical role in the innovation ecosystem with companies locating in the region to access the critical mass of innovation, technology and highly skilled talent coming out of the University of Waterloo.

Waterloo region is one of the world's top innovation ecosystems and a hotbed for industry-disrupting startups. With approximately 1,100 startups amid a population of 500,000 – this is the second highest startup density in the world next only to Silicon Valley. The region's entrepreneurial ecosystem boasts a well above average startup success record of 66 per cent.

Waterloo region has all the key ingredients needed to drive the entire innovation process, including a research-intensive academic institution producing world-changing research and training top talent; incubator and accelerator centres facilitating acceleration and scale-up; and entrepreneurship programs and initiatives to equip Canada's next-generation leaders with the skills to create and lead companies that will harness disruption and drive new economies.

Hundreds of companies and thousands of student success stories trace their roots to Waterloo's robust entrepreneurial ecosystem – fuelled by a unique creator-owns intellectual property policy and an experience-rich learning environment.

To facilitate growth and fuel innovation, continued support from the federal government is needed from the early stages of inspiration and discovery, to the incubation and acceleration of commercial and social ventures.

Universities – partnered with industry and regional innovation centres – can help Canada take a leadership position on the global stage and make lasting, positive social and economic impact across the country.

Significant targeted investments in world-leading innovation clusters by the federal government will ensure Canada remains competitive in the global economy by attracting

the brightest ideas and best talent, backed by the capital and financing needed to fuel continued growth and innovation.

Strategic investments in the Waterloo region innovation ecosystem, including the GEDI initiative, will anchor and strengthen the Toronto – Waterloo Innovation Corridor, which has enormous potential to compete with the world's greatest innovation ecosystems. The corridor is uniquely positioned to take the lead on discovering, nurturing and scaling disruptive innovation for Canada's economic gain.

Building on strong partnerships between government, industry and academia, the GEDI initiative will make university structures and programming more readily available to industry, while in turn attracting further business investment and spurring direct economic activity to enhance research commercialization and scale-up for innovative companies.

### **Attracting the world's best talent**

In an effort to develop Canada as a global magnet for attracting and retaining top talent, including students, researchers and entrepreneurs, the Government of Canada should provide the support necessary to continue current work to reform and advance the nation's immigration policies and practices.

In addition to educating Canada's domestic talent, internationalization and global prominence is a key strategic priority for the University of Waterloo. Support for international research and industry partnerships, learning opportunities, field programs, alumni connections and work placements will help Waterloo graduates lead in the pursuit of knowledge and discovery.

### **Conclusion**

The University of Waterloo is committed to working with the federal government, alongside partner universities and industry, to address the gaps that currently exist in Canada's innovation ecosystem and help build the culture of innovation needed to thrive in the global economy.

We welcome the opportunity to discuss in greater detail how the University of Waterloo, and specifically the GEDI initiative, will support the Government of Canada in advancing the innovation agenda and driving economic growth and prosperity.