

CLOSING ONTARIO'S COMMERCIALIZATION GAP FOR THE BENEFIT OF ONTARIO



Ontario's research and innovation sector has a leading role to play in the province's recovery and future prosperity as communities begin to rebuild after COVID-19.

Over the last year, we have seen how university research and innovation helped mobilize the province's industrial sectors by providing made-in-Ontario solutions. In particular, with the support from the province's Ontario Together fund, researchers have been partnering with industry to improve PPE security and availability in order to support frontline workers, help develop treatments, testing methods and modeling outcomes, and support businesses as they adapt and build online stores.

The sections below outline the role of Ontario's universities in strengthening research, innovation and commercialization in the province now and into Ontario's recovery, as well as put forward recommendations on how we can accelerate and retain Ontario-grown intellectual property (IP) for the benefit of Ontarians.



Attracting Investment through a Strong Innovation Ecosystem

World-class research and development (R&D) capabilities, low business costs, access to leading industry talent and secure market access have made Ontario a place where ideas have the potential to grow, thrive and meet local and global demand.

But more can be done to further strengthen Ontario's research capacity and fully unleash the potential for commercialization. This requires investment to build a robust innovation ecosystem vital for a dynamic economy – one that drives research from discovery to invention; that will lead to an environment where innovators are empowered to take risks right here in Ontario and are encouraged to create jobs in communities throughout the province.

Ontario's universities are just one player in this innovation ecosystem. Our institutions are committed to continuing to work with government and industry to help enable key players to realize their potential as drivers of innovation, keeping Ontario's best and brightest talent at home, while continuing to attract jobs and investment.

Businesses, particularly small and medium-sized enterprises (SMEs), can be further incentivized to invest in university research. SMEs make up **99.7%** of Ontario businesses, and can help further drive commercialization in Ontario.

Benefitting Ontario's Communities

Beyond the pandemic, the social and economic impacts of university research on Ontarians have been numerous, including leading discoveries in radiation treatment, flood resilience and artificial intelligence.

It is critical that this important work can continue. The benefits of commercializing university research extend beyond royalties and licensing income.

In fact, the benefits of maximizing these opportunities have ripple effects throughout Ontario's regions – including leading to an improved quality of life for Ontarians, reduced government costs, in areas such as health care, and wealth creation through job generation, start-ups and spin-offs, investment from multinational enterprises (MNEs) and increased tax revenue.

Ontario is already attracting some of the world's best talent and drawing global industry investment due to its strong innovation ecosystems. These thriving regional economies encourage linkages and knowledge sharing between universities, businesses and the public sector, and are attracting investment and attention from both inside and outside the province.

Flexibility is needed to ensure these regions are leveraging their strengths and opportunities, while responding to the current conditions, such as market value and emerging technologies that will shift over time.

The Role of Universities in the Ecosystem

University Technology Transfer Offices (TTOs) are critical contributors. They build partnerships with industry and government to move research and technology generated from students and researchers out of the university and into the private sector for further investment and commercialization.

In order to support the private sector, TTOs work to secure funding for first-generation prototypes, de-risking the intellectual property (IP) for industry.

They also support students and researchers on a number of activities, including facilitating investor/company meetings, proposal support, patent/agent interactions and relationship management upon deal closure.

In addition to technology transfer, Ontario's universities are also helping develop the workforce of the future. Our institutions are working to ensure the province has a diverse and resilient workforce that reflects the diverse population of Ontario – in skills, culture and knowledge.

More than **280,000** students used incubators and accelerators between 2014 and 2016. These students created or supported more than **2,200** start-ups and more than **4,700** jobs have been directly created by these start-ups in Ontario.

Through curriculum and work-integrated learning opportunities, universities are finding ways to instill an entrepreneurial spirit in our students, equipping them with the adaptable skills they need to thrive as innovative employees and job creators.

By working together, universities, government and industry can ensure our province remains a leader in innovation and commercialization – developing made-in-Ontario products and services that benefit people and communities across Ontario.

Below are our recommendations for government to help strengthen Ontario's innovation ecosystem, support our thriving start-up communities and leverage MNEs for their capital, skilled management expertise and global distribution channels.

Recommendations to Accelerate and Retain Ontario-grown Intellectual Property (IP) for the Benefit of Ontarians

To further drive innovation throughout Ontario, Ontario's universities will:

1. **Commit to an Intellectual Property Declaration where institutions develop IP and commercialization plans and milestones, based on their own strengths and local conditions, to incentivize and further strengthen commercialization and the innovation ecosystem in Ontario.**

The IP declaration for universities will provide transparency in relation to government-funded research and will include the common mandate to commercialize IP in a manner that will protect Ontario data privacy and security, strengthen the economy through job creation, product development, increasing intangible value of companies, or improving productivity and efficiencies in Ontario/Canadian-based companies.

2. **Designate a percentage of royalties and licensing fees generated by the commercialization of IP to be reinvested into research and commercialization activities at their institution.**

Ontario's universities play a critical role in generating additional revenues to support research and commercialization activities at institutions, further strengthening these supports and maximizing opportunities for successful Ontario innovations. As part of the IP Declaration that institutions develop, a plan for such reinvestment would be included.

To ensure a robust innovation ecosystem in Ontario, government can:

- 3. Establish an Ontario Intellectual Property Resource Centre that provides dedicated services and resources to bolster knowledge translation, as well as supports community services and technology transfer collaborations.**

Modelled after the success of the Intellectual Property Office of Singapore (IPOS), the Ontario IP Resource Centre would complement the work of all TTOs in Ontario, providing legal and market research expertise; matching mentors and management teams to start-up companies; providing database access; and sharing best practices across the province. These supports would be particularly important for smaller institutions in the province.

In addition, the mandate of the centre's dedicated team of IP market and licensing professionals could help ensure made-in-Ontario ideas are commercialized with maximum benefit to Ontario, while allowing individual TTOs to pursue particular strategies in certain technologies (e.g., agriculture, mining, green energy, medical, advance manufacturing, 5G and AI).

As acknowledged in the Expert Panel's final report, Intellectual Property in Ontario's Innovation Ecosystem, each institution has its own strengths, industry partners and unique regional environment. The centre could provide support across the sector, identifying and leveraging unique research and commercialization strengths and link more established TTOs to less-established TTOs with the goal of meeting the common provincial mandate.

Ontario universities would support this provincial initiative by convening a TTO table to share best practices and resources with the intent of providing them to the centre, which would then become the centralized resource hub for all university TTOs in Ontario.

- 4. Increase industrial receptor capacity and "innovation pull" in Ontario and from Ontario-based companies, including SMEs, by establishing robust programs to help ensure Ontario companies are positioned to adopt early-stage, made-in-Ontario ideas and IP developed at universities.**

Other jurisdictions have successful models of such programs that operate at sufficient scale and could readily be replicated in Ontario to the benefit of SMEs and scaling companies, such as the Small Business Innovation Research and Small Business Technology Transfer programs deployed in the U.S. Such a program could leverage existing federal programs, such as Innovative Solutions Canada and Industrial Research Assistance Program, to provide maximum benefit to the economy.

In addition to directly helping Ontario businesses adopt new ideas and IP, the government can mobilize and co-invest in local venture and investment communities to help new start-ups and companies secure the capital from within Ontario – without having to look to other jurisdictions. Similar to the Israeli government start-up seed investment model, this initiative could be facilitated via the Ontario Capital Growth Corporation, as well as the financial institutions based in the province, such as various pension funds. Government support for promising ventures can help demonstrate the prioritization of renewed investment attraction and signal confidence in Ontario entrepreneurs.

- 5. Consult with Ontario industry, including start-ups and scale-ups or high potential/fast-growing SMEs, to explore how to build an environment in Ontario that will accelerate their growth and help them thrive.**

In the spirit of Ontario being open for business to small, medium and large companies, the government can consult with companies of all sizes on the guidance and support needed to grow their operations in Ontario; secure and leverage domestic and foreign capital; and bring new products and services to the domestic and global marketplace.

This may include guidance in negotiating access to IP created at Ontario's universities and ensuring these partnerships accrue local benefits, such as the creation of jobs, wealth and access to export markets, while also supporting these companies to be able to retain IP ownership and value in Ontario and protecting the interests of all Ontarians.

6. Continue investments in talent development through Mitacs and other matching internships programs, which provide funding for research expenses and talent development.

Talent is key to Ontario's economic growth and prosperity as jurisdictions and companies around the world increasingly compete for workforce talent. Talent remains Ontario's greatest renewable resource and the quality of Ontario university talent continues to make the province attractive to global investment. Supporting future talent development by equipping students with opportunities that build the adaptable skills they need when they enter the private sector is critical to the province's innovation and economic success.

