

University of Ottawa Commercialization Framework

In 2019, the University of Ottawa (uOttawa) took a bold stance towards innovation and commercialization, laying the foundation for a transformative culture aiming at meeting important and often unmet societal needs. In this context, the institution began implementing its ambitious [research and innovation vision](#), underpinned by excellence, relevance and impact. Attracting highly talented individuals with extensive industry experience to the [Office of the Vice-President Research and Innovation](#) (OVPRI), and more specifically, to its Innovation Support Services team, has been a key success factor in our transformation.

The University of Ottawa has a large and growing research and innovation portfolio catalyzed by its faculties and affiliated hospitals and research institutes. Guided by [Transformation 2030](#), our institutional strategic framework, uOttawa is developing its research and innovation activities, which align with four pillars aimed at tackling some of humanity's most pressing challenges: being more agile, more connected, more impactful and more sustainable. Our commercialization framework seeks to identify, support and enhance research and innovation efforts that have the potential for new partnerships, intellectual properties (IP) and venture creation. These commercialization activities are collaboratively supported by different groups within the University, to bring the IP to external stakeholders, and particularly to the private sector. In fact, this commitment is clearly stated in the introductory section of the [University Invention and Technology Transfer policy](#) (Policy 29):

The University of Ottawa ("University") is committed to the support of research and scholarship that generates new knowledge. It is important that the results of research at the University be made available to society in a form which facilitates the maximum utilization of these results. The University recognizes that, in some cases, technology transfer is best achieved through patenting or through commercialization activities in a manner consistent with both the public interest and the role and image of the University.

There are many facets associated with this complex runway towards the commercialization of research results and new knowledge. The purpose of this framework is to offer an overview of the University's commitment to this important area for our community, for Ontarians, for Canadians and on a global scale.

In 2021, the Office of the Vice-President Research and Innovation (OVPRI) was restructured to provide a greater profile toward innovation. This included the creation of a new portfolio under the Associate Vice-President, Innovation, Partnerships and Entrepreneurship, a new role that clearly signals to our community the University's commitment to innovation and commercialization activities. While emphasis is placed on innovation with the private sector under this framework, there is broad recognition that innovation activities occur across all disciplines and all faculties and affiliated research institutes, and the new portfolio views and supports innovation through a lens of inclusion and diversity.

A. Our commitment to the management and protection of intellectual property (IP)

The main goal of the University under the leadership of the OVPRI is to optimize commercialization of outstanding research results arising from our research portfolios. Effective commercialization of the University's IP is implemented in several stages. As important as the stages themselves are, the associated roles and responsibilities of the stakeholders involved in this process serve to optimize successful outcomes.

Stage 1: Disclosure and capture of research results

A healthy stream of new research disclosures provides opportunities for feedback to researchers and ensures the effective capture and assessment of these new results. Without disclosure, the commercialization process cannot be initiated. This is emphasized within our disclosure-related policy, Inventions and Technology Transfer, as well as within our collective agreement for uOttawa professors. There are two receptors for disclosures at the University, one being the Innovation Support Services office (ISS), the other being the office of the Vice-Dean research of an inventor's faculty.

In some faculties, new leadership positions for innovation have been created (e.g., Vice Dean, Innovation and Strategic Partnerships at the Faculty of Science and Interim Director of Innovation and Partnerships at the Faculty of Medicine), in order to spearhead a stronger culture of innovation. Personnel from each of these offices are in regular contact with our principal investigators and remind them of the importance of disclosing the status of their research projects and associated results. The key element is the commitment of our research community (e.g., principal investigators and students) towards the commercialization of outstanding research results and the important role (involvement and time) played by all stakeholders for successful commercialization outcomes.

Researchers (principal investigators and students): It is the responsibility of the principal investigator to initiate the disclosure of a promising research result to the ISS office. Although a principal investigator may disclose their research results annually in their report to their faculty, the more typical process facilitated is for a principal investigator to bring their results forward at a time they feel their results are ready for assessment and possible commercialization actions. Principal investigators are fully aware of the diligence that needs to be done to appropriately recognize and acknowledge the inventive contribution of each member of their teams in the research results appropriately.

ISS: The two main responsibilities for ISS in this stage of the process are (a) to activate disclosures by continually raising awareness of this key stage of research, and (b) to capture these disclosures through their acceptance, clarification and recording in a central repository.

Faculty research and innovation offices: Personnel within the offices of the vice-deans of research or of innovation in the faculties are also facilitators of the disclosure process, given their close connection with their researchers. Disclosures are then transferred to ISS for capture. This office would also be the group receiving the annual research reports from principal investigators that may highlight any possible disclosures.

University innovation ecosystem: Over the past few years, many new entrepreneurial programs and initiatives have arisen across the University ecosystem. The [Entrepreneurship Hub](#) (eHub), which runs many programs, including [Startup Garage](#) and pitch competitions, links new startups to ISS in order to work with new disclosures and the needs identified relating to IP for the new company's foundation. The [Ottawa Health Innovation Hub](#), a multi-organizational set of programs, is the source of any number of disclosures and associated needs to prepare companies for new venture creation. By creating links through these programs, such disclosure leads are highlighted to ISS for support and subsequent actions where applicable.

Stage 2: Disclosure review and assessment

Disclosures come forward at many stages and require diligent review and subsequent assessment. Our typical review process includes the contributors to the results, their affiliations, whether a contract was in place to perform the work, and the role of sponsors and their requirements and expectations. Any number of pathways may become apparent for consideration of possible next steps: further refinement, collaboration with the private sector to develop the application of this new knowledge, outright publishing or defining the best strategy to protect the IP arising from this new knowledge, including possibly filing patent applications.

ISS: The main responsibility for this function lies clearly with ISS. The experienced personnel within ISS are central to performing this review and assessment, relying upon connections to others who may provide valuable insight and, of course, working closely with the research team that developed the IP. In some cases, at the discretion of ISS, an IP expert (a patent agent, for example) may be brought into the assessment early on to uncover the relative value and possible approaches to IP protection.

University library: As part of the ecosystem, the library and, potentially, personnel from the library may be brought in for a complete prior art search on the new knowledge. The University has committed to maintaining powerful resources for publications and patent searches, as well as market search. This is a real support to ISS diligence on the disclosure review and assessment.

Researchers (principal investigators and students): The role of the research team in this stage is to be available to discuss their disclosure with ISS and, possibly with a third-party IP expert, to clarify their results and to explore possible pathways towards commercialization with ISS. In fact, this stage establishes the researcher-ISS partnership in guiding this new invention forward.

Stage 3: Protection of IP

For those disclosures that have clearly identified commercialization opportunities, the next step is to explore the various types of IP protection available and define a strategy to best prepare the IP for exploitation. This stage is not always straightforward, in that multiple inventors from multiple organizations may be involved. Furthermore, outside parties may be required to enter discussions to provide insights into markets and jurisdictions. While the downstream exploitation of the IP may require protection in any number of key jurisdictions, as an Ontario-based

university, we always consider an application through CIPO to ensure the benefits to be derived from new discoveries are available to Ontarians and Canadians.

Researchers (principal investigators and students): Researchers become involved in the detailed description of their invention and assist in the preparation of any patent applications being filed. In addition, researchers must remain available to assist with any actions, such as responses from the patent offices and examiners.

ISS: The role of ISS is to facilitate the link between the research team (inventors) and the IP expert, to enable the preparation of strong and broadly defined protection (e.g., a patent application). ISS is also responsible for managing the uOttawa patent portfolio, which includes all issued patents and their associated licences, as well as all patent applications under active examination. The financial costs to support IP protection-related actions, such as patent prosecution costs and any associated maintenance fees, are covered by ISS.

IP expert (patent agent): A critical external member of the team behind the protection of University IP, the legal firm, is responsible for working with the researchers and ISS through its IP expert (a patent agent) to prepare the applications and both file and prosecute them to issuance. The agent is also called upon for advice in the early stages of setting the protection strategy.

Industrial partner: In the event that there is an industrial partner involved in the development of the research, or the subsequent exploitation (via a licence), the industrial partner would be expected to participate in the discussions surrounding protection strategy and, particularly, the required jurisdictions for market coverage. The industrial partner would also play an active role in subsequent patent application prosecution actions as well.

B. Exploitation strategy and commercialization

The University is proud of its commercialization record of accomplishment and will continue to intensify efforts to maximize the full potential of these research discoveries through an approach that optimizes outcomes. Protection of new discoveries is a good foundation; however, it is through partnerships with the private sector, creation of new ventures (spinoffs) and reinforcement of new ventures and capabilities for our start-ups that these discoveries become new products and services available to society. Many Faculties active in this area of pre-commercialization have put in place mechanisms to bring their promising technologies to the commercialization stage. Some have set aside funds to help bring the development of new discoveries to a more advanced stage to attract external partners. Others have initiated a more agile process for providing services and facilities to catalyze new company formation.

Stage 4: Commercialization pathways

Each new discovery requires its own review and strategy for successful commercialization. While many strategies may be similar, the chosen strategy identified for a given discovery will depend on many elements: how the IP was protected, the various contributors to the development of the IP (particularly if a private sector firm was involved in a collaborative partnership) and the potential markets that may be served by the new products and services, to name a few. The overarching goal behind these strategies will be to ensure the maximum benefits to society — social, economic or environmental — with a view to Ontario being a fertile ecosystem for IP valorization.

ISS is the steward of this critical stage of exploitation, but also works collaboratively with the main inventors. Others that may provide valuable insight to this strategic discussion are the faculty research offices and external IP experts. In the case of a new venture, when considering the most appropriate strategy going forward, many others may be brought into the conversation, including the entrepreneur(s), the potential investor(s), and programs and facilities such as the eHub and the Innovation Hub.

For each of these new discoveries, the University of Ottawa assesses the most appropriate commercialization pathways and develops, in consultation with the relevant stakeholders, a plan that maximizes the potential for subsequent commercial success. There are two major strategies employed: 1) the licensing of new discoveries to external partners (mainly private industry), one of the most common pathways towards the commercialization of University IP assets (patents, copyrights, etc.) and 2) the creation of new ventures (University spinoffs) to which the invention is also licensed, also a preferred mechanism to maximize commercialization outcomes.

Many aspects must be considered carefully, and the licensees are expected to translate this discovery into new products and services. Each case (single package of IP) may require its own tailored approach; thus, ISS takes on the lead role in this process based on its collective experience in this area. Whatever the licensing shape and form may be, ISS works closely with the team behind the discovery or invention (principal investigator and research team). This is essential, as it is important to understand the next stages of development and application faced by the licensee. The licensee must have the capacity to continue this development and the resources to fuel its commercialization.

The University also takes into consideration how these “seeds” of innovation could assist both new ventures created as well as existing industrial partners in Ottawa, in Ontario and in Canada. In some cases, there may be no potential receptors within Canada and global partners may need to be engaged. In all scenarios, it is paramount to explore and ensure that there are net benefits to our communities in Ontario and Canada.

ISS is responsible for 1) ensuring that the patent rights are protected throughout the entire prosecution (timely responses to office actions to patent offices and fees paid) until the issuance and 2) monitoring any licensed technologies to ensure the ongoing commitments from licensees are being met and that commercialization activities are progressing, and to actively participating in the shareholders’ discussion in the case of a new venture creation.

[Stage 5: Patent portfolio revision/update](#)

While the University aims to develop a robust and diverse IP portfolio to exploit commercially through industrial partners and startups, it must also take a pragmatic approach in managing its IP portfolio. In some cases, this may require licensing the same patent (or patent application) in different fields of application to ensure the maximum possible benefit. Our record of accomplishment is favourable when one considers the proportion of patents and patent applications that we have licensed versus those that are still active and available. It takes time to develop a patent application and identify the best partner to successfully commercialize the research discovery. However, it is important to conduct periodic reviews of our portfolio to determine which patents, if any, we should divest from. Maintaining an IP portfolio requires ongoing investment, and these decisions must be made to allocate funds for those with better traction. Our approach to divestiture can take several forms, including the re-assignment of the

IP to the original inventor(s). In this case, ISS maintains close contact with those inventors who decide to pursue the commercialization of the IP.

C. Expanding our capacity to nurture the creation of IP: Increasing our successfully commercialized IP portfolio

Early awareness and exposure to IP creation

Many of our principal investigators support their research programs through foundational grants such as those from CIHR, NSERC and SSHRC. As they begin or pursue their research endeavours, they may not be fully aware of the potential or possibilities for invention and innovation, including IP protection and commercialization options. There are numerous resources and groups at the University to facilitate introduction to these topics, and to guide and coach early career researchers as they become more acquainted with this area.

Communicating the importance of IP and catalyzing commercialization pathways

Within the University, groups such as ISS and faculty research offices are leading the way to assist researchers in recognizing and developing potential commercialization pathways. In addition, ISS makes presentations to groups and departments in order to facilitate broader discussions among the research community. More specifically related to graduate students, presentations are typically made to NSERC Collaborative Research and Training Experience (CREATE) program participants to ensure they are aware of the means available to support the development of their research.

Outside Faculty structures, there are a number of small teams that oversee “hubs” under the Innovation, Partnerships and Entrepreneurship portfolio, including the Entrepreneurship Hub (eHub), the Health Innovation Hub and the uOttawa-Kanata North satellite campus, which provide group presentations and individual guidance to external partners and researchers. Programs such as these have impactful mentoring programs relying upon external mentors to assist young entrepreneurs. For example, our eHub works in close partnership with the faculty of Medicine to offer a series of events providing such insights known as *Bench, Biz & Beyond*.

One of uOttawa’s key innovation and commercialization objectives is to strengthen our local-regional-provincial innovation ecosystem. This includes enhancing our ties with a wide range of stakeholders, including commercialization organizations, governmental funding agencies, legal firms engaged in supporting startups, and domestic and foreign investment firms. This is intended not only to lay the foundation for a fertile ecosystem in which a greater number of spinoffs can see the light of day, but also by better supporting them in a fast-evolving world.

This major support needs internal initiatives that allow promising applied research to be de-risked in order to attract industry. A good example of such initiatives is the Faculty of Medicine’s new [Path to Patenting & Pre-commercialization \(3P\) grant program](#), which is designed to help researchers leap from concept to commercialization.

Equally important are uOttawa's efforts at establishing partnerships with external stakeholders. A good example of this is the recently established [partnership between adMare BioInnovation and uOttawa](#) to turn uOttawa research into strong new Canadian life science companies.

D. An inclusive approach to commercialization

While uOttawa is keen to commercialize research results and technologies in various disciplines, it is also firmly committed to supporting social ventures and not-for-profits aiming at providing tangible societal impacts.

Effective commercialization is a team effort that requires many stakeholders and partners. The University, through its many stakeholders such as ISS, the faculties, the eHub, the Health Innovation Hub and OVPRI, has dedicated significant resources in order to meet this important commitment to commercialization.

Several partnerships have been established to strengthen our local innovation ecosystem. These include a number with external investors and mentoring firms, regional accelerators, an ever-growing group of private companies and, of course, our affiliated hospitals. We are particularly proud of our established campus in the [Kanata North technology research park](#), Canada's largest, housing hundreds of world-class companies, with which we continue to build partnerships. ISS provides much of the framework to accomplish this outreach; however, it is equally important to encourage and assist other stakeholders within the University community to do the same. Faculties have established many such relationships, within Ottawa, Ontario, Canada and globally. The OVPRI continues to reach out to new partners as we seek new opportunities. Two notable recent examples include historic collaborations — a [partnership with IBM in cybersecurity](#) and a [partnership with Telus in 5G](#).

It is through building relationships and nurturing innovation and commercialization partnerships that the University of Ottawa will help create a strong, prosperous and resilient community, so we can collectively tackle some of the most pressing issues and unmet needs for society, now and into the future.