

Canada's Intellectual Property (IP) Strategy – submission from Polytechnics Canada

[Polytechnics Canada](#) is a national association of Canada's leading polytechnics, colleges and institutes of technology, representing a learner population of approximately 336,500 students, including over 46,000 apprentices. All of our members are publicly-funded, offer 4-year bachelor's degrees, are leaders in skilled trades training, and have deep relationships with industry through the applied research and development (R&D) and innovation services they offer.

[Hereafter, when using the word “polytechnics” we refer to degree-granting colleges and institutes of technology across Canada that constitute an important sub-set of the overall college sector in Canada.]

Polytechnic applied research is driven by solving industry-identified problems and operates on the principle of industry-friendly IP policies. Polytechnics serve local, regional, and national companies seeking to accelerate their commercialization activity, particularly small and medium-sized enterprises (SMEs) that do not have in-house R&D and commercialization capabilities. By using faculty expertise, student creativity and entrepreneurship, and by our commitment to advanced technological applied education, Canada's polytechnics have enabled thousands of firms to bring innovations to market.

Since 2007/08, Polytechnics Canada's member colleges and institutes have:

- Collaborated with **10,802** Canadian companies on innovation projects, a majority of which are small and mid-sized enterprises (SMEs).
- Conducted **9,900** applied research projects solving industry-identified problems.
- Involved **68,438** students in hands-on applied research projects.
- Developed **3,986** prototypes for their industry research partners.

Developing Canada's IP Strategy

The Government of Canada announced the Innovation and Skills Plan in Budget 2017. A key element of this plan was the development of a new comprehensive IP strategy to help businesses prosper and grow.

To support this process, the ISED has requested input as part of a national consultation. The stated premise of the consultation is to help define an IP regime that will “support commercializing Canadian innovation and creativity, foster an ecosystem that supports business to grow at scale, and ensure that firms have the awareness and incentive to strategically use IP to grow and compete.” This submission is provided in response to that request for consultation. In particular, Polytechnics Canada wishes to focus on section 1 – *Improving Education, Awareness and Outreach to Improve IP savviness*.

Two key areas related to the national IP strategy commitment that are under-scrutinized in Canada are:

- the use of patent awards and protection as a measure of IP production; and
- the diverse nature of post-secondary education support to the IP production and commercialization process.

First, Canadian companies are arguably already creating vast amounts of IP, which is not necessarily captured by current data collection systems. IP production and protection needs vary across industrial sectors, but simply counting patents does not reflect that fact. Yet the assumption in Canadian policy circles seems to be that more Canadian patents is the solution; this assumption must be challenged before establishing any national IP strategy. A single undifferentiated national IP strategy that does not reflect the nuances of individual sectors and the relative importance and value of IP protection in each case is unlikely to succeed.

Second, there is a broad perception that the post-secondary environment does not effectively exploit the IP being created and does not efficiently engage in industry-driven collaborations. However, this perception is not accurate when looking at the differences in impact of the IP ownership strategies employed across the post-secondary landscape, nor are these differences truly understood by the Government of Canada. For example, as outlined below, polytechnics have a very different approach to IP ownership and exploitation, the impact of which is to reduce the barrier to industrial research collaboration and subsequent commercialization. The encouragement and encapsulation of diverse IP arrangements is critical for any national policy strategy to stimulate increases in commercial exploitation of IP from the post-secondary sector.

To frame our submission to the consultation, two core questions need to be addressed:

- Is the scope and rate of IP production accurately or appropriately measured?
- Are there ways to further unlock and harness latent IP through more frictionless post-secondary collaboration systems enabled with appropriate motivation?

The following are specific answers to question 1(b) - *In addition to what is currently being offered, what types of information, programs or services would be useful to firms to increase their awareness of IP? What could be the delivery mechanisms?*

Correctly Measure IP Production

Government measures of IP production success frequently point to the number of Canadian patents pending and granted. The prevailing view is that not enough Canadian patents are being granted to Canadian companies. This measure does not reflect the true nature of IP generated by Canadian companies for two primary reasons.

First, many Canadian companies that apply for patent protections do so in jurisdictions outside of Canada where the perceived value of the patent and its associated protection are higher. The US and EU are primary jurisdictions of choice. As a result, the critical

question for the development of a national IP strategy is not how many Canadian patents are issued; instead, the issue and appropriate measure **is how many Canadian companies are granted patents internationally?** (or, frankly, in any jurisdiction including Canada).

The second reason that patents do not reflect the true nature of IP generated in Canada is that the nature of IP differs significantly across sectors. Consequently, the need for and value of patent protection varies significantly too. These differences are critically important. Any effort to use patent grants (Canadian or otherwise) as a measure of Canadian IP production success must consider a more granular and nuanced analysis of the IP objectives and outcomes across industry sectors.

Building Frictionless IP Systems

The post-secondary sector is an important contributor to the generation of IP in Canada. This contribution occurs through two primary mechanisms: academic research and licensing; and, collaborative R&D with industrial partners. The former occurs primarily within university institutions, while the latter occurs both in universities and polytechnics. The effectiveness of IP commercialization varies tremendously across the two mechanisms, as well as across institutions.

The general view is that Canadian universities and individual researchers are not particularly successful commercializing the IP that they generate in their research. This ineffectiveness is attributed to institutional systems that do not streamline the IP licensing and commercialization process for industry. In addition, while individual researchers are measured by patents and publications, they are not incented to identify commercialization opportunities or to license the IP generated through their research. Any national IP strategy intended to stimulate commercialization must consider the differences between individual and organizational incentives and motivations.

A parallel issue is that, when it comes to industry research collaborations, there are significant differences in the IP policy frameworks of universities, compared to those used by polytechnics. In most university collaborations, IP rests at least partly with the institution and/or the researcher. This leads to additional licensing steps, which, in the best case, slows the transition of IP for commercialization and, in the worst case, turns away potential industrial collaboration partners who require smooth access and clear outcomes.

In contrast, polytechnics do not assume any IP ownership rights in their research collaborations with industry. Patenting and publications are not our key metrics; instead, successful R&D is measured by the number of students engaged in R&D projects, the number of projects and partners per year, and the economic benefits they can create for the economy.

While the polytechnic will often retain usage rights solely for academic purposes, all IP created through industrial collaborations rests with the industry partner. The intent of

polytechnics' IP policies is to provide incentives that foster creative activity, and to help assure that any IP produced will be exploited for the benefit of the creators, the polytechnic applied research enterprise, and the public. These consistent policies across polytechnics are designed to streamline their industrial collaborations and ensure that IP is not a barrier to collaboration. The result is unencumbered IP that removes barriers to future venture capital investment, minimal institutional IP protection overhead costs, and IP that is directly exploited and commercialized by industry (specifically the partnering firm or enterprise).

There are several advantages to polytechnic IP policy and practice commonalities, such as:

- Industry exploits IP unencumbered by the partnership with the polytechnic;
- Companies working with multiple polytechnics find they have similar IP practices;
- Firms find clarity with respect to IP ownership;
- Time to negotiate project agreements is minimized; and
- IP is not an impediment to industry-academic research collaborations.

The Government of Canada must do a better job of ensuring industry awareness and utilization of the diverse IP arrangements across the post-secondary education sector. A national IP strategy, including all aspects of policy, guidance, templates, and agreements, must capture the differences across the post-secondary sector and the unique approaches of polytechnic applied research and commercialization activity. In so doing, the strategy must drive a frictionless system that maximizes creation, transition, and commercialization of IP within academic-industry collaborations.

Polytechnics Canada can, upon request, provide examples of IP and Non-Disclosure Agreements and contracts that our members regularly use as they enter into industry collaborations for research and innovation.

The issues identified above are critical foundations for any new or refined comprehensive IP Strategy. Initiatives supporting IP education, industrial supports, and marketplaces are useful. However, without first considering these two high-level issues – the measurement of IP production and the diverse IP arrangements across post-secondary institutions - any national IP strategy will be sub-optimal and unlikely to create the desired conditions for Canadian innovation, creativity, and business growth.

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