

**SOVAR**

Turning ideas into results

**UNIVALOR**

The Innovation Experts

**ALIGO**

Innovation

The House of Commons Finance Committee  
Pre-budget Consultations for the 2017 Federal Budget  
Led by the Honourable Wayne Easter  
Chair of the Standing Committee on Finance

Proposed Measures to Support Canada's Economic Growth and  
Competitiveness Through Greater Commercialization of  
University and Hospital Research

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## **Proposal Summary**

Studies conducted by various organizations, including the Conference Board of Canada, show that Canada has been falling behind for several years now when it comes to innovation and competitiveness in advanced technology fields such as biotechnology, photonics, engineering, communications and digital technology, to name only a few.

A 2012 OECD study on science, technology and industry concluded the following: “Because emerging countries increasingly challenge developed countries on knowledge-intensive segments of markets, developed countries need to climb the value added ladder. This calls for innovation.”

Canada invests considerable sums in supporting cutting-edge research in universities and research hospitals that create a wealth of knowledge and discoveries. Unfortunately, this knowledge is underutilized, as there is no support for developing high-value-added products and services, which would help create and preserve jobs, boost economic growth and increase exports to international markets.

Canada Economic Development recently held consultation workshops in Quebec. During the discussion of the various topics, particularly those relating to increasing innovation, it became clear that federal and provincial measures need to be more closely linked. Moreover, adjustments are needed and should be tailored to current provincial and regional programs.

The issue of commercializing university and hospital research findings through a technological maturation process orchestrated and directed by experienced professional organizations has been raised many times in the past, but never adequately or sustainably addressed. On the other hand, provincial measures have been taken to increase the rate of university technology maturation and transfer to industry based on various distinctive models. Unfortunately, they have received little or no support from the federal government, whose standardized measures can rarely be combined with provincial ones to create synergies.

Therefore, we propose that the 2017 federal budget provide a funding envelope for a specific federal-provincial agreement to maximize the impact of existing provincial and regional initiatives that have proven effective but lack the resources to fully realize their potential. This type of agreement is already in place in some provinces, such as Ontario, where FedDev Ontario has implemented initiatives that are very similar to projects being undertaken by Quebec’s university commercialization organizations (**SVUs**).

For Quebec, this kind of federal-provincial agreement would be particularly well-suited to its SVUs, which cover almost all of the province’s university and hospital system. While the SVUs have produced significant achievements, with more resources they could create even more economic benefits for the Canadian economy, including by creating and supporting high-technology businesses and high-value jobs.

### **Demonstrated effectiveness and synergies**

A Canada-Quebec agreement on technological innovation based on Quebec's SVUs would better link federal and provincial measures to increase the productivity and efficiency of the transformation of research findings into commercial applications that benefit Canada's economy. The SVU model offers the benefit of having very well documented measurements of the SVUs' performance since the 2000s. Measuring the impact of providing more resources to improve their effectiveness would be easier as a result.

## The Proposal

### **An issue to resolve**

The journey from laboratory concept to pre-commercial product presents a number of obstacles. They include a realistic evaluation of the concept's potential applications, its competitive positioning, its distinctive intellectual property and numerous successive feasibility demonstration stages that bring the technology to a level of maturity that meets the criteria demanded by industry and investors. Funding these development stages remains a challenge. Yet this challenge was clearly identified in the 1999 report of the **Expert Panel on the Commercialization of University Research** established by the federal government's Advisory Council on Science and Technology. The panel's main recommendation was to create a specific funding envelope equal to 5% of public funding for university research that would be used to commercialize university research findings. Setting aside 5% of the roughly \$1.5 billion in research funding provided annually to Quebec's universities would create an envelope of \$75 million in annual funding strictly for technological and commercial maturation.

### **Overcoming the chronic lack of funding early in the process**

At the development stage where Quebec's SVUs intervene, only public funding permits moving past the stages where the technological risks remain very high. It is a myth that the private sector, angel investors, mixed public-private funds and venture capital funds will invest at this stage. Commercialization is still too far away, and the return on investment simply does not satisfy expectations.

### **Quebec's SVUs**

- **The SVU is an avant-garde and interdisciplinary model that promotes a breakdown of the barriers between technological sectors, something advocated by Quebec's chief scientist.**

The four "i"s are as follows:

- inter-sectoral
  - interdisciplinary
  - inter-level
  - international
- **SVUs hold a unique position in the innovation chain that is recognized by Quebec's Department of Economy, Science and Innovation (MESI).**

The MESI's 2012–2015 three-year evaluation report on SVUs notes that they overlap little with other departmentally funded organizations in Quebec's innovation ecosystem; instead, they

complement them. Universities and research centres are upstream of SVUs and act as providers of inventions and new technologies that require commercialization. Applied research centres, technology transfer centres and incubators are downstream of SVUs. They offer support for businesses and industry. Lastly, the three SVUs (SOVAR, Aligo and Univalor) cannot compete with each other, as they each have exclusive partners. SVUs therefore help accelerate the transition of a technology from the discovery stage to the commercially viable stage.

- **In addition, the SVU model keeps researchers close and enables each SVU to adapt to the characteristics of its university partners and their affiliated research centres.**

Each SVU has a corporate model tailored to the needs and aspirations of their university and hospital partners. This results in greater operating flexibility and a level of responsiveness that could not be achieved with a universal, one-size-fits-all model. Interactions with researchers and project monitoring are also easier and more effective in this model.

### **The maturation of university technology—A government investment that extends university research funding rather than a private investment that looks for a return**

Many studies have shown that government must be involved at the start of the innovation chain and gradually pass the baton to the private sector, which will never cover the upstream, high-risk technology part of the chain. By investing massively in public-private funds, government subordinated its freedom to manoeuvre to the decisions of investors looking for a return that upstream projects like those shepherded by SVUs cannot provide. Yet the following studies clearly laid out the possibilities by proposing that maturation funding be seen as an extension of and complement to university research funding, for example by adding 5% of the funding allocated to universities to the commercial maturation of research findings.

- 1999: Report of the Expert Panel on the Commercialization of University Research
- 2005: Beaudry report—Inquiry into the opinions, needs and expectations of the public research commercialization sector in Quebec
- 2012: *The Entrepreneurial State* (<http://marianamazucato.com/the-entrepreneurial-state>)

### **The accomplishments of SVUs and their economic impact**

Since being created in the early 2000s, Quebec's SVUs (SOVAR, Aligo and Univalor) have brilliantly played a key role in building bridges between research and the business world, despite limited resources. In their most recent impact evaluation period (2012–2015), they helped obtain 84 licences, create 24 businesses and generate over \$150 million in revenues from research and development contracts and grants obtained by partners and partner organizations thanks to commercialized technologies. Note that SVUs commercialize only publicly funded findings where industry partners are typically not initially involved in the research.

The evaluation reports prepared by Quebec's MESI clearly show how successful the SVU model has been. Using the evaluation criteria under the headings of relevance, efficiency and impacts, the performance of SVUs in many respects exceeded the MESI's expectations.

These reports also emphasize the lack of overlap with other innovation support organizations, the unique position SVUs hold in the university research commercialization chain, their efficiency and the amount of economic benefits they generate. The outcomes include the following:

- over 850 commercialization projects handled (999 invention disclosures received)
- over \$10 million in licencing revenues
- over \$160 million in investments generated by the commercialization projects
- over \$180 million in economic spin-off for the Quebec economy
- over 800 high-value jobs preserved and created

These figures conclusively demonstrate what SVUs have accomplished since they were created and the economic impact of their position in the research and innovation ecosystem in Quebec and Canada.

## **Conclusion**

As part of this consultation, we would like to meet with the House of Commons Standing Committee on Finance to submit a more detailed proposal, with figures on the needs of Quebec's SVUs respecting operating costs and capacity to invest in technological and commercial maturation projects. However, initiatives such as the \$8-million AC JumpStart Funding Program provided to Waterloo's Accelerator Centre<sup>i</sup> and the Smart Start Seed Fund illustrate what Quebec's SVUs plan to present.<sup>ii</sup> We look forward to a favourable response to our request, and we would be happy to make ourselves available at the Committee's convenience.

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<sup>i</sup> <http://acceleratorcentre.com/programs/acjumpstart/>.

<sup>ii</sup> <http://www.oce-ontario.org/programs/entrepreneurship-programs/smartstart-seedfund>.