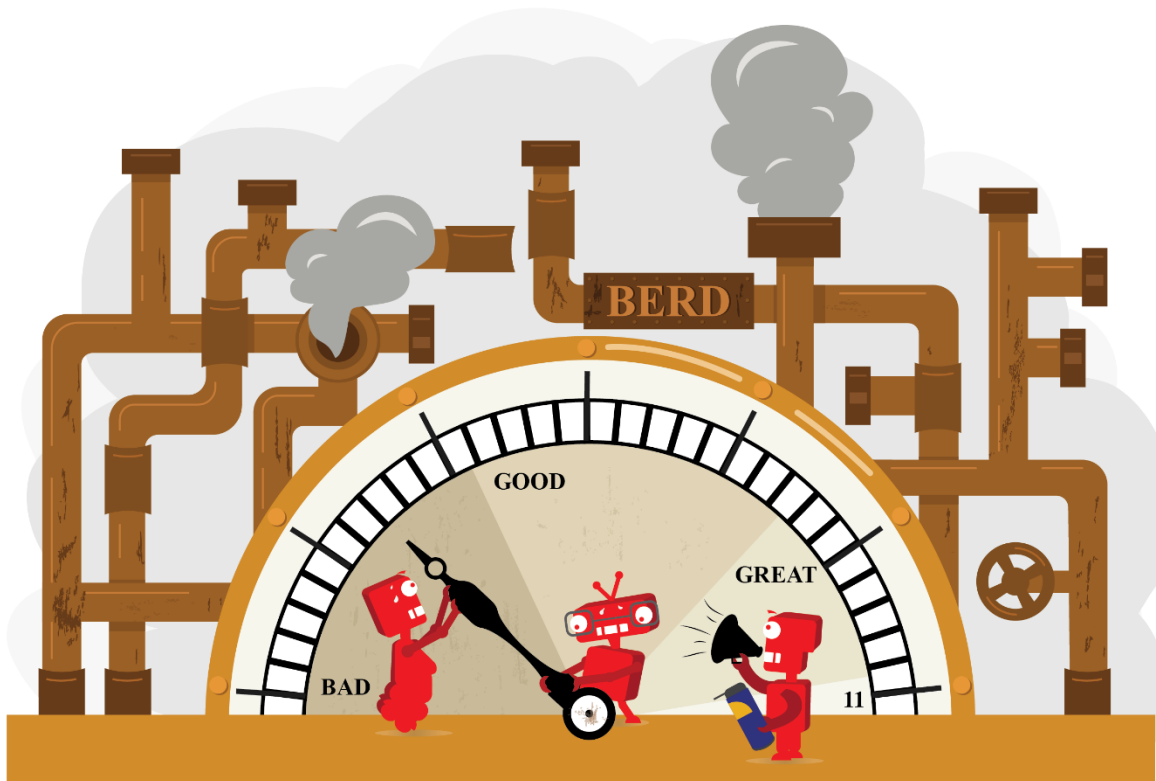


## Canada's Technology Access Centres: Inclusive Innovation to Accelerate the Recovery



Written Submission for the Pre-Budget Consultations  
in Advance of the 2021 Budget

Submitted on behalf of Canada's Technology Access Centres by:

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## Recommendations submitted for consideration for Budget 2021

### Recommendation 1:

That the government invest **\$7 million over three years** to pilot the **Inclusive Innovation Initiative** administered by Tech-Access Canada and delivered through Canada's Technology Access Centres.

### Recommendation 2:

That the government provide Tech-Access Canada with funding in the amount of **\$6 million** to undertake a three-phase collaborative project to **design and build respectful, accessible, sustainable, and functional residential housing in five First Nations communities**.

### Recommendation 3:

That the government provide a sustained increase to the annual operating budget of the National Research Council's **Industrial Research Assistance Program (NRC-IRAP)** of **\$90 million per year** to assist with pan-Canadian economic recovery activities.

### Recommendation 4:

That the government empower SMEs, social, health and community organizations to restart the economy through a new investment of **\$165 million over two years** in the **College and Community Innovation Program**, with an option to extend this funding through the longer-term recovery, as recommended by the College Applied Research Taskforce.

With the COVID-19 pandemic, 2020 is not a normal year, and Budget 2021 will not be a typical federal budget. Rather than try to weave a narrative, each short recommendation will be presented as a standalone initiative for consideration by decision-makers. The overarching link is that Tech-Access Canada and Canada's Technology Access Centres stand ready to mobilize and assist with the recovery however we can.

Before the pandemic, small companies often did not know that an entire network of objective innovation intermediaries exists to help them solve their innovation challenges through the adoption of novel technologies. With economic recovery on the horizon, Canada's 60 Technology Access Centres (TACs) can no longer be the modest, unsung heroes of the innovation ecosystem.

Technology Access Centres are specialized applied R&D centres affiliated exclusively with Canadian colleges and cégeps. TACs help over 4,000 Canadian businesses each year – especially small businesses – advance their products, processes and services by:

- conducting applied research and development projects focused on company problems;
- offering specialized technical services and objective advice; and
- providing training related to new types of equipment and processes.

Every year, the TACs provide clients and partners from across Canada with access to:

- expertise and experience of over 2,100 business innovation and applied R&D experts;
- over 3.5 million square feet of innovation and applied research space; and
- over \$470 million worth of highly-specialized equipment and facilities.

As a public good, Canada's TACs are designed to be a safe space for firms to de-risk the adoption of novel technologies. Their industry-friendly Intellectual Property (IP) policies put the IP in the hands of industry to commercially exploit, a tremendous benefit for small firms hoping to stay nimble and expand.

Established in 2015, Tech-Access Canada is the national network of Canada's TACs. Tech-Access Canada shares best practices among members and administers a variety of initiatives using the TACs as a dedicated team of service providers, including the Interactive Visits Program (SMEs deemed eligible by NRC-IRAP can access 20 hours of TAC services).

## **Recommendation 1:**

**Invest \$7 million over three years to pilot the Inclusive Innovation Initiative administered by Tech-Access Canada and delivered through Canada's Technology Access Centres.**

TACs are inclusive by design, with their multidisciplinary teams assisting diverse communities of innovators and entrepreneurs across all regions and sectors. Tech-Access Canada and the TACs are guided by the philosophy that "anyone can innovate," and "innovation is for everyone."

Unfortunately, many federal R&D support programs have recently restricted eligibility criteria. This screens out smaller, newer firms as well as entrepreneurs from non-STEM sectors, and non-English or French-speaking applicants. Our members have noticed that this impacts firms led by members of traditionally underrepresented groups, keeping them on the sidelines of innovation. Canada loses when excellent ideas and novel technologies with commercial potential die on the shelf.

By taking targeted action to welcome non-traditional innovators and entrepreneurs into Canada's innovation ecosystem, we are confident the Inclusive Innovation Initiative will act as a catalyst to amplify the positive impacts of other government R&D and innovation assistance programs.

The Inclusive Innovation Initiative pilot will launch five key programs with the TACs as the service providers:

**Market Pathfinding:** will be based on our Interactive Visits model and will enable a short-term engagement for anyone in Canada with a concept for an innovative product, process, or service that needs validation before commercialization. This will allow innovators and entrepreneurs from underrepresented groups to access honest, objective advice and support for their million-dollar idea and navigate a strategic path to market.

**Microcluster Projects:** will allow sole proprietors, micro and small-sized firms in different parts of the country facing a common innovation challenge to pool their resources and collaborate with a TAC to solve the problem. Multiple participants will contribute an equal amount of money that will be matched and amplified by Tech-Access Canada to fund a research project with one or more TACs. All participants will gain access to the results to apply in their unique contexts, allowing small firms to go further together.

**Innovation Apprenticeships:** will be modelled on the proven apprenticeship training model from the skilled trades and applied to encourage the mastering of the requisite competencies to be an expert innovator. This will enable young Canadians to access experiential learning opportunities at TACs and SMEs, and create a new pool of strong innovation talent for companies and organizations to hire from across the country.

**Expertise Exchange:** will create a formal mechanism to quickly deploy TAC researchers to work at another TAC and lend their unique expertise to a team to solve an industry partner's challenge. This is knowledge transfer in the most literal sense, benefitting regional economic development at a level of efficiency that would take years to replicate organically.

**Univ-Launch:** will have the TACs help validate and develop the next generation of Canadian companies founded around the rapid exploitation of dormant university-owned Intellectual Property. For any universities willing to assign IP wholly to graduate students to commercially exploit and build a new company around, Tech-Access Canada will fund an applied research project involving one or more TACs to validate the proof of commercial concept, refine the

prototype, and get the innovation closer to market in under one year. Firms would then be connected to the experts at NRC-IRAP for further business innovation and commercialization supports.

Tech-Access Canada will pilot the Inclusive Innovation Initiative with insights gained from our five years of administering the Interactive Visits for SMEs program providing short-term engagements with TACs. Tech-Access Canada will deliver the Initiative using our secure, proprietary, TACPITS project-tracking platform, making project administration efficient and cost-effective, and standardizing the collection of performance metrics.

In the same way that Canada's 60 TACs are designed to be safe spaces for de-risking innovation, Tech-Access Canada is a safe space for policy innovation and experimentation. Trying to transplant successful innovation and technology adoption policies from other countries often ignores Canada's history and industrial makeup and is leaving too many potential innovators on the sidelines. We require uniquely Canadian solutions as we recover from the COVID-19 pandemic and look to restart the Canadian economy.

## **Recommendation 2:**

**Provide Tech-Access Canada with \$6 million to undertake a three-phase collaborative project to design and build respectful, accessible, sustainable, and functional residential housing in five First Nations communities.**

The current housing stock in Canada's First Nation communities is deficient on many fronts. There is no one-size-fits-all solution to turn "houses" into "homes." The collaborative project we are proposing will take a novel approach to tackle ongoing issues related to cultural needs, available housing stock, maintenance, energy security, economic self-sufficiency, self-reliance, local skills development, and training.

To undertake the project, Tech-Access Canada has mobilized the unique skillsets and expertise of our member Technology Access Centres; the University of Manitoba's College of Rehabilitation Sciences; and most importantly, strong senior leaders from within five First Nations communities in Manitoba: Lake Manitoba First Nation, Pinaymootang First Nation, Norway House Cree Nation, Sagkeeng Anicinabe First Nation, and Opaskwayak Cree Nation.

Our experienced project team will collaborate closely with the communities to design and actually build sustainable homes that genuinely take into account the unique multi-generational needs of Canadians living in First Nation communities, including universal and accessible design for aging in place.

We will draw on our members' vast expertise in building envelope efficiency, construction technology, alternative energy, water and wastewater treatment, applied health technologies, and sensor and systems integration, to name only a few. Once the prototypes are analyzed,

refined, and improved, we will empower and train a local skilled workforce to build and maintain the homes for generations.

While each community's historical and geographic situation is unique, we will utilize validated and appropriate construction technologies, off-the-shelf materials, and easy-to-assemble processes to construct and monitor five full-scale prototype homes. We will also develop, through a variety of novel and engaging training methods, a community-based skilled-workforce able to maintain and upgrade the new housing stock for generations to come.

This four-year project has been designed to be modular, scalable, and replicable within any First Nations community in Canada. The critical aspect of this project is that the designs and know-how will remain with - and in - the community.

### **Recommendation 3:**

**Provide a sustained increase of \$90 million per year to the National Research Council's Industrial Research Assistance Program to assist with pan-Canadian economic recovery activities.**

The Industrial Research Assistance Program administered by the National Research Council (NRC-IRAP) is a crown jewel in Canada's innovation ecosystem. Each year, NRC-IRAP works with more than 8,000 SMEs through its cross-Canada network of Industrial Technology Advisors, and provides over \$300 million in support to more than 3,000 technology development projects.

Earlier this year, NRC-IRAP was called into action and rapidly mobilized its pan-Canadian network of expertise and capacity. Their rapid responses helped companies impacted by COVID-19 with immediate and short-term assistance. Today, the real impact of COVID-19 on Canada's firms is still unknown, and despite everyone's best efforts, we will likely lose thousands of Canadian companies unable to weather the storm.

Tech-Access Canada is proud of our longstanding collaboration with NRC-IRAP. Like the TACs, NRC-IRAP has a pan-Canadian reach and is motivated by helping Canadian SMEs succeed and grow in Canada. Our successful Interactive Visits Program connects NRC-IRAP supported firms to the TACs for a short collaboration. These Visits have helped firms increase revenues or decrease costs, adopt new technologies, launch a new or extended product line, obtain further funding for expansion, or initiate a more extensive R&D collaboration.

As we turn our attention to the recovery, the best bet for short- and long-term impact is providing NRC-IRAP with the resources they need to help new and existing Canadian SMEs grow through innovation and technology adoption. Their industry-experienced people and merit-based process are a proven model for success. Their pan-Canadian reach can be amplified rapidly to provide additional advisory services, financial supports, funding to hire young graduates, and access to international collaborations. The TACs stand ready to assist the NRC-

IRAP ITAs and their clients with any business innovation support needed to capitalize on emerging opportunities that can leverage into macro-level benefits for Canada.

## Recommendation 4:

We join with a pan-Canadian collection of voices from the college sector to fully endorse the **College Applied Research Taskforce's** Budget 2021 recommendation to empower SMEs, social, health and community organizations to restart the economy through a new investment of \$165 million over two years in the College and Community Innovation Program administered by the Natural Sciences and Engineering Research Council (NSERC), with an option to extend this funding through the longer-term recovery:

- \$85 million over two years for rapid-response and entry-level grants to improve or develop new products and services, including those involving technology adoption and green innovation.
- \$80 million over two years for colleges to engage SMEs and other partners in applied research to support community recovery efforts.

Thank you for your consideration.