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ICT FUNDAMENTALS FOR CANADA'S INNOVATION AGENDA



To compete to win in the next phase of the global digital revolution, Canada must take bold steps *now* to lay the right foundation.

ITAC on Trade and Competitiveness

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TO COMPETE TO WIN in the next phase of the global digital revolution, Canada must take bold steps *now* to lay the right foundation.

The Innovation Agenda presents an incredible opportunity for the current government to make substantive policy changes—thereby benefiting all Canadians by growing our economy and ensuring continued prosperity for our country.

The Information Technology Association of Canada (ITAC) has identified four fundamental priorities that must be addressed by government in order for the Innovation Agenda to succeed: **Modern Digital Economy, Trade and Competitiveness, Modern Digital Government, and Talent and Skills Development.**

This is the second of ITAC's Innovation Papers, a four-part series that:

- provides insight into the state of Canada's digital economy, and
- offers recommendations to enable Canada's Information and Communications Technology (ICT) sector to reach its world-class potential.

Together with industry, ISED and all government stakeholders can build an Innovation Agenda that works for Canada.

Introduction:

Trade and Competitiveness

Helping Canadian ICT businesses scale and expand globally builds a digital Canada.

As access to new markets becomes increasingly important, so too does ensuring governments provide targeted programs that help ICT companies scale globally and build on innovation.

While R&D and export programs exist in Canada, there remain areas for improvement. These areas represent opportunities for the Government of Canada to strengthen how it supports growth across all Canadian businesses—including ICT.

Therefore, as part of the Government's Innovation Agenda consultations, ITAC recommends the following policy changes.

Foster Competitiveness on a Global Scale

Canadian businesses struggle every day to retain staff, grow, and secure new mandates. One of the most critical factors influencing their competitiveness is our domestic tax system. Meanwhile, Canadian businesses continue to innovate and invest in R&D, in part due to the tax credits available to them.

It has been several years since Government and industry have holistically reviewed the incentives available to R&D developers. The current Innovation Agenda consultations provide a prime opportunity to identify new ways to foster growth and R&D investments.

Maintain Canada's competitive corporate tax environment

In many tax-based measures of competitiveness, Canada ranks very highly. Canada's combined corporate tax rates are among the best in the G7 and in the 2014 and 2016 editions of KPMG's Competitive Alternatives, Canada was identified as the second-most cost-competitive jurisdiction (after Mexico).¹

A key strategy for ensuring that Canadian ICT companies are strong and competitive is ensuring that the tax regime in Canada supports innovation and growth. However, for the ICT industry, corporate tax rates are often a secondary factor in determining investment decisions.

The Lazaridis Institute has noted that while Canadians are highly entrepreneurial, Canada has a significant shortage of experienced technology executives and managers who know how to build and grow leading companies.² Moreover, while Canada's universities and colleges train some of the best professionals in the world, local firms often find it challenging to keep that top talent at home, especially when jobs in the United States offer a 20%

¹ Toronto and Vancouver also rank as the numbers 1 and 2 tax-competitive cities according to KPMG. KPMG, *Competitive Alternatives 2016 – Focus on Tax*. https://www.competitivealternatives.com/reports/compalt2016_report_tax_en.pdf

² Lazaridis Institute, *Scaling Success: Tackling the Management Gap in Canada's Technology Sector*; March 2016. <http://deepcentre.com/wordpress/wp-content/uploads/2016/05/Scaling-Success-Lazaridis-Institute-Whitepaper-March-2016.pdf>



wage premium due to the low Canadian dollar.³

For these reasons, and because successful ICT entrepreneurs and business leaders fall into the higher income tax segments, it is important that Canada's personal income tax policies also be considered as part of our innovation competitiveness.

Therefore, the Government of Canada should maintain Canada's competitive corporate tax environment; and exercise caution not to implement overly targeted tax policies that make it difficult to retain top ICT talent.

Incentivize export growth and collaborative R&D

Business enterprise R&D investments (BERD) made by the private sector have a direct relationship on the innovative capacity of an economy.

While Canadian governments offer strong R&D incentives, Canada's gross expenditure on R&D has declined in recent years: a trend contrary to other OECD countries.⁴ Another troubling issue is the fact that just 12 companies—six of which are ICT firms—account for roughly half of all BERD in Canada.⁵ The ICT industry contributed over 31% of Canada's total expenditure on R&D—over \$4.9 billion in 2014.⁶ This too fell 9% between 2007 and 2014.

If Canada is to realize its innovation potential, it is important this trend be reversed and Canadian businesses increase their investments in R&D.

ITAC's 2017 pre-budget submission calls on the federal government to launch a comprehensive review of R&D supports and credits.⁷ This is a highly complex area with diverse perspectives on where taxpayer investments can have the biggest economic impact. ITAC recommends the government pursue a balanced approach that allows for broad tax credit supports like the Scientific Research and Experimental Development program (SR&ED), as well as targeted investments focusing on leading-edge technologies and growth areas.

³ ITAC will produce a paper in fall 2016, devoted to talent and skills development.

⁴ See Deep Centre, *Canada's Innovation Performance: A Scorecard 2015*. March. <http://deepcentre.com/wordpress/wp-content/uploads/2015/03/DEEP-Centre-Canadas-Innovation-Performance-March-2015.pdf>

⁵ Conference Board of Canada, *Running on Empty: Canada's Persistent Business R&D Weakness*. May 2015. http://www.conferenceboard.ca/commentaries/technologyinnovation/default/15-05-29/running_on_empty_canada_s_persistent_business_r_d_weakness.aspx

⁶ See: https://www.ic.gc.ca/eic/site/ict-tic.nsf/eng/h_it07229.html

⁷ ITAC, *Budget Submission for 2017 Budget*. 2016. <http://itac.ca/wp-content/uploads/2016/08/ITAC-2017-Federal-Pre-Budget-Submission-Final.pdf>

⁸ See David Ross, "How to use SR&ED to reverse the decline of Canadian-owned mid-sized companies," *Research Money*. Vol. 30, N. 6. April 18, 2016.

⁹ The lack of vital mid-sized firms in Canada's technology clusters is discussed in: Lazaridis Institute, *Scaling Success: Tackling the Management Gap in Canada's Technology Sector*. March 2016.

¹⁰ For more information including potential policy approaches, see: World Economic Forum, *Collaborative Innovation: Transforming Business, Driving Growth*. 2015. http://www3.weforum.org/docs/WEF_Collaborative_Innovation_report_2015.pdf

• Reduce SR&ED grind-down to support export growth

Currently, SR&ED credits "grind down" (i.e., are reduced) as firms grow above certain revenue thresholds. Too often, this occurs as medium-sized companies are expanding into new markets, which requires incremental R&D and other new expenses. Reducing R&D support at this crucial time makes exporting more challenging, and leaves businesses with fewer resources to invest in creating their next great product.

Rather than hampering firms who try to sell internationally, Canada could align the SR&ED grind-down schedule with the amount of export revenue generated by a business.⁸ This would encourage businesses to focus on growing in new markets, while providing resources to keep them innovating and developing new exportable products at home. Additionally, this alignment could improve the cluster depth of mid-sized companies within Canada's technology ecosystem.⁹

• Access unused SR&ED credits to support collaborative innovation between large and small businesses

The World Economic Forum has identified "collaborative R&D" as a strategy to address challenges of innovation and scaling.¹⁰

By collaborating, different-sized firms can benefit from each other's strengths: larger firms can learn from the innovative nature of startups, while smaller firms can access the larger firms' deep networks, sales and value chains.

While Canada has some government-led programs to encourage joint R&D, most are primarily focused on connecting small businesses and post-secondary institutions. As such, more should be done to make collaborative innovation a common business practice between large and small firms.

For example, the government could consider allowing large corporations to commit a portion of their unused SR&ED credits to conducting collaborative innovation with smaller Canadian companies.

• Reduce the complexities and burden associated with R&D support programs

Beyond taxpayer investment in R&D, there is a critical need for a cross-government approach to reduce the time, cost and overall burden of applying for government R&D support. SR&ED is intended to be a predictable and easy process; however, ITAC members have regularly raised concerns that the complexity and long delays of SR&ED approvals force their companies to hire consultants or pay interest on bank loans, eroding the value delivered from taxpayer investments in R&D.

The Government of Canada should conduct a holistic review of Canada's Tax and R&D framework to ensure it meets the needs of Canada's technology industry—including opportunities to incentivize export growth, encourage collaborative R&D and reduce the administrative burden of applying for R&D supports.



Support demand-driven R&D and a competitive business culture

Beyond improving supply-side R&D drivers such as tax credits, the government must work to create a business environment that encourages competition and constant innovation. This includes creating a nimble, pro-innovation regulatory environment focused on reducing risk, while also allowing emerging and disruptive businesses models to grow. For instance, Canada's regulatory approach to privacy should allow reasonable flexibility and create space for innovative uses of data.¹¹ Canadian governments should also encourage broader experimentation within their own operations using sensors, actuators and autonomous devices that make up the Internet of Things (IoT).

The government should also create platforms for Canadian businesses to deliver on-demand solutions to market challenges. For instance, the U.S. federal government's Challenge.gov platform has led to the development of a range of new products based on government agencies identifying a market demand and running open competitions.

The Government of Canada should support demand-driven R&D by creating a dynamic, pro-innovation regulatory environment, and new platforms for businesses to learn about and address market needs.

Increase access to capital

Access to capital is regularly identified as a competitive disadvantage facing Canadian ICT firms—particularly for mid-sized companies as they work to scale up.¹²

While Canada's venture capital market has been growing in recent years, it is still 20 to 30 times smaller than that of the U.S.¹³ One serious challenge is that Canada's large financial institutions are not inclined to extend financing to firms whose primary assets are intangible intellectual property.

When mid-sized Canadian companies cannot access financing (or additional financing) in Canada, they are often

¹¹ See ITAC's Response to the Office of the Privacy Commissioner's Consultations on Modernizing Privacy and Consent: <http://itac.ca/wp-content/uploads/2016/08/ITAC-RESPONSE-Modernizing-Consent-and-Privacy-in-PIPEDA-August-2016.pdf>.

¹² See BDC, *High Impact Firms: Accelerating Canadian Competitiveness*. May 2015. [https://www.bdc.ca/EN/Documents/analysis_research/high-impact-firms-accelerating-canadian-competitiveness.pdf#search=%22high growth firms%22](https://www.bdc.ca/EN/Documents/analysis_research/high-impact-firms-accelerating-canadian-competitiveness.pdf#search=%22high%20growth%20firms%22). The Canada Venture Capital & Private Equity Association has also studied Canada's lack of mid-stage bridge capital. See: <http://www.cvca.ca/wp-content/uploads/2015/11/FINAL-Venture-Capital-First-3Q.pdf>.

¹³ <http://www.theglobeandmail.com/report-on-business/small-business/startups/canadian-vc-funding-soared-to-10-year-high-in-2015/article28822342>

¹⁴ <http://itac.ca/blog/itac-welcomes-canadas-tariff-cuts-on-ict-products>

¹⁵ See Trans-Pacific Partnership Chapter 8A Sec. A; Chapter 14, Article 14.17

¹⁶ See Trans-Pacific Partnership Chapter 14; Articles 14.6, 14.8, 14.9, 14.10, 14.14, 14.15, 14.16

¹⁷ See Trans-Pacific Partnership Chapter 14; Article 14.13

¹⁸ See Trans-Pacific Partnership Chapter 18; Article 18.74.10

forced to seek it out in the U.S., where banks and VCs will compete for their business. This can ultimately sow the seeds for these firms' eventual sales or departure.

As such, the federal and provincial governments should work with industry and provincial partners to increase access to venture and "scale-up" capital for fast-growing firms, including providing new sources of subordinated debt beyond the Business Development Bank of Canada.

Increase Access to Export Markets and Support Digital Commerce

Canada is a small market. High-growth companies know that sales outside Canada's borders are critical to their survival. The government needs to create the conditions that help Canadian firms succeed on the global stage.

Finalize multilateral trade agreements and create interoperable regulatory regimes

Over the last several years, Canada has finalized draft trade deals with key markets. This includes the World Trade Organization's Information Technology Agreement (ITA), which removed tariffs from 52 ICT products, resulting in savings of approximately \$52.2 million for Canadian importers of ICT products.¹⁴

While reducing trade tariffs is essential, many digital technologies require interoperable regulatory frameworks and strong intellectual property protections to ensure a level playing field.

The Trans-Pacific Partnership (TPP) is the first major multilateral trade agreement to support digital commerce and services. Important provisions of the TPP for the ICT industry include:

- protection of source code and cryptography keys,¹⁵
- a framework to develop common approaches to regulating the digital economy,¹⁶
- protection for uninhibited data transfers and storage across borders,¹⁷ and
- measures that aim to reduce frivolous or extortionist intellectual property litigation.¹⁸

To advance free trade in digital goods and services, the Government of Canada should continue to work with partners to finalize approval of the Canada-Europe Trade Agreement (CETA) and the Trans-Pacific Partnership (TPP). Canada should also continue to work with industry and partners in the World Trade Organization (WTO) to develop a new Trade in Services Agreement (TiSA).



The federal government should also work with international partners through forums (like the OECD and APEC) to develop interoperable regulatory approaches to privacy and data security to support the free trade of services over the internet.

Protect Canadian IP creators

Predatory, frivolous or extortionist patent litigation is a challenge dampening innovation and slowing the growth of dynamic firms around the world.

While protecting and encouraging the creation of intellectual property in Canada, the government should work with international partners to pursue coordinated approaches to reducing parasitical elements and practices in the global innovation ecosystem.

Therefore, the Government of Canada should work with international partners to develop common approaches for combating frivolous, predatory and extortionist intellectual property litigation that suppresses innovation and inhibits the growth of technology firms.

Open internal digital trade

Canada needs to ensure our domestic market is free of unnecessary barriers to digital trade.

Presently, provinces, territories and the federal government maintain different rules and approaches to digital commerce—making it challenging and costly for ICT businesses to operate across the country. For example:

- the federal government, Alberta and Ontario all maintain (or are developing) separate regulations on data breach notification;
- British Columbia and Nova Scotia have developed separate data residency requirements for particular record types;
- Quebec recently passed a law to geo-fence particular websites from ISPs in Quebec; and
- provinces and municipal regions maintain different processes for tracking buried digital infrastructure like fibre cables.

Canada should work to ensure it creates a single market for trade in digital services, with common approaches and processes to regulating digital commerce and infrastructure.

¹⁹ See: Dan Breznitz, Shiri Breznitz and David A. Wolfe, *Current State of the Financial Technology Innovation Ecosystem in the Toronto Region*. Munk School of Global Affairs (University of Toronto). 2015. http://www.tfsa.ca/storage/reports/Current_State_Financial_Technology_Ecosystem_Toronto_Region.pdf

²⁰ eBay Canada internal data for Canadian sellers who export and who sold more than US\$10,000 on eBay in 2014.

The federal and provincial governments should work together (under the new Canadian Free Trade Agreement or other mechanisms) to harmonize and remove unnecessary barriers to internal digital trade and commerce—including rules around data residency, data security, internet openness, and privacy.

Broaden trade support programs

Canadian technology businesses are generally well served by the trade promotion programs of the federal and provincial governments. Canada's Trade Commissioners Service and Global Affairs Canada's (GAC's) Technology Accelerator program help growing businesses understand new markets and connect with potential partners on the ground.

Canada's soft-landing programs should continue and be expanded into new markets. Beyond this, ITAC has identified two potential gaps in current GAC programming: a lack of domestic "anchor" programs, and a lack of focus on small digitally enabled exporters.

While Canada has a wide range of federal and provincial programs aimed at helping businesses export, there are relatively few government initiatives aimed at helping innovative Canadian firms develop sales and partnerships at home. Exports should be the end goal—but if all an innovative technology firm's customers are in the United States, this may create an incentive for the Canadian company to relocate. ITAC has seen small and medium enterprise (SME) members relocate for exactly this reason. The Munk School at University of Toronto has also identified this pressure in Toronto's financial technology cluster.¹⁹

While guiding companies towards exporting, Canadian governments need to do more to help innovative SMEs develop reliable clients at home—whether in government or the private sector. This could include expanding programs like the Build in Canada Innovation Program (BCIP), or organizing domestic trade promotion events. These initiatives will also help exports because developing a strong reputation at home makes it easier for companies to sell abroad.

Meanwhile, most of the federal government's export promotion programs focus on traditional business types—largely ignoring the thousands of small Canadian entrepreneurs who sell goods or services around the world via the internet. By using global platforms (e.g. Amazon, eBay, Google) or establishing in-market web presences, these innovative businesses can export goods or deliver services without having to travel further than the local post office. In fact, eBay data has found that for Canadian commercial sellers on their platform, international exports represent more than 50% of their total average sales.²⁰



The government should work to encourage more small businesses to start exporting via the internet, and should provide tailored programs to support and grow this market segment.²¹

The Government of Canada should broaden its trade support programs to: i) help innovative technology firms develop a reliable sales base at home; and ii) better serve the thousands of innovative small businesses that export around the world via the internet.

Conclusion

Many policy issues as outlined above fall outside the realm and sole decision-making authority of ISED. To ensure a strong and successful Innovation Agenda, the government will therefore need to implement a coordinated cross-government strategy that holds every department accountable for programs and files directly impacting Innovation Agenda imperatives.

Working closely together, government, industry and other key stakeholders can build a foundation that not only nurtures the ICT sector within Canada, but supports every step of its growth on a global scale.

²¹ This should include raising the de minimis threshold to allow Canadian micro-manufacturers to more easily import materials they can value-add and export. For more information, please see The C.D. Howe Institute, *Rights of Passage: The Economic Effects of Raising the de minimis Threshold in Canada*. June 2016. https://www.cdhowe.org/sites/default/files/attachments/research_papers/mixed/E-brief_Rights%20of%20Passage_June16.pdf.

Summary of Recommendations: Trade and Competitiveness

1. Foster competitiveness on a global scale by:

- maintaining Canada's competitive corporate tax environment, and not implementing tax policies that make it difficult to retain top talent
- conducting a holistic review of Canada's Tax and R&D framework to ensure it meets the needs of Canada's technology industry
- creating a dynamic, pro-innovation regulatory environment and new platforms that support demand-driven R&D
- working with industry and provincial partners to increase capital access for fast-growing firms

2. Increase access to export markets and support digital commerce by:

- working with partners to approve the Canada-Europe Trade Agreement, Trans-Pacific Partnership, and a new WTO Trade in Services Agreement
- collaborating with international partners to develop interoperable approaches to privacy, data security and open trade in services over the internet
- developing common approaches with other countries to combat frivolous, innovation-suppressing intellectual property litigation
- harmonizing and removing unnecessary provincial and national barriers to open digital commerce
- broadening trade support programs to better serve small businesses who export worldwide via the internet and to help innovative technology firms find anchor customers at home

As Canada's national ICT business association, the Information Technology Association of Canada (ITAC) champions the development of a robust and sustainable digital economy in Canada. A vital connection between business and government, we provide our members with the advocacy, networking and professional development services that help them to thrive nationally and compete globally. A prominent advocate for the expansion of Canada's innovative capacity, ITAC encourages technology adoption to capitalize on productivity and performance opportunities across all sectors. A member-driven not-for-profit, ITAC has served as the authoritative national voice of the \$170 billion ICT industry for over 60 years. More than 36,000 Canadian ICT firms create and supply goods and services that contribute to a more productive, competitive, and innovative society. The ICT sector generates one million jobs directly and indirectly and invests \$4.9 billion annually in R&D, more than any other private sector performer.