



Written Submission for the Pre-Budget Consultation in Advance of 2019 Budget

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List of Recommendations

- **Recommendation 1:** That the government invests 60 million dollars for short-duration training programs that can bolster the digital skills of Canadian workers.
- **Recommendation 2:** That the government invests 100 million dollars to encourage digital adoption through an industry-led digital transformation lab, helping Canadian companies grow, scale and reach new markets.
- **Recommendation 3:** That the government establish a commission with the objective of developing criteria for elaborating fiscal measures that represent the needs of priority high-growth sectors (lower corporate tax rates, tax holidays, and tax repatriation encouraging FDI in Canada. The commission would also be responsible for collecting and monitoring outcomes of these policies and tracking expected results.

Context

The rapid digitization of the economy and of society is the primary focus of our time. Digital technologies are now integral to the operations of any high-performing business, and are key components of the growing Canadian innovation economy. The impact of technology on our industries is already substantial, and the increasing permeation of technology across our economy will only continue to accelerate with time.

Canada is also currently witnessing a new era of global trade dynamics, industrialization, and socio-economic shifts that are continually reshaping prospects. The dynamics of such economic and societal trends are giving way to frequent shifts in business models and employment prospects. As a result, the need to innovate, scale businesses, and create meaningful employment for Canadians amidst these changes is vital.

In 2016 alone, the Canadian ICT sector was responsible for 4.4% of total Canadian GDP (Canada G. o., 2017). Additionally, Canadian technological innovation has and continues to create opportunities for high-quality, high-paying jobs. Growing at a rate of 1.7% in 2016, employment in tech outpaced employment growth seen across the entire economy (Canada G. o., 2017). Continuing on this path, ICTC estimates a demand for approximately 216,000 digitally-skilled workers to fill in-demand roles by 2021.

Another factor influencing the scale-up of Canadian businesses is access to capital. A recent OECD survey found that one of the top obstacles limiting the success of Canadian businesses was financing company expansion (Shepherd, 2017). The ability to create and nurture startups is important. However, helping these companies scale and reach new markets is essential to the ability to compete. Historically, Foreign Direct Investment (FDI) has played a significant role in the Canadian economy. Canada has the fourth highest inward FDI stock (the value of foreign investors' equity in, combined with net loans to enterprises resident in the hosting economy) among OECD countries. FDI is one method by which businesses can access the funding, information and best practices that they need to scale.

Strong FDI investment in Canada indicates the significant impact that foreign capital has on

our economic growth and labour market. In 2017, Canada's inward FDI stock reached 1.1 trillion USD, comparable to 65.2% of GDP. When it came to the impact of FDI on employment, approximately 1.9 million Canadians were employed by foreign majority-owned companies – nearly 12% of all employment in Canada.

However, despite these positive effects, we may still have a way to go when it comes to creating a truly competitive and open investment climate. With currently the highest overall FDI regulatory restrictiveness among the G7 countries, Canada has the highest FDI sector regulatory restrictions in the Telecommunication, Finance and Manufacturing sectors.

FDI's potential for the Canadian economy and Canadian businesses is substantial. Focusing on attracting high-quality FDI is essential; and incentives to encourage inward FDI must be supported to ensure the success of Canadian businesses.

Therefore, ICTC proposes the following recommendations for the federal government's 2019 budget:

Recommendation 1

That the government invests 60 million dollars for short-duration training programs. These programs can be used to upskill and retrain current jobseekers, as well as engage other supply streams. These programs can offer the practical pathways that many job seekers require in order to obtain in-demand and high-quality opportunities in the digital economy.

Canada is falling behind competitors when it comes to the digitization of businesses. The increasing permeation of technology across all sectors of the economy signals that digital skills are no longer relegated to high-tech companies. Instead, nearly all future jobs will require some level of digital competency.

As an example, the roll out of 5G technology will generate a number of direct new jobs through physical network upgrades. These jobs will necessitate skills with 5G equipment production and highly complex network software design and management, among others. In a recent report (3GPP, 2018), 3rd Generation Partnership Project (3GPP) has identified 70 use cases of how 5G will create new technological opportunities in sectors ranging from eHealth to autonomous vehicles.

Canada's ICT workforce is almost at full employment, and while in 2016 Canada had the highest rate of college graduates among OECD countries (Canada S. , 2017), not enough students are pursuing post-secondary STEM training. With an insufficient supply of STEM graduates to fill demand, we must look to other sources of supply, including underrepresented groups like transitional workers.

ICTC asserts that by 2021 that an additional 216,000 new ICT jobs will need to be filled – supply for these jobs must come from all available streams. While the Government of Canada's SWILP program (Student Work Integrated Learning Program) and the Global Talent Stream strategy are pivotal in addressing this labour and skills shortage, it is critical that we recognize the nature of Canada's changing economy and upskill the workforce for tomorrow's industries. In the European Union, between one third and one half of all post-second-

any graduates have completed vocational training (Eurostat, 2017). In Canada, the results are substantially lower, and while we should support skill development for young graduates, they are only one part of the story. Much of the supply for tomorrow's in-demand jobs will need to come from the existing workforce. Retraining and upskilling displaced workers is a prime opportunity to address the digital skill shortage.

Research shows that specific roles are not as important as the "skill bundles" workers bring to them. Even when looking at highly technical tasks such as machine learning, soft skills and domain expertise are critical. Improving the digital literacy and skills of displaced workers may not make them data analysts and programmers overnight, but it will make them competent and capable to contribute to digital business initiatives. The development of short duration, targeted skill development programs can be an essential resource for displaced workers seeking new opportunities.

To that end, ICTC is recommending that the Canadian government allocate \$60 million toward the development and delivery of short duration (24-46 weeks) digital skill development programs for displaced workers to upskill and gain the skills necessary for the digital economy. The program will be initially targeted at 5000 displaced workers in particular regional and industry sectors. The training materials and delivery should then be captured digitally so that it can be provided to a wider audience.

ICTC's research indicates that a digital worker earning \$90,000 can contribute approximately \$180,000 – according to a multiplier factor of two – to industry productivity. With 5,000 workers participating in this program, this would yield \$900 million to the Canadian economy, per year. This is a conservative estimate, as studies have shown the multiplier effect of high-tech jobs being 1:5. (Moretti, 2012).

Recommendation 2

SMEs are vital to Canada's prosperity. There are almost 1.1 million SMEs in Canada, representing 54.2% of the economic output produced by industry. 100,000 jobs are created by SMEs each year, and they are responsible for about 70% of all employment in the private sector. However, as important as they are, only half of new SMEs survive their fifth year of operation. The main reasons for failure are lack of capital, and lack of expertise and resources to stay competitive.

Large organizations often have the capacity to fully embrace technology, and therefore tend to be more productive. A recent study found that big firms are 27% more productive than small ones. Comparatively, fewer than one out of four Canadian SMEs invest in research and development (R&D).

Despite the argument for greater technology adoption, Canadian enterprises, and particularly SMEs have not embraced emerging technologies to the degree necessary. Education about technology's benefits, resources, and skilled workers are often lacking. To researchers, vendors and policy-makers, the benefits of digital technology adoption may be clear. For the private sector, engaged in day-to-day operations, digital adoption in some cases, may be considered a secondary priority.

Greater digital adoption will require a concerted effort by large organizations, vendors and governments to actively demonstrate its roadmap. This is necessary to showcase the return on investment for small businesses who do embrace digital transformation. Responding to this need, ICTC suggests the establishment of a Digital Transformation Acceleration Programme, similar to Malaysia's existing model, to be administered by an industry-led digital transformation lab (DTL), with an investment of 100 million dollars.

The DTL programme for small businesses would provide funding (via matching funding formula) and identify adoption pathways.

Recommendations 3

Despite the direct link between the size of a business and productivity, 98% of Canadian businesses are small, and many startups do not survive past the first few years. In order to scale-up and grow our businesses, Canada must attract more foreign direct investment.

FDI builds international linkages and knowledge networks that augment innovation. Research shows that FDI can contribute significantly to regional innovation capacity and economic growth, in part through the transfer of technology and managerial know-how (Ryan, 2008).

Foreign R&D investment has also been shown to spur local companies in the receiving country to increase their own share of R&D, leading to regional clusters of innovation-based economic activity (Allshuler, 2015).

Competition from foreign firms also pressures domestic enterprises to update their technology and processes, and to use their existing resources more effectively. Greater levels of inbound FDI force domestic companies to ratchet up their competitiveness, potentially spurring them to greater output and revenue.

Lastly, understanding that high taxes often steer would-be foreign investors to countries with more competitive rates, the ability to offer a favorable investment climate is key. ICTC recommends the establishment of a Commission to assess Canada's inward FDI barriers, make recommendations, and closely measure progress and outcomes. In the immediate term, tax incentives must be put in place and regulatory barriers to investment must be reduced, including:

- Targeted corporate tax rates for the digital economy that are lower than the Canadian average and competitive with high income OECD countries;
- Short-duration "Tax holidays" for qualifying firms that exempt them from paying corporate income tax for a specified period of time

Conclusion

Canada's economy is poised for remarkable success in scale and scope given additional stimulus in talent upskilling, digital adoption, and expansionary inward FDI measures. ICTC would be delighted to appear in person to expand on the details of the policy and program

measures presented in this submission.

Works Cited

Government of Canada. (2017). Canadian ICT Sector Profile 2016.

3GPP. (2018). Service Requirements For The 5G System.

Allshuler, J. T. (2015). The spillover effects of outward foreign direct investment on home countries: evidence from the United States.

Canada, G. o. (2017). Canadian ICT Sector Profile 2016.

Canada, S. (2017). Education in Canada: Key Results from the 2016 Census. The Daily .

Eurostat. (2017). Vocational Education and Training Statistics.

Moretti, E. (2012). The New Geography of Jobs.

Ryan, M. P. (2008). Intellectual Eropoerty and Economic Growth. George Washington University .

Shepherd, J. (2017). The Top Canadian Small Business Growth Challenges . Mentorworks.

About ICTC

ICTC is a national centre of expertise for the digital economy. With over 25 years of experience in research and policy analysis, ICTC has the vision of strengthening Canada's digital advantage in the global economy. Through forward-looking research, evidence-based policy advice, and creative capacity building programs, ICTC fosters innovative and globally competitive Canadian industries, empowered by a talented and diverse workforce.

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