



Submission by the Information and Communications Technology Council to the House of Commons Standing Committee on Finance 2014 Pre- Budget Consultation

Executive summary

The Information and Communications Technology Council (ICTC) is pleased to submit these comments to the House of Commons Standing Committee on Finance 2014 Pre-Budget Consultations.

Canada faces an indisputable skills shortage in the ICT sector. Jobs in such critical fields as programming are going unfilled, even as the economic recovery remains slow. The situation is exacerbated for youth, who face very high unemployment and systemic barriers to entering the ICT workforce. While government support to date in this arena is significant, evidenced by the success rate of youth engagement in ICT careers through programs administered by ICTC and others. The competitive and increasingly global landscape of the Canadian economy requires heightened measures to ensure that talent supply keep pace with industry growth.

To address these, as the Government of Canada prepares its 2015 budget, ICTC respectfully submits that addressing an education-to-employment holistic strategy should be carefully considered as a budget priority. We consider that this strategy should have three separate: but linked components:

- Heightened outreach and engagement programs to encourage and support youth in pursuing educational programs that prepare them for ICT careers;
- Increased face time with the industry at an early age to ensure that education incorporates a strong and exciting vocational component showcasing industry advancements and innovations;
- Strong on-the-job experiential component to facilitate the transition from education to employment with programs that provide a wage subsidy and other incentives to hire youth and transition them into high-paying jobs;

These recommendations, we consider, address two of the Government's themes in the 2015 Budget: *supporting families and helping vulnerable Canadians by focusing on health, education and training*; and, *maximizing the number and types of jobs for Canadians*.



A \$10 million investment in an education-to-employment strategy could yield \$42.5 million in immediate and direct GDP uplift, and many times that in indirect benefits over a relatively short period.

ICTC is available to appear before the Committee to explore its recommendations in greater detail, and is in any case available to provide further information at any time at the Committee's request.

Introduction

The Information and Communications Technology Council (ICTC) is pleased to submit these comments to the House of Commons Standing Committee on Finance 2014 Pre-Budget Consultations.

ICTC has as its mandate to ensure through research, programs and policy advice the availability of skilled workers to the ICT sector in order that the digital economy makes the greatest contribution possible to Canadian prosperity. In this submission, we will consider the role the Government could beneficially play to ensure that youth in particular have the training and opportunities necessary to participate in one of the fastest-growing segments of the economy.

Context

Innovation is a key enabler of economic growth. An innovative economy able to capitalize on emerging technologies is better prepared to compete in the global digital economy. These emerging technologies are the drivers of innovation in the digital economy. There will be significant potential in the next five years to employ tens of thousands of Canadians in fields such as mobile, cloud, and digital platform technologies.

The digital economy is made up of enterprises of all sizes engaged in selling information and communications technologies (ICT), as well as enterprises in all sectors that take advantage of technological innovation to further their business objectives and contribute to national prosperity. To the extent that technology continues to be developed and adopted in Canada, we will continue to grow employment and generate GDP. The Canadian ICT sector already contributes approximately \$70 billion per year, and employs over 800,000. In a still-challenging jobs environment, the ICT sector is a bright spot. During the final quarter of 2013 and first of 2014, for every seven jobs lost in the overall economy, a new job was created in the digital economy.



Maintaining this trend is critical. The greatest challenge to continued growth is two-fold: access to capital, and access to talent.

Canada faces an indisputable skills shortage in the ICT sector. Jobs in such critical fields as programming are going unfilled, even as the economic recovery remains slow. The situation is exacerbated for youth, who face very high unemployment and systemic barriers to entering the ICT workforce. At the same time, job growth is expected to be strong for Canadians who have the right skills to work in the sector, as demonstrated below:

- **Mobile apps:** The Canadian app economy directly employs 41,300 professionals, and generates \$775 million in revenue annually. Generated revenues are estimated to reach \$1.19 billion in 2014 and \$2.2 billion in 2016.
- **Mobile technology:** An estimated 410,000 people are employed in Canada as a result of wide adoption of mobile technology. The total number of new jobs to be created by 2017 in mobile technologies and related services is approximately 40,000. More than 90% of Canadian businesses use mobile technologies for anywhere connectivity (e.g. checking emails etc.), and 69% to enable employees to work from remote locations. A significant investment by enterprises in sophisticated mobile technologies would yield productivity and ecosystem benefits.
- **Cloud computing:** Half of Canadian businesses (IT and non-IT) have adopted identifiable cloud services. 70% of cloud-using enterprises use some form of paid cloud service. Canada's cloud economy directly employs 38,500 workers, which contribute more than \$4.6 billion to Canadian GDP. When we factor indirect employment, Canada's cloud economy has generated more than 48,000 total jobs. Total cloud economy and related employment is projected to exceed 71,000 by 2018. Direct employment in the cloud industry will contribute more than \$8 billion annually to Canadian GDP in 2018. With appropriate training and re-skilling, potential job losses can be mitigated.
- **Digital platforms – online, cloud hosted services such as social media, content aggregators, third party content management and more – and devices:** 75% of Canadian businesses employ digital platforms, and a total of 79,000 Canadians are employed as a result of the emergence and wide adoption of digital platforms. Digital platforms will create an estimated 18,000 to 22,000 new jobs by 2018. Canada's digital platforms ecosystem generates up to \$7.3 billion annually in GDP, a figure that will more than double to \$14.8 billion by 2018.

In light of these statistics, ICTC considers it critical that we ensure the availability of the necessary talented workforce.



There are, however, challenges to ensuring that Canada capitalizes on the opportunity:

- Young Canadians (and especially aboriginal youth), despite facing a national 14.2% unemployment rate, are also hesitant to pursue technology studies that would lead to careers in fields that have virtually full employment;
- Women constitute just 24% of the ICT workforce. Too few young women pursue technology studies or the core science, technology, engineering or math studies that would lead to tech careers;
- Graduates from technical studies face barriers finding work immediately on graduation as employers prefer experienced workers with proven communications and interpersonal skills, as well as the latest technical skills used in industry.

ICTC proposes that addressing these challenges requires a comprehensive approach that links multiple initiatives in a holistic way:

- Heightened outreach and engagement programs to encourage and support youth in pursuing educational programs that prepare them for ICT careers;
- Increased face time with the industry at an early age to ensure that education incorporates a strong and exciting vocational component showcasing industry advancements and innovations;
Strong on-the-job experiential component to facilitate the transition from education to employment with programs that provide a wage subsidy and other incentives to hire youth and transition them into high-paying jobs;

Recommendations

1. Encourage and support youth in pursuing ICT studies

Despite virtually full employment among ICT workers, there are challenges to attracting youth into the studies that lead to those jobs. ICTC has successfully offered the Focus on IT (FIT) program for a number of years, working with schools and provincial authorities to align high school curriculum with employer needs, providing a clear career path and sometimes advanced post-secondary standard to youth who seek FIT certificates. In addition, FIT offers resources and tools to overcome negative stereotypes about technology jobs.

Attracting youth to technology careers should be among the Government's top priorities. Youth unemployment and under-employment are at distressingly high levels, and youth have not participated in the economic recovery to the same degree as others. Addressing this is critical.



If Canada as a nation can do a better job of attracting youth to tech careers, it is critical that they begin learning as early as possible the skills that are in demand. Prior to post-secondary studies, programs such as Focus on IT ensure collaboration between those developing school curriculum and industry to ensure that kids learn relevant skills – including communications and business skills.

2. Vocational experience

One of the chief challenges facing employers and young Canadians is that youth are often unprepared for the workplace after academic studies. They lack the experience sought by employers, and may not have the interpersonal, communications and business skills that would allow them to contribute quickly to the organization. ICTC is a staunch advocate of greater vocational training supported by educational institutions, industry and government.

The benefits to the Canadian economy of better enabling youth to seamlessly integrate from education to employment are clear. However, achieving the integration of vocational training at the necessary scale is challenging when the large majority of Canadian enterprises are small to medium size firms that employ fewer than 100 staff. Without support, these companies do not have the resources of time and money to participate as meaningfully as they might in vocational training. To be clear, employers have a significant responsibility to address skills shortages. They will be, after all, a key beneficiary of any developments that increase the available talent supply. However, practical constraints mean that a successful focus on vocational training will require multi-stakeholder participation, including by government.

3. Wage subsidy

Wage subsidies as incentive to hire new technology grads are a proven approach to bridge newly-graduated youth into employment. One program offered by ICTC in partnership with Employment and Skills Development Canada is consistently over-subscribed. Canadian small- to medium-sized enterprises (SMEs) are the lifeblood of the Canadian economy. Ensuring that these businesses have the talent they need to compete and grow is important to all of us. Canadian youth are facing unemployment rates that are twice the national average. The opportunity is to bring these two needs together.

Wage subsidy programs work by offering a meaningful top-up to new employees' salaries, effectively lowering the cost to employers and offsetting the additional training and resources that new graduates are expected to need. In the programs offered over many years by ICTC, the retention of new employees after the subsidy is expired has been traditionally very high.



Impact

Reducing youth unemployment is part and parcel of the themes put forward by the Committee for the 2015 Budget: *supporting families and helping vulnerable Canadians by focusing on health, education and training; and, maximizing the number and types of jobs for Canadians.*

With respect to the economic impact, ICTC considers that the costs of a holistic program addressing education to employment represent a significant return on investment. A small investment of \$10 million dollars - \$1 million for youth attraction initiatives, \$4 million to support vocational training, and \$5 million provided in wage subsidies – could directly assist 500 youth to begin making a contribution to the digital economy. Those newly-employed youth, in turn, would be expected to directly contribute \$42.5 million to GDP. The indirect contribution from closing the skills gap, reducing HR costs to multiple enterprises, and opening the throttle on innovation, would be many times that number over a short period.

Request to appear

ICTC is available to appear before the Committee to explore its recommendations in greater detail, and is in any case available to provide further information at any time at the Committee's request.