



## 7. BUILD DIGITAL SKILLS TO COMPETE IN THE NEW TALENT ECONOMY

Workplaces are increasingly becoming an automated, robotic and digital environment, challenging the ability of Canadian businesses to recruit a workforce with the necessary technological skills. Canada's ability to lead in highly technical industries will rely on its capacity to harness digital technologies and apply them across its economy, not only in businesses directly focused on digital services. This is particularly true in an era of emerging technologies, like artificial intelligence, digital media and big data analytics.

As an example, the need for big data specialists will grow over the next five years as businesses increase their capacity to implement real-time data solutions. The lines between those who prepare the data, analysts and decision-makers are being blurred. Organizations struggle to recruit and properly train a sufficient number of data scientists and analytics professionals, fields that currently employ more than 33,000 across Canada. These professionals have a holistic skillset not necessarily understood in a market where specialization in a single stream, certification or degree is valued more. They combine a particular mix of competencies employers are demanding but of which many educators and students may be unaware.

Growth in social, mobile, applications, analytics and the cloud (SMAAC) industries mean that over 200,000 information and communications technology (ICT) workers will need to be hired by 2020. In addition, almost 90,900 ICT workers are nearing retirement, and this number will continue to increase over the next several years. While annual ICT enrolment rates have grown by 24% since 2010, the number of ICT graduates will not satisfy labour market demand.

These skill gaps are not only found in emerging niche applications. Technical literacy is increasingly required in all forms of employment to take advantage of the latest tools and applications. This can range from ensuring managers have the ability to use the most modern and efficient databases, to restaurant servers using up-to-date software for inputting orders and printing customers' bills, to workers in manufacturing operating increasingly intelligent machinery.

According to the Information Technology Association, "employers have noted persistent challenges in finding ICT professionals who can also understand new technologies and platforms, like cloud computing, at a macro level. As businesses increasingly rely on cloud infrastructure to host their big data solutions or other technologies, such as high-performance computing or mobile solutions, there is a need to close the gap between the demand for and the supply of ICT talent from the post-secondary institutions." This is just one example of the need for better education of graduates not only in computer-centric fields, but also for improving digital literacy across the board.

We will advocate a policy response from federal and provincial governments to address this serious skills gap. Solutions may be found in various areas, including provincial support for college program enhancements, in federal temporary and permanent immigration streams and within the business/education dialogue, where students need to be aware of the opportunities offered in this sector.