



RESEARCH

# STRENGTHENING CANADA'S DIGITAL ADVANTAGE

QUARTERLY MONITOR OF CANADA'S DIGITAL ECONOMY

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ICTC's labour market research captures critical economic and labour market indicators to inform competitive business and human resource strategy planning, decision-making and career development in ICT, thereby driving the development of a more prosperous Canadian ICT workforce and industry in a global digital economy.

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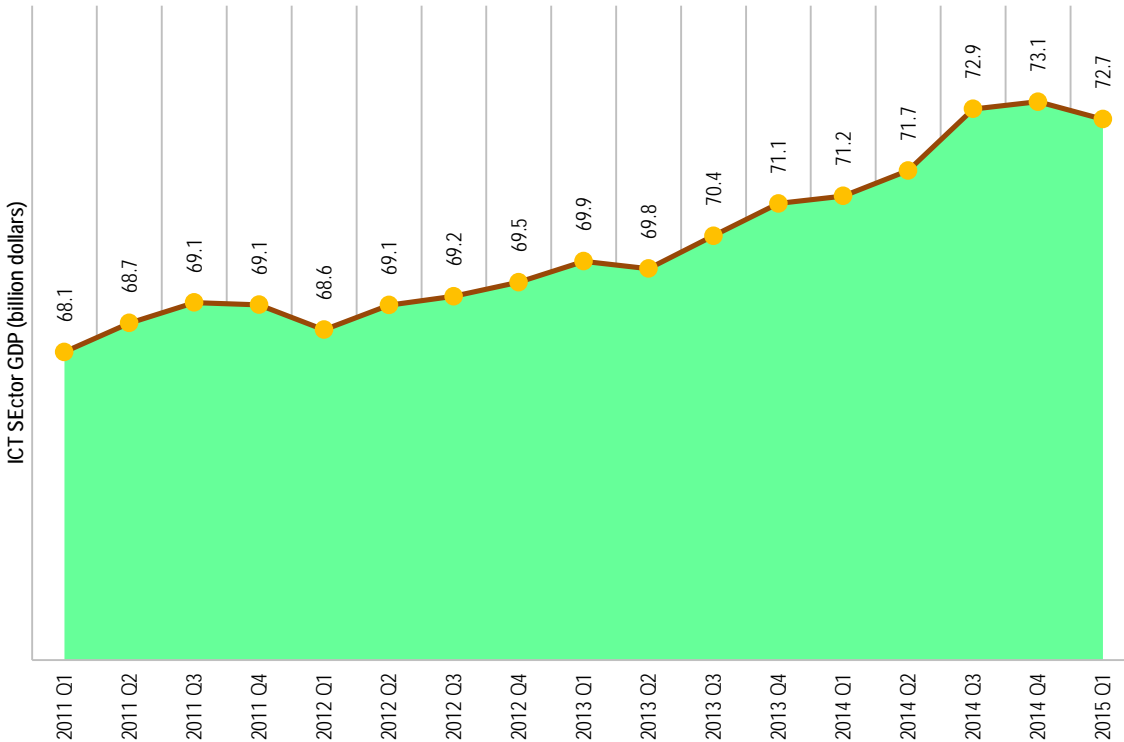
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## OUTPUT AND OUTLOOK

### GDP Growth

Figure 1. ICT Sector GDP (In Billions of Dollars)



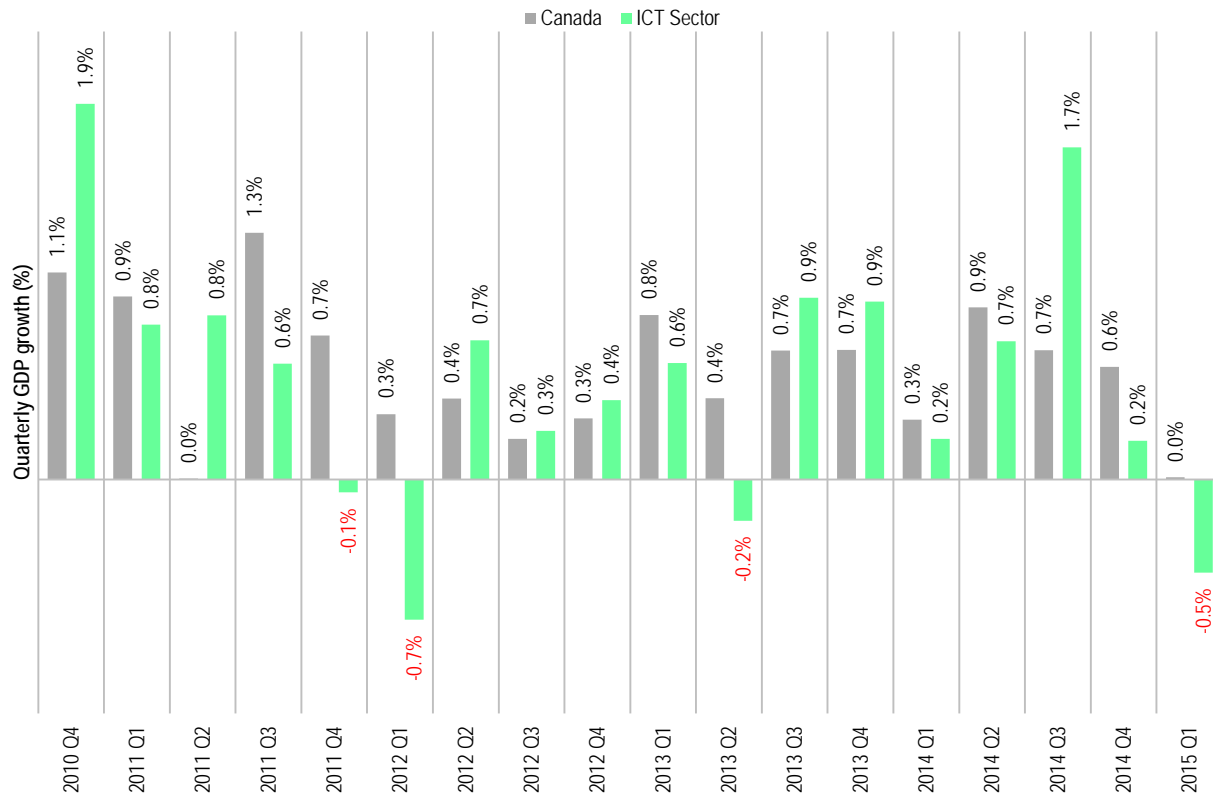
Source: ICTC; Statistics Canada

- Real gross domestic product (GDP) produced by the Canadian ICT sector decreased marginally in the first quarter (↓\$400 million), following four consecutive quarters of increase.
- In the first quarter of 2015, the ICT sector contributed \$72.7 billion to Canadian GDP (figure 1).<sup>1</sup>
- The ICT sector accounted for 4.4% of Canada's total output of \$1,654 billion in 2015 Q1.

**Takeaway:** Canada's gross domestic product contracted 0.1% in the first quarter. This was the first contraction since 2011 Q2. Contributions made by the ICT sector also declined slightly, but remained well above year-ago levels. As digital technologies continue to permeate every aspect of our economy and culture, it is critical for SMEs to understand how digital adoption can boost their business. ICTC's [Digital Adoption Compass](#) helps SMEs leverage digital technologies to expand their scale and scope.

<sup>1</sup> In 2007 chained dollars. Chained dollars are real dollar amounts adjusted for inflation.

Figure 2. Quarterly GDP Growth



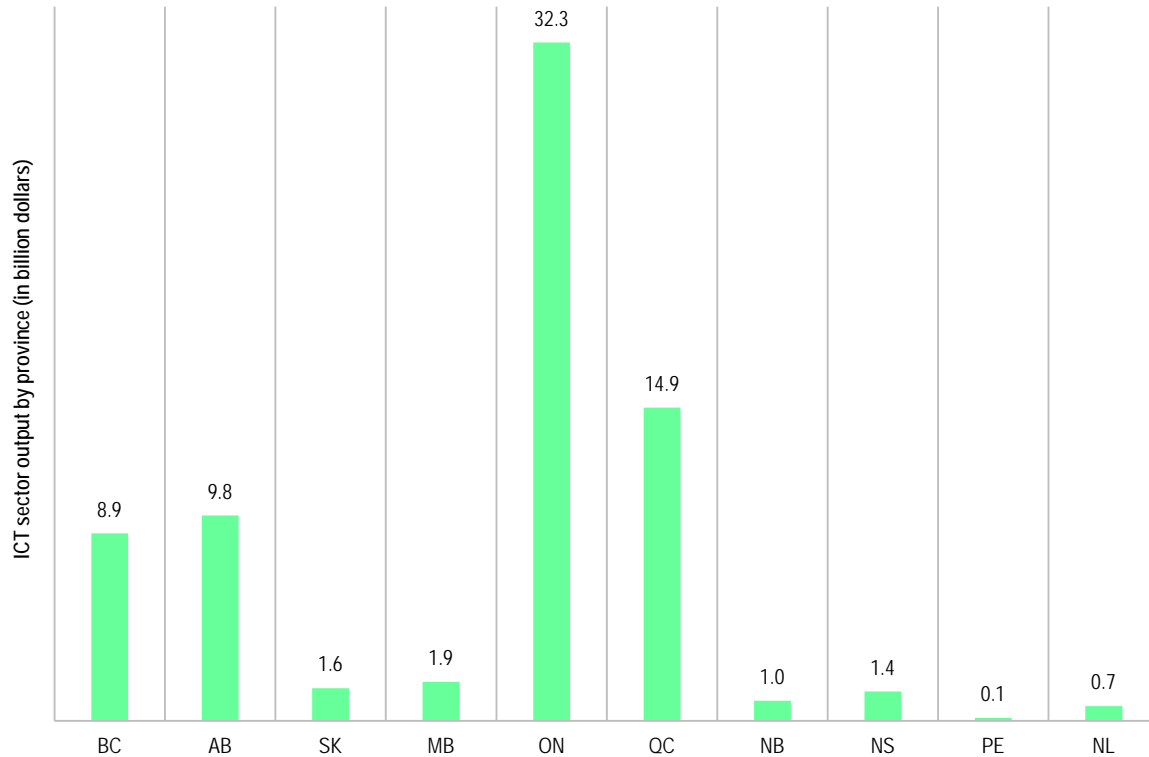
Source: ICTC; Statistics Canada

- ICT sector output in the first quarter of 2015 increased by 2.1% or \$1.5 billion from year-ago levels (2014 Q1).
- This output level represents a 4% (▲) increase compared to two years ago (2013 Q1).
- GDP output in the overall Canadian economy was virtually unchanged compared to the previous quarter.
- Compared to year-ago levels (2014 Q1), the overall Canadian economy expanded 2.2% (▲). Compared to 2013 Q1, output growth in Canada was 4.3% (▲).

**Takeaway:** Innovations in the ICT sector enable organizations throughout the economy to increase productivity, reduce operational costs and boost business opportunity. ICTC's latest report on [Automation and Robotics \(A&R\)](#) found that Canada's industrial automation sector generates \$2 billion in revenues. Users of industrial automation also report higher productivity, lower expenditure and higher demand for skilled workers as a result of A&R adoption.

## Provincial Comparison: ICT Sector Output

Figure 3. ICT Sector Output by Province (In Billions of Dollars)



Source: ICTC; Statistics Canada

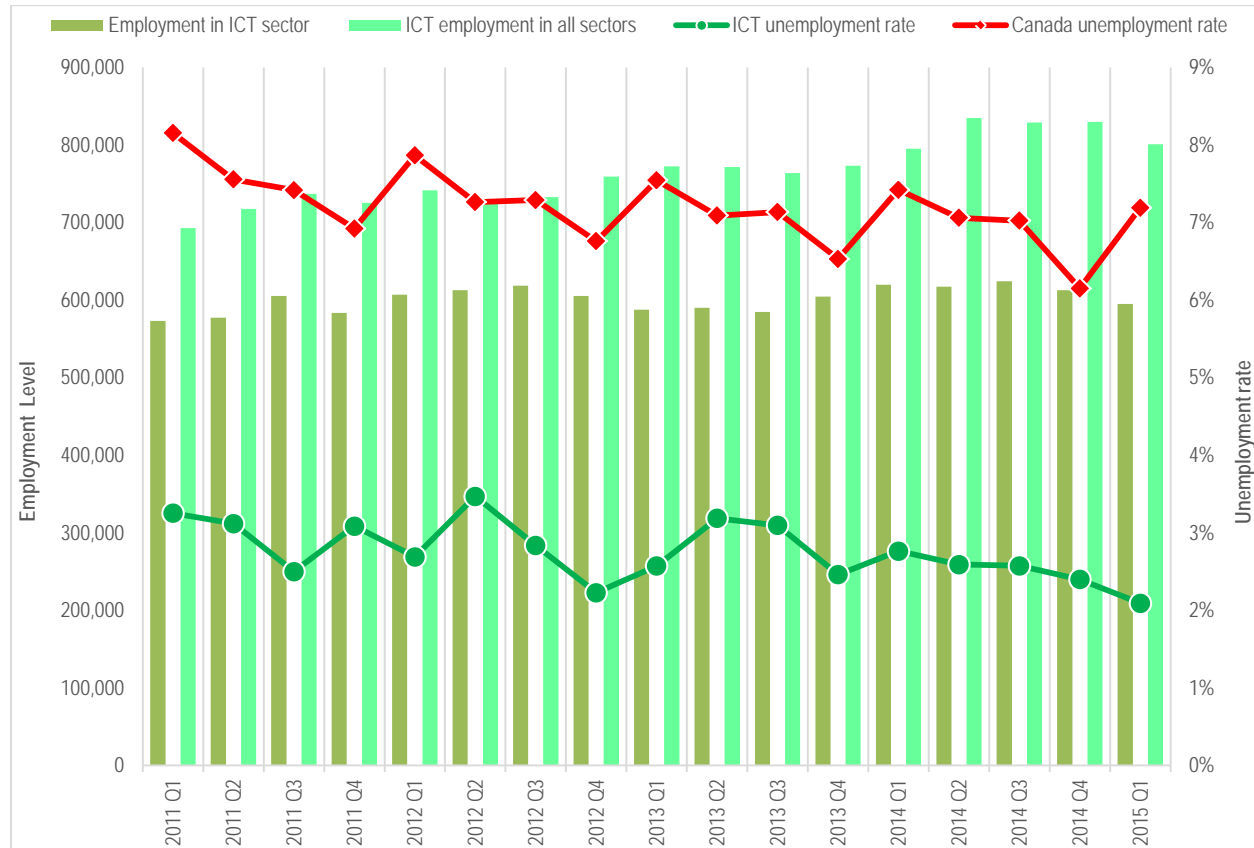
- Reflective of the size of its ICT sector and workforce, Ontario is Canada's ICT leader and contributed \$32.3 billion to total Canadian ICT output in 2015 Q1.
- In the same period, other notable ICT output contributors were Quebec (\$14.9 billion), Alberta (\$9.8 billion), British Columbia (\$8.9 billion), Manitoba (\$1.9 billion), Saskatchewan (\$1.6 billion), and Nova Scotia (\$1.4 billion).

**Takeaway:** The ICT sector is a key driver of economic activity throughout Canada. The ICT sector has a "horizontal" impact on the Canadian economy, given its direct and indirect contribution to virtually every sector. ICTC's forthcoming study on Big Data will explore the economic contribution of data analytics on the Canadian economy, as well as how SMEs can leverage Big Data to their benefit.

## LABOUR MARKET TRENDS

### Employment

Figure 4. Employment in Canada's Digital Economy



Source: ICTC; Statistics Canada

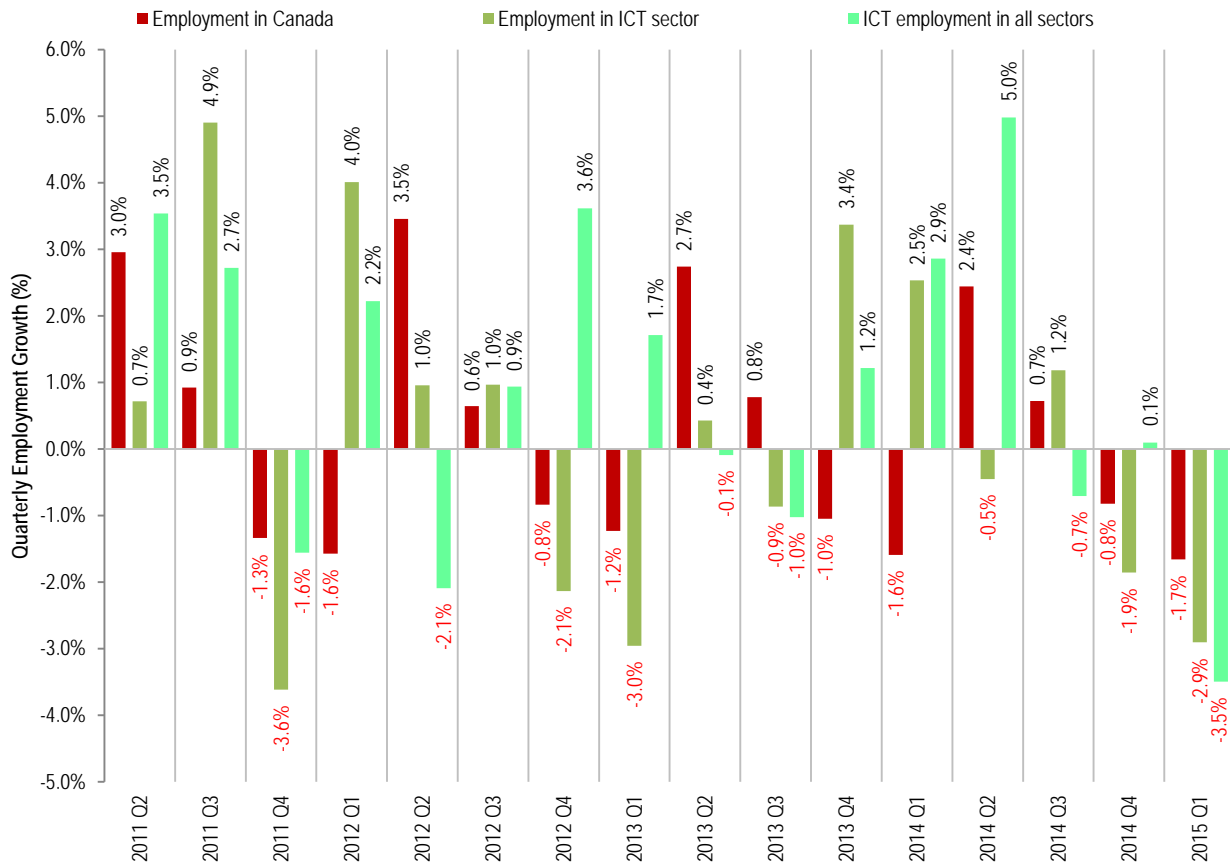
- ICT employment in Canada declined by 3.5% in the 2015 Q1, falling to 800,700 from 829,700 in Q4 2014 (↓29,000).
- The jobless rate in ICT professions declined to 2.1% in 2015 Q1 from 2.4% in 2014 Q4.
- Employment in the ICT sector declined to 595,000 in 2015 Q1 from 612,800 in 2014 Q4 (↓17,800).

**Takeaway:** While overall employment in ICT jobs declined slightly quarter-on-quarter, the jobless rate fell 0.3 percentage point to 2.1%, showcasing the overall resilience of the ICT labour market amid national and regional headwinds.

ICTC's [Series on Emerging Subsectors](#) explores how new digital technologies are impacting ICT employment. ICTC's forthcoming study on Big Data will explore how advances in data analytics are impacting ICT employment throughout Canada.



Figure 5. Employment Growth



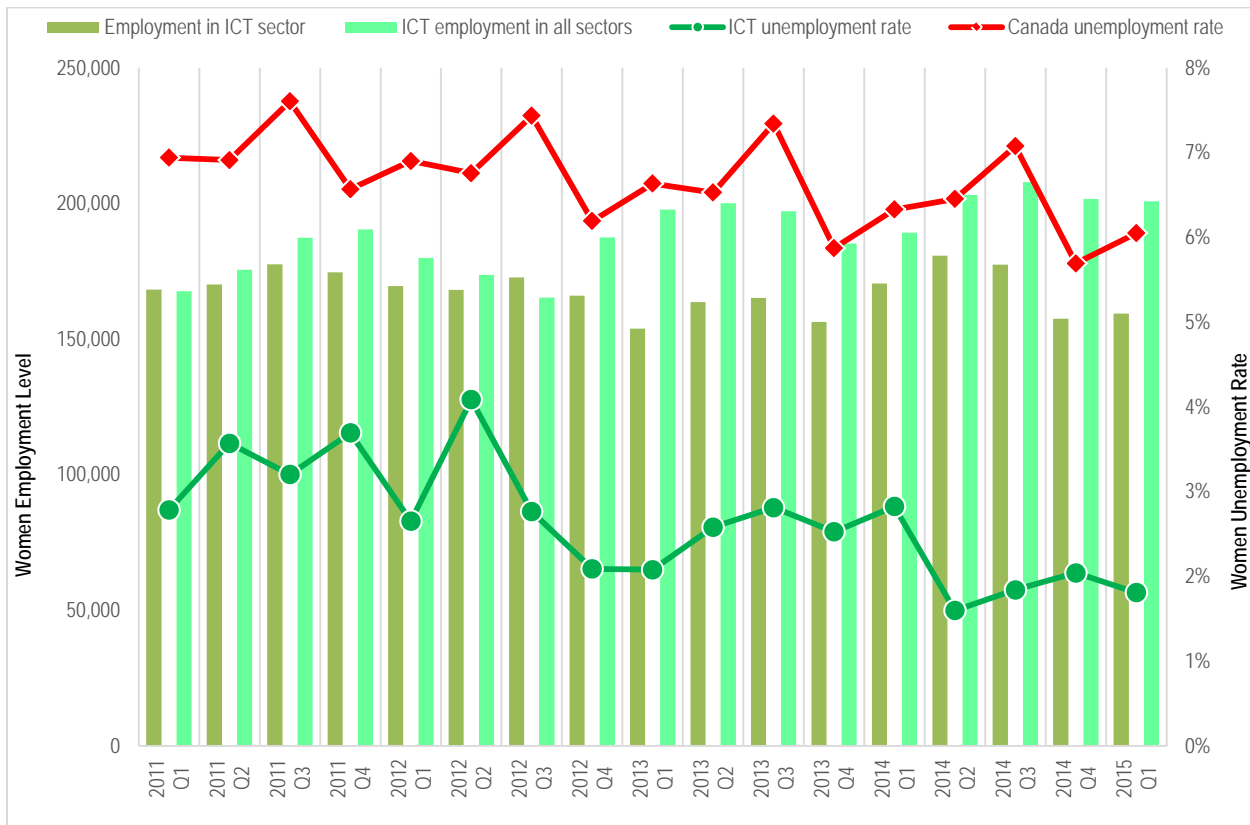
Source: ICTC; Statistics Canada

- A total of 17.6 million workers were employed in Canada in 2015 Q1.
- Overall employment in Canada declined by 1.7% or 296,600 in 2015 Q1 compared to the previous quarter (2014 Q4).
- ICT employment declined by 3.5% in 2015 Q1.
- Compared to year-ago levels, overall employment across all sectors in Canada increased by 109,800, of which 5,500 were ICT jobs.

**Takeaway:** ICT employment declined in lockstep with overall employment in Canada quarter-on-quarter, but still registered growth over year-ago levels. Based on ICTC's [latest outlook report](#), ICT employment is expected to increase significantly this year.

## Women Employment

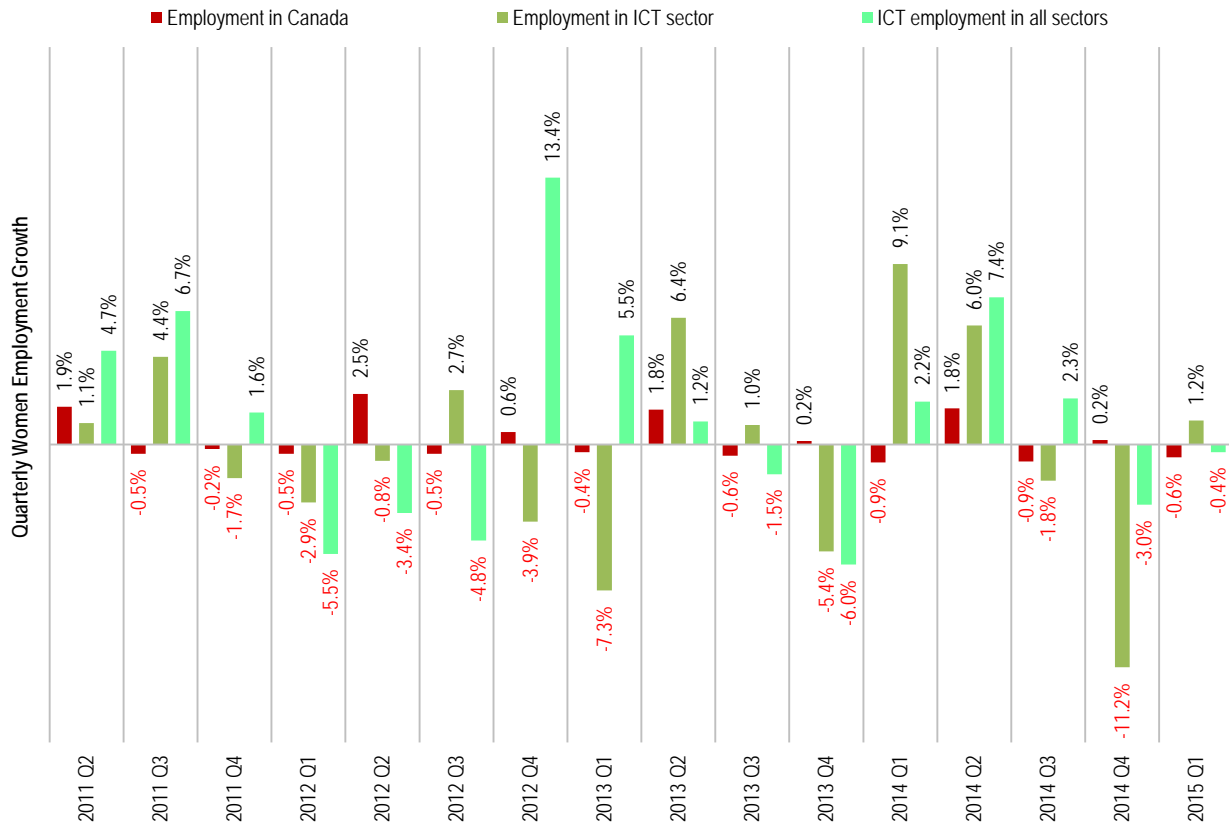
Figure 6. Women's Employment



Source: ICTC; Statistics Canada

- The number of women employed in ICT jobs edged down slightly in 2015 Q1 (200,800) compared to the previous quarter (201,600).
- However, compared to year-ago levels (2014 Q1), the number of employed women in ICT jobs increased by 6.1%.

Figure 7. Women's Employment



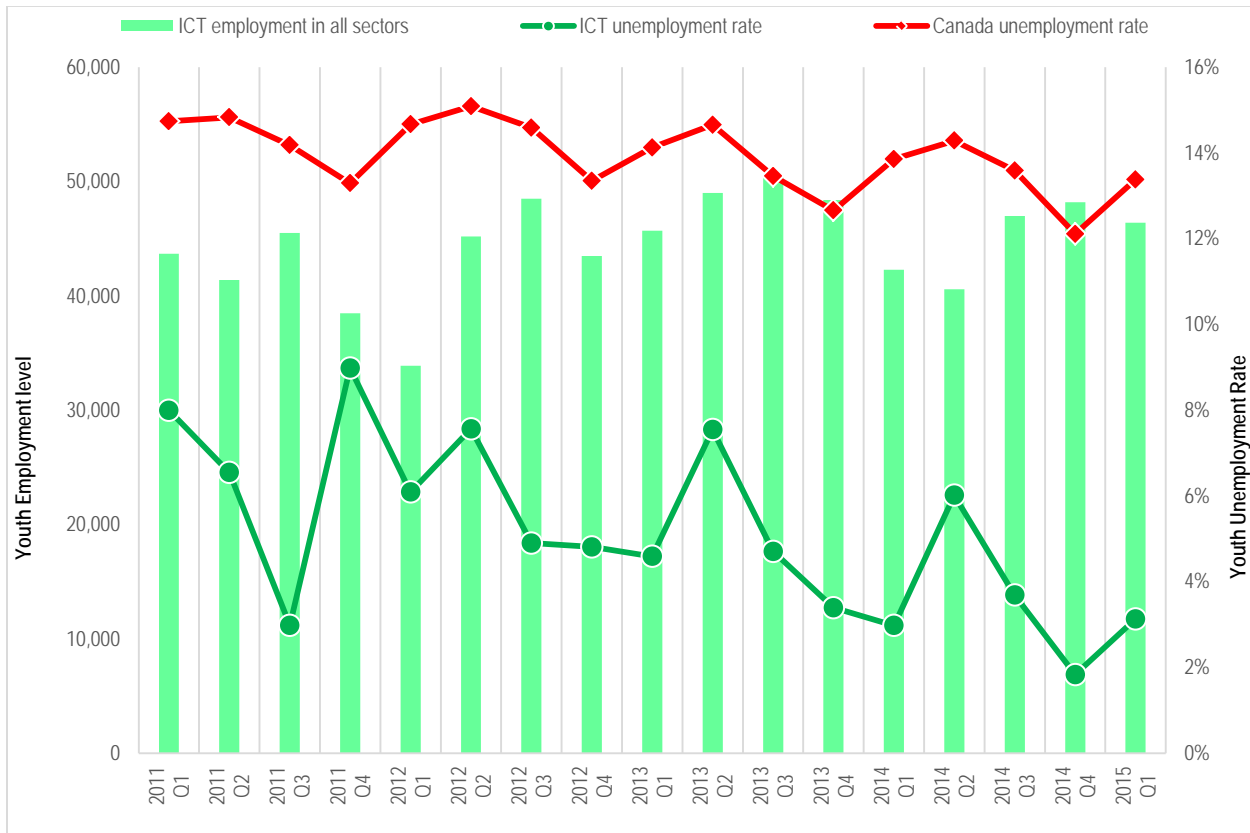
Source: ICTC; Statistics Canada

- Compared to the previous quarter, the number of women employed in the ICT sector increased by 1.2%.
- The number of women employed in ICT jobs across all sectors declined 0.4% quarter-over-quarter.
- Compared to year-ago levels (2014 Q1), the number of women employed in the ICT sector declined 6.5%.

**Takeaway:** While there was a slight decrease in the number of women employed in ICT jobs compared to the previous quarter, the underlying trend shows consistent year-over-year growth. Women's employment in ICT professions has grown in seven of the previous ten years, a sign women were occupying many different tech professions. ICTC is delivering multiple programs to support the participation of women in the ICT sector and workforce, including the [Women in Technology \(WIT\) Initiative](#).

## Youth

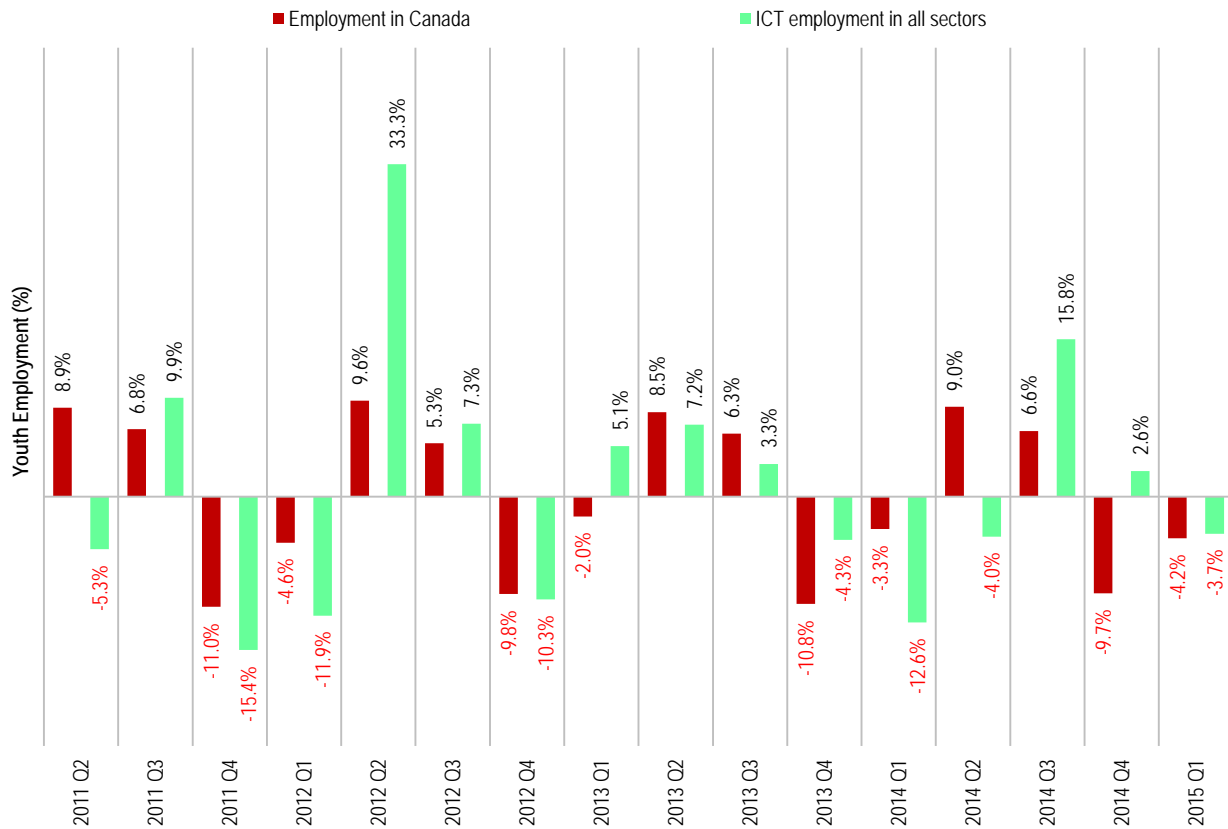
Figure 8. Youth Employment and Unemployment



Source: ICTC; Statistics Canada

- ICT employment among those aged 25 or younger decreased to 46,400 in 2015 Q1 from 48,200 in 2014 Q4.
- Currently, only 6% of ICT jobs in Canada are held by youth, compared to 13% of the jobs in the overall economy.
- Youth unemployment in Canada was 13.4% in 2015 Q1. For ICT occupations, however, youth unemployment is significantly lower at 3.1%.

Figure 9. Youth Employment Rates



Source: ICTC; Statistics Canada

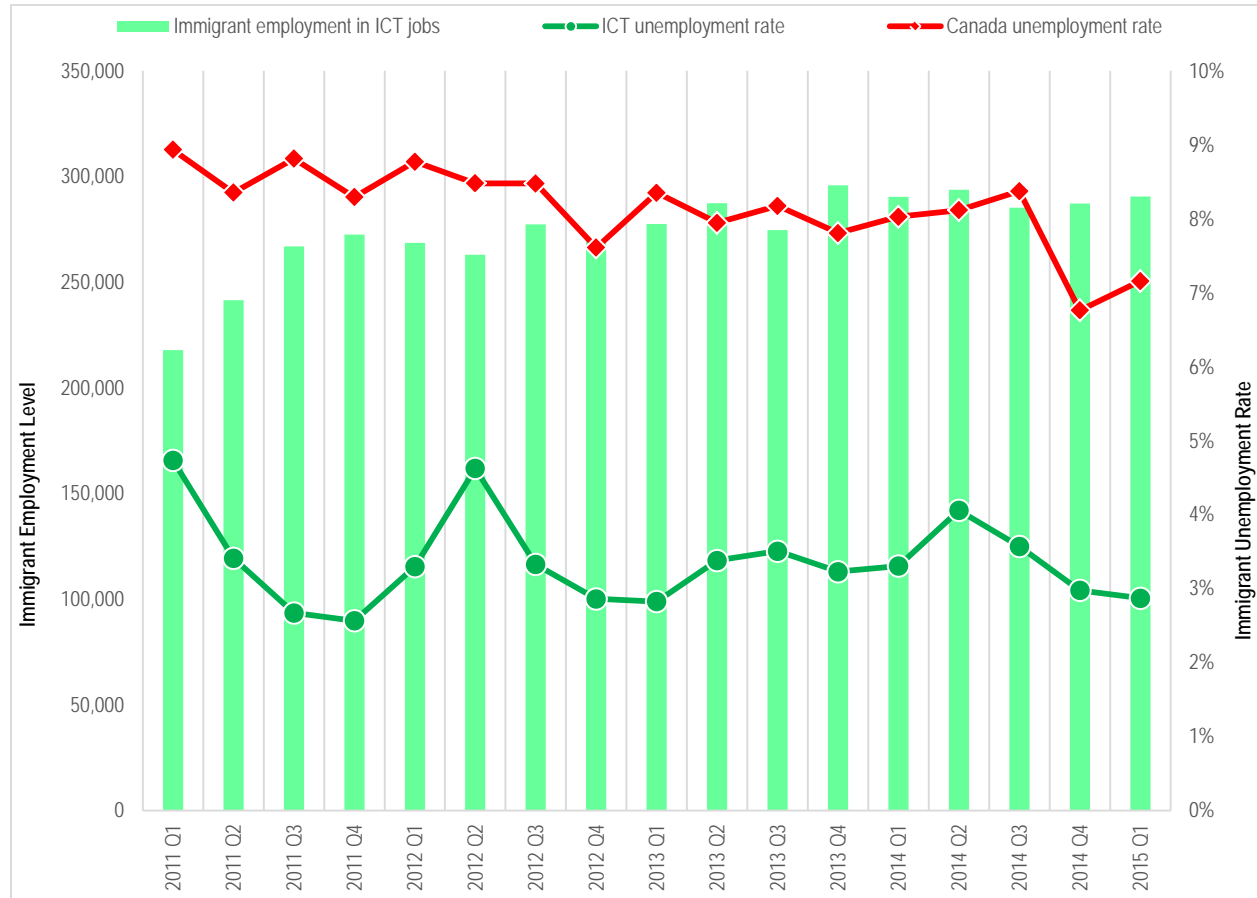
- Overall youth employment in the Canadian economy declined by 4.2% in 2015 Q1 compared to the previous quarter. For ICT occupations, youth employment decreased by 3.7%.

**Takeaway:** Youth unemployment in the ICT workforce is only a fraction of the national average. By visiting [ICTC's e-talent Canada portal](#), youth can explore in-demand ICT jobs by province and begin matching their skills with those coveted by employers.

ICTC has numerous initiatives promoting youth participation in the ICT workforce, including the [Career Connect](#) wage subsidy program and the [Focus on Youth Careers](#) Java training program.

## Immigrants

Figure 10. Immigrant Employment and Unemployment



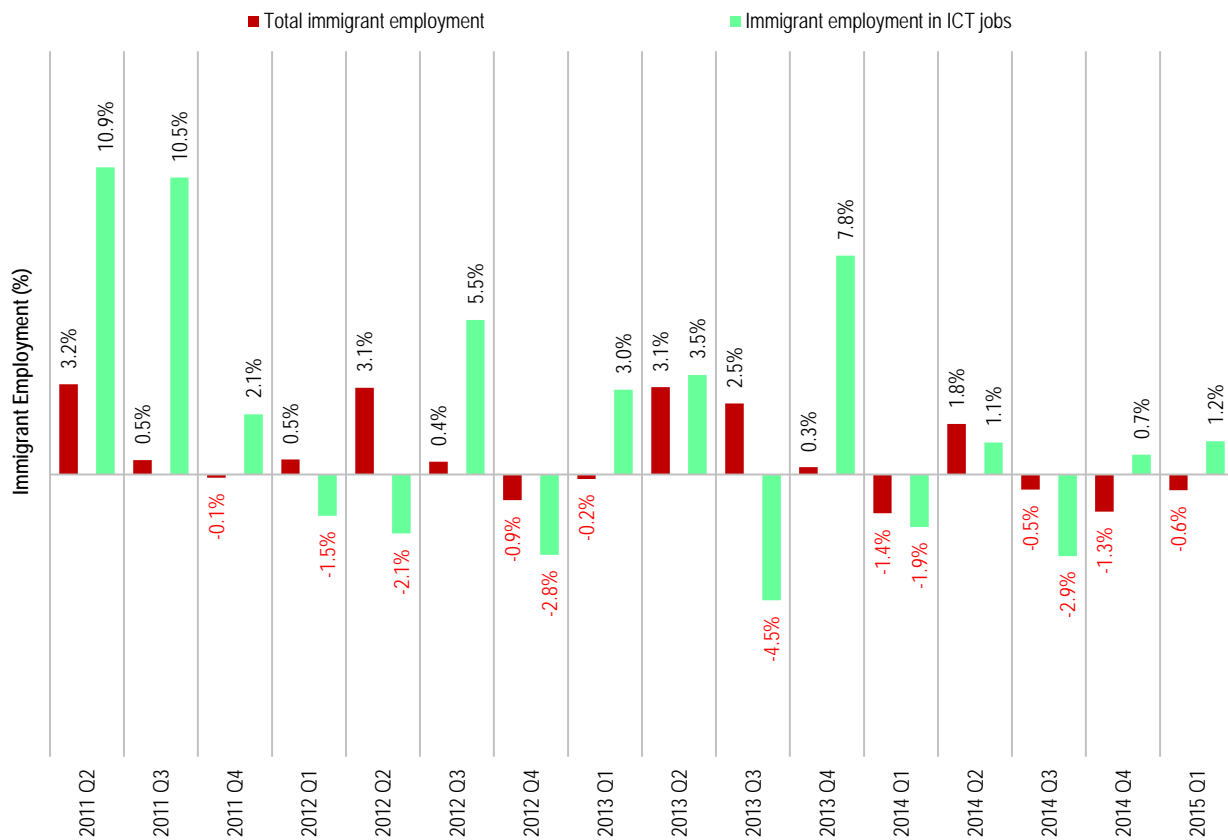
Source: ICTC; Statistics Canada

- Of the 800,700 employed ICT workers in 2015 Q1, 33% or 290,600 were immigrants.
- The jobless rate for immigrants in ICT is 2.9%. By comparison, the immigrant unemployment rate in the rest of the economy is 7.2%.

**Takeaway:** Immigrants continue to play a critical role in Canada's ICT workforce. Immigrants consistently represent around one-third of all ICT workers across Canada. This is in contrast to the overall economy, where only a quarter (24%) of all jobs are held by immigrants.

ICTC offers immigrants the [Integrated Work Experience Strategy \(IWES\)](#) and [Coaching to Career](#) bridging programs, which are both designed to help internationally educated professionals become employment ready.

Figure 11. Immigrant Employment Rates



Source: ICTC; Statistics Canada

- While total immigrant employment in Canada declined by 1% in 2015 Q1, immigrant employment in ICT jobs increased at the same rate.
- ICT employment among immigrants has increased by 8% over the past three years (since 2012 Q1).

For more immigrant and province-specific granular data for the digital economy, please visit [the e-Talent Canada Portal](#).

## In-Demand jobs

Demand for ICT professionals remains very high in Canada and is expected to increase significantly over the next five years. To understand the ICT supply/demand balance in Canada over the next five years, please refer to [ICTC's 2015-2019 Labour Market Outlook](#). To review current ICT vacancies by occupation and province, please [click here](#).

The ICT workforce remains one of Canada's tightest labour markets, with an unemployment rate of 2.1%, a fraction of the national average (7.2%).



## Digital Economy Labour Force

ICTC's labour market research captures critical economic and labour market indicators to inform competitive business and human resource strategy planning, decision-making and career development in ICT, thereby driving the development of a more prosperous Canadian ICT workforce and industry in a global digital economy.

The sum total of workers (workers that are employed in these occupations as well as workers that are currently unemployed, but actively looking for work) in these occupations and workers in all other (non-ICT) occupations in the ICT sector (ICTC's framework of Canada's ICT sector is explained below) is the total digital economy labour force in Canada. The table below summarizes the core ICT occupations:

Index	National Occupational Classification (NOC)	Occupation Title
1	0131	telecommunication carrier managers
2	0213	computer and information system managers
3	2133	electrical and electronics engineers
4	2147	computer engineers
5	2171	information systems analysts and consultants
6	2172	database analysts and data administrators
7	2173	software engineers
8	2174	computer programmers and interactive media developers
9	2175	web designers and developers
10	2241	electrical and electronics engineering technologists and technicians
11	2281	computer network technicians
12	2282	user support technicians
13	2283	systems testing technicians
14	5224	broadcast technicians
15	5241	graphic designers and illustrators

## ICT Sector

The table below summarizes the ICT sector:

Index	North American Industry Classification System (NAICS)	ICT Sub-sector
1	3333	Commercial & Service Industry Mach. Manuf.
2	3341	Computer & Peripheral Equip. Manuf.
3	3342	Communications Equip. Manuf.
4	3343	Audio & Video Equip. Manuf.
5	3344	Semiconductor & Other Electronic Component Manuf.
6	3345	Navigational, Medical & Control Instruments Manuf.
7	4173	Computer & Comm. Equip. & Supplies Wholesale distribution
8	5112	Software Publishers
9	5171	Wired Telecommunications Carrier
10	5172	Wired Telecommunications Carrier (except satellite)
11	5174	Satellite Telecommunications
12	5179	Other Telecommunications
13	5182	Data Processing, Hosting, and Related Services
14	5415	Computer Systems Design & Related Serv.
15	8112	Electronic & Precision Equip. Repair & Maintenance



## About ICTC

The Information and Communications Technology Council (ICTC) is a leading not-for-profit national centre of expertise conducting research, policy development, and creating talent solutions for the digital economy.

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