



RESEARCH

**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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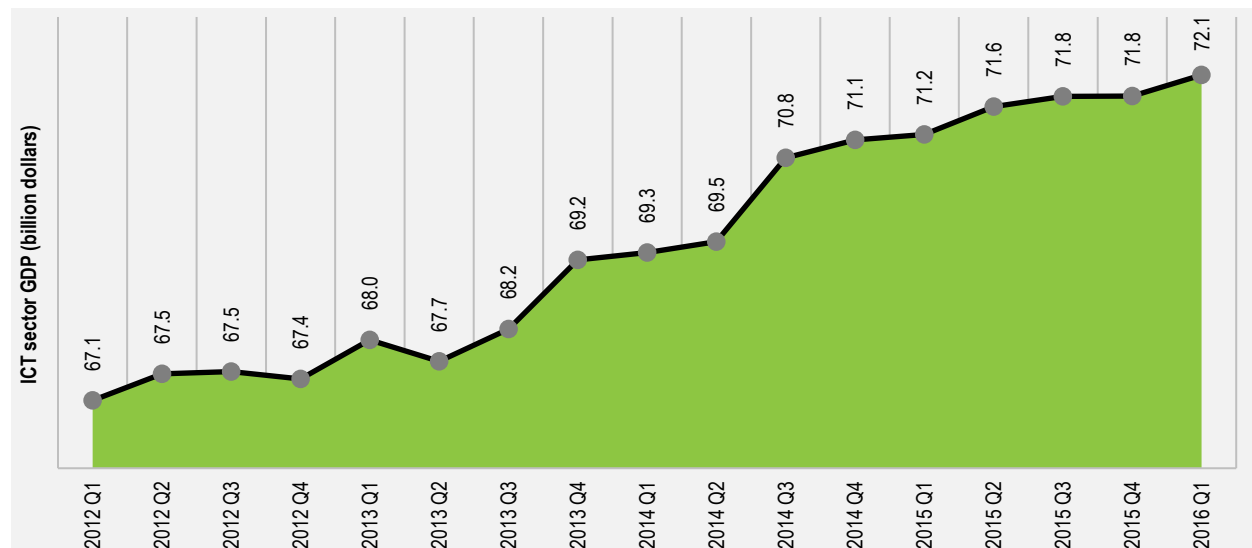
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OUTPUT AND OUTLOOK

GDP Growth

Figure 1 – ICT sector GDP (in billion dollars)



Source: ICTC; Statistics Canada

Analysis and Insights

- ❖ In the first quarter of 2016 (2016 Q1), the ICT sector contributed an additional \$327 million (▲0.5%) to the economy compared to the previous quarter (2015 Q4), and an additional \$923 million (▲1.3%) compared to a year ago (2015 Q1), increasing the ICT sector's contribution to Canadian GDP to \$72.1 billion.^{1,2,3}
- ❖ This strong performance and growth was mainly orchestrated by the ICT services subsector (e.g. software and computer services industries, the ICT communication services industries), recording a \$1.1 billion (▲2%) year-over-year growth in 2016 Q1. Conversely, the ICT manufacturing subsector's contribution to GDP decreased by 5% (▼\$188 million) year-over-year, a sluggish Canadian dollar not providing any benefit to the export-oriented ICT manufacturing subsector.
- ❖ The Canadian ICT sector grew for the 11th consecutive quarter, recording a 6.6% (▲\$4.4 billion) growth over that period. The overall Canadian economy grew by 5.2% in that same period.
- ❖ Ontario is Canada's ICT leader and contributed \$32.2 billion to total Canadian ICT output in 2016 Q1. In addition, Quebec contributed \$15.2 billion, Alberta \$9.2 billion, and British Columbia contributed \$8.9 billion to ICT sector GDP.
- ❖ ICTs contribute directly as well as indirectly to all industries. The role of new and emerging technologies and complementary talent in transforming various economic sectors is highlighted in Canada's first *National Digital Talent Strategy*, expected to impact policy, education outcomes, and industry engagement for years to come.
- ❖ As digital technologies continue to permeate every aspect of our economy and culture, it is critical for industry, including SMEs, to understand how digital adoption can boost their business. ICTC's Digital Adoption [Compass](#) initiative continuously [highlights](#) the importance of digital adoption for Canadian businesses and also [lists](#) digital solutions for businesses to improve their efficiencies and offerings.

¹ In 2007 chained dollars. Chained dollars are real dollar amounts adjusted for inflation.

² GDP figures for 2016 Q1 are calculated using up to February 2016 data, due to lag associated with availability of output data.

³ The underlying concepts, methods, classification systems, and data sources of the Canadian System of Macroeconomic Accounts (CSMA) have been recently updated, and these modifications are reflected in the GDP levels compared to previous editions of this research series.

LABOUR MARKET TRENDS

Employment

Figure 2 – Employment in Canada's digital economy



Source: ICTC; Statistics Canada

Analysis and Insights

- ❖ 22,100 new ICT jobs were created in Canada in the first quarter of 2016. As a result, 909,500 ICT professionals were employed in 2016 Q1, which represents quarterly growth rate of 2.5% (▲).
- ❖ This was in stark contrast to the 305,600 jobs that were cut from the overall Canadian labour market in the first quarter, as the total employment in Canada declined by 1.7% (▼) in 2016 Q1.
- ❖ ICTC's in-depth research and analytics of [job postings](#) on Canada's first online talent and skills insights for the digital economy indicate that emerging digital technologies such as mobile technologies and apps, digital platforms, cloud architectures, and the Internet of Things are driving job growth.
- ❖ 108,800 new ICT jobs have been created in the past four quarters between 2015 Q1 and 2016 Q1, recovering strongly from the 29,000 ICT jobs that were cut in the first quarter of 2015 (2015 Q1).
- ❖ 31,700 people joined the ICT workforce in 2016 Q1, bringing the unemployment rate to 3.5% in the ICT sector.

Gender Diversity

Figure 3 – Women's employment and unemployment



Source: ICTC; Statistics Canada

Analysis and Insights

- ❖ Women secured 43% of the 22,100 new ICT jobs created in Canada in 2016 Q1, or 9,400 of the jobs created in the quarter – a positive move towards improving gender diversity in the digital economy.
- ❖ 9,400 jobs pushed the number of women employed in ICT jobs up to 217,000, a 5% employment growth quarter-over-quarter.
- ❖ The ICT professions attracting the female entrants to the workforce the most include technical support analysts, data analytics specialists, database architects/administrators, software engineers/designers, web administrators, and network support technicians.
- ❖ The unemployment rate among women in ICT professions was 4.0% in 2016 Q1. In contrast, the unemployment rate among women in the overall Canadian labour market was 6.2%.

Youth Inclusion

Figure 4 – Youth employment and unemployment



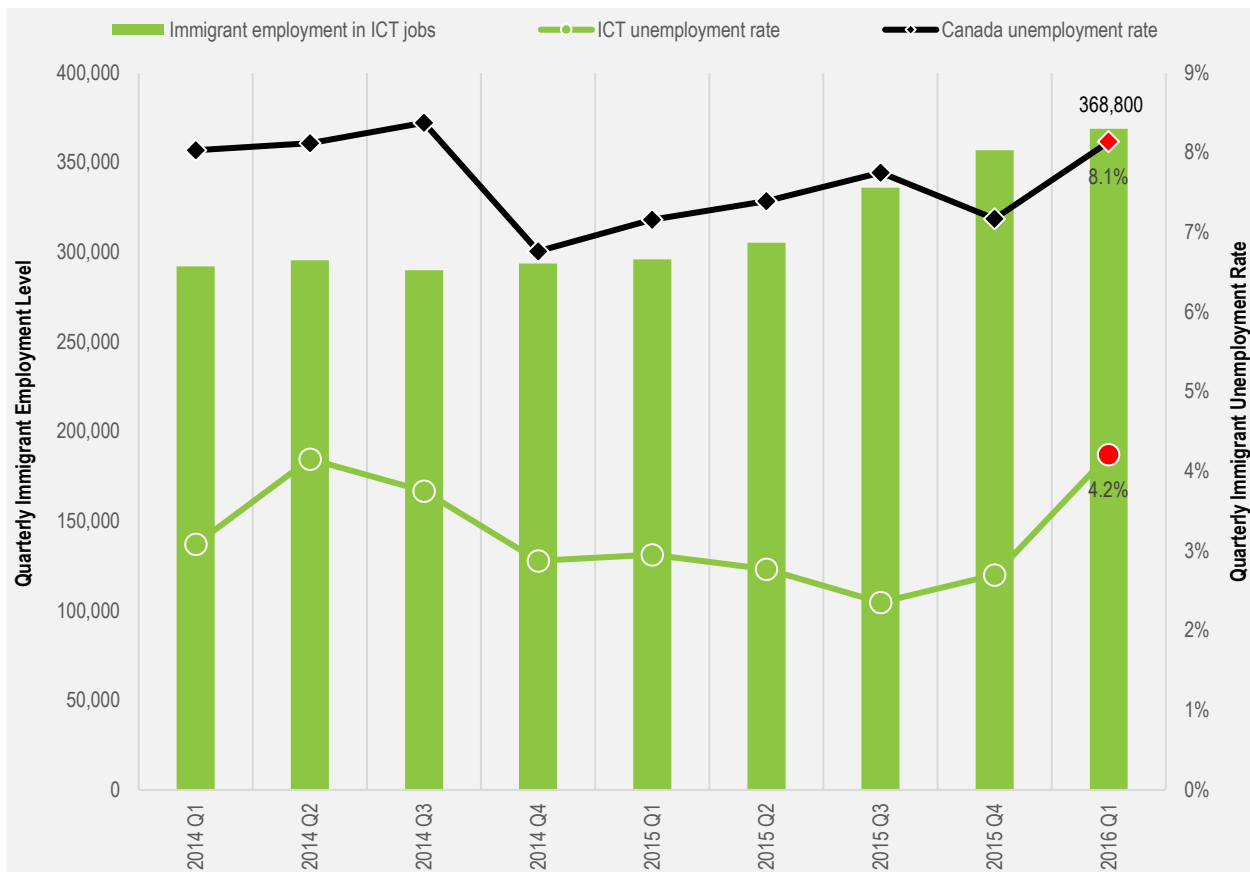
Source: ICTC; Statistics Canada

Analysis and Insights

- ❖ ICT employment among those aged 25 or younger decreased by 1,000 to reach 45,000 in 2016 Q1, comprising 5% of all ICT jobs in Canada, in contrast to 13% of all the jobs held by those aged 25 or younger in the overall Canadian economy.
- ❖ 104,000 youth (aged 25 or younger) lost their jobs in the overall economy in 2016 Q1, once again proving that in a difficult labour market environment, youth are the most vulnerable group.
- ❖ 71,200 youth exited the labour force in 2016 Q1, compared to 104,000 youth that lost their jobs, resulting in the unemployment rate among Canada's youth reaching 13.5% in 2016 Q1, rising significantly from 11.9% in the previous quarter.
- ❖ The unemployment rate among Canada's youth in ICT professions in comparison was significantly lower in 2016 Q1 at 10.2%. ICTC's one-stop talent and skills solution – www.etalentcanada.ca – details the qualifications, demands, and dynamics of Canada's ICT labour market.

Immigrant Integration

Figure 5 – Immigrant employment and unemployment



Source: ICTC; Statistics Canada

Analysis and Insights

- ❖ 368,800 (41%) of all the employed ICT professionals were immigrants⁴ in 2016 Q1. In contrast, immigrants represent 26% of the workforce in the overall economy.
- ❖ Employment of immigrants in ICT professions increased by 12,000 (3%) in 2016 Q1, compared to a marginal decrease (↓2,300) in employment of all immigrants in the overall Canadian economy. This implies that the demand for talent and skills is strong in the digital economy and as a result, immigrants are finding more opportunities in ICT jobs than in other occupations across the economy. This makes a strong case for exploring new policy initiatives that could support the upskilling of immigrants to help them tap into the opportunities of Canada's digital economy.
- ❖ The unemployment rate for immigrants in ICT professions is 4.2%, compared to the unemployment rate of 8.1% amongst immigrants in the overall Canadian economy.

⁴ Immigrants are defined as persons who were not born in Canada and who were not Canadian citizens by birth.



In-Demand jobs

The demand for ICT talent and skills remains very high in Canada and is expected to increase significantly over the next five years. To understand the ICT talent and skills supply-demand dynamics in Canada in the medium term, please refer to [ICTC's 2015-2019 Labour Market Outlook](#).

In 2016 Q1, the employment growth was strongest in these ICT professions:

- ❖ [multimedia designers / graphic illustrators](#)
- ❖ [technical support analysts](#)
- ❖ [software / graphical user interface \(GUI\) developers](#)
- ❖ [information systems managers](#)
- ❖ [informatics / business systems analysts](#)
- ❖ [web developers](#)
- ❖ [software engineers / designers](#)
- ❖ [data analytics / database architects/administrators](#)

It is a good time to be searching jobs in ICT professions in Canada. To review live job postings by occupation, please [click here](#). Please note that your search can be narrowed by using the available keyword, city, and province filters.



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	Wireless 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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