



RESEARCH

**QUARTERLY MONITOR
OF CANADA'S ICT LABOUR MARKET**

The Information and Communications Technology Council | 2016 Q4





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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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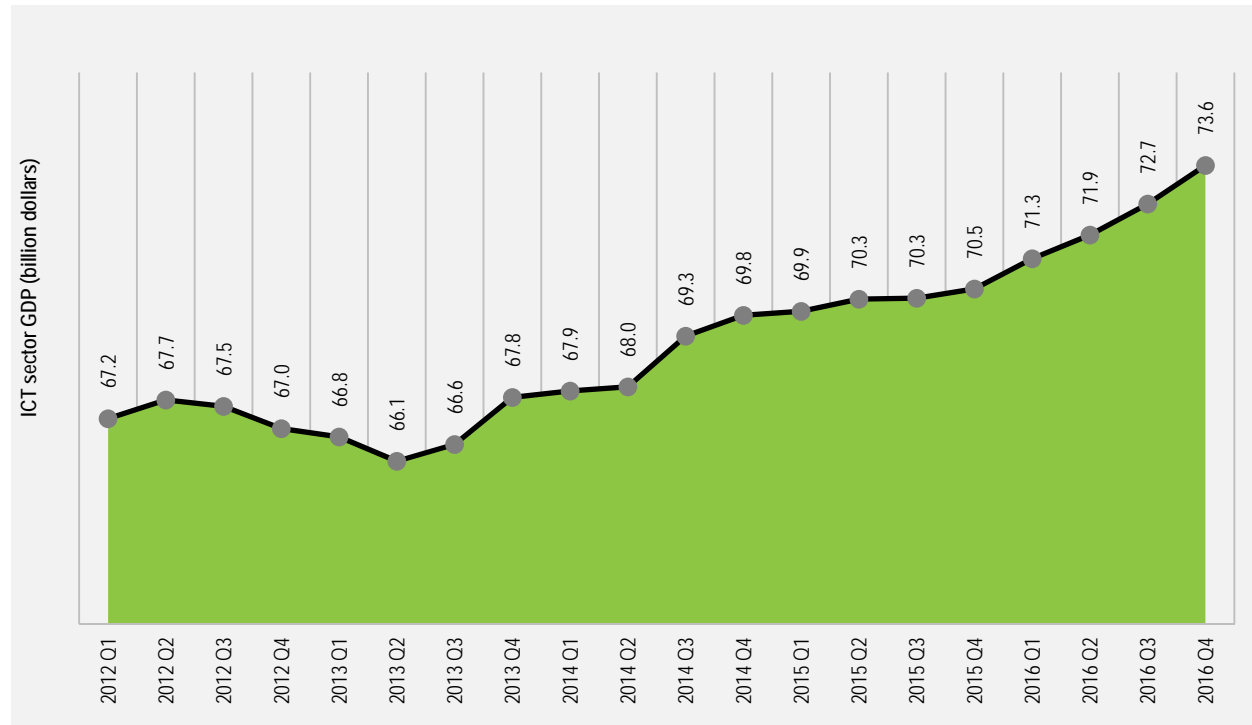
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OUTPUT AND OUTLOOK

GDP Growth

Figure 1 – ICT sector GDP (in billion dollars)



Source: ICTC; Statistics Canada

Analysis and Insights

- ❖ A gradual increase in adoption of ICT products and services across all economic sectors is the driving force behind the consistent growth witnessed in the ICT sector.
- ❖ In the third quarter (Q4) of 2016, the ICT sector continued to grow contributing \$73.6 billion to Canadian GDP^{1,2} which makes up approximately 4.4% of total Canadian GDP. The ICT sector increased by 1.3% or contributed an additional \$980 million to the economy compared to Q3 of 2016 and increased by 4.4% or an additional \$3.1 billion compared to Q4 2015. The ICT sector performed quite well when compared to the overall Canadian economy which only increased by 1.9% compared to Q3 of 2015.
- ❖ ICT services³ which contribute 95% to the total Canadian ICT sector GDP, increased by 1.2% or \$820 million compared to Q3 of 2016. ICT manufacturing⁴ which contributes the other 5% to the total Canadian ICT sector GDP and had been on a declining trend over the last two years increased by 3.7% or \$133 million compared to Q3 2016.

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

² 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

³ This combines the North American Industry Classification System (NAICS) codes 4173, 5112, 517, 518, 5415, 8112. See Appendices

⁴ This combines the North American Industry Classification System (NAICS) codes 3341, 3342, 3343, 3344, 3346. See Appendices

LABOUR MARKET TRENDS

Employment

Figure 2 – Employment in Canada's digital economy



Source: ICTC; Statistics Canada

Analysis and Insights

- ❖ 854,800 ICT professionals were employed across all sectors of the Canadian digital economy in Q4 of 2016.
- ❖ 32,600 ICT jobs were lost across all sectors in Canada over the past four quarters measured from Q4 2015 to Q4 2016, representing a 3.7% decline over Q4 2015.
- ❖ 6,200 ICT jobs were lost in Q4 compared to Q3 2016, representing a 0.7% decline.
- ❖ The 2.1% ICT unemployment rate in Q4 is significantly lower than the 6.9% unemployment rate in the overall economy.
- ❖ 4,500 new jobs were created in the ICT sector in Canada in Q4 2016 compared to Q3 2016, representing a 0.7% growth. That brings the total number of jobs in the ICT sector at the end of Q4 to 641,700.

Gender Diversity

Figure 3 – Women's employment and unemployment



Source: ICTC; Statistics Canada

Analysis and Insights

- ❖ Women's participation in ICT professions has been slowly increasing over the last two years.
- ❖ After a strong Q2 2016, Q3 and Q4 showed a decline of women's employment in ICT roles.
- ❖ 7,200 jobs were lost in Q4 of 2016 pushing down the total number of women employed as ICT professionals by 3% to 209,800 versus Q3 of 2016, and up 1% versus Q4 of 2015.
- ❖ 9,000 women exited the ICT labour force in Q4 of 2016 which represents a 4% decrease compared to Q3 of 2016. However, YoY women participating in the ICT labour force increased by 1,600 or 1%.
- ❖ The unemployment rate of 2.2% among women in ICT professions in Q4 of 2016 is much lower than the 5.7% unemployment rate among women participating in the overall Canadian economy.

Youth Inclusion

Figure 4 – Youth employment and unemployment



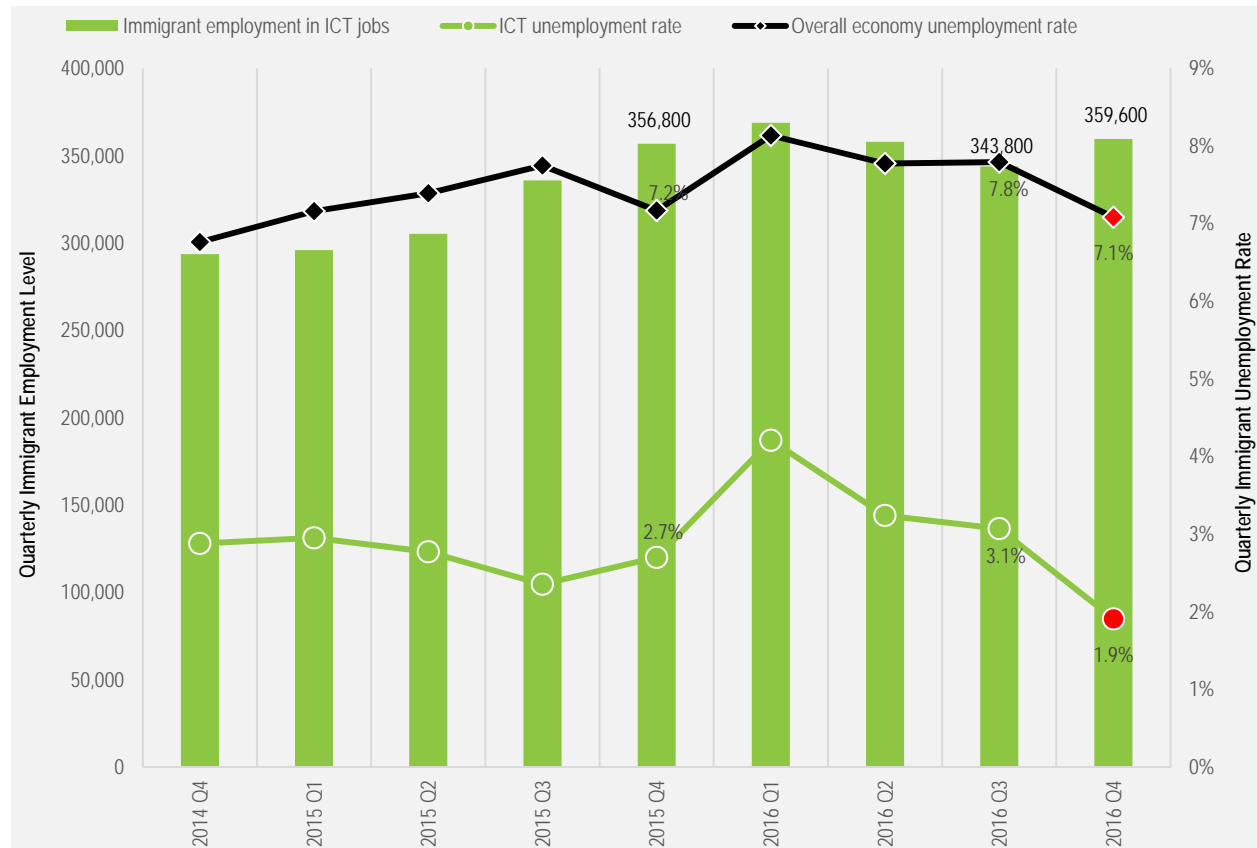
Source: ICTC; Statistics Canada

Analysis and Insights

- ❖ ICT employment among youth (15-24 years old) increased by 5,400 or 13% to reach 46,900 in Q4 of 2016 versus Q3 of 2016.
- ❖ Youth represented 5.5% of the total number of ICT workers in Canada in Q4 of 2016, which is up from 5.4% in Q3 of 2016. The growth in youth ICT workers between Q4 2016 and Q3 2016 can be partially explained by 4,800 youth who entered the ICT labour force over that timeframe.
- ❖ The ICT unemployment rate among Canada's youth dropped from 5% in Q3 2016 to 3.3% in Q4 of 2016.
- ❖ The youth unemployment rate among ICT workers which currently sits at 3.3% is lower than the youth unemployment rate in the overall Canadian economy which currently sits at 11.8%.

Immigrant Integration

Figure 5 – Immigrant employment and unemployment



Source: ICTC; Statistics Canada

Analysis and Insights

- ❖ 359,600 or 42% of all the employed ICT professionals in Q4 of 2016 were immigrants⁵. In contrast, immigrants represent 26% of the workforce in the overall economy which is evidence of a strong demand for ICT talent throughout the economy.
- ❖ Employment of immigrants in ICT professions increased by 15,800 or 5% in Q4 of 2016 versus Q3 of 2016 and increased by 2,800 or 1% versus Q4 of 2015.
- ❖ Quarterly and YoY growth 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.
- ❖ The unemployment rate for immigrants in ICT professions decreased to 1.9% in Q4 of 2016 versus 3.1% in Q3 of 2016.
- ❖ The unemployment rate for immigrants in ICT professions is much lower compared to the unemployment rate of 7.1% amongst immigrants in the overall Canadian economy.

⁵ 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 Q4 of 2016 versus Q3, the employment growth was strongest in these ICT professions:

- ❖ software engineers / designers - 16% increase
- ❖ electronics technicians – 15% increase
- ❖ information systems managers – 5% increase
- ❖ informatics / business systems analysts - 4% increase
- ❖ computer / network systems engineers – 2% increase
- ❖ multimedia designers / graphic illustrators – 1% increase

To review live job postings by occupation, please [click here](#).



APPENDICES

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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