



RESEARCH

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

The Information and Communications Technology Council | 2019 Q2





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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. In so doing, this data will support the continued development of a more prosperous Canadian ICT workforce and industry in a global digital economy.

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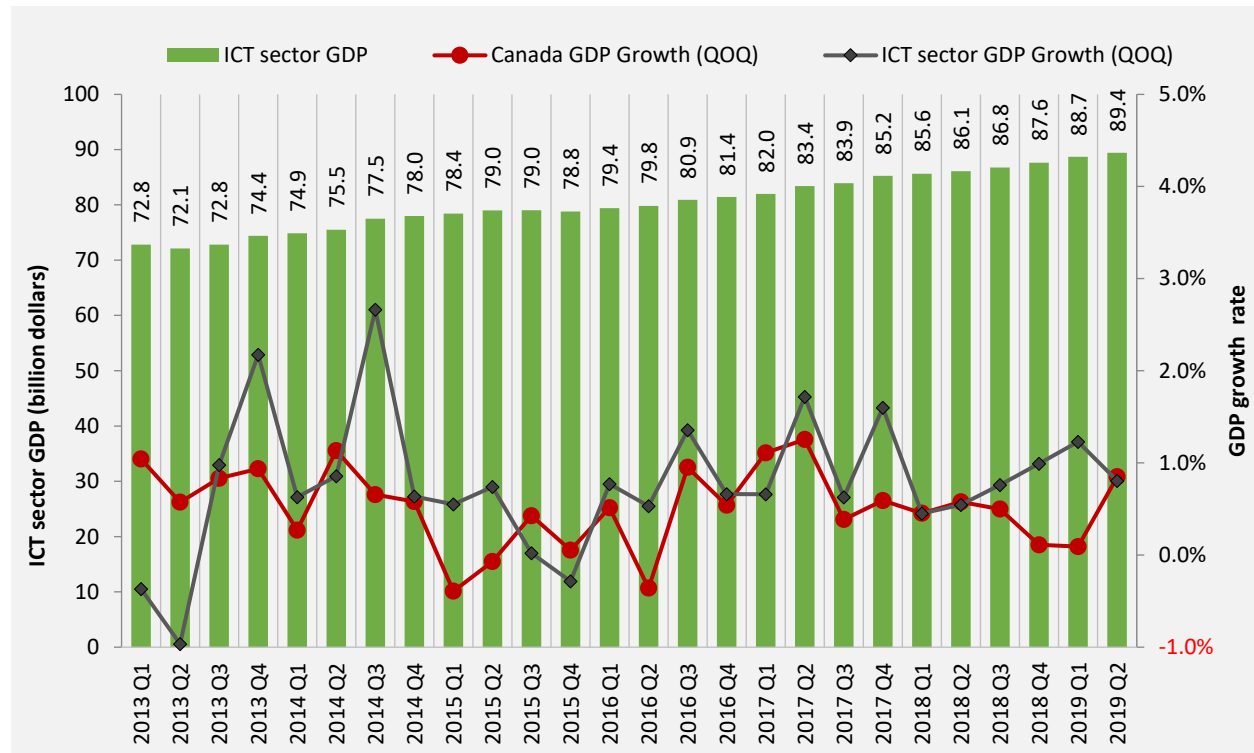
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OUTPUT AND OUTLOOK

GDP Growth

Figure 1 – ICT sector GDP



Source: ICTC; Statistics Canada

Analysis and Insights

- ❖ Increased investment, particularly in the area of research of development, is considered to be one of the main factors driving the growth that is currently being witnessed across the Canadian ICT sector. The emergence of new and innovative technologies is continuing to generate positive spillover effects, the impact of which are increasingly being felt across all segments of the Canadian economy.
- ❖ Real GDP^{1,2} in the ICT sector increased by 0.8% in the second quarter³ (Q2) of 2019 when compared to the first quarter (Q1) of 2019. The output in the ICT services⁴ subsector recorded positive growth of 0.9% while the output of the ICT manufacturing⁵ subsector recorded a 1.7% decline.
- ❖ The ICT sector as a whole now contributes approximately \$89.4 billion in GDP to the national economy, and accounts for roughly 4.5% of Canada's total economic output (GDP).

¹ In 2012 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 October 2018 - December 2018

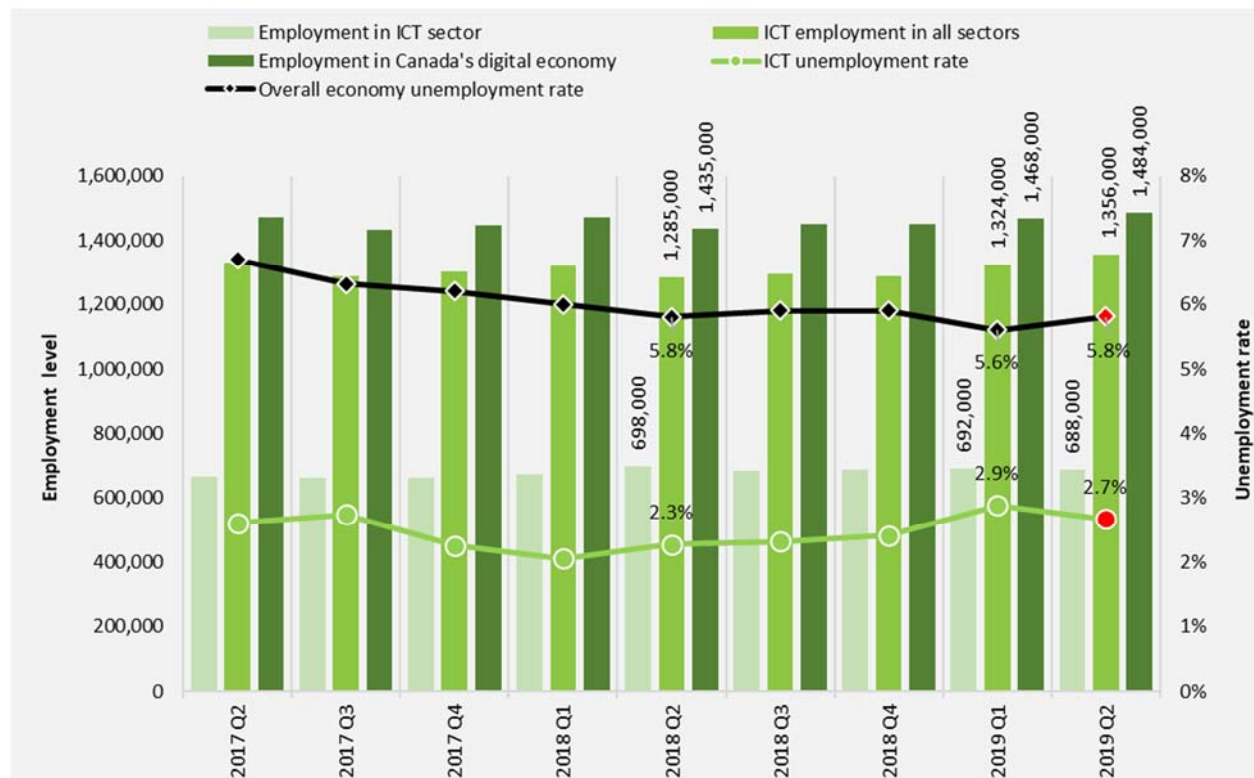
⁴ This combines the North American Industry Classification System (NAICS) codes 4173, 5112, 517, 518, 5415, 8112. See Appendices

⁵ 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

- ❖ An estimated 1,484,000 individuals were employed across the Canadian digital economy in the second quarter (Q2) of 2019. This included 559,600 ICT professionals working in the ICT sector, 796,100 ICT professionals working in non-ICT sectors and another 128,500 non-ICT professionals working in the ICT sector.
- ❖ In Q2 of 2019, there were approximately 1,356,000 ICT professionals employed across all sectors of the Canadian economy. This represented an increase of 2.4% or approximately 31,600 new jobs when compared to Q1 of 2019. On a year-over-year basis, ICT employment experienced a healthy increase of 5.5%, resulting in a net jobs gain of approximately 71,000 net new positions when compared to the same period in the previous year.
- ❖ Employment in the Canadian ICT sector decreased by a modest 0.5% or 3,700 jobs in Q2 of this year when compared to Q1 of 2019. On a year-over-year basis, employment in the ICT sector decreased by 1.4% relative to Q2 of 2018, resulting in a net decrease of 7,700 jobs.
- ❖ The unemployment rate among ICT professionals decreased by 0.2% percentage points to 2.7%, while the national unemployment rate edged up to 5.8%.

Gender Diversity

Figure 3 – Women’s employment and unemployment



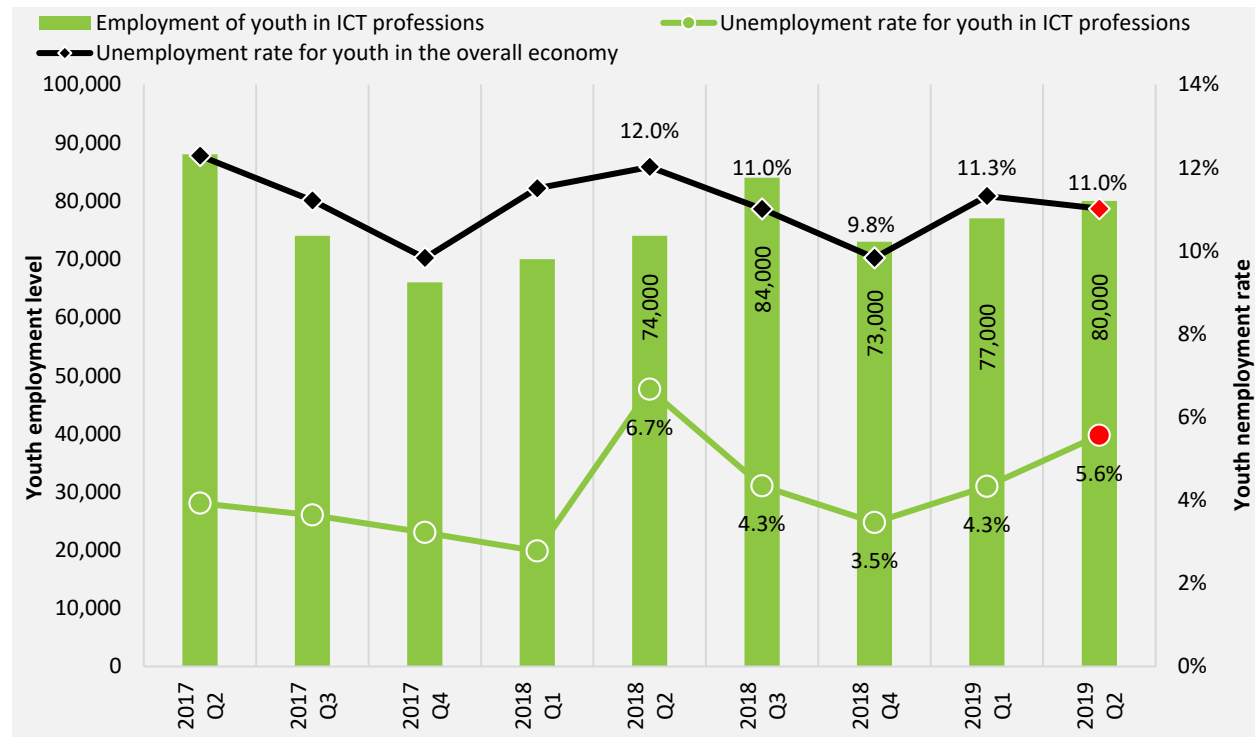
Source: ICTC; Statistics Canada

Analysis and Insights

- ❖ The number of women employed as ICT professionals increased by 7.7% to 335,000 in the second quarter of this year relative to Q1 of 2019 and by 2.8% compared to the same period in the previous year.
- ❖ The increase in female employment was not significant enough to increase the share of women employed as ICT professionals. Women accounted for only 24.7% of the employed ICT workforce in Canada, which is 1.2 percentage points higher when compared against the previous quarter and 0.7 percentage points lower when compared to the same period a year ago.
- ❖ The unemployment rate among women in ICT related professions declined to 2.1% in Q2 of 2019. This figure continues to be below the national unemployment rate among women, which stood at 5.0% as at Q2 of 2019.

Youth Inclusion

Figure 4 – Youth employment and unemployment



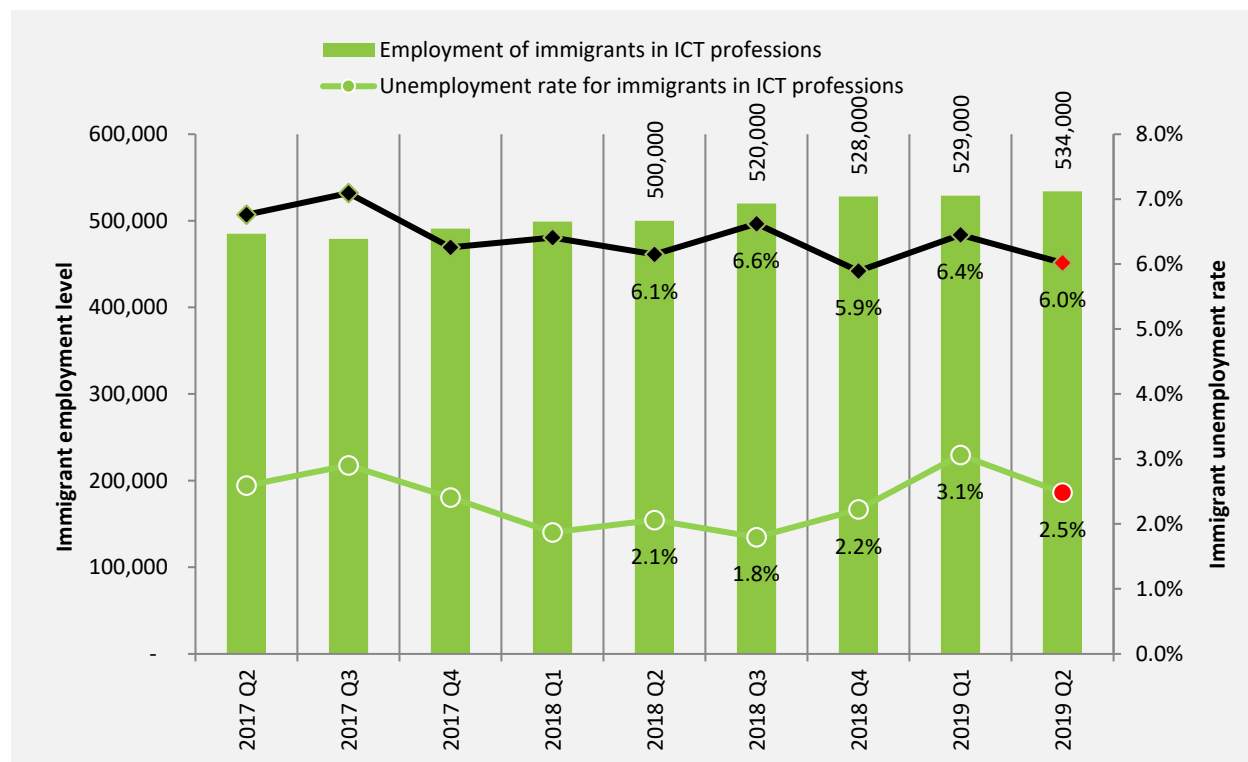
Source: ICTC; Statistics Canada

Analysis and Insights

- ❖ Youths (15-24 years old) accounted for 13.4% of the employed workforce in Canada in Q2 of 2019. The proportion of youth who are working as ICT professionals rose by 2.7 percentage points in Q2 of 2019 compared to Q1 of 2019. This proportion reached 5.9% or 80,000 individuals in Q2 of 2019.
- ❖ ICT employment among youth increased by 3.9% or approximately 3,000 new jobs in Q2 of 2019 when compared to the previous quarter. On a year-over-year basis, employment growth was even more robust, increasing by 8.1%, which translated into a net jobs gain of approximately 6,000 net new positions. This represents the third consecutive quarterly growth in employment among youths working in ICT professions.
- ❖ Despite the uptick in ICT employment among youth, the overall unemployment rate for these individuals increased by 1.3 percentage points to 5.6% in Q2 of 2019. This was due mainly in part to the increase in the number of youth entering into the labour force who are now actively seeking employment. The unemployment rate among youth across all sectors of the Canadian economy marginally decreased by 0.3 percentage points to 11.0% over that same time period.

Immigrant Integration

Figure 5 – Immigrant employment and unemployment



Source: ICTC; Statistics Canada

Analysis and Insights

- ❖ As technology continues to permeate a wide cross section of industries throughout the Canadian economy, the demand for digital talent continues to increase at a rapid pace. The existing demand-supply imbalance, along with an aging domestic workforce, has created the conditions for an influx of foreign workers. The majority of these workers are arriving under different economic immigration streams. These various streams are designed to address the skills shortages that are currently prevailing in various segments of the Canadian labour market.
- ❖ There were approximately 534,000 immigrants⁶ working as ICT professionals throughout the second quarter of 2019. These individuals now account for 39.4% of the employed ICT workforce in Canada.
- ❖ In Q2 of 2019, employment among immigrants working as ICT professionals marginally increased by 0.9% when compared to Q1 of 2019. This corresponds to a net jobs gain of approximately 5,000 positions. On a year-over-year basis, employment growth was more robust. In Q2 of 2019, employment among immigrants working as ICT professionals increased by 6.8% when compared to Q2 of 2018. This corresponds to a net jobs gain of approximately 34,000 new positions.
- ❖ The unemployment rate among immigrants in ICT type professions decreased to 2.5% in Q2 of 2019. Notwithstanding, the jobless rate among these individuals is more than half that of the national unemployment rate among immigrants, which decreased to 6.0% in Q2 of 2019.

⁶ 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. For a detailed understanding of medium-term supply and demand dynamics related to ICT talent and skills in Canada, please refer to [ICTC's 2023 Labour Market Outlook](#).

In Q2 of 2019, employment growth was strongest among the following ICT professions:

- ❖ Database analysts and data administrators – 17,900 jobs, 47.5% increase from Q1 2019
- ❖ Electrical and electronics engineers – 7,500 jobs, 18.3% increase from Q1 2019
- ❖ Computer engineers (except software engineers and designers) – 7,000 jobs, 31.2% increase from Q1 2019
- ❖ Software engineers and designers – 7,000 jobs, 13.6% increase from Q1 2019
- ❖ User support technicians – 7,000 jobs, 7.6% increase from Q1 2019



APPENDICIES

Digital Economy Labour Force

ICTC’s labour market research captures critical economic and labour market indicators, helping to inform competitive business planning, as well as strong human resource strategies and decision-making related to the ICT sector. Combined, this research forms the foundation for driving the development of a more prosperous Canadian ICT sector, and a highly-skilled workforce able to compete in the 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 seeking employment) in these occupations and all other (non-ICT) occupations in the ICT sector (ICTC’s framework of Canada’s ICT sector is explained below) represent the total digital economy labour force in Canada. The table below summarizes the core ICT occupations:

Index	National Occupational Classification (NOC)	Occupation Title
1	131	Telecommunication carriers managers
2	211	Engineering managers
3	911	Computer and information systems managers
4	911	Manufacturing managers
5	1252	Health information management occupations
6	2133	Electrical and electronics engineers
7	2147	Computer engineers (except software engineers and designers)
8	2171	Information systems analysts and consultants
9	2172	Database analysts and data administrators
10	2173	Software engineers and designers
11	2174	Computer programmers and interactive media developers
12	2175	Web designers and developers
13	2241	Electrical and electronics engineering technologists and technicians
14	2242	Electronic service technicians (household and business equipment)
15	2243	Industrial instrument technicians and mechanics
16	2281	Computer network technicians
17	2282	User support technicians
18	2283	Information systems testing technicians
19	5222	Film and video camera operators
20	5223	Graphic arts technicians
21	5225	Audio and video recording technicians
22	5241	Graphic designers and illustrators
23	6221	Technical sales specialists - wholesale trade
24	9222	Supervisors, electronics manufacturing
25	9523	Electronics assemblers, fabricators, inspectors and testers



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