



**RESEARCH**

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

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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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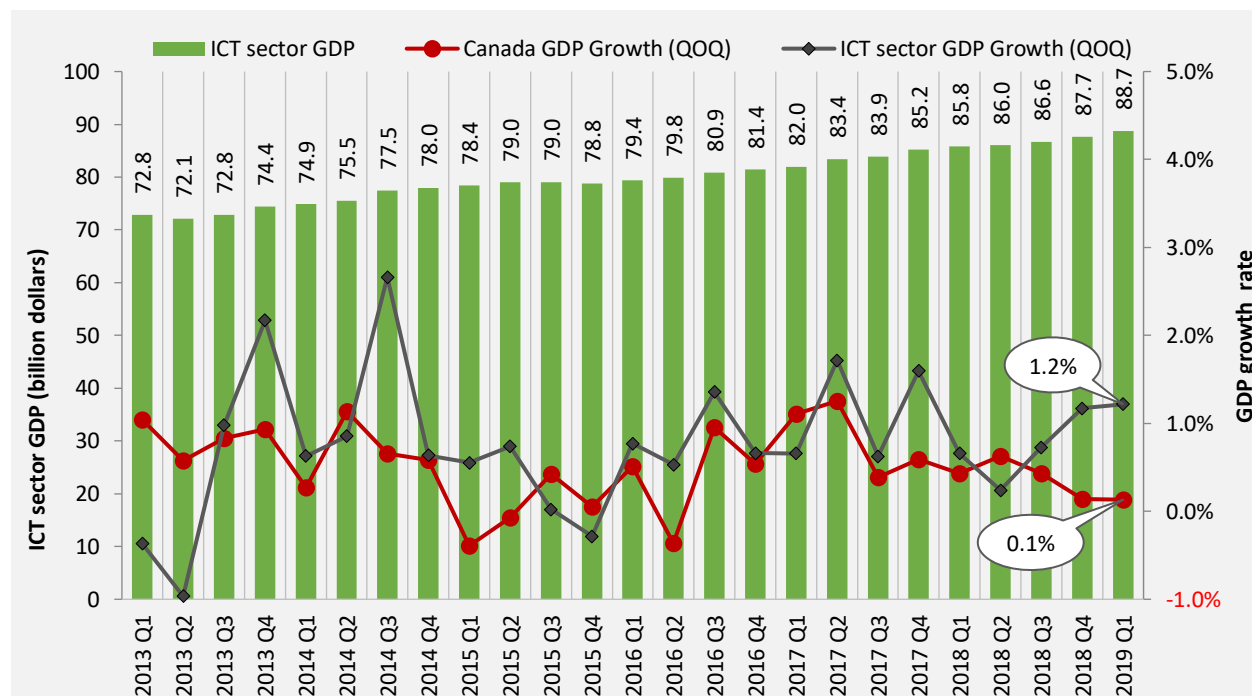
# TABLE OF CONTENTS

<b>OUTPUT AND OUTLOOK .....</b>	<b>1</b>
GDP GROWTH.....	1
<b>LABOUR MARKET TRENDS .....</b>	<b>2</b>
EMPLOYMENT .....	2
GENDER DIVERSITY.....	3
YOUTH INCLUSION .....	4
IMMIGRANT INTEGRATION .....	5
IN-DEMAND JOBS .....	6
<b>APPENDICIES .....</b>	<b>7</b>
DIGITAL ECONOMY LABOUR FORCE .....	7
ICT SECTOR.....	8

## 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 is increasingly being felt across all segments of the Canadian economy.
- ❖ Real GDP<sup>1,2</sup> in the ICT sector increased by 1.2% in the first quarter<sup>3</sup> of 2019 when compared to the last quarter of the previous year. Output in both the ICT manufacturing<sup>4</sup> and ICT services<sup>5</sup> subsectors recorded positive growth of 4.1% and 1.1% respectively.
- ❖ The ICT sector as a whole now contributes approximately \$88.7 billion in GDP to the national economy, and accounts for roughly 4.5% of Canada’s total economic output (GDP).
- ❖ Overall, the slow down in economic activity that occurred towards the backend of last year carried over into the first quarter of 2019, which resulted in the Canadian economy expanding by a mere 0.1%.

<sup>1</sup> In 2012 chained dollars. Chained dollars are real dollar amounts adjusted for inflation

<sup>2</sup> 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

<sup>3</sup> October 2018 - December 2018

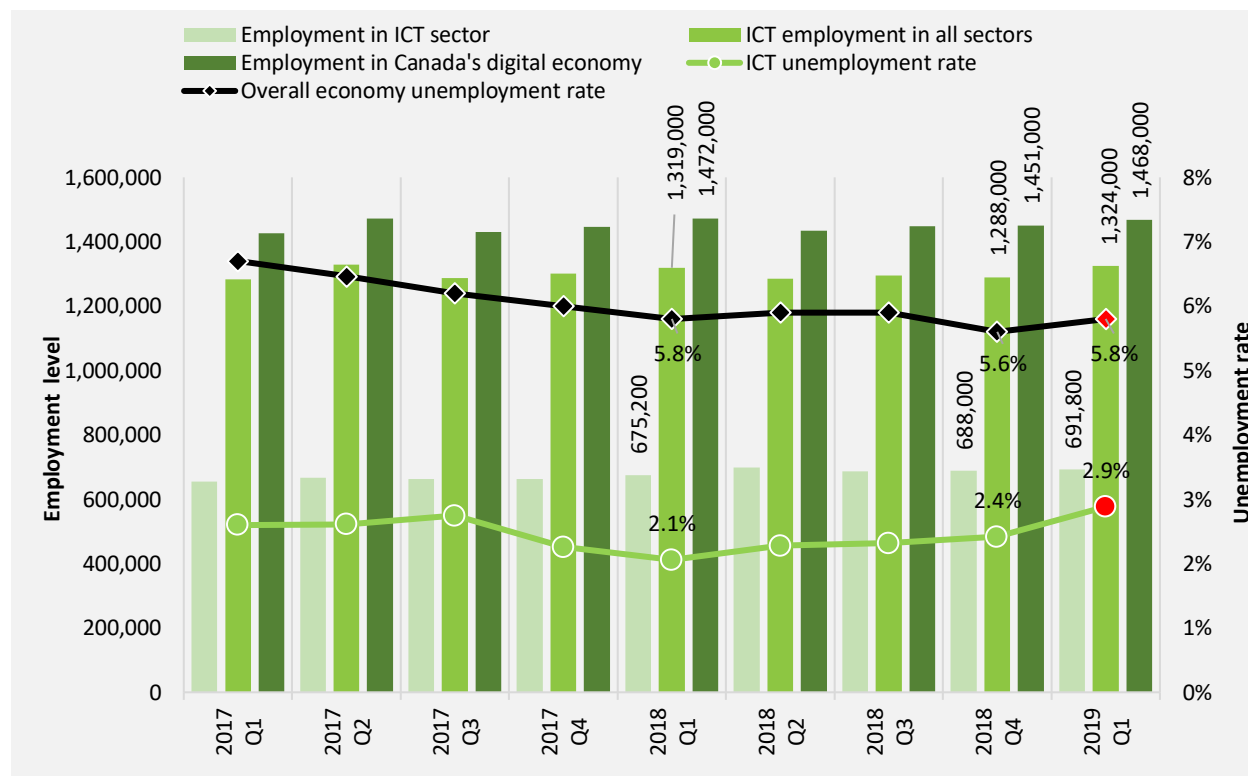
<sup>4</sup> This combines the North American Industry Classification System (NAICS) codes 3341, 3342, 3343, 3344, 3346. See Appendices

<sup>5</sup> This combines the North American Industry Classification System (NAICS) codes 4173, 5112, 517, 518, 5415, 8112. See Appendices

## LABOUR MARKET TRENDS

### Employment

Figure 2 – Employment in Canada’s digital economy



Source: ICTC; Statistics Canada

### Analysis and Insights

- ❖ An estimated 1,468,000 individuals were employed across the Canadian digital economy in the first quarter of 2019. This included 548,000 ICT professionals working in the ICT sector, 776,000 ICT professionals working in non-ICT sectors and another 144,000 non-ICT professionals working in the ICT sector.
- ❖ In Q1 of 2019, there were approximately 1,324,000 ICT professionals employed across all sectors of the Canadian economy. This represented an increase of 2.8% or approximately 36,000 job when compared to fourth quarter of 2018. On a year-over-year basis, the growth in ICT employment was somewhat more subdued, increasing by a modest 0.5%, resulting in a net jobs gain of approximately 5,500 positions when compared to the same period in the previous year.
- ❖ Similarly, employment in the Canadian ICT sector increased by a modest 0.6% (+3,800 jobs) in the first quarter of this year when compared to Q4 of 2018. However, employment growth in the sector relative to Q1 of 2018 was a bit more robust, coming in at 2.5%, resulting in a net increase of over 16,000 jobs.
- ❖ The growth in ICT employment was not sufficient to offset the increase in the number of new entrants into the workforce in the first quarter of 2019. This resulted in the unemployment rate among ICT professionals increasing by 0.5 percentage points to 2.9%. Similarly, the national unemployment rate also edged up to 5.8%.

## Gender Diversity

Figure 3 – Women’s employment and unemployment



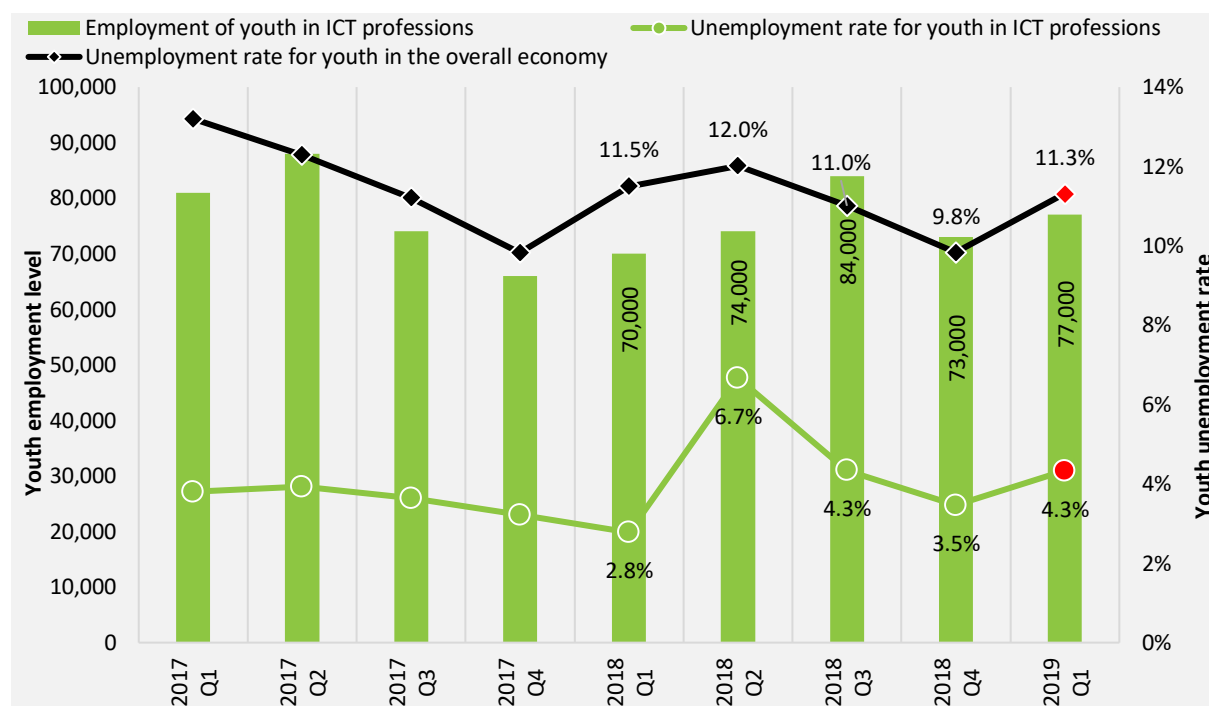
Source: ICTC; Statistics Canada

### Analysis and Insights

- ❖ The number of women employed as ICT professionals increased by 1.6% to 311,000 in the first quarter of this year relative to Q4 of 2018.
- ❖ Notwithstanding this modest quarterly gain, there were approximately 15,000 fewer women employed in ICT type jobs in the first three months of 2019 when compared to the same period in the previous year.
- ❖ The falloff in employment on a year over year basis has now contributed to women accounting for only 23.5% of the employed ICT workforce here in Canada, a decline of 1.2 percentage points from a year ago.
- ❖ The unemployment rate among women in ICT related professions held steady at 3.0% in Q1 of 2019. This figure continues to be below the national unemployment rate among women, that which increased to 5.3% over the course of that three-month period.

## Youth Inclusion

Figure 4 – Youth employment and unemployment



Source: ICTC; Statistics Canada

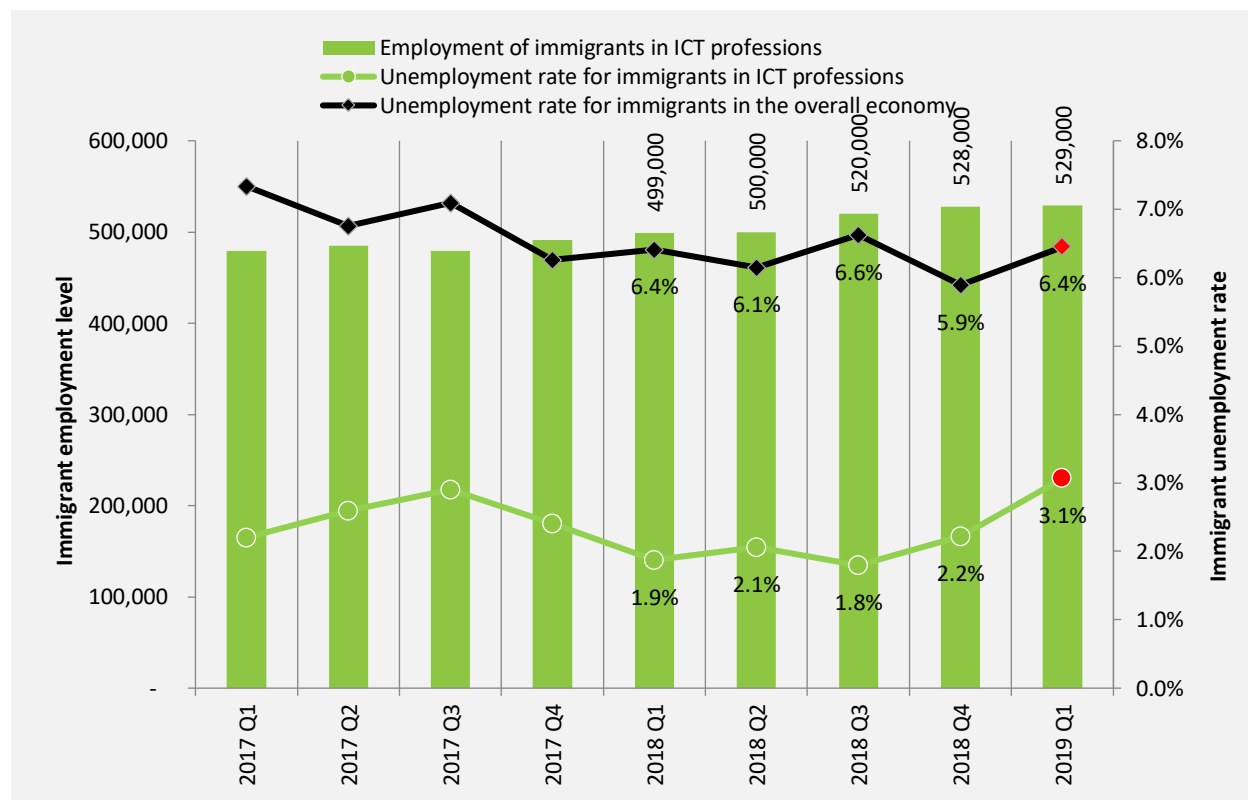
### Analysis and Insights

- ❖ Youths (15-24 years old) accounted for 12.5% of the employed workforce in Canada in Q1 of 2019. The proportion of youths who are working as ICT professionals rose slightly to 3.3% (or 77,000 individuals), a modest increase from the 3% that was observed over the same three-month period last year.
- ❖ ICT employment among youths increased by 5.5% (+4,000 jobs) in Q1 of 2019 when compared to the previous quarter. On a year-over-year basis, employment growth was even more robust, increasing by 10% which translated to a net jobs gain of approximately 7,000 positions. This represents the third consecutive quarterly growth in employment among youths in ICT professions.
- ❖ The increase in employment has now resulted in youths accounting for 5.8% of the total number of ICT professionals in Canada, up from 5.3% in Q1 of 2018.
- ❖ Despite the uptick in ICT employment among youths, the unemployment rate for these individuals increased by 0.8 percentage points to 4.3% in Q1 of 2019 and was due mainly in part to the increase in the numbers of youth entrance into the labour force who are now actively seeking employment. The unemployment rate among youths across all sectors of the Canadian economy also increased by 1.5% percentage to 11.3% 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 is beginning 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 whom are arriving under different economic immigration streams designed to address the skills shortages that is currently prevailing in some segments of the Canadian labour market.
- ❖ There were approximately 529,000 immigrants<sup>6</sup> working as ICT professionals throughout the first quarter of 2019. These individuals now account for 40% of the employed ICT workforce here in Canada.
- ❖ In Q1 of 2019, employment among immigrants working as ICT professionals increased by 6.0% when compared to the same period last year. This corresponds to a net jobs gain of approximately 30,000 positions.
- ❖ The unemployment rate among immigrants in ICT type professions increased to 3.2% in Q1 of 2019. Notwithstanding, the jobless rate among these individuals is almost half that of the national unemployment rate among immigrants, that which increased to 6.4% over the same three-month period.

<sup>6</sup> Immigrants are defined as persons who were not born in Canada and who were not Canadian citizens by birth.

## In-Demand jobs

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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 2021 Labour Market Outlook](#).

In Q1 of 2019, employment growth was strongest among the following ICT professions:

- ❖ Information systems analysts and consultants – 23,100 jobs, 10.5% increase from Q4 2018
- ❖ Computer and information systems managers – 18,100 jobs, 28.5% increase from Q4 2018
- ❖ Graphic designers and illustrators – 10,400 jobs, 14.6% increase from Q4 2018
- ❖ Computer programmers and interactive media developers – 9,400 jobs, 5.6% increase from Q4 2018
- ❖ Computer network technicians – 6,900 jobs, 12% increase from Q4 2018

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



## 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