



**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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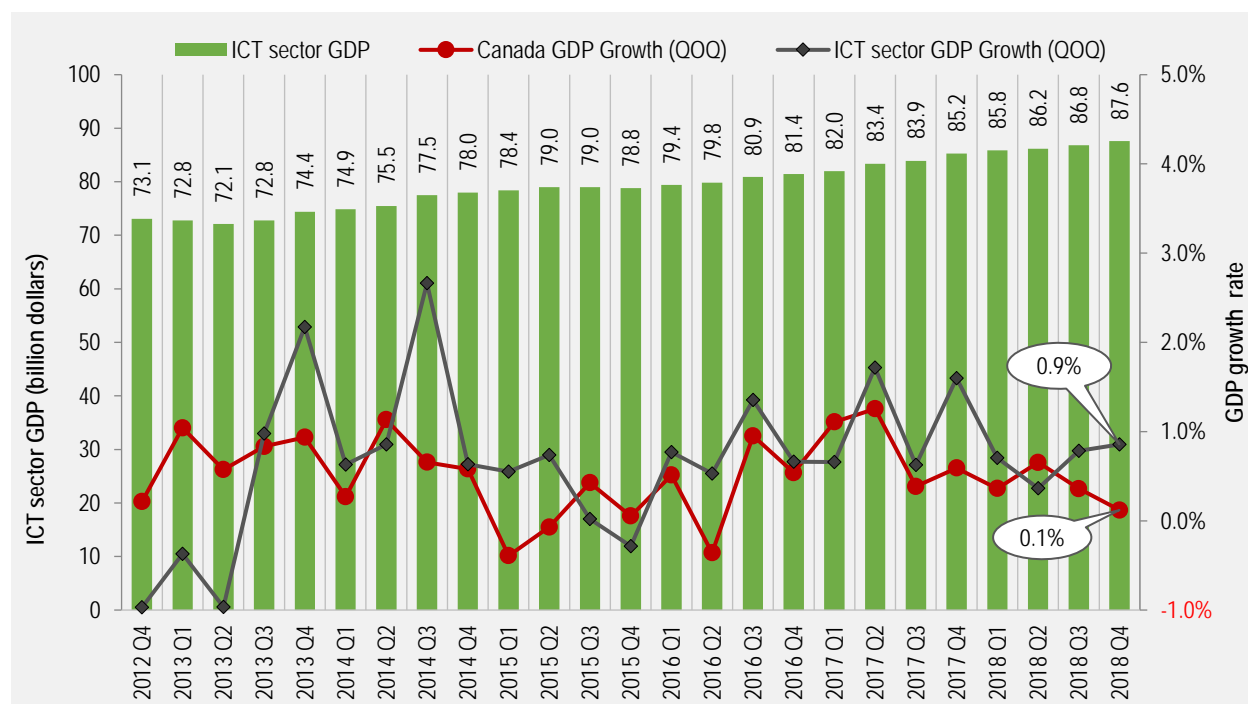
# TABLE OF CONTENTS

<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

- ❖ Economic activity in the Canadian ICT sector expanded at a modest pace in the last quarter of 2018 on the back of an uptick in the demand for ICT related goods and services. The adoption of these goods and service is becoming more broad based among industries and is a significant contributor to the growth that is currently being witnessed across the Canadian digital economy.
- ❖ Real GDP<sup>1,2</sup> in the ICT sector increased by 0.9% in the fourth quarter<sup>3</sup> of 2018 when compared to the previous quarter. Output in the ICT manufacturing subsector<sup>4</sup> expanded by 2.1%. However, growth in the ICT service-subsector<sup>5</sup> was somewhat more subdued, coming in at 0.8%.
- ❖ The ICT sector as a whole currently contributes approximately \$87.6 billion in GDP to the national economy, and accounts for roughly 4.5% of Canada's total economic output (GDP).
- ❖ Growth in the Canadian economy continues to be subdued with real GDP increasing by a mere 0.1% in the fourth quarter of 2018.

<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

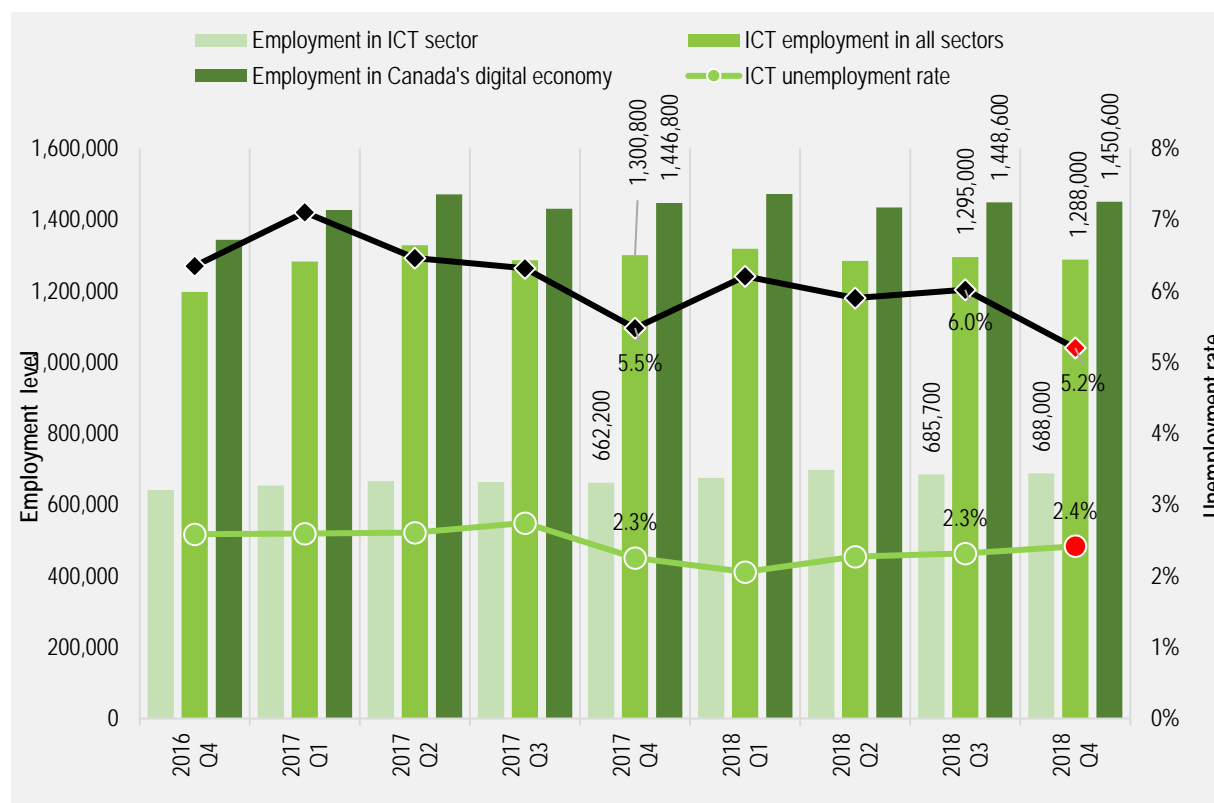
<sup>4</sup> This combines the North American Industry Classification System (NAICS) codes 3341, 3342, 3343, 3344, 3346. See Appendices

<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



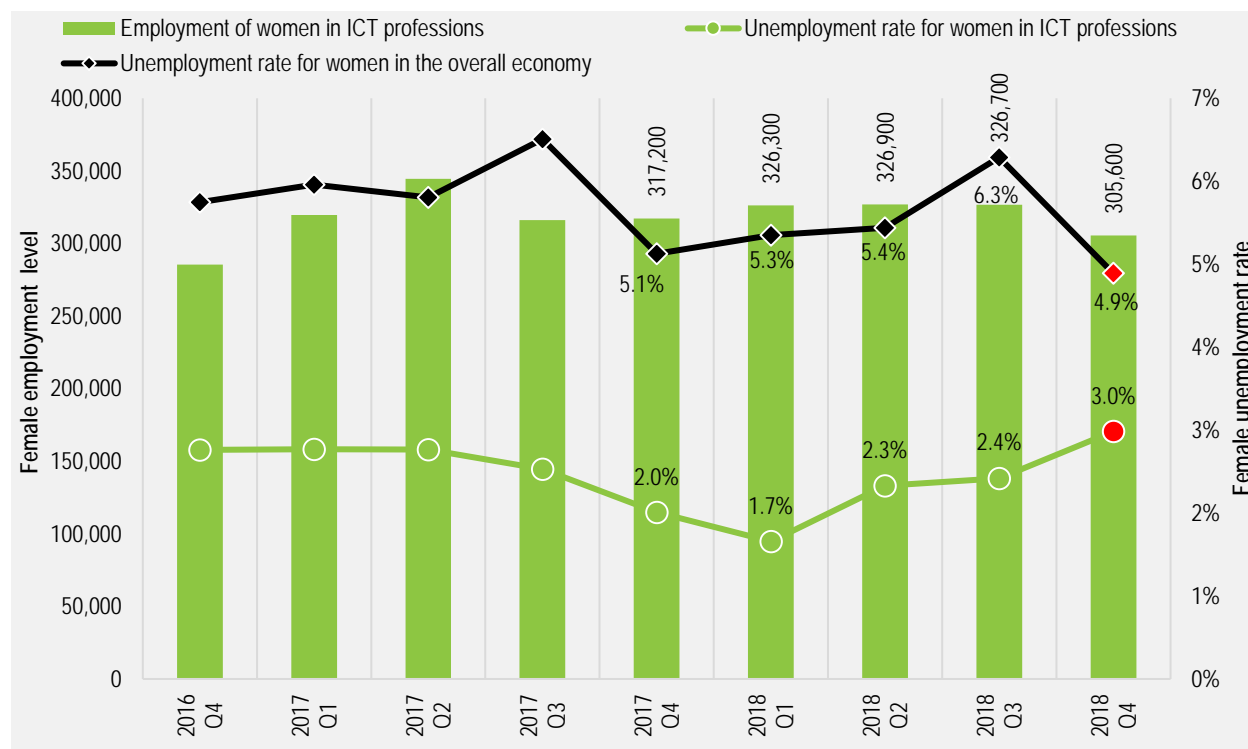
Source: ICTC; Statistics Canada

### Analysis and Insights

- ❖ A total of 1,450,600 individuals were employed in the Canadian digital economy in the fourth quarter of 2018. This included 525,400 ICT professionals working in the ICT sector, 762,600 ICT professionals working in non-ICT sectors and another 162,600 non-ICT professionals working in the ICT sector.
- ❖ In Q4 of 2018, there were approximately 1,288,000 ICT professionals employed across all sectors of the Canadian economy. This represented a decline of 0.5% or approximately 7,000 job when compared to Q3 of 2018. On a year-over-year basis, the decline in ICT employment was a bit more pronounced, falling by 2.8%, that which translates to a net jobs loss of approximately 22,000 positions when compared to the same period in the previous year.
- ❖ Notwithstanding, employment in the Canadian ICT sector increased by a modest 0.3% (+2,300) jobs in the fourth quarter of 2018 when compared to the previous quarter. Additionally, employment growth relative to Q4 2017 was particularly strong, coming in at 3.9%, resulting in a net increase of approximately 25,800 jobs.
- ❖ The unemployment rate among ICT workers edged up to 2.4% in the fourth quarter of 2018. The national unemployment rate on the other hand declined by 0.8 percentage points to 5.2%.

## Gender Diversity

Figure 3 – Women's employment and unemployment



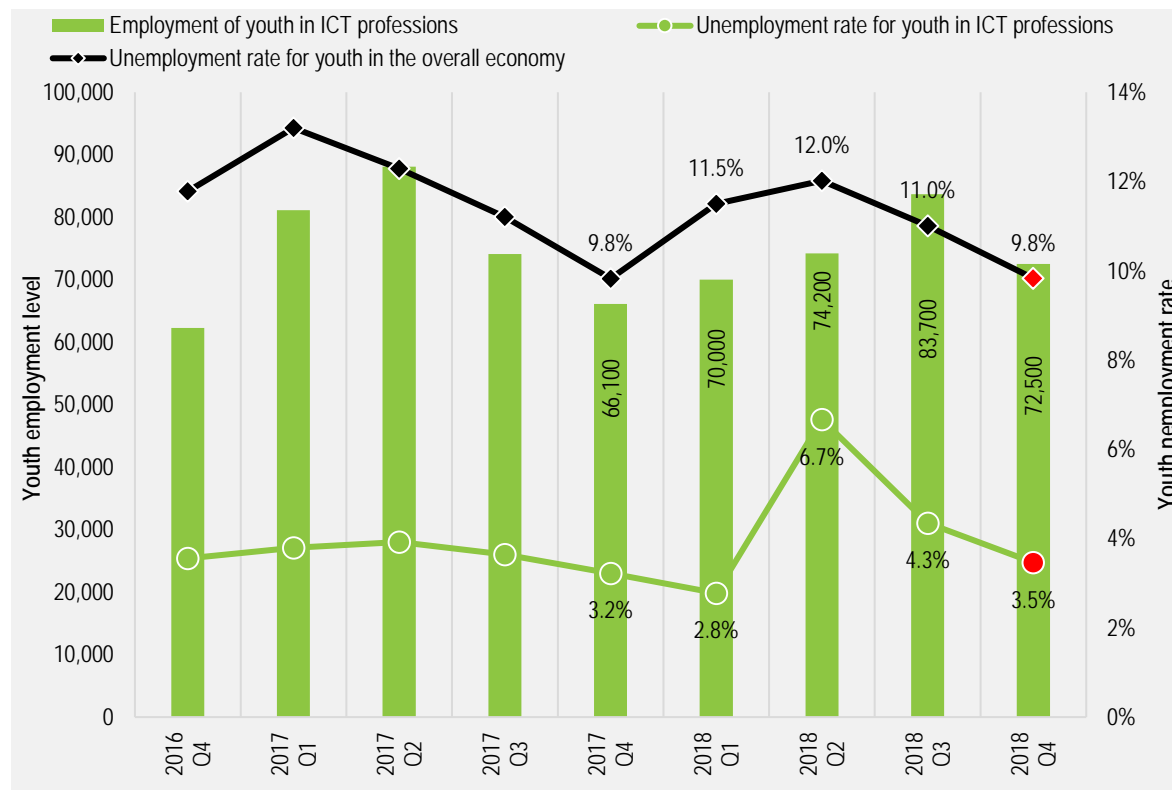
Source: ICTC; Statistics Canada

### Analysis and Insights

- ❖ The number of women employed as ICT professionals declined by 6.5% to 305,600 in the fourth quarter of 2018 relative to the previous three-month period. Similarly, on a year-over-year basis, employment among women working in this profession declined by 3.7%.
- ❖ There were 11,600 fewer women employed in ICT type jobs in the fourth quarter of 2018 when compared to the same period in the previous year.
- ❖ The falloff in employment has further contributed to the underrepresentation of women in the ICT profession given that they now account for less than 24% of the employed ICT workforce.
- ❖ The unemployment rate among women in ICT related professions increased for a third straight quarter to 3.0% in Q4 2018. On the other hand, the national unemployment rate among women fell by 1.4 percentage points to 4.9% over that three-month period.

## Youth Inclusion

Figure 4 – Youth employment and unemployment



Source: ICTC; Statistics Canada

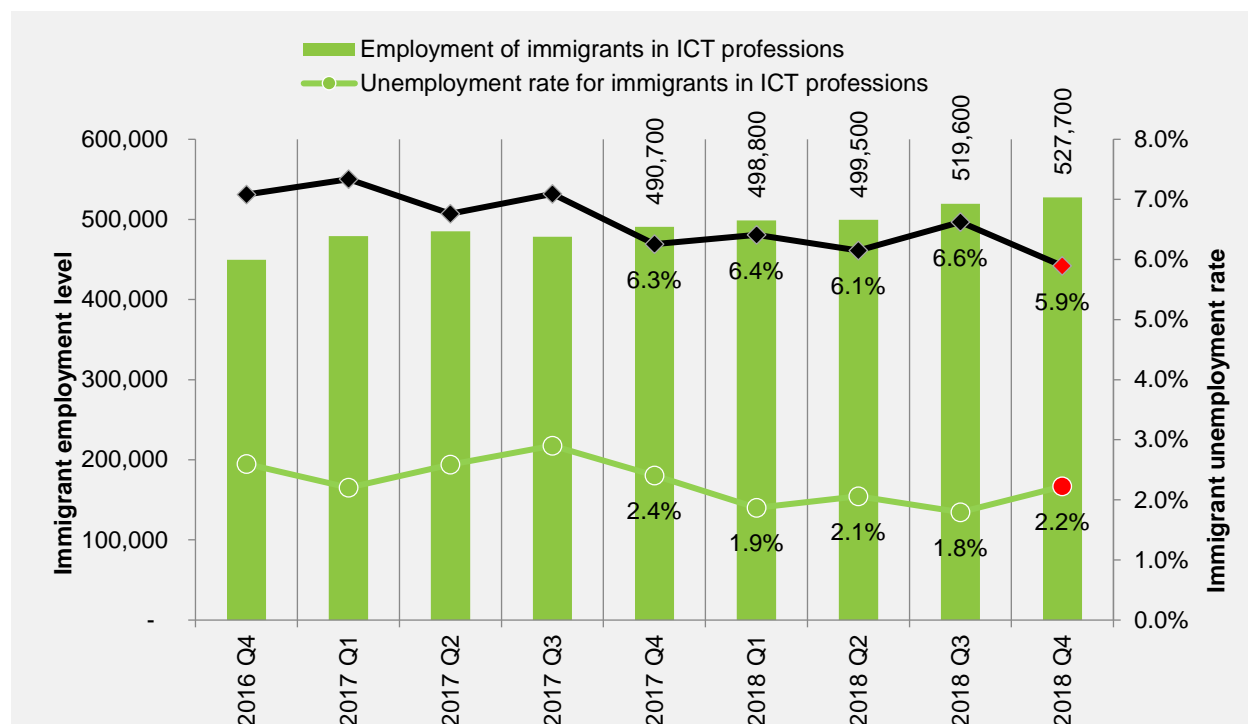
### Analysis and Insights

- ❖ Youth (15-24 years old) accounted for 12.5% of the employed workforce in Canada in Q4 2018, with approximately 72,500 of them working in ICT related jobs. The proportion of youths who are working as ICT professionals declined slightly over that three period and now stands at 3.1%.
- ❖ ICT employment among youths declined by 13.4% (-11,400 jobs) when compared to the previous quarter. However, on a year-over-year basis, employment increased by 9.7% which translated to a net job gain of approximately 6,400 positions.
- ❖ Youth accounted for 5.6% of the total number of ICT workers in Canada in Q4 of 2018, a falloff from the 6.5% share that was observed in the previous quarter.
- ❖ Despite the falloff in ICT employment among youths in Q4 2018, the unemployment rate for these individuals fell by 0.8 percentage points to 3.5%, and this was due mainly to a decline in the overall level of labour force participation among youths. The unemployment rate among youths across all sectors of the Canadian economy also fell from 11% to 9.8% over that same time period.



## Immigrant Integration

Figure 5 – Immigrant employment and unemployment



Source: ICTC; Statistics Canada

### Analysis and Insights

- ❖ As Canadian companies continue to innovate and expand their operations, the need to attract and retain highly skilled digital talent is becoming an increasing priority, particularly for those firms within the ICT sector. With there being a shortfall in the domestic supply of ICT trained graduates, companies are continuing to tap into the pool of internationally educated professionals (IEPs), with these individuals now accounting for a large share of the Canadian digital workforce.
- ❖ In Q4 of 2018, there were approximately 528,000 immigrants<sup>6</sup> working as ICT professionals across Canada. The proportion of immigrants in ICT related jobs continued to increase with these individuals now accounting for 41% of the employed ICT workforce.
- ❖ In Q4 of 2018, employment among immigrants working as ICT professionals increased by 1.6% when compared to the previous quarter. This corresponds to a net jobs gain of approximately 8,000 positions. Year-over-year employment growth was even stronger, increasing by 7.5% (+37,000 jobs).
- ❖ The unemployment rate among immigrants in ICT type professions edged up to 2.2% in Q4 of 2018 on the back of an increase in the number of participants entering the labour force. Notwithstanding, the jobless rate among these individuals continues to be well below the unemployment rate for immigrants across all occupations, that which fell to 5.9% 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 Q4 of 2018, employment growth was strongest among the following ICT professions:

- ❖ Manufacturing managers – 14,400 jobs, 18.9% increase from Q3 2018
- ❖ Electrical and electronics engineering technologists and technicians– 6,800 jobs, 26.6% increase from Q3 2018
- ❖ Engineering managers – 6,400 jobs, 23.2% increase from Q3 2018
- ❖ Database analysts and data administrators– 3,700 jobs, 11.6% increase from Q3 2018
- ❖ Information systems analysts and consultants – 2,600 jobs, 1.2% increase from Q3 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

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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