



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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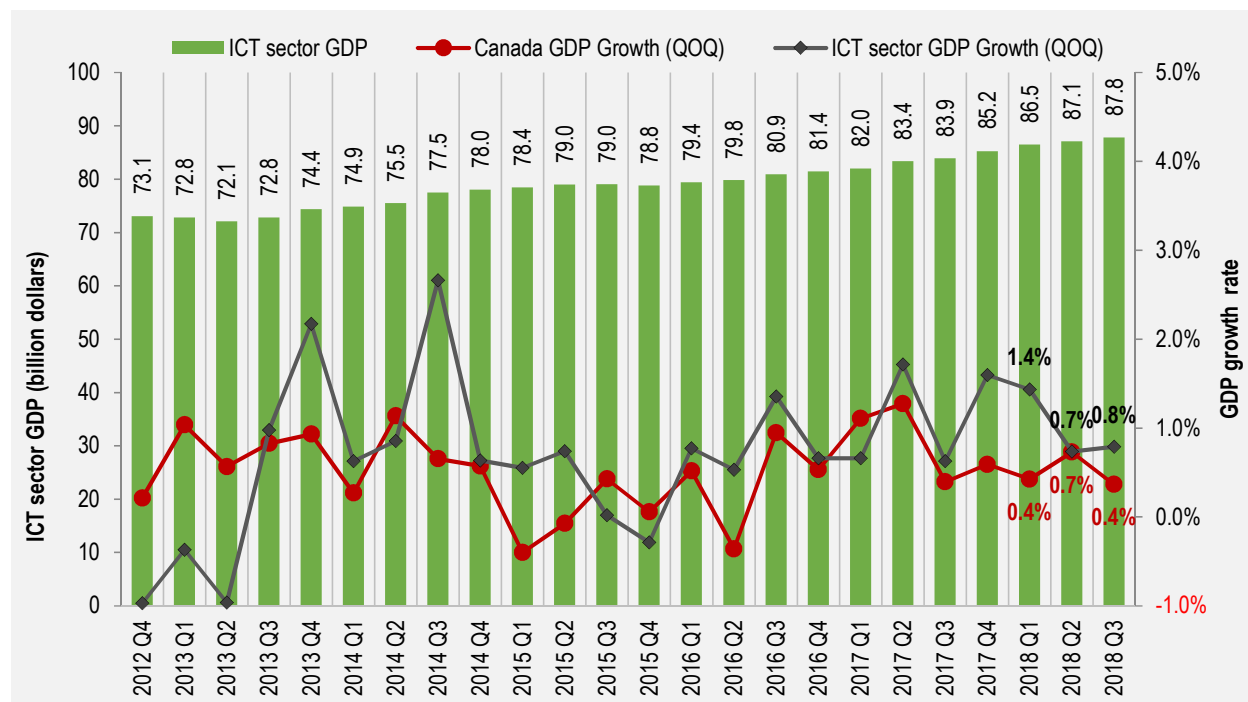
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OUTPUT AND OUTLOOK

GDP Growth

Figure 1 – ICT sector GDP



Source: ICTC; Statistics Canada

Analysis and Insights

- ❖ As the Canadian economy becomes increasingly digitized, the ICT sector has grown to become one of the main national drivers of innovation, increased productivity and overall economic growth. The expansion in the production and adoption of ICT related goods and services is continuing to strengthen Canada's position as a knowledge-based economy while at the same time enhancing the competitiveness of Canadian companies in the global marketplace.
- ❖ In light of these developments, Real GDP^{1,2} in the ICT sector increased by 0.8% in the third³ quarter of 2018 when compared to the previous quarter. The overall growth in the industry was primarily attributed to a 1% increase in output in the ICT service-subsector⁴. This was however offset by a 3.1% decline in ICT manufacturing.⁵
- ❖ Notwithstanding the decline in ICT manufacturing, The ICT sector as a whole currently contributes approximately \$88 billion in GDP to the national economy, and as such has maintained its 4.5% share of Canada's total economic output (GDP).
- ❖ The Canadian economy as a whole is however beginning to show signs of slowing down as evidenced by the fact that real GDP only recorded a modest gain of 0.4% in the third quarter of 2018.

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 July 2018 - September 2018

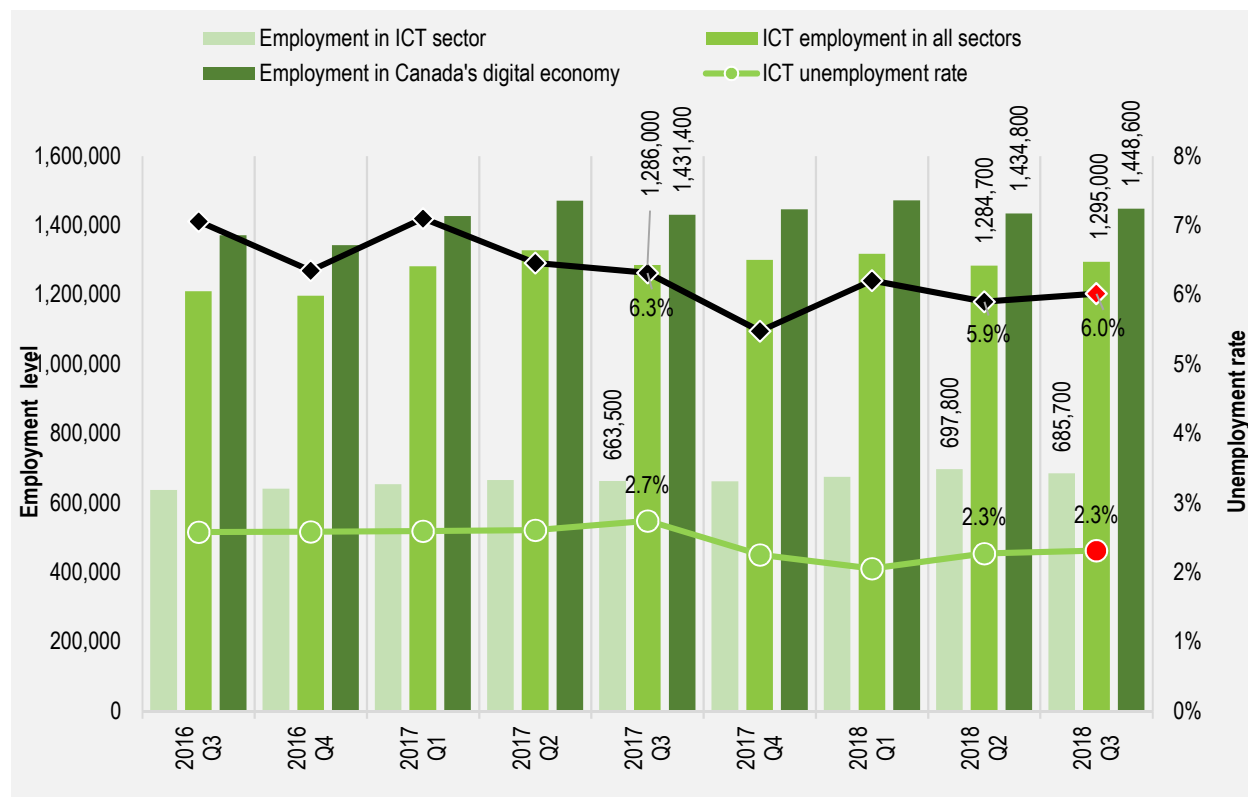
⁴ This combines the North American Industry Classification System (NAICS) codes 4173, 5112, 517, 518, 5415, 8112. See Appendices

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



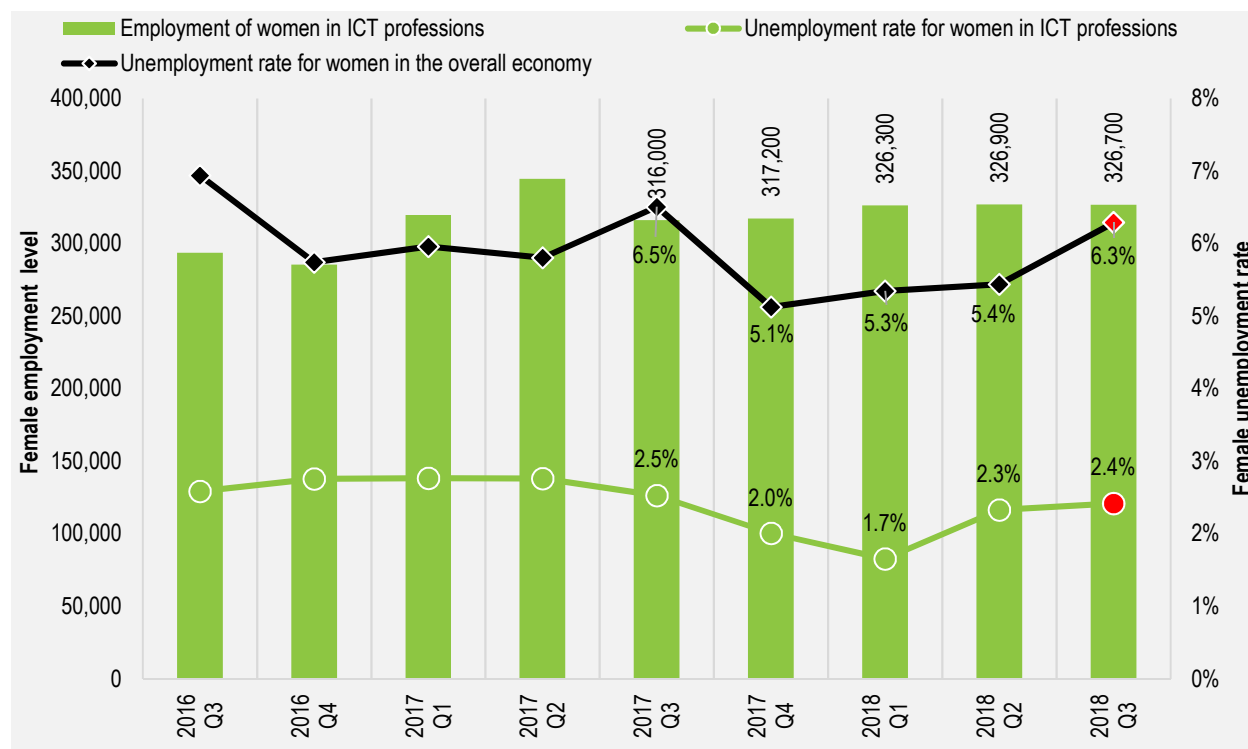
Source: ICTC; Statistics Canada

Analysis and Insights

- ❖ A total of 1,448,600 individuals were employed in the Canadian digital economy in the third quarter of 2018. This included 532,100 ICT professionals working in the ICT sector, 762,900 ICT professionals working in non-ICT sectors and another 153,600 non-ICT professionals working in the ICT sector.
- ❖ In Q3 of 2018, there were approximately 1,295,000 ICT professionals employed across all sectors of the Canadian economy. This represented a modest increase of 0.8% or approximately 10,300 jobs when compared to Q2 of 2018. There was also a similar increase in year-over-year ICT employment growth (+0.7%), that which led to net job gains of approximately 9,000 positions when compared to the same period in the previous year.
- ❖ Employment in the Canadian ICT sector declined by 1.7% or a little over 12,000 jobs in the third quarter of 2018 relative to the previous quarter. On the other hand, on a year-over-year basis, employment growth came in at 3.3% which saw a net increase of approximately 22,200 jobs when compared to Q3 of 2017.
- ❖ As was the case in Q2 of 2018, the unemployment rate among ICT workers averaged 2.3% throughout the three-month period ending September 2018. The national unemployment rate on the other hand edged up slightly by 0.1 percentage points to 6.0%.

Gender Diversity

Figure 3 – Women’s employment and unemployment



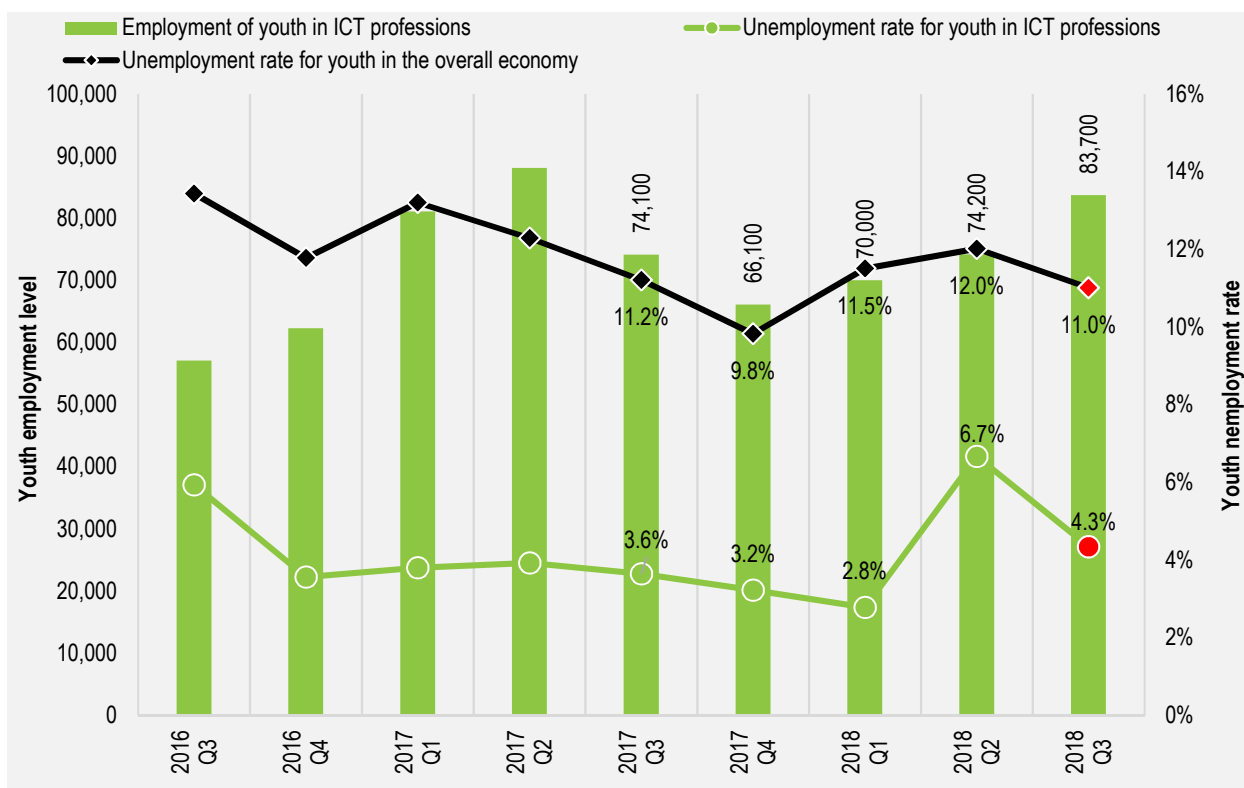
Source: ICTC; Statistics Canada

Analysis and Insights

- ❖ The number of women employed as ICT professionals declined slightly by 0.1% in the third quarter of 2018 – relative to the previous quarter - and now stands at 326,700. On a year-over-year basis, employment among these individuals increased by 3.4%.
- ❖ An additional 10,700 women were employed in ICT type jobs in the third quarter of 2018 when compared to the same period in the previous year.
- ❖ Women however continued to be underrepresented in the ICT profession, as evidenced by the fact they only account for a little over 25% of the employed ICT workforce in Q3 2018.
- ❖ The unemployment rate among women in ICT related professions edged up to 2.4% in Q3 2018, the highest it has been since Q3 2017 when it averaged 2.5%. Notwithstanding, it continues to be well below the national unemployment rate among women, that which increased by almost a full percentage point to 6.3% over the same three-month period.

Youth Inclusion

Figure 4 – Youth employment and unemployment



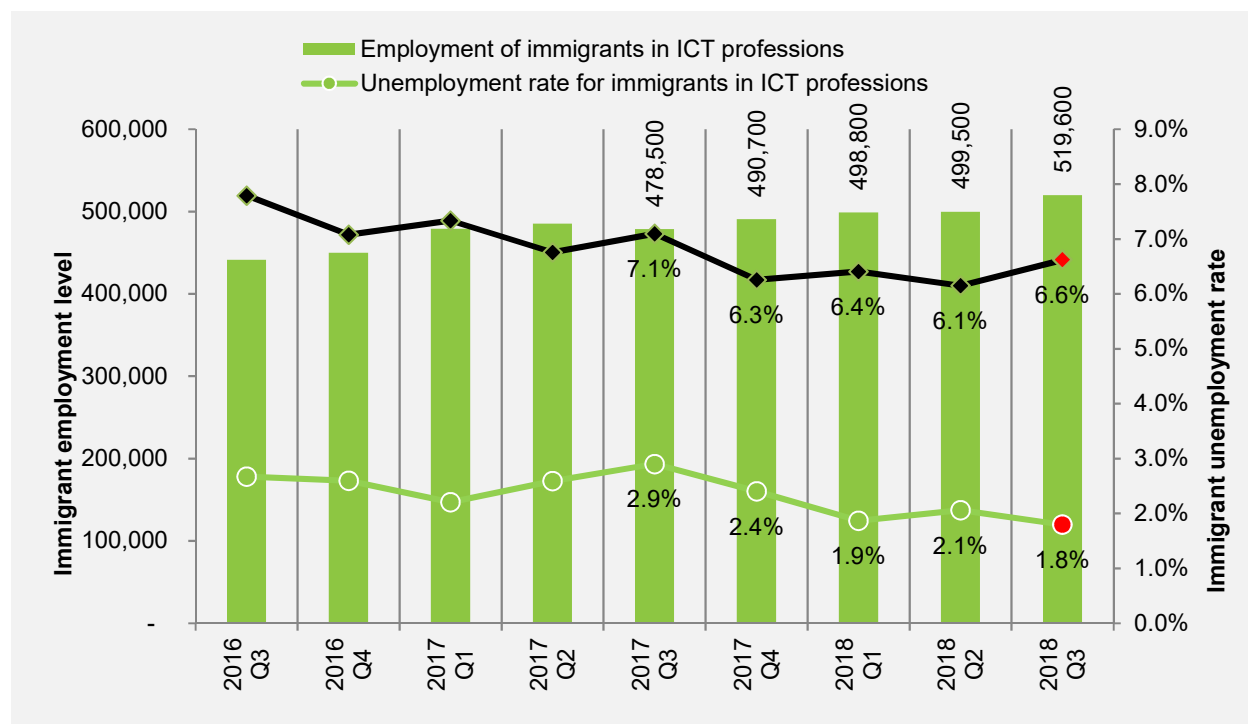
Source: ICTC; Statistics Canada

Analysis and Insights

- ❖ Youth (15-24 years old) accounted for roughly 14% of the employed workforce in Canada in Q3 2018, with approximately 83,700 of them working in ICT related jobs over that period. This accounts for a little over 3% of total youth employment, and more importantly indicates a modest increase in the proportion of youths who are currently working as ICT professionals.
- ❖ Throughout the course of Q3 2018, ICT employment among youth increased by 9,500 jobs or 12.8% relative to the previous quarter, the largest quarterly increase since Q1 of 2017. Similarly, year-over-year employment increased by 13% which translated to a net job gain of approximately 9,600 positions.
- ❖ Youth accounted for approximately 6.5% of the total number of ICT workers in Canada in Q3 of 2018. In general, youth representation within the ICT workforce has been increasing since the start of the 2018, and is now at its highest level in over a year.
- ❖ The uptick in ICT employment among youths contributed to a decline in the unemployment rate among these individuals in the third quarter of 2018. Specifically, the unemployment rate fell by 2.4 percentage points relative to the previous quarter, and averaged 4.3% over the three-month reference period. The overall unemployment rate among youth across all sectors of the Canadian economy also fell to 11%, reflecting a full 1 percentage point decline over that same time period.

Immigrant Integration

Figure 5 – Immigrant employment and unemployment



Source: ICTC; Statistics Canada

Analysis and Insights

- ❖ Immigration is continuing to play an important role in relation to bridging the digital skills gap that currently exists in the Canadian labour market. This is highlighted by the fact that foreign nationals are becoming increasingly integrated into the ICT workforce as the demand for highly skilled digital talent continues to grow across all sectors of the Canadian economy.
- ❖ In Q3 of 2018, there were approximately 520,000 immigrants⁶ working as ICT professionals across Canada. The proportion of immigrants in ICT related jobs has been steadily increasing over the past twelve months, with these individuals now accounting for roughly 40% of the employed ICT workforce.
- ❖ In Q3 of 2018, employment among immigrants working as ICT professionals increased by 4% when compared to the previous quarter. This corresponds to a net gain of approximately 20,000 jobs, the largest increase since Q1 of 2017. Similarly, year-over-year employment growth was even more robust, increasing by 8.6% or a little over 41,000 jobs.
- ❖ With the level of employment among immigrants in ICT professions increasing in Q3 of 2018, this contributed to a decline in the unemployment rate which fell to 1.8%, reflecting a 0.3 percentage point decline when compared to the previous quarter. This figure continues to be well below the unemployment rate for immigrants across all sectors of the Canadian economy, that which increased to 6.6% over the same time period.

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 2021 Labour Market Outlook](#).

In Q3 of 2018, employment growth was strongest among the following ICT professions:

- ❖ Information systems analysts and consultants – 7,900 jobs, 3.8% increase from Q2 2018.
- ❖ Manufacturing managers – 6,800 jobs, 9.8% increase from Q2 2018.
- ❖ Audio and video recording technicians – 6,100 jobs, 69.3% increase from Q2 2018.
- ❖ Electronics assemblers, fabricators, inspectors and testers – 4,500 jobs, 24.3% increase from Q2 2018.
- ❖ Graphic arts technicians – 3,900 jobs, 59.3% increase from Q2 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