



RESEARCH

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

The Information and Communications Technology Council | 2017 Q3





RESEARCH BY:



THE INFORMATION AND COMMUNICATIONS TECHNOLOGY COUNCIL (ICTC)

FUNDING PROVIDED BY:



THE GOVERNMENT OF CANADA'S SECTORAL INITIATIVES PROGRAM

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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.

This study was funded by the Government of Canada's Sectoral Initiatives Program. The authors made all reasonable efforts to ensure accuracy in compiling the document. The opinions and interpretations in this publication are those of the authors and do not necessarily reflect those of the Government of Canada.

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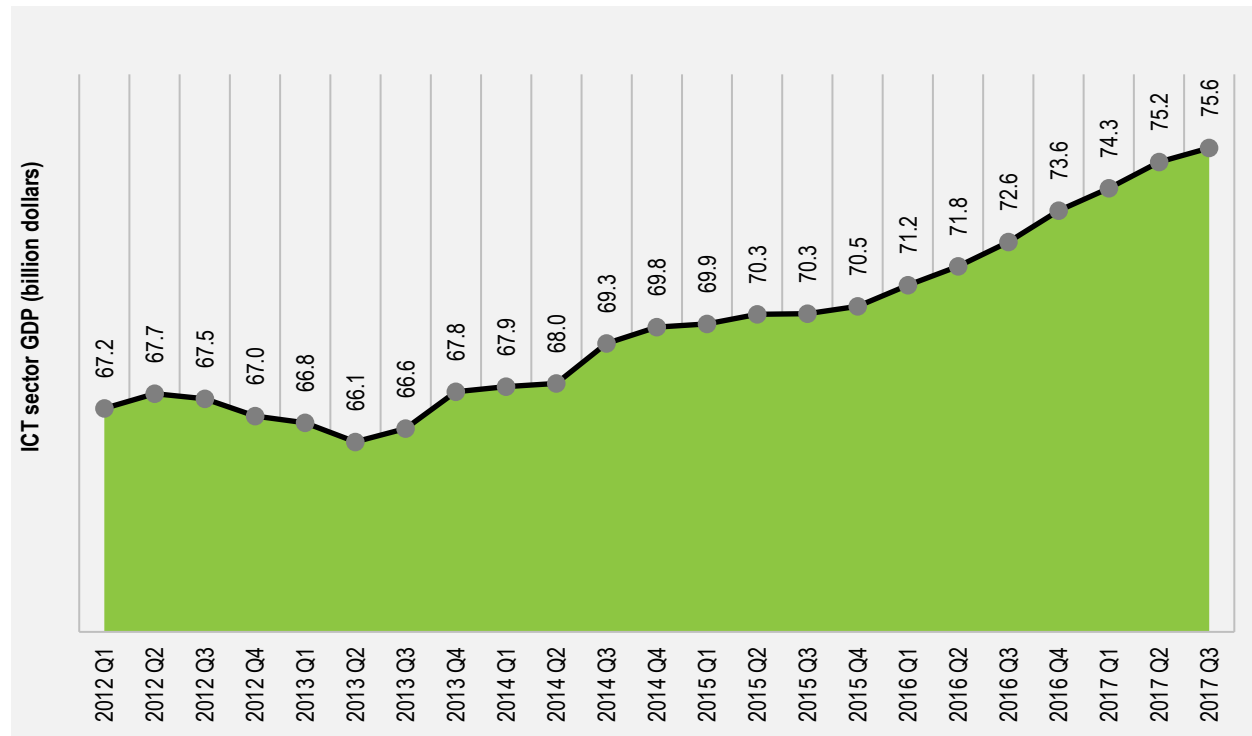
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OUTPUT AND OUTLOOK

GDP Growth

Figure 1 – ICT sector GDP (in billion dollars)



Source: ICTC; Statistics Canada

Analysis and Insights

- ❖ The driving force behind the consistent growth witnessed in the ICT sector is largely attributable to the gradual increase in ICT product and service consumption across all economic sectors.
- ❖ In the third quarter (Q3) of 2017, the ICT sector continued to grow, contributing \$75.6 billion to the overall Canadian GDP^{1,2}. This accounted for approximately 4.3% of total Canadian GDP during this period.
- ❖ During Q3 of 2017, the ICT sector contributed an additional \$442 million to the Canadian economy. This represented a growth of 0.6% from Q2 of 2017, and 4.2% from Q3 of 2016. ICT sector growth surpassed overall growth in the Canadian economy, which grew by 3.6% from Q3 of 2016.
- ❖ During Q3 of 2017, ICT services³, representing 95% of total Canadian ICT sector GDP, grew by 0.7% or \$460 million from Q2 of 2017. By contrast, ICT manufacturing⁴, contributing approximately 5% to the total Canadian ICT sector GDP, has decreased by a total of 0.2% or \$9 million from Q2 in 2017.

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

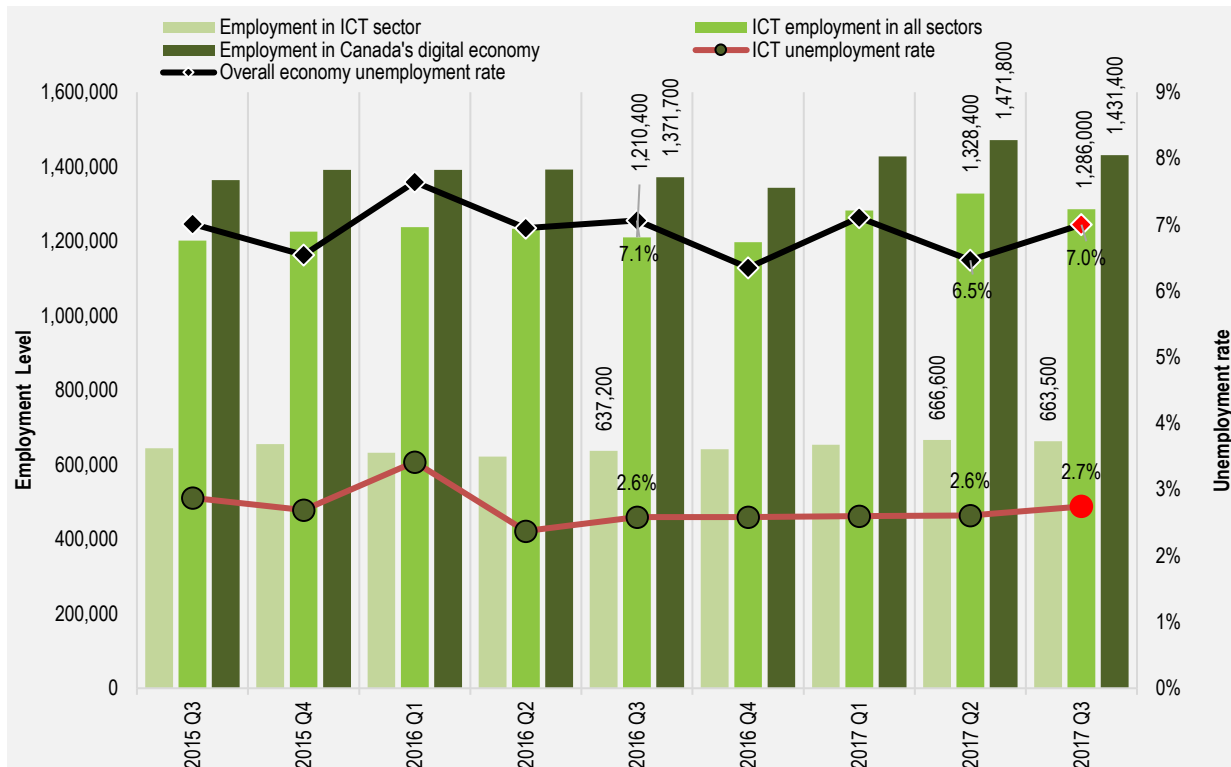
³ This combines the North American Industry Classification System (NAICS) codes 4173, 5112, 517, 518, 5415, 8112. See Appendices

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



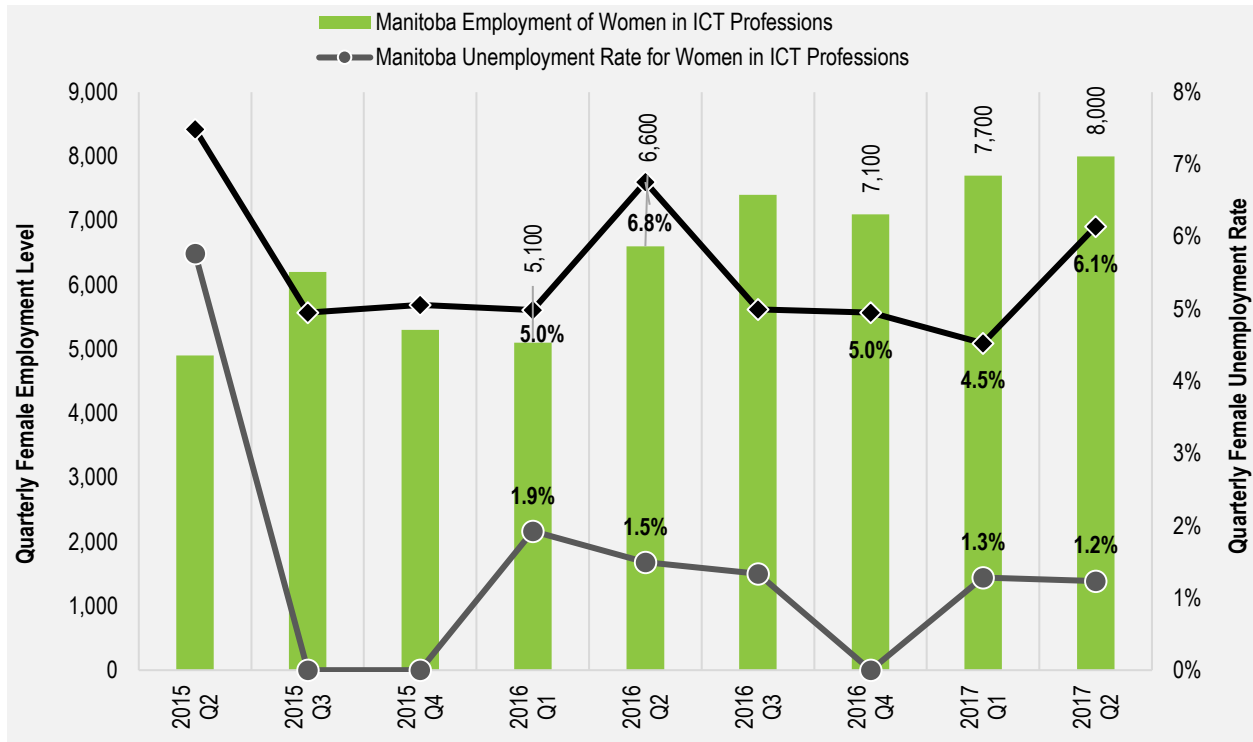
Source: ICTC; Statistics Canada

Analysis and Insights

- ❖ Despite employment in the Canadian digital economy experiencing a decline in Q3 of 2017, year over year, growth in the ICT professions has remained positive. This supports the notion that the overall demand for talent in the digital economy continues to rise.
- ❖ In Q3 of 2017 1,431,400 professionals were employed in the Canadian digital economy. This figure includes 518,100 ICT professionals working in the ICT sector, 767,900 ICT professionals working in non-ICT sectors and 145,400 non-ICT professionals working in the ICT sector.
- ❖ 1,286,000 ICT professionals were employed across all sectors of the Canadian economy in Q3 of 2017.
- ❖ 42,400 ICT jobs were lost across all sectors of the economy in Q3 of 2017. This represents a decline of 3.2% from Q2 in 2017. However, year over year ICT employment across all sectors of the economy grew by 75,600, representing a growth of 6.2% compared to Q3 of 2016.
- ❖ 5,100 jobs were lost in the Canadian ICT sector during Q3 of 2017, representing a decline of 1% from Q2 in 2017. However, year over year employment in the ICT sector grew by 42,200 jobs, which represents a growth of 8.9% compared to Q3 of 2016.
- ❖ During Q3 of 2017, the unemployment rate in ICT professions totaled 2.7%. This figure is more than 4% lower than the average unemployment rate across the entire economy, which totaled 7% during the same period.

Gender Diversity

Figure 3 – Women’s employment and unemployment



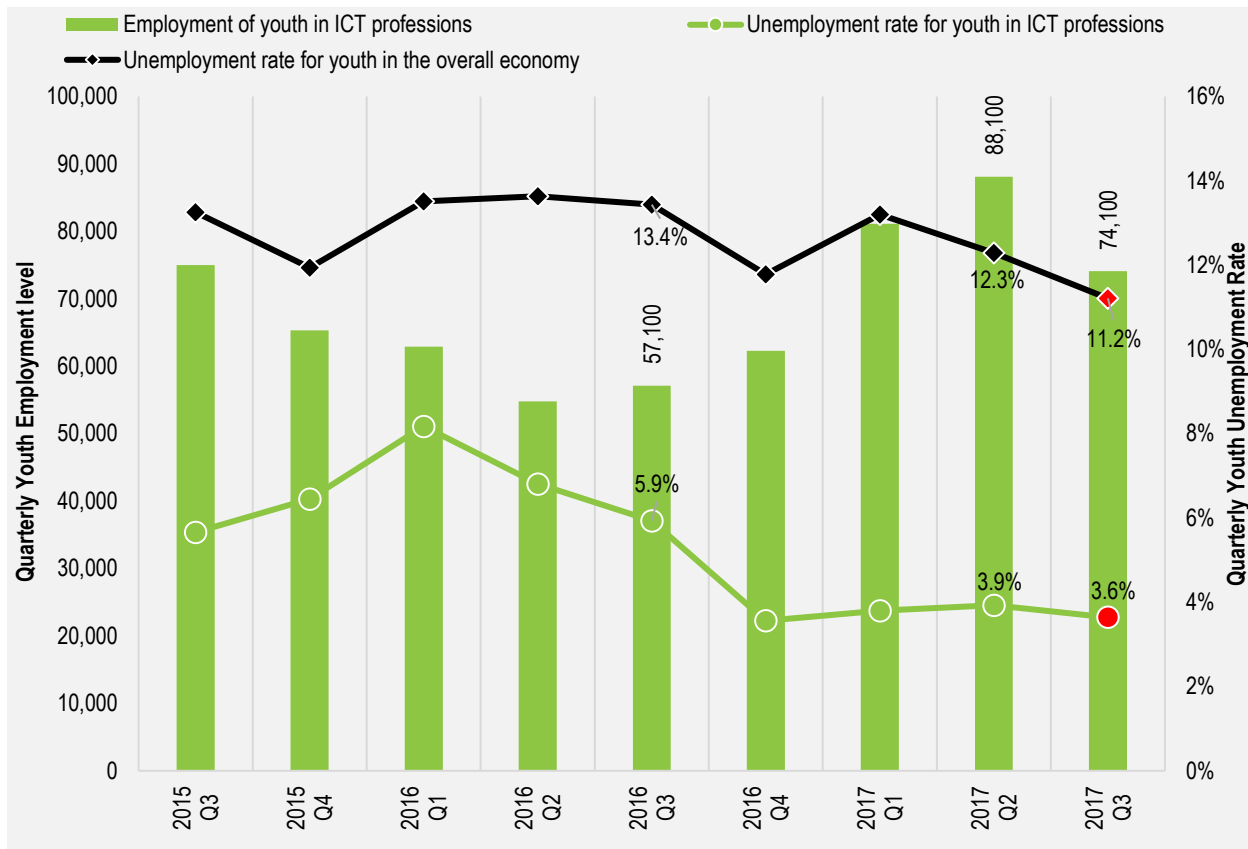
Source: ICTC; Statistics Canada

Analysis and Insights

- ❖ Year over year, participation of women in the ICT workforce increased, however a slight decline is notable during Q3 of 2017.
- ❖ Women represented 25% of all ICT workers in Canada during Q3 of 2017. This represents an increase of 0.3% from Q3 of 2016, but a decrease of 1% from Q2 of 2017.
- ❖ The participation of women in ICT professions declined to 316,000 jobs in Q3 of 2017, representing an 8% decline from Q2 of 2017.
- ❖ Year over year, the participation of women in ICT professions increased by 22,400 jobs or 8%.
- ❖ The unemployment rate for women in ICT professions was 2.5% in Q3 of 2017, a figure that is significantly lower than the 6.5% unemployment rate among women participating in the overall Canadian economy during the same period.

Youth Inclusion

Figure 4 – Youth employment and unemployment



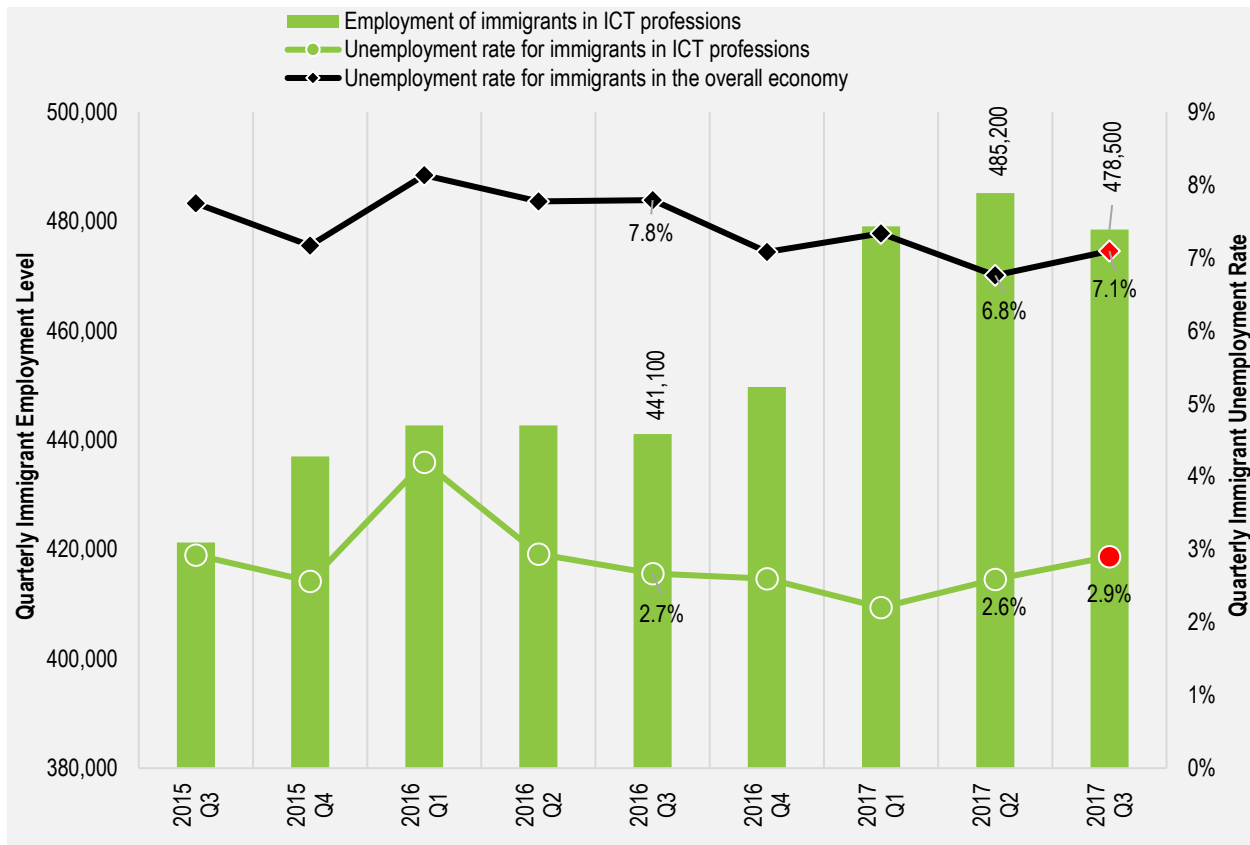
Source: ICTC; Statistics Canada

Analysis and Insights

- ❖ During Q3 of 2017, ICT employment among youth (15-24 years old) declined by 14,000 jobs or 15.9%. However, on an annual measure, this figure grew by 17,000 jobs or 29.8%.
- ❖ ICT employment among youth reached 74,700 in Q3 of 2017.
- ❖ Youth comprised 5.8% of the total number of ICT workers in Canada during Q3 of 2017. This represents a decrease of 0.9% from Q2 of 2017, where youth totaled 6.6% of the total number of ICT workers in Canada.
- ❖ The unemployment rate for ICT youth professions has been gradually decreasing since Q1 of 2016, falling to 3.6% in Q3 2017. By comparison, the unemployment rate for youth in the overall Canadian economy during Q3 of 2017 was nearly three times as high, totaling 11.2%.
- ❖ A decline in the youth unemployment rate during Q3 of 2017 was partially due to fewer youth participating in the labour force. The number of youth in the ICT labour force fell by 14,800 or 16% in Q3 of 2017, compared to Q2 of 2017. Increased school attendance – i.e. further post-graduate studies – has been identified as one of the prime causes of this decline.

Immigrant Integration

Figure 5 – Immigrant employment and unemployment



Source: ICTC; Statistics Canada

Analysis and Insights

- ❖ During Q3 of 2017, 478,500 or 37% of all employed ICT professionals were immigrants⁵. By contrast, immigrants represented just 26% of the overall Canadian workforce, across all sectors of the economy. The high saturation of immigrants in the ICT sector continues to underline the importance of looking outside of Canadian borders to fill demand.
- ❖ In Q3 of 2017, the employment of immigrants in ICT professions decreased by 6,700 jobs or 1% from Q2 of 2017. However, this figure grew by 37,400 or 8% year over year.
- ❖ High year over year growth of immigrant employment in ICT lends to the notion that the demand for talent and skills is strong in the digital economy. As a result, immigrants are seeking and finding more opportunities in the ICT sector than in other sectors in the Canadian economy.
- ❖ The unemployment rate for immigrants in ICT professions increased by 0.3%, totaling 2.9% in Q3 of 2017, a figure slightly higher than the 2.6% rate seen in Q2 of 2017. By comparison, the unemployment rate for immigrants in the overall Canadian economy during Q3 of 2017 was more than double that of the ICT sector, totaling 7.1%.

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. 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 2017, employment growth was strongest among the following ICT professions:

- ❖ Industrial instrument technicians and mechanics – 33% increase from Q2 2017.
- ❖ Engineering managers – 21% increase from Q2 2017.
- ❖ Computer engineers (except software engineers and designers) – 20% increase from Q2 2017.
- ❖ Film and video camera operators - 18% increase from Q2 2017.
- ❖ Information systems testing technicians – 16% increase from Q2 2017.

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, 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