



RESEARCH

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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, thereby driving the development of a more prosperous Canadian ICT workforce and industry in a global digital economy.

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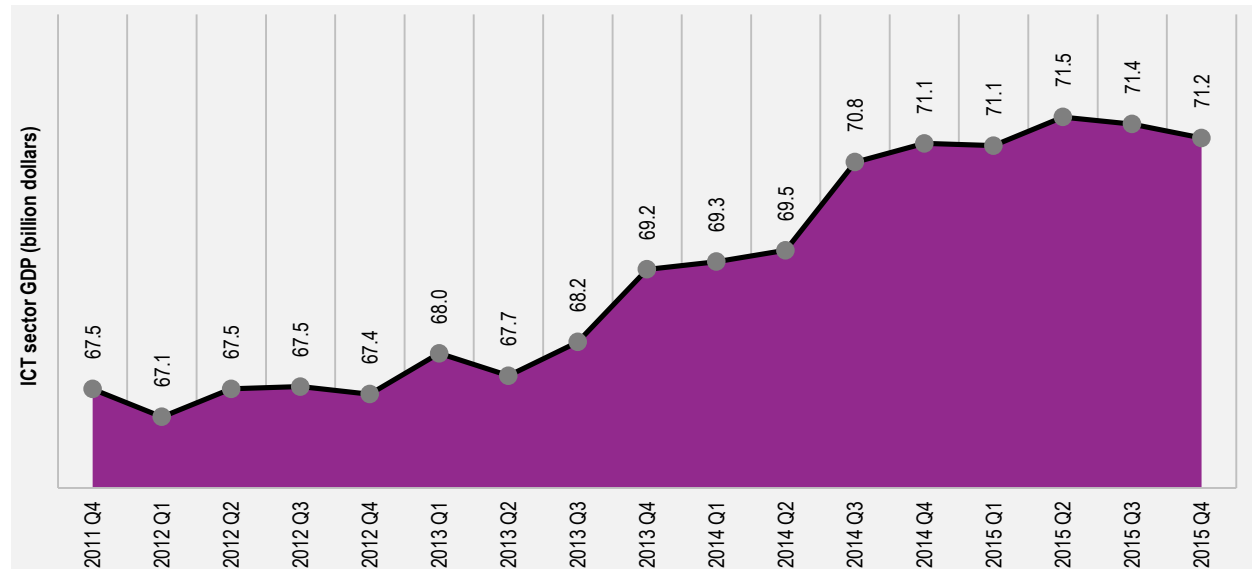
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OUTPUT AND OUTLOOK

GDP Growth

Figure 1 – ICT sector GDP (in billion dollars)



Source: ICTC; Statistics Canada

Analysis and Insights

- ❖ Compared to a year ago, the ICT sector contributed an additional \$79 million (▲0.1%) to the economy in the fourth quarter of 2015, increasing the ICT sector's contribution to Canadian GDP to \$71.2 billion.^{1,2,3}
- ❖ The pace of expansion slowed as a result of the decline in the ICT manufacturing subsector, as this subsector's contribution to GDP decreased by 4% annually despite a weak Canadian dollar expected to benefit the export-oriented ICT manufacturing subsector. Declines in this subsector were outweighed by growth in the software and computer services industries and the ICT communication services subsectors.
- ❖ The Canadian ICT sector grew in seven of the previous ten quarters, recording a 5.2% (\$3.5 billion) growth over that period. The overall Canadian economy grew by 3.8% in that same period.
- ❖ Ontario is Canada's ICT leader and contributed \$31.5 billion to total Canadian ICT output in 2015 Q4. In addition, Quebec contributed \$15 billion, Alberta \$9.3 billion, and British Columbia contributed \$8.8 billion to GDP.
- ❖ ICTs contribute directly as well as indirectly to all industries. The role of new and emerging technologies in transforming various economic sectors is highlighted in ICTC's **Trend Focus** series. The latest edition in this series [outlines](#) the ongoing digital transformation in natural resources sector.
- ❖ As digital technologies continue to permeate every aspect of our economy and culture, it is critical for industry, including SMEs, to understand how digital adoption can boost their business. Innovations in the ICT sector enable organizations throughout the economy to increase productivity, reduce operational costs, and boost business opportunities. ICTC's Digital Adoption [Compass](#) initiative continuously [highlights](#) the importance of digital adoption for Canadian businesses and also [lists](#) digital solutions for businesses to improve their efficiencies and offerings.

¹ In 2007 chained dollars. Chained dollars are real dollar amounts adjusted for inflation.

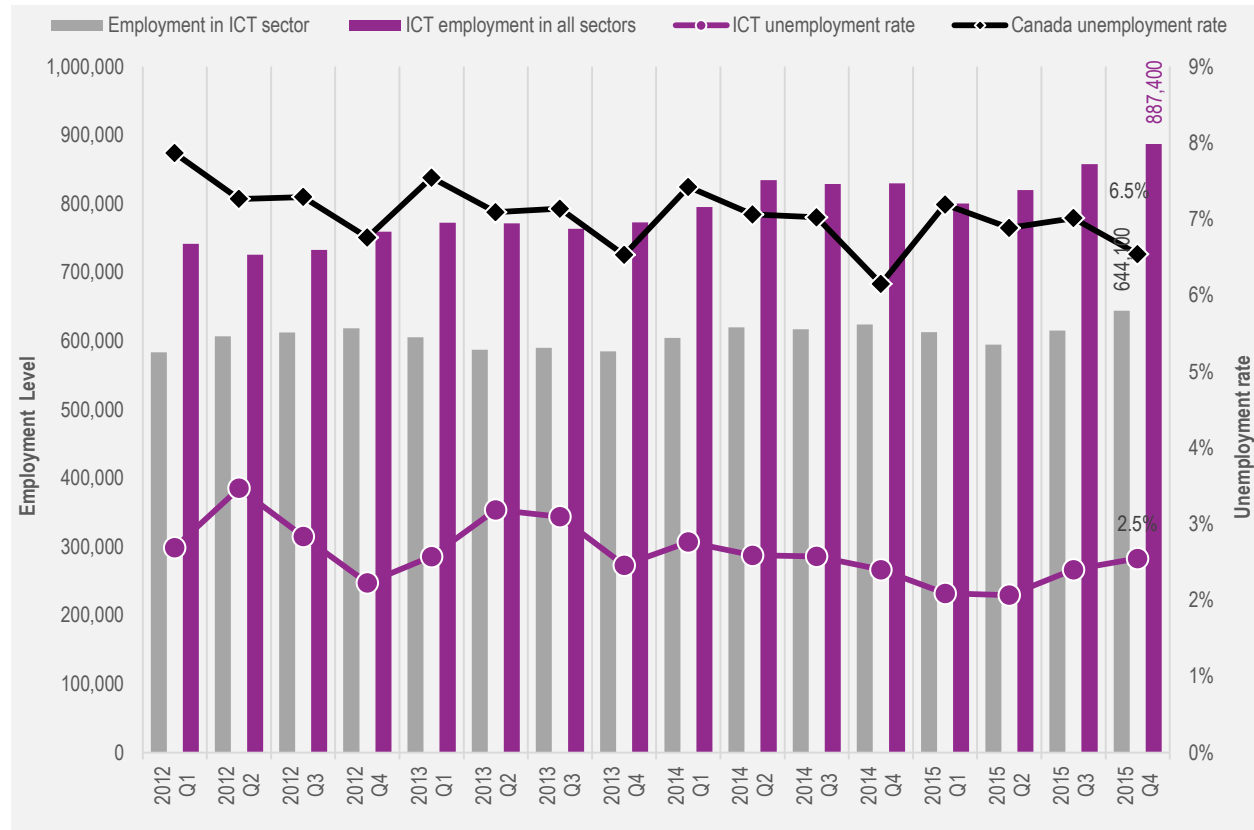
² GDP figures for 2015 Q4 are calculated using up to November 2015 data, due to lag associated with availability of output data.

³ 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.

LABOUR MARKET TRENDS

Employment

Figure 2 – Employment in Canada's digital economy



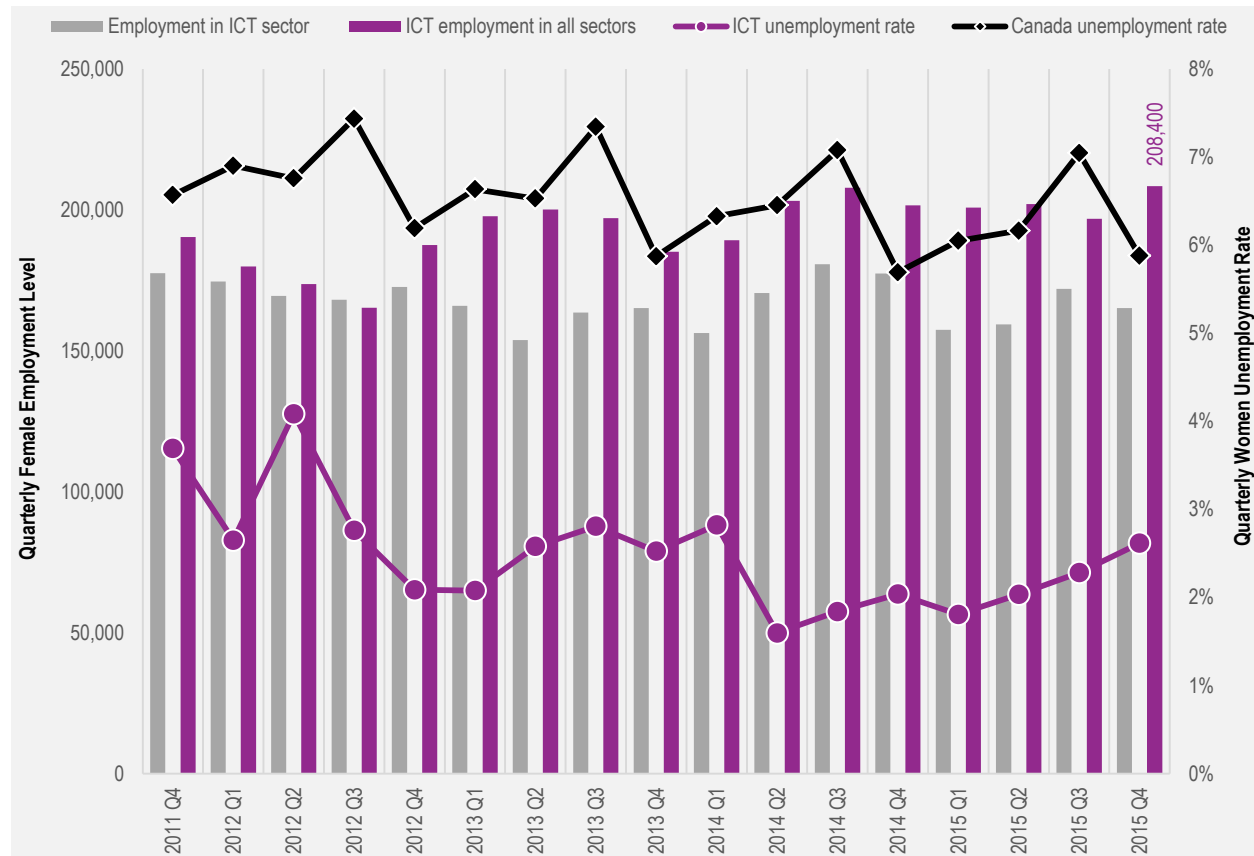
Source: ICTC; Statistics Canada

Analysis and Insights

- ❖ 29,300 new ICT jobs were created in Canada in the fourth quarter. As a result, 887,400 ICT professionals were employed in 2015 Q4, which represents quarterly growth rate of 3.4% (▲).
- ❖ This was in stark contrast to the 178,500 jobs that were cut from the overall Canadian labour market in the fourth quarter, as the total employment in Canada declined by 1% (▼) in 2015 Q4.
- ❖ ICTC's in-depth research and analytics of [job postings](#) on Canada's first online talent and skills insights for the digital economy indicate that emerging digital technologies such as mobile technologies and apps, digital platforms, cloud architectures, and the Internet of Things are driving job growth.
- ❖ 57,700 new ICT jobs have been created in the past four quarters between 2014 Q4 and 2015 Q4, recovering strongly from the 30,000 ICT jobs that were cut in the first quarter of the year (2015 Q1).
- ❖ With many people looking to join the ICT workforce seeing the upward surge in the labour market, the unemployment rate in ICT professions increased marginally to 2.5% in 2015 Q4.

Gender Diversity

Figure 3 – Women’s employment and unemployment



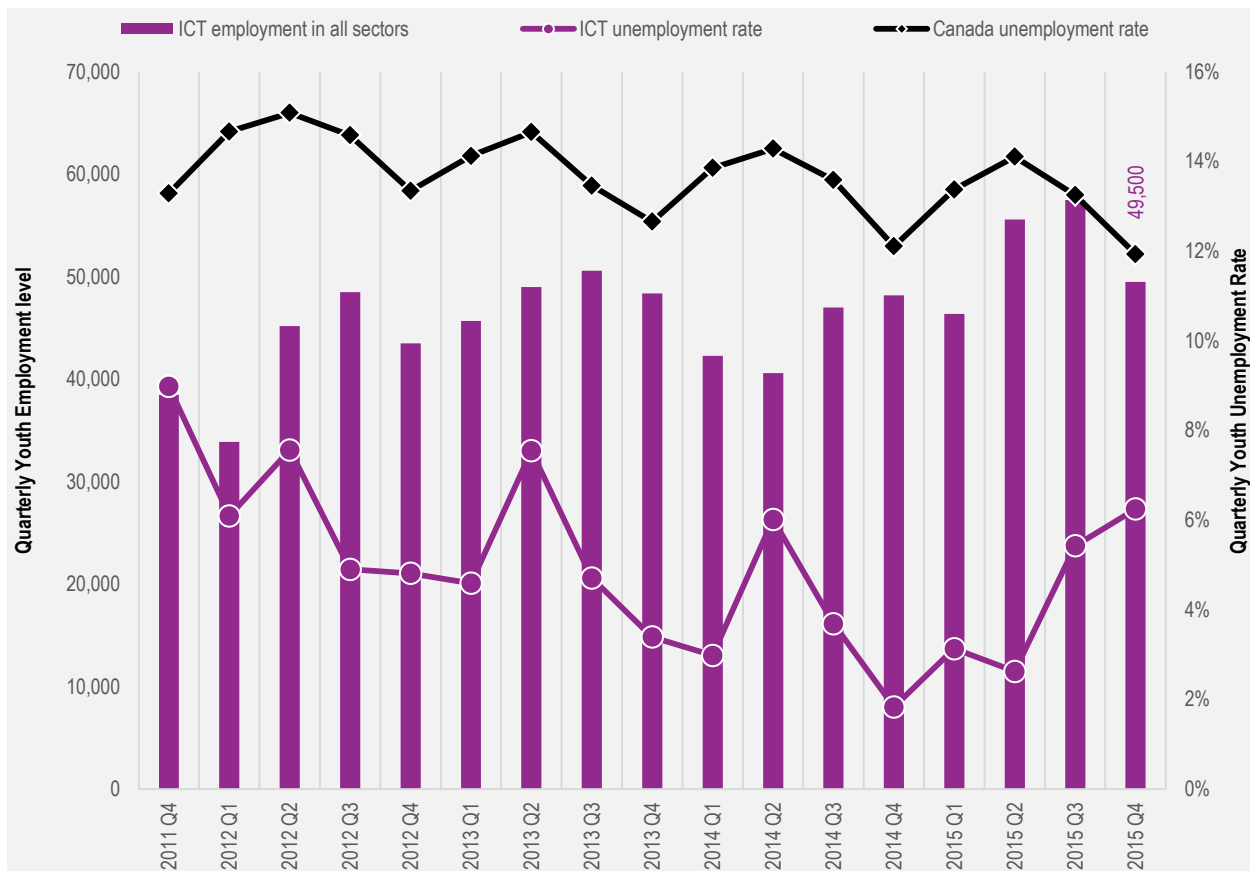
Source: ICTC; Statistics Canada

Analysis and Insights

- ❖ As a very encouraging sign for the improving gender diversity in the digital economy, two out of five (39%) ICT jobs created in 2015 Q4 went to women. More specifically, 11,500 additional women joined the ICT workforce to fill the 29,300 new ICT jobs created in Canada in the fourth quarter.
- ❖ This pushed the number of women employed in ICT jobs up to 208,400, a 6% quarter-over-quarter employment growth.
- ❖ The ICT professions which absorbed these new female entrants to the workforce the most include technical support analysts, data analytics specialists, database architects/administrators, software engineers/designers, web administrators, and network support technicians.
- ❖ With the employment level in ICT professions increasing significantly in 2015 Q4, the gender composition of the workforce changed to 23.5% women, improving from the previous quarter.
- ❖ The unemployment rate among women in ICT professions was 2.6% in 2015 Q4. In contrast, the unemployment rate among women was 5.9% in the overall Canadian labour market.
- ❖ Concerted, cooperative promotion and outreach efforts are needed to counter the perceptions that there are fewer opportunities in STEM and ICT for women and that the careers are not stimulating. ICTC’s multiple projects and [initiatives](#) to improve women’s participation in ICT professions are getting some early success. Industry taking an active role in communicating career paths more effectively is also critical to the success of such initiatives. An outreach campaign to increase national awareness of jobs in the new economy will help draw attention of all demographic groups.

Youth Inclusion

Figure 4 – Youth employment and unemployment



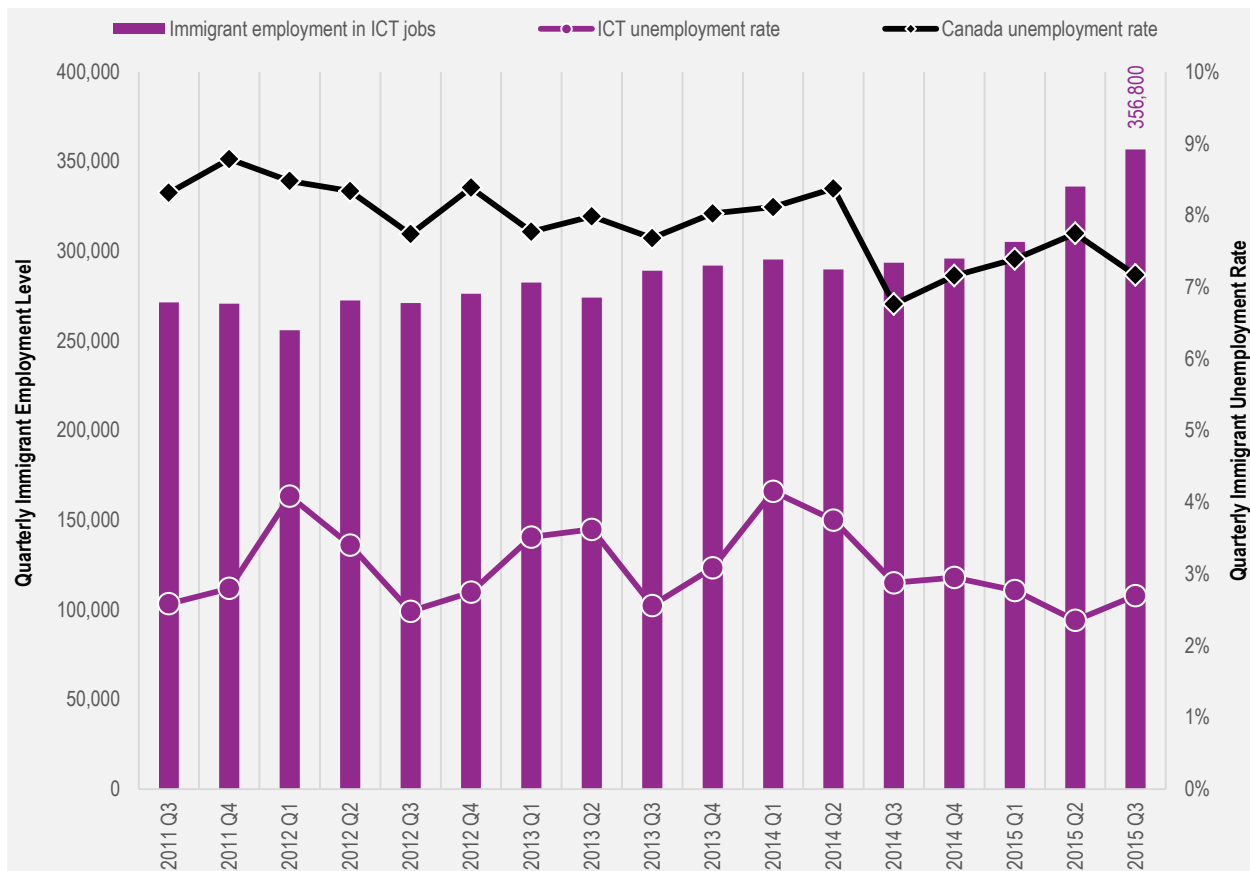
Source: ICTC; Statistics Canada

Analysis and Insights

- ❖ ICT employment among those aged 25 or younger decreased by 8,000 to reach 49,500 in 2015 Q4, comprising 6% of all ICT jobs in Canada. In contrast, youth aged 25 or below held 13% of all the jobs in the overall Canadian economy.
- ❖ 283,800 youth lost their jobs in the overall economy in 2015 Q4, once again proving that in a difficult labour market environment, youth are the most vulnerable group. As many youth exited the labour force in 2015 Q4, the unemployment rate among Canada's youth reached 11.9%.
- ❖ The unemployment rate among Canada's youth in ICT professions in comparison was significantly lower in 2015 Q4 at only 6.3%. Skills and qualifications required to secure these jobs, pays and benefits associated with these careers, academic programs offering relevant certifications, and live job postings in these professions are all detailed in ICTC's one-stop talent and skills solution www.etalentcanada.ca.
- ❖ Interventions are needed at an early enough stage – when students are still making decisions about their courses and career options – to encourage more youth to choose ICT careers. To this end, ICTC – in partnership with Microsoft Canada – has developed a national digital [talent strategy](#) to outline detailed policies and programs needed to develop digital talent and position Canada as a leader in the global digital economy.

Immigrant Integration

Figure 5 – Immigrant employment and unemployment



Source: ICTC; Statistics Canada

Analysis and Insights

- ❖ 356,800 (40%) of all the employed ICT professionals were immigrants⁴ in 2015 Q4. In contrast, immigrants represent 25% of the workforce in the overall economy.
- ❖ Employment among immigrants in ICT professions increased by 20,700 (6%) in 2015 Q4, compared to less than 1% (14,300) employment growth among all immigrants in the overall Canadian economy. This implies that immigrants are finding more opportunities in ICT jobs than in other occupations across the economy. This makes a strong case for exploring new policy incentives that could support the upskilling of immigrants to help them tap into the opportunities of Canada's digital economy.
- ❖ The unemployment rate among immigrants in ICT professions is 2.7%, compared to the unemployment rate among immigrants in the overall Canadian economy of 7.2%.
- ❖ ICTC has ongoing talent [programs](#) that bring together employers and internationally educated professionals (IEPs) to provide many benefits to Canadian employers, including helping to build and sustain a diverse and inclusive workforce that leads to enhanced innovation and an ability to compete in the global economy.

⁴ 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. To understand the ICT talent and skills supply-demand dynamics in Canada in the medium term, please refer to [ICTC's 2015-2019 Labour Market Outlook](#).

In 2015 Q4, the employment growth was strongest in these ICT professions:

- ❖ [technical support analysts](#)
- ❖ [informatics / business systems analysts](#)
- ❖ [software engineers / designers](#)
- ❖ [data analytics / database architects/administrators](#)
- ❖ [web / network support technicians/administrators](#)
- ❖ [web developers](#)

It is a good time to be searching jobs in ICT professions in Canada. To review live job postings by occupation, please [click here](#). Please note that your search can be narrowed by using the available keyword, city, and province filters.



Digital Economy Labour Force

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The sum total of workers (workers that are employed in these occupations as well as workers that are currently unemployed, but actively looking for work) in these occupations and workers in all other (non-ICT) occupations in the ICT sector (ICTC's framework of Canada's ICT sector is explained below) is the total digital economy labour force in Canada. The table below summarizes the core ICT occupations:

Index	National Occupational Classification (NOC)	Occupation Title
1	0131	Telecommunication carrier managers
2	0213	Computer and information system managers
3	2133	Electrical and electronics engineers
4	2147	Computer engineers
5	2171	Information systems analysts and consultants
6	2172	Database analysts and data administrators
7	2173	Software engineers
8	2174	Computer programmers and interactive media developers
9	2175	Web designers and developers
10	2241	Electrical and electronics engineering technologists and technicians
11	2281	Computer network technicians
12	2282	User support technicians
13	2283	Systems testing technicians
14	5224	Broadcast technicians
15	5241	Graphic designers and illustrators



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



About ICTC

The Information and Communications Technology Council (ICTC) is a leading not-for-profit national centre of expertise conducting research, policy development, and creating talent solutions for the digital economy.

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