

Polska



ICT sector in Canada

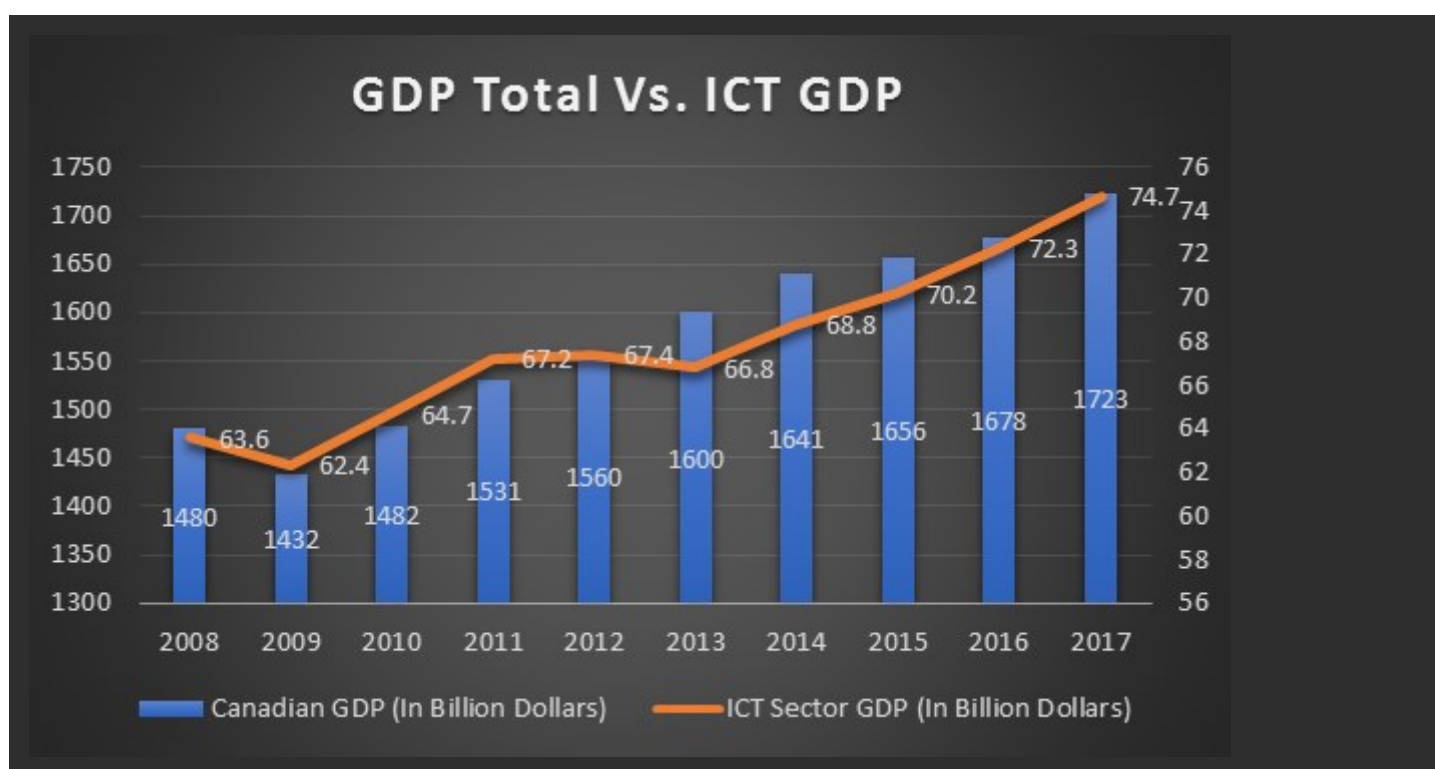
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Canadian ICT sector profile 2018

1. General industry information.

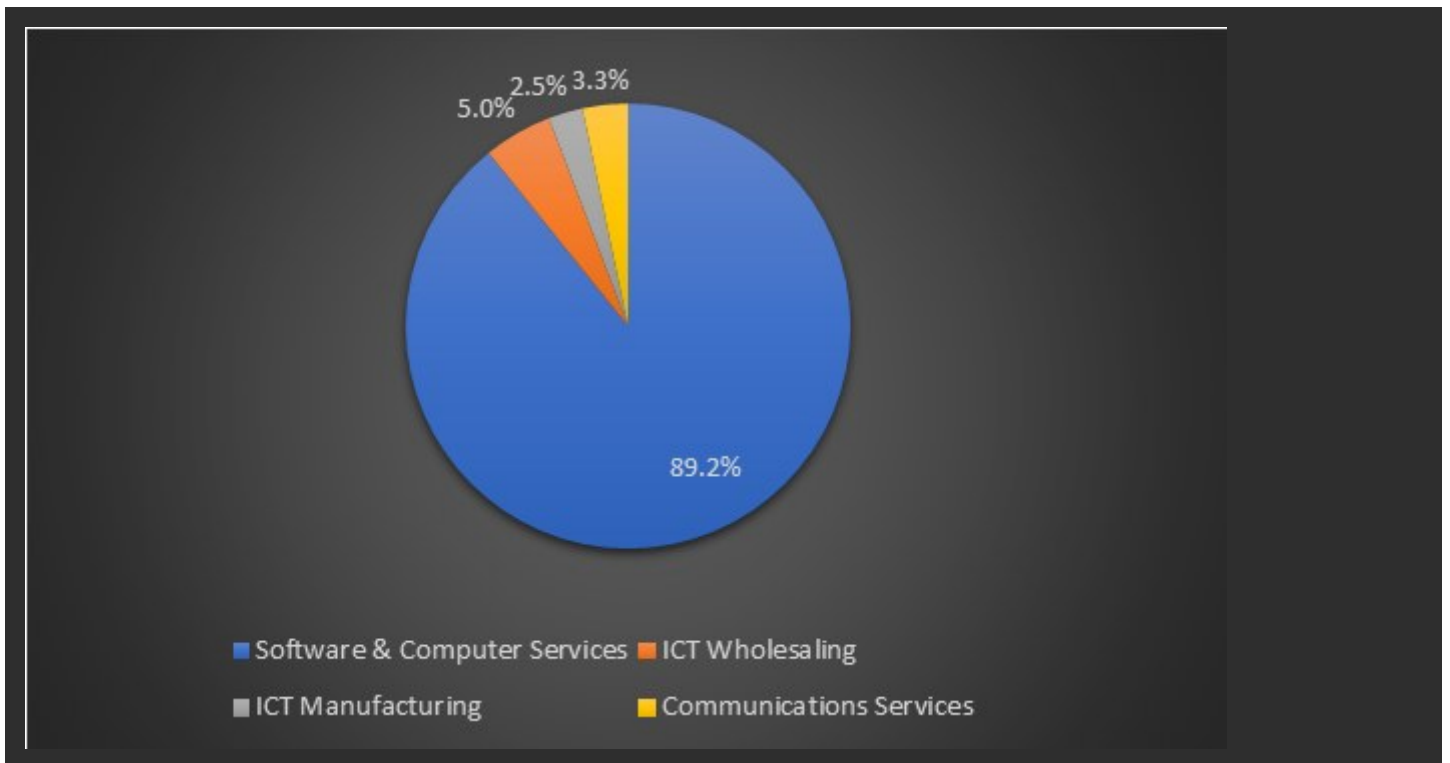
ICT refers to the industry of software, hardware, services, and telecommunications that facilitate the access, storage, and transfer of data between users and systems. The global ICT industry continues to grow, with global revenues projected to reach close to 4.5 trillion euros by 2019. While Canada represents a relatively small portion of this global market, the country itself is home to a vibrant and diverse ICT sector that has grown to become one of the major national drivers of innovation and economic growth. Canada's technology sector is a major economic driver and is often outperforming much of the rest of the country's economy. The ICT sector is also one of the most lucrative sectors in Canada. The average ICT worker earns a salary of **\$75,000/year** which is **50%** higher than the overall average across Canada. This sector has a high demand for skilled and educated workers, and therefore is consistently growing, year over year. In **2017**, the Canadian ICT Sector generated **74.7** milliard CAD (**4.3%**) of the Canadian GDP (\$1.7 trillion CAD). This is a **3.3%** increase from **2016**, and a 4-year increase of **11.8%**. Even though the ICT sector only produces **4.3%** of that nation's GDP, it is responsible for approximately one-third of Canada's private sector research and development spending.



"The ICT Sector has outperformed the overall economy four years in a row" - ICTC 2017

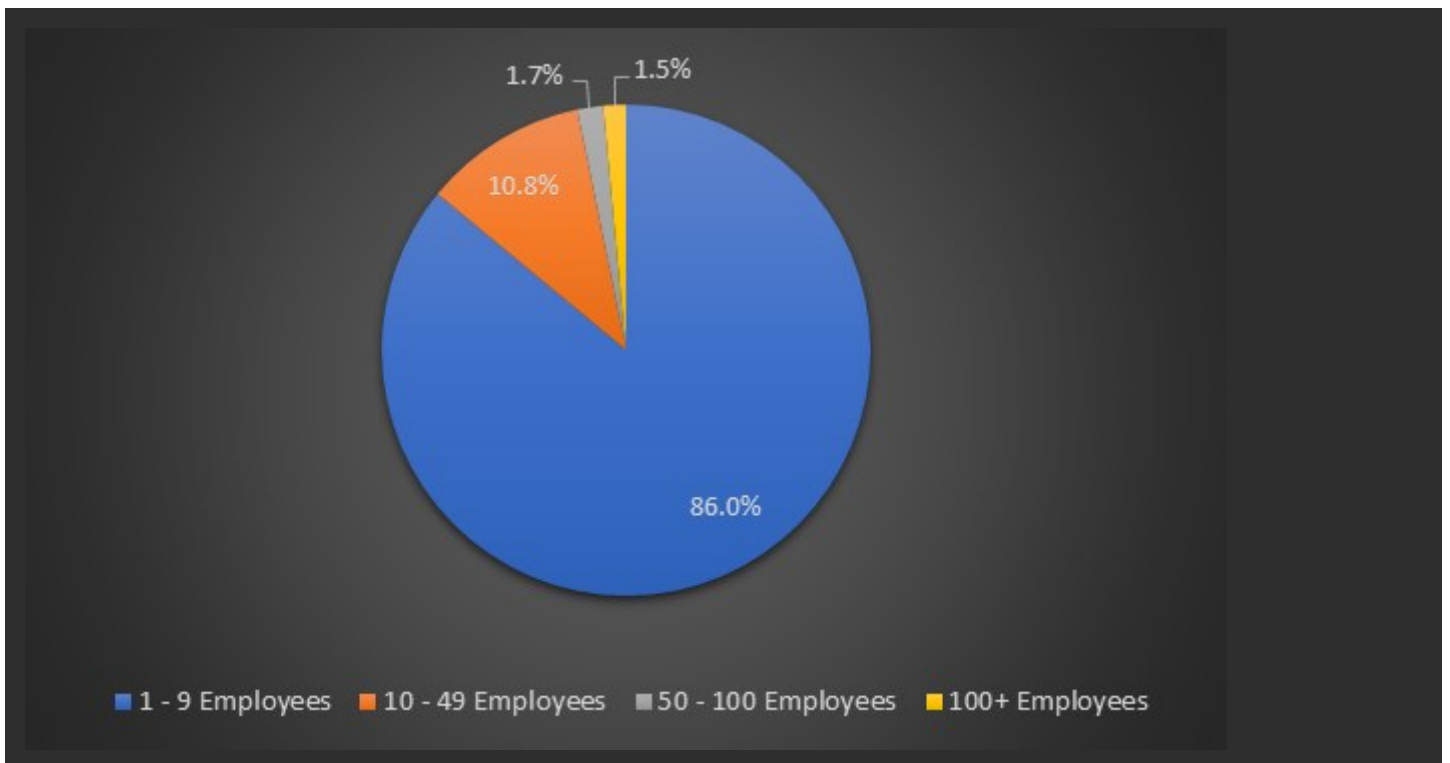
Source: ICTC; Statistics Canada

According to the Information and Communication Technology Council; Current estimates are expected to continue, with gradual but increasing adoption of ICT products and services in all economic sectors supporting this growth as energy, healthcare, life science, aerospace, the service industry and automotive are all undergoing major and dramatic changes in digitalization. Based on linear regression, the ICT industry in Canada is projected to generate a CAD GDP of **77.2** billion in **2018**, and **79.7** billion in **2019**. The industry is comprised of over **39,000** companies in Canada alone. Over **34,000 (89.2%)** of these companies fall within the software and computer services industry.



Source: Statistics Canada; Business Registry

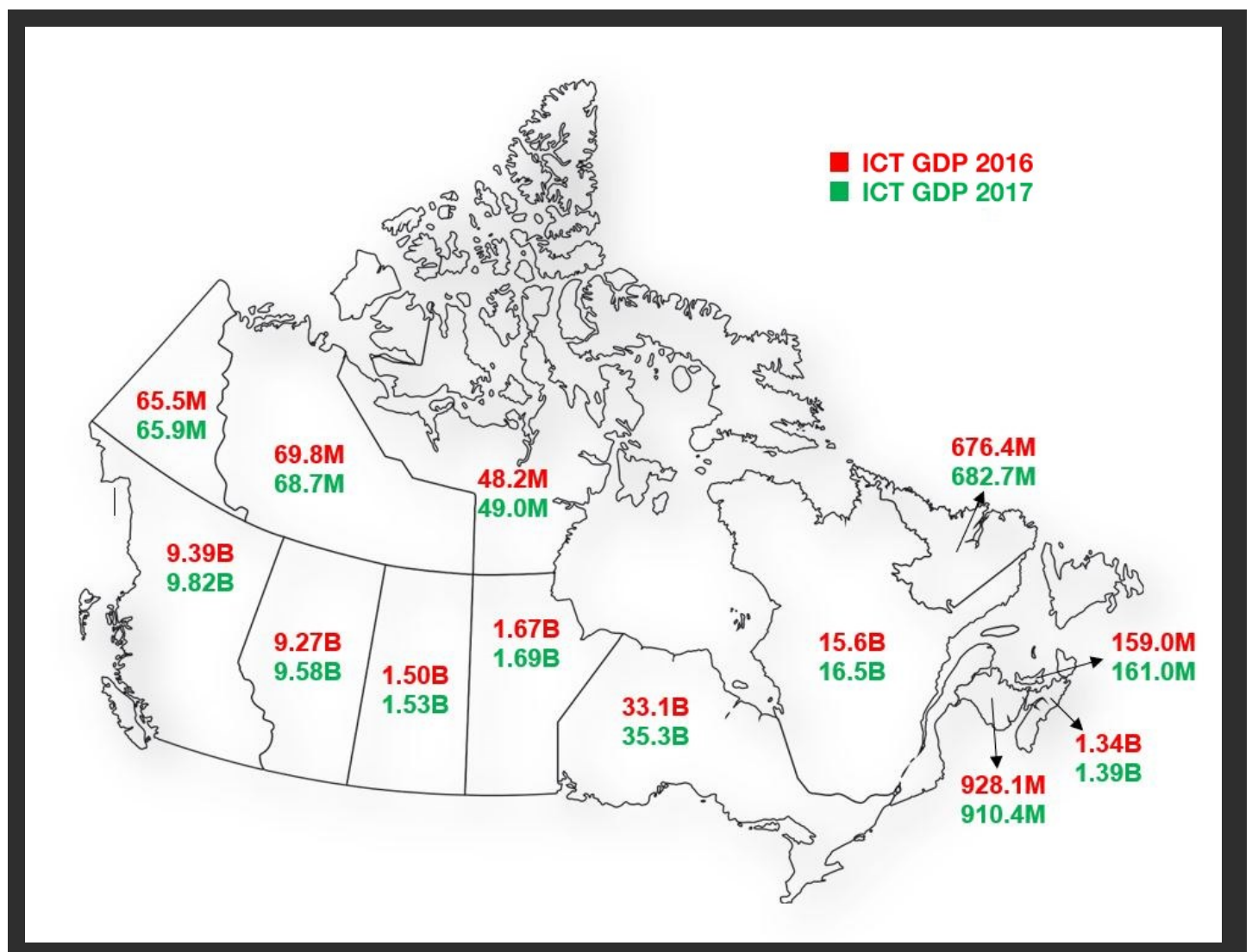
The ICT Sector is primarily composed of small companies, with over **33,500 (85.6%)** of them employing less than **10** people, highlighting the startup and entrepreneurial spirit of Canadians.



Source: Statistics Canada; Business Registry

2. Industry information in Canada

The Canadian ICT Sector (by GDP) has been growing and outperforming the overall Canadian economy since 2013. ICT sector growth accelerated in 2016, as the sector increased by 2.3%, nearly twice as fast as the total Canadian economy (+1.2%). GDP produced by Canada's ICT sector between 2016 and 2017 increased by over \$2 billion, reaching \$74.7 billion of which 95% is ICT services. From 2011 to 2016, ICT sector revenues grew from \$149.6 billion to \$181 billion, a 21% increase. The software and computer services sub-sector experienced the fastest growth in GDP in 2016, up 6.4%. ICT wholesaling increased 1.4%, while the communications services sub-sector remained flat. Meanwhile, the manufacturing industries GDP declined, down 1.7%. Furthermore, the Canadian ICT sector saw an increase of **3.4%** growth in **2017** vs. **2.7%** for the overall economy. This can be attributed to the ever evolving digitization of business in all sectors of the economy, creating new jobs and a constantly new demand for a skilled labour force. Estimates suggest this trend to continue with increasing adoption of ICT products and services by businesses and consumers.



As seen from the chart above, the highest GDP producing provinces in the ICT sector are: Ontario, Quebec, and British Columbia respectively. According to "Statistics Canada" these also happen to be the most populated

provinces. Ontario's total ICT GDP is comprised of **94.5% (33.2B)** ICT services, and **5.5% (1.92B)** ICT manufacturing. Quebec's total ICT GDP is comprised of **94.9% (15.8B)** ICT services, and **5.2% (851.9M)** ICT manufacturing. British Columbia's total ICT GDP is comprised of **96.5% (9.81B)** ICT services, and **3.5% (345.1M)** ICT manufacturing.

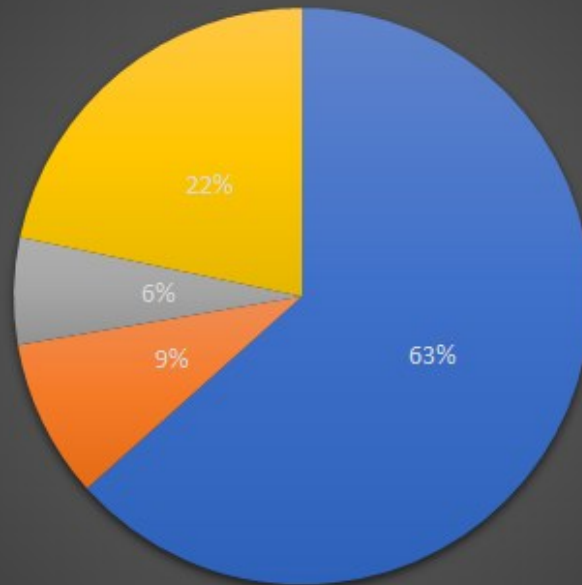
Breakdown of # ICT Workers by Province

City, Province	% of Total Provincial ICT Workers	# of ICT Workers	ICT Employment Increase/Decrease from 2016
Vancouver, BC	73%	114.900	-1%
Calgary, AB	52%	64.700	-0.6%
Regina, SK	43%	9.300	0.7%
Winnipeg, MB	84%	25.300	-0.2%
Toronto, ON	58%	352.300	-0.3%
Montreal, QB	64%	192.900	9%
Moncton, NB	29%	5.400	-0.8%
Halifax, NS	69%	16.300	-0.3%
Charlottetown, PEI	65%	2.200	-0.3%
St. John's, NL	75%	6.500	-0.3%

Source: etalentcanada.ca

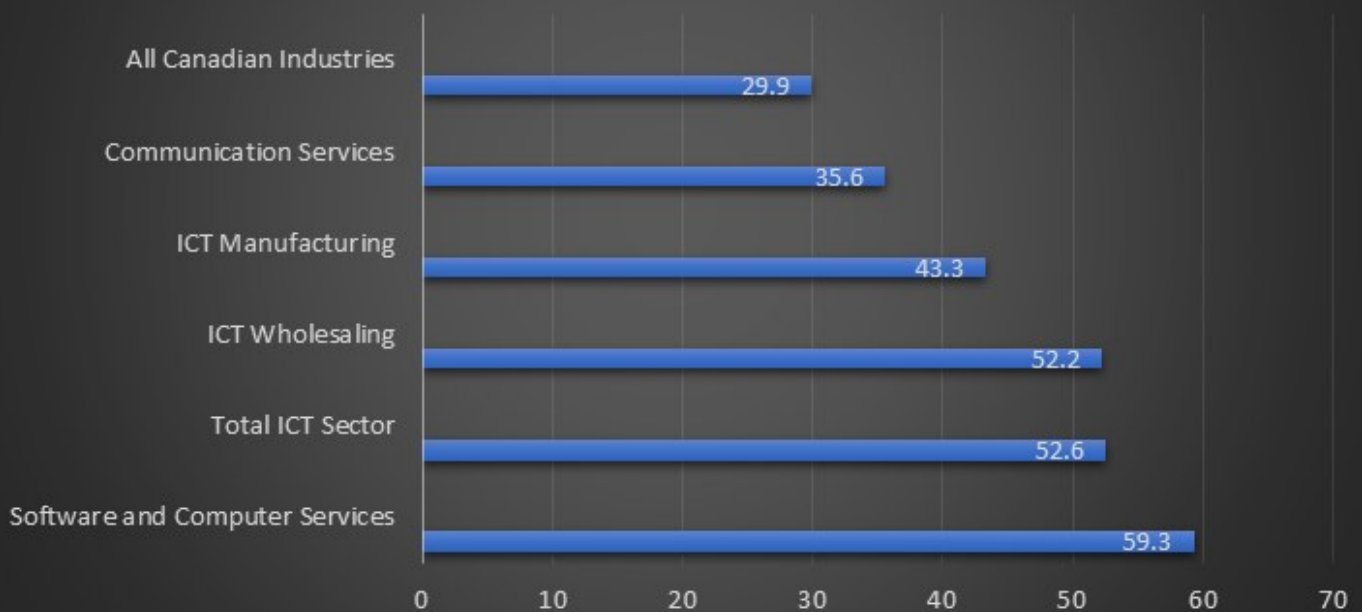
While Canada's resource sector is experiencing a decline in demand for workers, the Canadian ICT sector is growing. The ICT sector accounts for 3.3% of national employment. Employment in the ICT sector increased 1.7% in 2016, amounting to over 600,000 jobs. This growth was much faster than that of the overall economy (+0.7%). Since 2011, employment growth in software and computer services has significantly outpaced the overall growth in the ICT sector. Software and computer services' share of employment has increased from 56.6% to 63.4% over the time period. Slightly under 40% of all ICT jobs in Canada are held by immigrants. Overall, the proportion of immigrants in the ICT professions has grown from 30% in 2007 to 37% in 2017 - 26.5% of jobs in the overall economy are held by immigrants.

ICT Employees by Sub-Sector



■ Software and Computer Services ■ ICT Wholesaling ■ ICT Manufacturing ■ Communications Services

Percentage of Workers with University Degrees

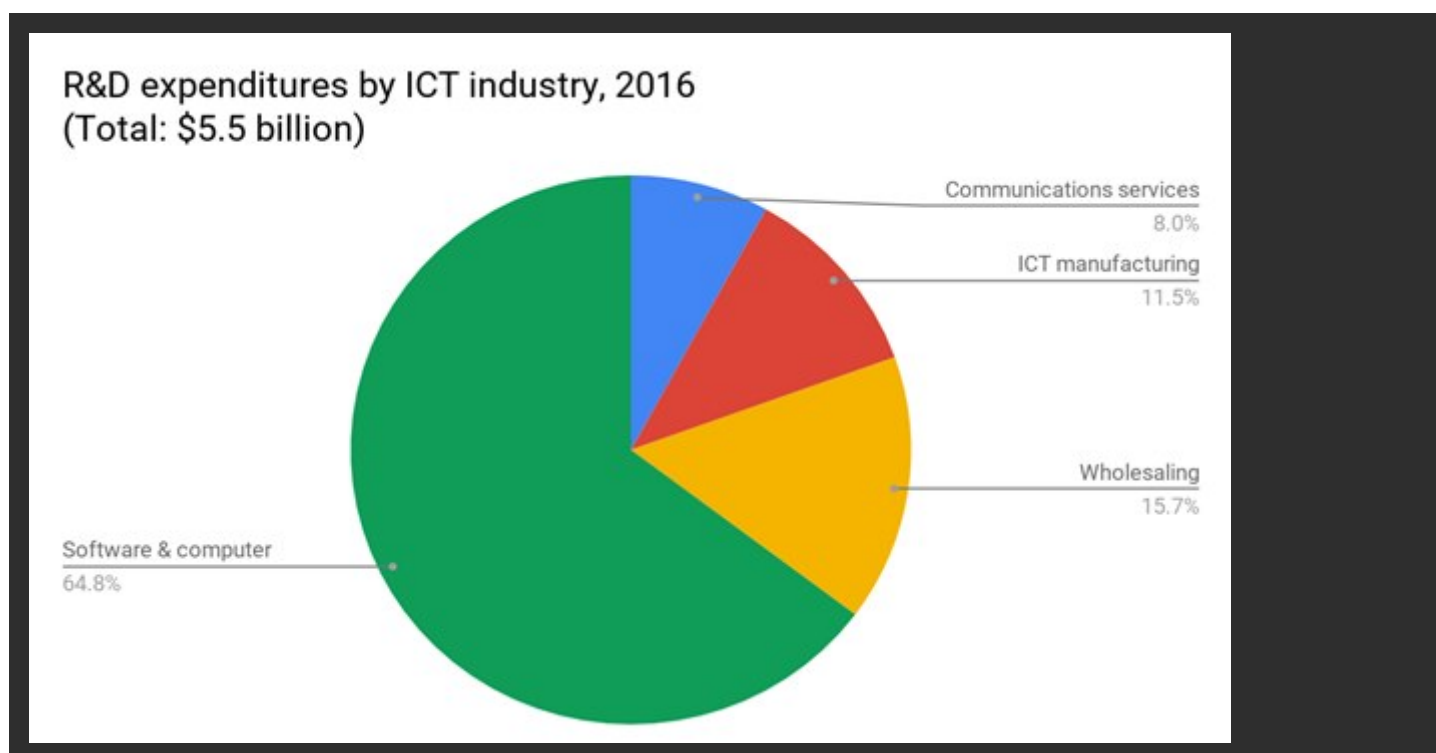


The ICT sector is characterized by a knowledge-intensive workforce, with over half of its workers holding a

university degree, compared to 29.9% within all Canadian industries. The software and computer services sub-sector employs the largest proportion of university educated workers within the ICT sector (59.3%).

Employees in the ICT sector earn on average over \$75,000 a year. In 2016, these workers earned 52.7% more than the economy-wide average, with the highest earners coming from the wholesaling and software and computer services sub-sectors. Despite being the lowest paid workers in the ICT sector, employees in the ICT manufacturing sub-sectors still earned 23.8% more than the national average in 2016. From 2011 to 2016, the average salary in the ICT sector grew more quickly than salaries in the overall economy, up 13% compared to 8.7%.

ICT industries are the largest performers of R&D in the Canadian private sector. In 2016, the sector held a 30.8% share of all private sector R&D expenditures in Canada. ICT sector R&D expenditures totaled \$5.5 billion in 2016, falling 2.5% from the previous year. The decline is due to drops in R&D expenditures by the communications services (-20.9%) and software and computer services (-2.6%) sub-sectors. The decline in R&D expenditures in the software and computer services sub-sector was primarily due to a 9.3% drop in the software publishing industry.

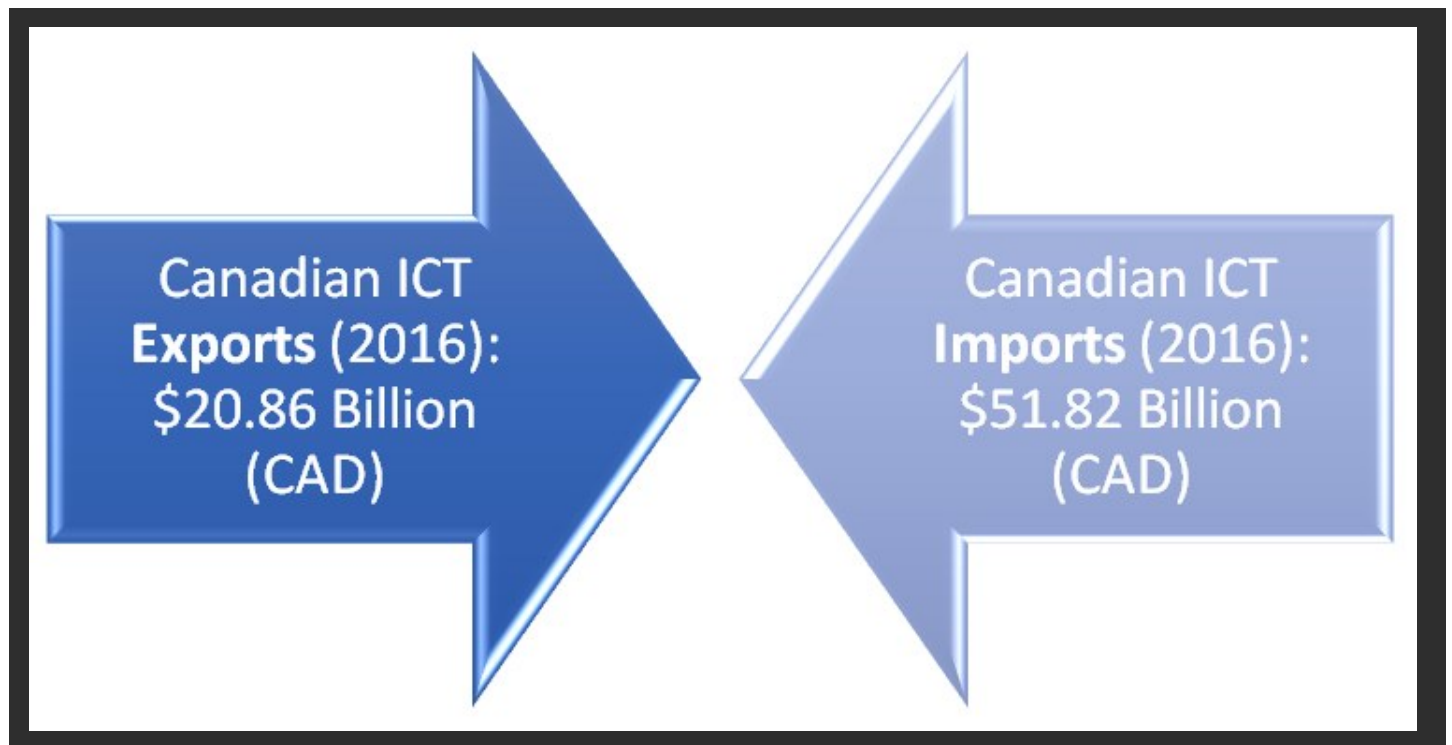


Canada's Video game Industry

The video game industry in is one of Canada's fastest growing GDP contributors in the ICT sector. The *Entertainment Software Association of Canada* (ESAC) reported a **24%** growth since **2015** to **2017**; \$**3** milliard to \$**3.7** milliard and Canada ranks third in the world for developing video games, behind the U.S. and Japan. There are a total of **596** studios operating in Canada; **26** of which are **100+** employees, **241** of which are **5-25** employees, and **228** of which are considered startups (Less than **4** employees). About **75%** of revenue for Canada's video game industry is attributed to exports. Foreign markets rely on the Canadian video game makers because of their innovation and pioneering-technologies. The result is the creation of **41,000** jobs for Canadians, catering to the **19** million and growing Canadian gamers, and the global **2.2** billion gamers in a \$**120** billion USD

industry.

3. Export/Import



Source: Export.gov reported in USD, converted at \$1.33 USD (Average exchange 2016)

The Canadian ICT sector is highly trade dependent, importing \$51 billion in goods and exporting \$17 billion around the world in 2017. About 80% of ICT products manufactured in Canada were exported. China is the largest supplier of ICT goods to Canada at \$21 billion, making up 40% of imported goods. The United States is the second largest supplier of ICT goods to Canada at \$11.4 billion and the top market for Canadian ICT exports with \$11.6 billion in 2017 - accounting for **70%** of all Canadian ICT goods exported. Total imports of ICT goods were led by the provinces of Ontario (\$37 billion), Quebec (\$5.7 billion), British Columbia (\$5 billion), and Alberta (\$1.8 billion).

The ICT services industries are more domestically oriented. In 2015 (the most recent data as of the publication date), exports of communications services grew by 3.9%, totaling \$2.0 billion, while software and computer services dropped 5.5% to \$8.8 billion. Exports accounted for 14.3% of software and computer services revenues, and less than 3.4% of communications services revenues. Overall exports of ICT services totaled \$10.8 billion, down 3.9% from 2014

Exports of ICT Goods by Product Group (2016)

Product Group	Percentage
Audio-Video & other ICT Goods	15.9%
Wired Communications equipment	17.8%
Wireless Communications equipment	18.1%
Electronic Components	19.5%
Computer equipment	28.7%

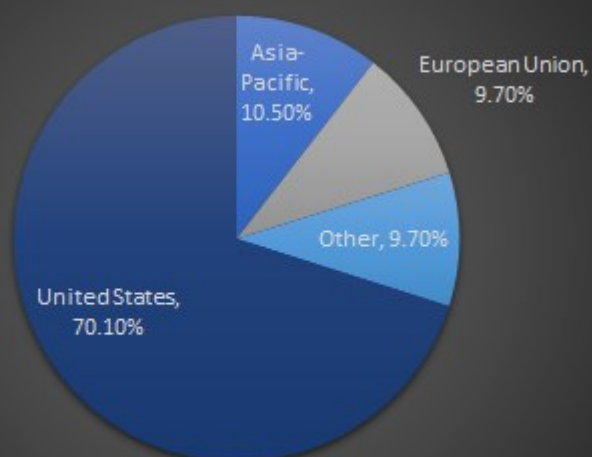
Source: ic.gc.ca

Canadian trade balance (NAICS 334 - Computer and electronic product manufacturing). Value in billions of Canadian dollars

	2013	2014	2015	2016	2017
Export	14,58	15,35	17,30	17,19	17,24
Import	44,36	44,91	48,65	48,31	51,01
Trade Balance	-29,77	-29,56	-31,35	-31,12	-33,77

Source: Statistics Canada - Trade Data Online

Exports of ICT Goods by Region (2016)



Source: ic.gc.ca

Canada and Poland are both involved and affected by the following international agreements:

Canada-European Union: Comprehensive Economic and Trade Agreement	CETA
Canada-Poland Foreign Investment Promotion and Protection Agreement	
Agreement on Trade-Related Aspects of Intellectual Property Rights	TRIPS
Agreement on Trade-related Investment Measures	TRIMS
General Agreement on Tariffs and Trade 1994	GATT
General Agreement on Trade in Services	GATS
World Trade Organization Information Technology Agreement	ITA
World Trade Organization Agreement on Government Procurement	GPA

(Source: international.gc.ca)

However, the agreement that has the most effect on Poland - Canada ICT Sector trade is **CETA**. The following are the before and after effects of CETA on tariffs associated with ICT products:

	Pre-CETA Tariff	Under CETA
Television cameras, digital cameras & video camera recorders	Up to 14%	0%
Printers, photocopiers & facsimile machines	Up to 6%	0%
Parts for radio transmission	Up to 5%	0%
Solid-state storage devices	Up to 3.5%	0%
Antennas and antenna reflectors and parts	3.6% to 5%	0%
Parts of electric sound or visual signalling apparatus	Up to 2.2%	0%
Radar apparatus	3.70%	0%
Radio navigational aid apparatus	3.70%	0%
Radio remote control apparatus	3.70%	0%
Transmission apparatus	3.60%	0%
Optical fibre	2.90%	0%

(Source: international.gc.ca)

According to Canada's government website: international.gc.ca, the EU is the world's largest importer of telecommunications, computer, and information services. Coincidentally, the EU is Canada's second largest ICT export market. CETA greatly benefits Poland - Canada ICT trade in 3 ways. First, non-existent tariffs mean cheaper prices for both countries, fostering trade and growth. Second, Canadian and European ICT providers will be considered on equal footing, and will receive better treatment than non-EU/Canadian counterparts (i.e United States). Lastly, ICT companies benefit from improved labour mobility provisions, expanded access to Canadian and government procurement opportunities at all levels (municipal, provincial, federal) and the eligibility to test products for conformity in Poland. International travellers no longer need a work permit for 90 days in any six-month period for the following activities: meetings or consultations, research and design, marketing research, training seminars, trade fairs and exhibitions, sales, purchasing, after-sales or after-lease service, commercial transactions, translation and interpretation.

4. Information about companies in the industry, their BIOs.

Branham Group Inc. analyzes annual changes in the Canadian Tech Space. Based on Branham's "Top 250 Canadian ICT Companies", the largest Canadian based ICT companies are (in order): BCE, TELUS, CGI, Rogers communications, and Celestica.

BCE Profile: (Based in Verdun, Quebec)

Known as the largest ICT company in Canada, and parent company of Bell Wireless, Bell Media, and Bell Wireline. Only considering Bell Wireless, BCE reported revenues of **\$16.29** milliard in **2017**. This was a **7%** increase since **2016**. The Bell Wireless segment specializes in communications, and provides a wide range of solutions for their clients to include: residential, small to medium sized businesses, and enterprises across Canada. The Bell Wireless segment includes wireless-related product sales from its subsidiary, national electronics retailer: "The Source Electronics Inc.". In **2017**, Bell won a government contract that named Bell the primary supplier of the Canadian government's mobile network services and devices for the next **6** years.

Telus Profile: (Based in Vancouver, British Columbia)

Known as the 2nd largest ICT company in Canada, Telus reported **2017** revenues to be **\$12.1** milliard. This was a **6%** increase from **2016**. The company offers business services, including health care, through sales representatives, self-serve online options, and independent dealers; to small and medium sized businesses. Its brands and distribution channels include: “Koodo Mobile” – provider of wireless voice and data services with a distribution network, including Telus stores, dealers, and third party retailers. Lastly, “Public Mobile” is a web-based distribution channel. In **2018**, Telus has been focusing on expanding their Internet coverage, causing it’s wireless subscriber growth to slow down (relative to competitors). In May **2018**, Telus reporting adding **48.000** new subscribers compared to BCE Inc. at **68.000** and Rogers Communications Inc. at **95.000**.

CGI: (Based in Montreal, Quebec)

Known as the 3rd largest ICT company in Canada, CGI manages information technology (IT) services, as well as business process services (BPS). In **2017**, CGI reported a revenue of **\$10.8** milliard. CGI provides advisory for management of IT and business functions, systems integration and consulting, and sales of software solutions. While based in Montreal, Canada, CGI operates all over the world. In mid **2018**, CGI acquired IT consulting firm “Facilite Informatique” to strengthen its presence in Canada.

For a more complete overview of Canadian ICT Companies, please visit **Branham300.com** and **Reuters.com**.

5. International Investment

Top 5 ICT companies in Poland by sales revenue in 2016 (\$CAD):

- AB – 2.7 milliard
- Asseco – 2.6 milliard
- Samsung – 2.1 milliard
- ABC Data – 1.6 milliard
- Action – 1.1 milliard

Canadian IT/ICT Companies Operating in Poland:

- CGI
- Guest Tek Intl. Group Ltd
- Vordik
- OpenText
- Blackberry

Polish IT/ICT Companies Operating in Canada:

- **Asseco Group**
- **Comarch**
- **Techland**
- **LGBS Polska**
- **Medicalgorithmic**
-

The largest ICT companies in Canada according to the Branham300.com ranking (2017)

Company	Revenue (\$000)	Country	Office
Samsung	17,595,812	South Korea	Mississauga, ON
BCE	16,285,000	Canada	Verdun, QC
Apple	12,571,754	U.S	Toronto, ON
Telus	12,074,000	Canada	Vancouver, BC
CGI	10,845,100	Canada	Montreal
Rogers	10,689,000	Canada	Toronto, ON
Amazon	9,441,577	U.S	Toronto, ON
Celestica	7,971,863	Canada	Toronto, ON
Alphabet (Google)	7,894,286	U.S	Toronto, ON
IBM	5,365,596	U.S	Markham, ON

Shaw	4,884,000	Canada	Calgary, ON
Constellation Software	3,220,768	Canada	Toronto, ON
Dell	3,113,379	U.S	North York, ON
OpenText	2,976,083	Canada	Waterloo, ON
VideoTron	2,830,900	Canada	Montreal, QC
CAE	2,704,500	Canada	Saint-Laurent, QC
Facebook	2,691,596	U.S	Toronto, ON
HP	2,554,057	U.S	Mississauga, ON
Cogeco Cable	2,230,389	Canada	Montreal, QC

6. Considerations for Market Entry.

The growing demand and market opportunity Canada is being fueled by transformative and rapid advancements of technology, particularly in key emerging technologies: VR and AR, 3D Printing, blockchain, AI and 5G mobile technology, Smartcities, Cyber Security, Internet of Things, automation, Big Data, and Quantum computing to name a few.

Cyber security is a serious concern in government and enterprise organizations in Canada. The Government of Canada committed \$77.4 million over five years in the 2017 budget toward the improvement of the security of government networks and information technology systems, with \$27 million to be spent before 2019. Canada's new Digital Privacy Act and the EU's GDPR are key drivers for a C\$200 million increase in Canadian cybersecurity solutions spending in 2018 to exceed C\$2.6B.

Canada has quickly become a world leader in Artificial Intelligence with major players like Uber, Google and Microsoft investing in Toronto, Montreal and the Waterloo Corridor. As highlighted by the Prime Minister, Budget 2017 proposes to provide \$125 million to launch the Pan-Canadian Artificial Intelligence Strategy, delivered through the Canadian Institute for Advanced Research (CIFAR). The Strategy will promote collaboration between Canada's main centres of expertise in Toronto-Waterloo, Montréal and Edmonton and will position Canada as a world-leading destination for companies seeking to invest in AI and innovation. CIFAR will work with the Vector Institute to support its core activities, including the Canada CIFAR Chairs in AI Science, graduate training, and

the participation of the Chairs and trainees in national AI activities.

Blockchain has already started to impact the Canadian economy in a major way with the conservative banking sector and financial sector taking note; RBC, Canada's largest bank, has joined the R3CEV Consortium to develop a blockchain infrastructure. Today, 2.6% of Canadian large and midmarket organizations are active with blockchain technologies with an additional 31% having plans for the coming year.

Augmented and Virtual Reality (AR/VR) is still in the early stages of adoption in Canada. IDC Canada has estimated year-over-year growth in this sector of 230 percent with spending on AR/VR in Canada to hit \$700 million CAD in 2017. IDC Canada estimates that although consumer VR adoption will see a small initial uptake in the Canadian market in the short term, the combination of AR and VR hardware in both consumer and commercial will drive the overall market by 2020.

Canadian businesses and government are still in the process of digitization with two-thirds of enterprises in the early stages of Digital Transformation. Therefore, there will be a need for considerable expenditure in order to adapt accordingly. Currently, 15% of Canadian organizations have established corporate innovation centers, investing more than C\$2.1B annually with 777 corporate innovation centers today and 900 by 2020.

7. Current forms of public aid.

Canada invests \$4.6 billion annually into Research & Development, more than any other private sector segment in Canada. In 2016, the Canadian government launched a multi-billion dollar innovation agenda that focused on boosting innovation across Canada. After that announcement, the **Information Technology Association of Canada** (ITAC) collaborated with ICT companies across Canada to consolidate a view of the industry, and to communicate how they would like to be supported in regards to this agenda. The **ITAC** presented four principles which represented what needed to be done in order to foster innovation within the ICT sector of Canada. The four pillars are: Digital Economy, Trade and Competitiveness, Digital Government, Talent and Skills Development.

Upon reviewing the recommendations made by the **ITAC**, initiatives were highlighted by the **ITAC** after the announcement of the 2017 Trudeau budget: (The full analysis can be found at www.ITAC.ca). International companies that align with the values of these organizations/programs, can apply and accelerate their agendas. To benefit from most of these programs, Polish companies would need to establish a subsidiary in Canada.

CANADIAN TAX INCENTIVES FOR RESEARCH & DEVELOPMENT:

The Scientific Research and Experimental Development (**SR&ED**) program is a tax incentive initiative designed to encourage businesses of all sizes and in all sectors to conduct research and development (R&D) in Canada. The incentive consists of federal and provincial tax credits.

Canada's **Start-Up Visa Program**, originally a 5-year program started in 2013, has been made permanent under the Immigration, Refugees and Citizenship Canada (IRCC) policy. Start-Up Visa seeks to attract innovative foreign entrepreneurs who have the potential to launch high-growth businesses in Canada that can compete on a global scale. The program is delivered in partnership with designated Canadian venture capital funds, business incubators and angel investor groups.

State institutions in Poland that offer financial instruments for Polish companies are: BGK Bank Gospodarstwa Krajowego, KUKE Export Credit Insurance Corporation and PARP Polish Agency for Enterprise Development. In order to obtain detailed information, we recommend contacting the Foreign Trade Office in Toronto or direct contact with the abovementioned institutions in Poland.

8. ICT Events to Consider:

iTech

An organization called *Macgregor Communications* hosts an IT Infrastructure conference 7 times a year across Canada. This conference features companies that display new cutting edge products and services, with a focus on: infrastructure, cloud, security, data centre and mobility. This event is a great place to network and meet new people in the industry, stay up-to-date on the latest technology trends, and see technology in action. Details: Toronto – May 8, Montreal – June 11, Ottawa – June 12, Edmonton – October 23, Calgary – October 25, Toronto – November 8, Vancouver – November 14. - <https://www.itechconference.ca/>

FAN EXPO:

<https://www.fanexpocanada.com/en/home.html>

Big Data Toronto

Details: Toronto – June 12,13 - <https://www.bigdata-toronto.com/>

DX3Canada

Details: Toronto – March 7/8, 2019 - <https://www.dx3canada.com/>

The Business Startup Show

<http://www.bstartup.com/>

9. Conclusion

The Canadian ICT Sector is a diverse, innovative and growing segment of the overall economy that contributes over \$70 billion to the Canadian GDP, growing 2.2% annually over the last five years with revenues expected to exceed \$200 billion in 2018. It continues to be one of the fastest growing in Canada as increased government spending and influx of funding; consumer and business adoption of new technology, collaborative economy (CETA), ability to attract international talent, drive this industry forward.

Today, digital transformation continues to radically change the face of business in Canada. The disruption is being felt in the banking, media, transportation, manufacturing, health, retail, and many other sectors. Aging demographics, disproportionate representation, immigration trends and many other social factors are also contributing to a changing social paradigm.

The hallmark of success in the this environment centres around having the relevant technology skills to innovate, adopt technologies and produce higher-value goods and services. This will empower a more dynamic economy, create further investment in infrastructure and R&D, provide diversification of industries and expand trade.

10. General institutions and organizations of the industry (Lists, addresses etc.)

Information and Communications Technology Council

<https://www.ictc-ctic.ca/about/>

116 Lisgar Street, Suite 300

Ottawa, Ontario

Canada, K2P 0C2

Phone: 613-237-8551

Fax: 613-230-3490

Inquiries about projects and programs: info@ictc-ctic.ca

Membership inquiries: membership@ictc-ctic.ca

Information Technology Association of Canada

<http://itac.ca/about-itac/>

(Mississauga Office)

5090 Explorer Drive, Suite 510

Mississauga, Ontario

Canada, L4W 4T9

Phone: 905-602-8345

Fax: 905-602-8346

Robert Watson, President and CEO - rwatson@itac.ca

(Ottawa Office)

220 Laurier Avenue West, Suite 1120

Ottawa, Ontario

Canada, K1P 5Z9

Phone: 613-238-4822

Fax: 613-238-7967

Janet Tite, Executive Assistant to the President - jtite@itac.ca

Macgregor Communications (iTech Conference)

<https://www.itechconference.ca/contact-us.html>

110 Cochrane Dr, Unit 1

Markham, Ontario

Canada, L3R 9S1

Phone: 905-948-0470

Alternate: 888-443-686



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