

# INFORMATION & COMMUNICATIONS TECHNOLOGY (ICT) IN CANADA

ICT is Canada's **fastest growing economic sector**.

## Thriving subsectors

**Artificial intelligence (AI):** Canada was first in the world to launch a national AI Strategy. The Strategy has four major goals: 1.) Increase the number of outstanding AI researchers and skilled graduates in Canada; 2.) Establish interconnected nodes of scientific excellence in Canada's three major centres for AI in Edmonton, Montreal and Toronto-Waterloo; 3.) Develop global thought leadership on economic, ethical, policy and legal implications of advances in AI; and, 4.) Support a national research community on AI.<sup>1</sup>

**Big data and analytics:** Over 100 masters programs in computer science and IT ranging from business information systems to data science and big data analytics are offered in Canada. And, three of the top 50 computer science universities are located here.<sup>2</sup>


**Cybersecurity:** The government has taken key steps to recognize the importance of cybersecurity, committing to invest \$507 million over five years as part of a new national cybersecurity strategy. The rising level of enrolment in cybersecurity programs represents about 7% of all college IT enrolments in the province of Ontario.<sup>3</sup>


**Cloud:** All major cloud players have made investments in Canada, including AWS, Microsoft, Google and IBM Cloud.<sup>4</sup>

**Blockchain:** Canada has low energy costs, the favourable regulatory regime and high internet speed which are perfect for a blockchain innovation hub. As such, Canada has embraced various applications of blockchain technology



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# \$83.6 B

## Sector's contribution to Canada's GDP in 2017

Source: Digital Economy Annual Review 2017, Information and Communications Technology Council

# 85.8K

## More ICT jobs created between 2016 and 2017 for total of 1.45M

Source: Digital Economy Annual Review 2017, Information and Communications Technology Council

# 66K+

## Total companies in the ICT sector

Source: Statistics Canada, 2019

# #4

## Canada's world ranking on patents related to quantum computing

Government of Canada launches national consultations on digital and data transformation, Innovation, Science and Economic Development Canada, 2018

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“A key reason why Amazon continues to invest in Canada is because of the diverse and exceptionally talented workforce that exists here.”

— ALEXANDRE GAGNON, VP, AMAZON CANADA

in the spheres of finance, legal affairs, education, health, government, space, energy, initial coin offerings, national and multinational cryptocurrencies.<sup>5</sup>

**Telecommunications & mobile:** Canada is leading in the development of 5G technologies. With 5G, Canada will see 37.6 million mobile subscriptions by 2030.<sup>6</sup>

**Photonics:** Canada invests about \$150 million in photonics R&D centres and universities annually, employing around 1,000 researchers.<sup>7</sup> The Canadian Photonics Fabrication Centre (CPFC) in Ottawa is the only pure play optical fabrication centre in North America.<sup>8</sup>

**IoT:** Wearables and VR technology firms like OmSignal, Hexoskin, Deddoco, Bionym, Interxon, Felix & Paul Studios and Occupied VR are producing leading-edge products in biometrics, 3D motion capture and VR solutions.

## Recent ICT investments

Between 2003 and September 2018, Canada brought in **678 new ICT and electronics investment projects** from foreign companies.<sup>9</sup>

**Amazon** announced in 2018 the expansion of its Vancouver Tech Hub, hiring an additional 3,000 highly-skilled workers in fields including cloud computing, e-commerce technology and machine learning.

**Uber** announced in 2018 a new \$200 million investment into its Toronto facility, expanding its self-driving centre

## Fortune 500 tech companies operating in Canada



amazon.com

Alphabet



ORACLE

facebook

Qualcomm

JABIL

xerox

and supporting the company's global plans for bus and train services.

**Samsung's** recently launched AI lab in Montreal is being used to strengthen team research with world-leading scholars in the field. Since 2017 they have been developing key algorithms and components for AI including image recognition, translation, autonomous robots.

**Siemens** is opening a global cyber security centre in Knowledge Park in Fredericton, New Brunswick in 2020. The focus is on cyber analysis and software development.

## Top 5 occupations of Global Skills Strategy approved applicants\*

- 1 - Interactive Media Programmers and Developers **1,690**
- 2 - Computer Analysts and Consultants **1,950**
- 3 - (Open employment and authorization) **1,296**
- 4 - University Professors and Lecturers **1,169**
- 5 - Software Engineers **450**

\*Source: Immigration, Refugees and Citizenship Canada, between June 12, 2017 - July 31, 2018

## CONTACT

**Invest in Canada** is a not-for-profit investment attraction agency aimed at helping global companies like yours secure the best opportunities in Canada. Contact us to speak with a dedicated advisor.

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<sup>1</sup> Pan-Canadian Artificial Intelligence Strategy, CIFAR, 2019

<sup>2</sup> QS World University Rankings by Subject 2018 - Computer Science and Information Systems

<sup>3</sup> The changing faces of cybersecurity Closing the cyber risk gap, Deloitte, 2018

<sup>4</sup> Who is the top public cloud provider in Canada?, IT World Canada, 2018

<sup>5</sup> Why Canada has Emerged as a Leading Blockchain and Crypto Nation: Expert Take, Coin Telegraph, 2018

<sup>6</sup> 5G: Jumpstarting our Digital Future, Information and Communications Technology Council Canada, 2018

<sup>7</sup> Photonics industry at 'tipping point' in Canada, SPIE Professional, April 2016

<sup>8</sup> Communications Technology, Invest Ottawa, 2019

<sup>9</sup> In-depth crossborder investment monitor, FDI Markets Database 2018