



INVEST IN **CANADA**

CANADA'S COMPETITIVE ADVANTAGES

DATA AND
COMMUNICATIONS
SECTORS



CANADA'S DATA AND COMMUNICATIONS SECTOR

CLOUD COMPUTING AND BIG DATA

The modern world revolves around data and Canada provides a perfect environment for storing, analyzing and operationalizing data. With competencies in cloud computing, data centres and Big Data Analytics (BDA), Canada is home to some of the most innovative ICT firms in the world. Canada's programs are geared to tackle the challenges associated with the tidal wave of data generated by emergence of IoT. With over 33,000¹ companies in the software development and services industries, and low data centre costs, Canada is proving to be a leader in the areas of cloud computing and big data.

IOT AND WEARABLE TECH

Canada is a world leader in the realm of wearable tech and connected products. By 2018, the Canadian market for connected devices, including vehicles, wearable technologies such as smart watches and apparel, and smart cities, will reach \$6.5 billion and the world market for wearables and IoT devices will reach US \$3 trillion². Canada offers expertise in software development for smart objects and wearable tech, cyber security, health and wellness IT and many others. In Montreal, Toronto and Vancouver, wearable tech and virtual reality clusters are emerging as major players in the Canadian ICT ecosystem. With sound privacy laws, exceptional software and cyber-security sub-sectors, Canada is the destination of choice to attract top companies in the coming IoT wave.

TELECOMMUNICATIONS SERVICES AND EQUIPMENT

Canada has a rich history in the telecommunications sector, particularly in the design and implementation of world-class Next Generation Networks (NGN), the provision of state of the art communications services, and the manufacture of high-quality equipment. Overall, the Canadian telecommunications services industry generated \$47.8 billion in revenues in 2015³. The wireless services sector is by far the largest, accounting for 49 percent of revenues. The manufacturing segment generated in excess of \$5 billion in 2015. Canada has first rate clusters all across the country, from Vancouver and Calgary in the west, to Toronto, Waterloo, and Montreal in the east.¹

- 1 Innovation, Science and Economic Development Canada (ISED), Canadian ICT Sector Profile 2015
- 2 International Data Corporation, Canadian IoT Ecosystems and Trends
- 3 CRTC, Communications Monitoring Report 2016: Telecommunications sector overview

CANADA OFFERS INVESTORS UNIQUE ADVANTAGES

in several data and communications verticals, including Cloud computing and data centres, Internet of Things (IoT) enabled products, wearable tech, Big Data and Analytics (BDA), and telecommunications services and equipment.

Foreign investors, like Canadian companies and research institutions, have major R&D centres in Canada, which they leverage to serve their global customers.



DATA CONNECTIVITY & COMMUNICATIONS CLUSTERS



A HIGHLY EDUCATED AND EXPERIENCED WORKFORCE, competitive labour costs, world-class R&D, favourable tax rates and accelerator programs that invest in world-class ideas make Canada a leading investment destination for communications companies.

SNAPSHOT: WHO'S IN CANADA?

BRITISH COLUMBIA: ABB, Amazon.com Inc., AT&T Inc., Avaya Inc., Blackberry, Cisco Systems, Glentel, Viavi, Microsoft, NETGEAR, Nokia Solutions and Networks, Oracle, RuggedComm Inc. (Siemens), Samsung Electronics, Sierra Wireless,

ALBERTA: ABB, AT&T Inc., Avaya Inc., Baseband Technologies Inc., Entreprises Bell Canada, Cisco Systems, Glentel, Guest-Tek Inc., Microsoft, Norcada Inc., Novatel, Oracle, RuggedComm Inc. (Siemens)

SASKATCHEWAN: ABB, Cisco Systems

MANITOBA: ABB, Cisco Systems, Microsoft, RuggedComm Inc. (Siemens)

ONTARIO: ABB, Alcatel-Lucent (Nokia), Amazon.com Inc., Apple Inc., AT&T Inc., Avaya Inc., Bell Canada Enterprises, Blackberry, BlinQ Networks Inc., Ciena Corporation, Cisco Systems, Ericsson Canada Inc., Google, ITG Global, IBM Canada, Microsoft, Nokia Solutions and Networks, Oracle, Polar Mobile Group, Redknee Inc., Redline Communications, Siemens, Samsung Electronics

QUEBEC: ABB, Accedian Networks, Apple Inc., AT&T Inc., Avaya Inc., Bell Canada Enterprises, Ciena Corporation, Cisco Systems, Ericsson Canada Inc., Google, Microsoft, Nokia Solutions and Networks, Oracle, Siemens, Samsung Electronics, OVH

NEW BRUNSWICK: ABB, RuggedComm Inc. (Siemens)

PRINCE EDWARD ISLAND: ABB

NEWFOUNDLAND AND LABRADOR: RuggedComm Inc. (Siemens)

NOVA SCOTIA: ABB, Cisco Systems, Nokia Solutions and Networks, Oracle, RuggedComm Inc. (Siemens)

RECENT INVESTMENTS



In 2016, Ericsson opened a Global Information and Communication Technology (ICT) Center in Vaudreuil-Dorion, Quebec. The \$1.3-billion site is the third Ericsson Global ICT Center of its kind and will host a substantial part of the company's product portfolio.



In December 2016, Amazon Web Services (AWS) – the company's cloud computing services platform, launched its first data centre region in Canada (Montreal). Amazon now has two data centres in Montreal with plans to grow further.



Google unveiled a new headquarters for its national development team in Kitchener, Ontario in 2016. Google also recently announced the launch of its first Canadian data centre in Montreal and as well as an investment of \$4.5 million in Montreal's AI cluster.

CANADA'S ADVANTAGES



A PRIORITY SECTOR

The Government of Canada's Science and Technology Strategy identifies ICT as one of four priority sectors. Canada has increased funding for research and innovation through the federal granting councils, the Institute for Quantum Computing, the Industrial Research Assistance Program, the Microelectronics Innovation Centre, CANARIE, and the Canadian Digital Media Network. Each of these institutions and programs offers foreign investors in communications technologies opportunities to jump-start their operations in Canada through funding for innovative R&D and access to world-class facilities throughout the country.

A PROFITABLE MARKET

Canada is one of the world's most profitable markets for communications firms. Almost three-quarters (73%) of Canadians aged 18 and over owned a smartphone in 2015. This represents an increase of 7% over 2014 and an increase of 36% since 2011.⁴ This creates a very attractive market with high profitability potential. Companies in the IoT, wearables, software, and communications industries can access a rapidly expanding and highly lucrative customer base.

COMPETITIVE ICT COSTS

Canada offers a very competitive cost-environment for companies in the prototype-manufacturing, IoT and cloud-computing verticals. Through lower wages in the ICT manufacturing sector, and cost advantages in software design, companies operating in the data-connectivity and -communications sector enjoy a significant cost advantage over other countries.

HIGHLY QUALIFIED ICT WORKFORCE

Canada's ICT workforce is highly educated; the number of ICT graduates reached 29,000 in 2015⁵. This figure is projected to follow an upward trajectory in the future, providing Canadian ICT firms with an unparalleled talent pool with specialized ICT knowledge. Canada's post-secondary institutions have even created specialized programs to cultivate wireless professionals.

STRONG COMMUNICATIONS INFRASTRUCTURE

Canada's network coverage provides wireless access to 99% of the Canadian population, and boasts the second largest network of 4G/LTE in the world, according to the Global mobile Supplier's Association (GSA). These networks also provide the second-fastest 4G speeds in the world according to Cisco, and the single fastest LTE networks in the G-7.

⁴ CRTC, Communications Monitoring Report 2016

⁵ Digital Economy Talent Supply: Immigration Stream, The Information and Communications technology Council (ICTC), 2016

SUPPORT PROGRAMS AND INNOVATION

INCENTIVES AND WORLD CLASS PROGRAMS

Canada's federal, provincial and municipal governments offer incentives and world-class programs that enable foreign investors to ramp up their innovation at substantially reduced costs compared to other jurisdictions:

The Strategic Innovation Fund allocates repayable and non-repayable contributions to firms of all sizes across all of Canada's industrial and technology sectors.

Scientific Research and Experimental Development (SR&ED) provides income-tax credits and refunds for expenditures on eligible R&D activity in Canada.

Mitacs is a not-for-profit organization that provides co-funding for internships and fellowships at employers through Canadian universities.

National Research Council of Canada – Industrial Research Assistance Program (IRAP) provides innovation assistance to foreign investors, including small and medium sized enterprises, in areas such as advisory services, funding for innovation etc.

Natural Sciences and Engineering Research Council of Canada – Strategic Project Grants provides ICT project funding to academic researchers working with industry to develop new knowledge and technologies.

STRONG R&D OPPORTUNITIES

The ICT industry is the single largest R&D investor in Canada. In 2015, the industry invested \$4.6 billion – 29.8 percent of total private-sector R&D investment in Canada. Of this amount, companies in the sub-sectors of communications equipment and services accounted for 20.4 percent and 9.7 percent, respectively¹, making the communications sector the second largest in the ICT industry. R&D intensive sectors in Canada, such as ICT, enjoy some of the lowest overall business costs in the G7.

Examples of research centres, incubators and accelerators active in Canada's wireless-communications sector include:

- » 4D labs (Simon Fraser University, Vancouver, BC)
- » The Accelerator Centre (Waterloo, ON)
- » CANARIE (Ottawa, ON)
- » Canadian Photonics Fabrication Centre (National Research Council, Ottawa, ON)
- » Centre for Research in Photonics (University of Ottawa, Ottawa, ON)
- » Centre for Optics, Photonics and Lasers (Université Laval, Laval, QC)
- » CommuniTech (Waterloo, ON)
- » Communications Research Centre Canada (Ottawa, ON)
- » Creative Destruction Lab (University of Toronto)
- » Edmonton Research Park (Edmonton, AB)
- » Founder Fuel (Montreal, QC)
- » Highline (Vancouver, BC)
- » INcubes (Toronto, ON)
- » Innovate Calgary (Calgary, AB)
- » MaRS Discovery District (Toronto, ON)
- » Institut National d'Optique (Quebec City, QC)
- » Photonics Research Laboratories (McMaster University, Hamilton, ON)
- » Propel ICT (Moncton, NB)
- » TECTERRA (focus on Geomatics innovation) (Calgary, AB)
- » Telecommunications & Signal Processing Laboratory (McGill University, Montreal, QC)
- » Toronto Nanofabrication Centre (University of Toronto, Toronto, ON)
- » Wavefront (Vancouver, BC)
- » Wireless Networking Research Laboratory (University of Calgary, Calgary, AB)

AN ENABLING BUSINESS ENVIRONMENT

CANADA HAS A STRONG
AND STABLE business climate
that is open for business,
investment, and trade. Canada
benefits from a sound, efficient
financial system supported by
low taxes and business costs
and a government investing in
the innovative, clean, inclusive
economy of tomorrow.

A WELCOMING BUSINESS ENVIRONMENT

Canada is the second best place
for business in the G20.

Source: Forbes

A HIGHLY EDUCATED AND TALENTED WORKFORCE

Canada has the most educated talent pool in
the OECD with more than half of its population
aged 25-64 having a tertiary level education.

Source: OECD

LOW BUSINESS TAX RATES

Canada is the most tax competitive
country in the G7.

Source: KPMG

WORLD-CLASS CLUSTERS OF INNOVATION, WITH GOVERNMENT AS PARTNER

Canada has R&D-intensive sectors
with the lowest business costs in
the G7, as well as a dense network of
universities and community colleges.

Source: KPMG

FINANCIAL STABILITY

Canada's banking system, ranked 3rd by
the World Economic Forum (WEF), remains
one of the soundest in the world following
eight consecutive first place standings.

Source: World Economic Forum

A GREAT PLACE TO INVEST, WORK AND LIVE

Canada ranked first among 60 countries for
quality of life. Canada is ranked first in the G7
and G20 for overall prosperity of citizens.

Sources: U.S. News and the
Legatum Prosperity Index

Unless otherwise noted, all values in this publication are in Canadian dollars. The content is
based on the latest available information at time of publication.

Images: Shutterstock.
All Rights Reserved.



Global Affairs Canada
111 Sussex Drive, Ottawa,
Ontario, K1N 1J1, CANADA

Catalogue number:
FR5-38/13-2016E-PDF
ISBN: 978-0-660-05256-4

Spring 2017



Follow us on Twitter!
@invest_canada

investincanada.com