Innovation, Science and Economic Development Canada
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2019 Canadian ICT Sector Profile

Automotive, Transportation and Digital Technologies Branch

Canada

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2019 ICT Sector Snapshot

Canada's ICT sector posted strong growth in 2019, and outperformed the overall Canadian economy in output, employment and innovation growth

Size	2019 Growth	Share of Economy
$210B in Revenue (est.)	**+5.2%**	**N/A**
$94.1B in GDP	**+4.8%**	**4.8%**
$11.9B in Good Exports	**+5.0%**	**2.0%**
$11.5B in Services Exports (2018)	**+8.9%**	**15.5%**

43,200 Companies

Innovation

$7.5B in Business R&D spending	**+8.3%**	**41.2%**

55% of workers have a University Degree

Workforce

666,540 Workers	**+2.1%**	**3.6%**
$82,221 in Annual Average Salary	**+5.7%**	**N/A**

Average Salary 53.7% higher than Canadian Average

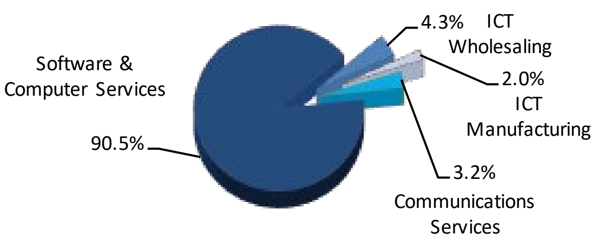
Sub-Sector Trends

	Revenues ($millions)		Employment		GDP ($millions)		R&D ($millions)	
	2019	CAGR 5 Year	2019	CAGR 5 Year	2019	CAGR 5 Year	2019	CAGR 5 Year
ICT Manufacturing	8,756	1.0%	36,335	-1.1%	3,672	0.2%	704	-8.4%
Software & Computer Systems	84,255	8.2%	450,792	5.5%	44,724	6.1%	4,747	5.6%
Communications Services	65,000	2.0%	118,814	-1.1%	37,746	3.5%	1,065 *	14.8%
ICT Wholesaling	52,500	4.7%	60,603	2.5%	7,951	3.5%	1,013	4.7%
Total ICT Sector	**210,511**	**4.9%**	**666,544**	**3.4%**	**94,093**	**4.2%**	**7,529**	**6.2%**

Industry Structure

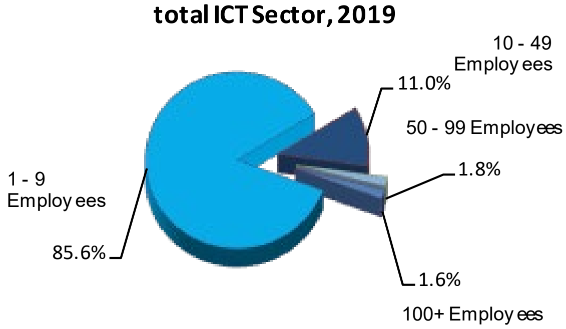
There are over 43,200 companies in the Canadian Information and Communications Technologies (ICT) sector and the large majority (over 39,000) fall within the software and computer services industries.

Figure 1: Companies by ICT sub-sector, 2019



The ICT sector consists mainly of small companies, with approximately 37,500 of them employing fewer than 10 people. The number of large companies employing over 500 individuals accounts for approximately 105 firms, including subsidiaries of foreign multinational corporations.

Figure 2: Companies by employee size for total ICT Sector, 2019



Manufacturing stands out as the sub-sector with larger companies. In 2019, 15.2% of ICT manufacturing companies had more than 50 employees, while across the whole ICT sector this share was only 3.4%.

ICT Sector Industries

ICT manufacturing
- Computer and peripheral equipment
- Communications equipment
- electronic components
- Audio and video equipment
- Magnetic and optical media

ICT wholesaling

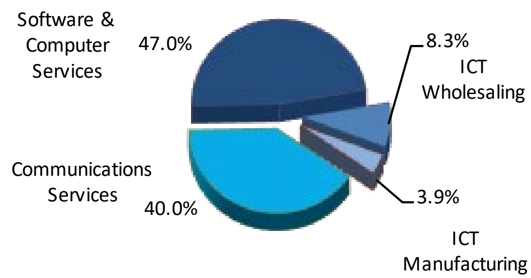
Software and computer services
- Software publishers
- Computer systems design
- Data processing
- Electronic and precision equipment repair and maintenance

Communications services
- Wireless telecommunications carriers
- Wired telecommunications carriers
- Cable and other program distribution

GDP Contribution

The ICT sector makes a substantial contribution to Canada's GDP. In 2019, the sector's GDP was $94.1 billion (in 2012 constant dollars), and accounted for 4.8% of national GDP.

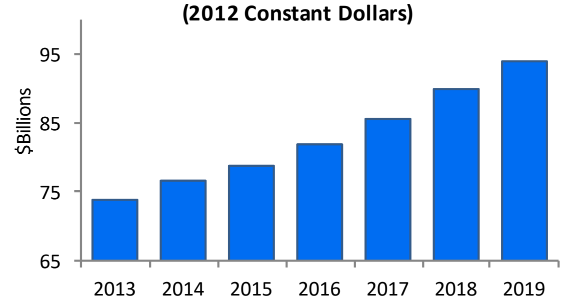
Figure 3: GDP by ICT sub-sector, 2019 (Total: $94.1 Billion)



Strong growth continued in 2019 as the sector grew by 4.8%, outpacing the Canadian economy growth of 1.5% by over three percentage points. All ICT services sub-sectors experienced positive growth in 2019. The ICT manufacturing industries saw a 2.8% decline in GDP. ICT wholesaling posted the strongest growth, up 8.5%. Meanwhile, software and computer services expanded by 7.2% and the communications services sub-sector by 2.2%.

Since 2013, the ICT sector has posted a stronger annual growth than the total economy. On average, annual growth in this sector has been 4.1%, compared to 2.0% for the overall economy. However, annual growth by ICT sub-sector varies widely with the software and computer services industries (+6.1%) posting the fastest annual growth during the period while communications services experienced an average growth of 2.9% and manufacturing fell by 0.1%.

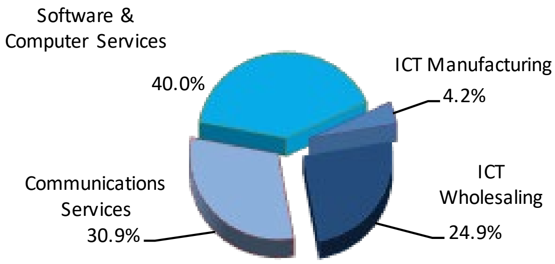
Figure 4: ICT sector GDP, 2013-2019 (2012 Constant Dollars)



Revenues

Revenues in the ICT sector reached an estimated $210 billion in 2019. Almost all ICT sub-sectors posted positive growth in 2018, the software and computer services sub-sector led this growth with a jump in revenues of 11.1% while ICT manufacturing (+0.9%), ICT wholesaling (+1.9%) and communications services (+2.6%) sub-sectors experienced slower growth.

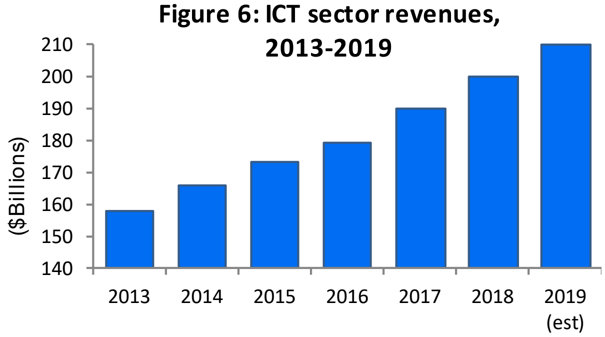
Figure 5: Revenues by ICT sub-sector, 2019 (Total: $210 Billion)



From 2013 to 2018, ICT sector revenues grew from $158 billion to $200 billion, a 26.9% increase. During this period, the ICT manufacturing industries declined by 2.8%. On the other hand, all of the services sub-sectors posted gains: the software and computer services, wholesaling, and the communications services sub-sectors increased by 47.4%, 26.5%, and 11.6% respectively.

Over the same period, manufacturing industries' revenue share dropped from 5.4% to 4.5% of total ICT sector revenues.

Figure 6: ICT sector revenues, 2013-2019

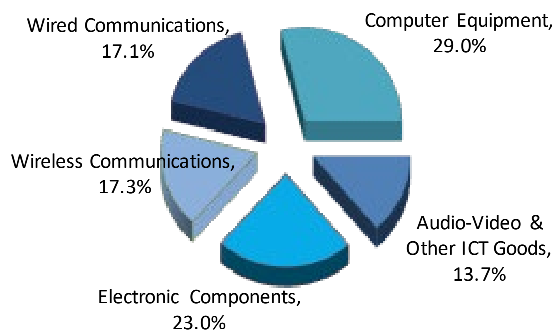


Exports

The Canadian ICT manufacturing sub-sector relies heavily on the export market. About 99% of ICT products manufactured in Canada were exported in 2019.

Canadian exports of ICT goods increased by 1.6% in 2018 to $11.9 billion. Exports of electronic components and computer equipment increased the most (+$676 million and +$138 million, respectively), while communications equipment had the steepest decline (-$171 million).

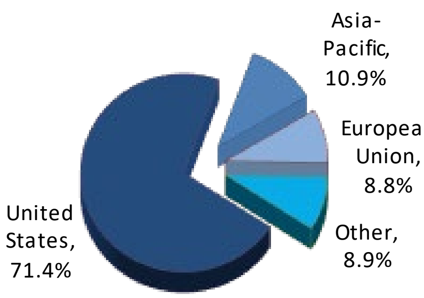
Figure 7: Exports of ICT goods by product group, 2019 (Total: $11.9 Billion)



Between 2013 and 2019, exports of ICT goods increased by 13.3% total. Since 2013, exports of wireless communications equipment (-0.5%) fell the most while exports of computer equipment (+21.3%) increased the most.

Exports of ICT goods to the United States increased (+6.5%) to about $8.5 billion in 2019 accounting for 71.4% of all ICT goods exported from Canada. In 2019, exports to the Asia-Pacific region increased by 14.1%, while they increased slightly to the European Union, up 1.5%. The Asia-Pacific region accounted for 10.9% of all Canadian exports of ICT goods, while the European Union accounted for just 9%. Exports to all other countries also fell in 2019 (-10.9%).

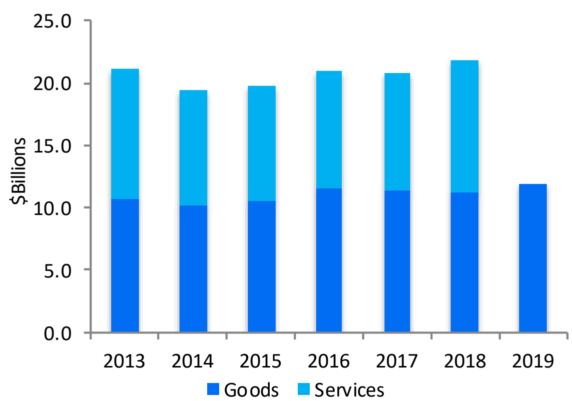
Figure 8: Exports of ICT goods by region, 2019 (Share of Total)



The ICT services industries are highly domestically oriented. In 2018, exports of communications services fell by 0.2%, to $2.0 billion, while software and computer services grew by 11% to $9.5 billion. Exports accounted for 13% of software and computer services revenues, and 3% of communications services revenues. Overall exports of ICT services totaled $11.5 billion, up 8.9% from 2017.

Overall Canadian exports of ICT goods and services grew by 3.4% annually from 2013 to 2018 to reach $22.9 billion.

Figure 9: Exports of ICT goods and services, 2013-2019



Research & Development

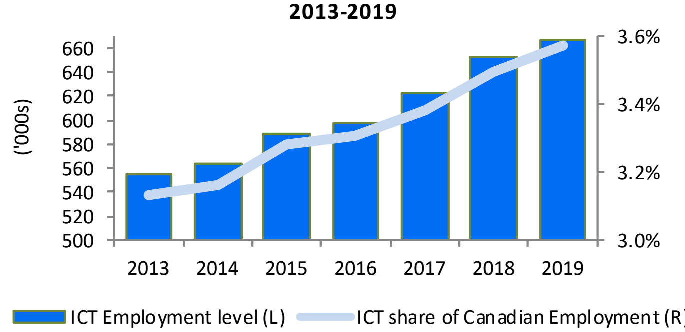
ICT industries are the largest performers of R&D in the Canadian private sector. In 2019, the sector held a 41.2% share of all private sector R&D expenditures in Canada. ICT sector R&D expenditures totaled $7.5 billion in 2019, up 8.3% from the previous year. The smallest increase occurred in the ICT manufacturing sub-sector (+0.1%) while the largest increase was in software and computer services (+11.7%).

Figure 10: Percentage of ICT R&D Spending by Sub-sector, 2019 (Total: $7.5 Billion)

Employment

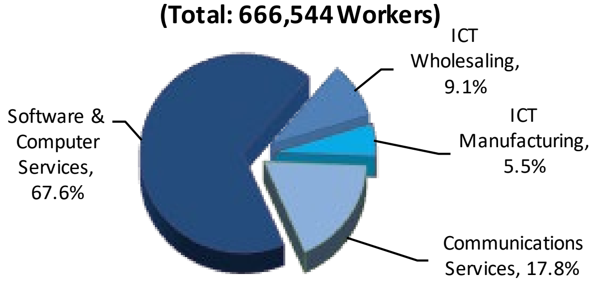
Employment growth in the ICT sector has been outpacing the overall economy for many years, between 2013 and 2019 average annual growth for ICT was 3.1%, but just 0.9% for the overall economy. In 2019 the ICT sector saw growth (+2.1%) compared to an overall economy (0.0%) that was flat. In 2019, more than 666,500 were working in the ICT sector, accounting for 3.6% of the Canada's total employment.

Figure 11: ICT sector employment, 2013-2019



The sector's performance in 2019 was led by a 5.9% jump in the ICT wholesaling sub-sector's workforce. Employment levels in ICT manufacturing and communications services sub-sectors both decreased by 0.9% and 4.6% respectively while employment in software and computer services grew by 4.1%.

Figure 12: Employment by ICT sub-sector, 2019 (Total: 666,544 Workers)

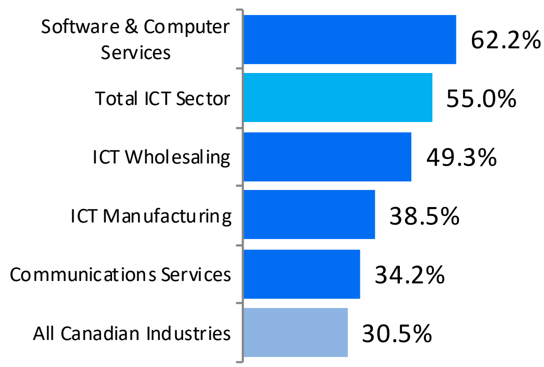


Since 2013, employment growth in software and computer services has outpaced the overall growth in the ICT sector (5.2% vs. 3.1%). Software and computer services' share of employment has increased from 59.9% to 67.6% over the time period.

Education

The ICT sector is characterized by a knowledge-intensive workforce, with over half of its workers holding a university degree, compared to 30.5% within all Canadian industries.

Figure 13: Percentage of workers with a university degree by industry category, 2017



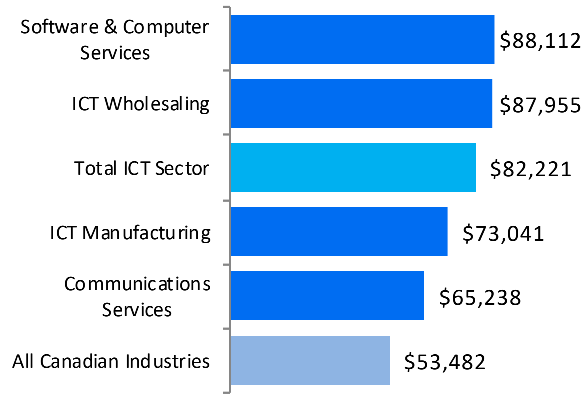
The software and computer services sub-sector employs the largest proportion of university educated workers within the ICT sector (62.2%).

Employee Earnings

Employees in the ICT sector earn on average over $82,200 per year. In 2019, these workers earned 53.7% more than the economy-wide average, with the highest earners coming from the software and computer services and wholesaling sub-sectors.

Despite being the lowest paid workers in the ICT sector, employees in the communications services sub-sectors still earned 22% more than the national average in 2019.

Figure 14: Average annual earnings by industry category, 2019



From 2013 to 2019, the average salary in the ICT sector grew more quickly than salaries in the overall economy, up 18.3% compared to 12.8%.

Sector Outlook

In recent years, the ICT sector has demonstrated strong economic performance with all ICT services and some ICT manufacturing industries (e.g., electronic components) outperforming the rest of Canadian economy. However, the trends of the 2010s have been interrupted by the global COVID-19 pandemic and the full severity of the impact is yet to be determined.

While the ICT sector is likely to weather this storm better than most sectors, it is still expected to see a significant decline in sales (IDC estimates a fall of 7.0% in Canada) creating challenges for many ICT firms. Even though all firms are not facing reduced sales, all are challenged by shifting demand, strained supply chains and altered working arrangements. Fortunately, the ICT sector is well positioned to benefit from the economy-wide recovery as demand is expected to reflect accelerating adoption of technology solutions and private and public investments in digital infrastructure.

DATA SOURCES

i. **Companies:**
  - ISED calculations using data from Statistics Canada's Business Registry.

ii. **Revenues:**
  - Manufacturing: Statistics Canada, Table 16-10-0117-01;
  - Software and Computer Services: Statistics Canada, Table 22-10-0087-01 and custom tabulations;
  - Communications Services: Statistics Canada, Table 22-10-0003-01;
  - Wholesale: Statistics Canada Table, 20-10-0077-01; and
  - ISED estimates for the most recent year presented (for all ICT industries).

iii. **GDP:**
  - Statistics Canada custom tables.

iv. **Employment:**
  - Statistics Canada, Survey of Employment, Payroll, and Hours (SEPH) for the number of employees and Labour Force Survey (LFS) for the number of self-employed (custom tables).

v. **Research & Development:**
  - Statistics Canada, Table 27-10-0333-01.

vi. **Education:**
  - Statistics Canada, Labour Force Survey custom tables.

vii. **Employee Earnings:**
  - ISED calculations using Statistics Canada, Tables 14-10-0202-01 and 14-10-0204-01.

viii. **Exports:**
  - Goods: ISED calculations using Trade Data Online data;
  - Services: Statistics Canada, Table 36-10-0006-01.

ix. **Outlook**
  - Worldwide Black Book 3rd Platform Edition, 2017–2023, IDC, 2020.