

Cyberprovinces 2016TM

The definitive
province-by-province
analysis of the
Canada tech industry



Jobs / Wages / Payroll /
Establishments / Industry
sectors / Wage differential /
Tech concentration

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CYBERPROVINCES 2016™

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Printed in the U.S. April 2016

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Cyberprovinces can be accessed online at CompTIA.org.

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ABOUT

ABOUT THIS REPORT

The Computing Technology Industry Association (CompTIA) presents its annual edition of *Cyberprovinces*. CompTIA designed this report to serve as a reference tool, making national and province-level data accessible to a wide range of users. *Cyberprovinces* quantifies the size and scope of the tech sector and the tech workforce across multiple vectors. *Cyberprovinces* is the companion piece to the U.S. report *Cyberstates*.

ABOUT COMPTIA

CompTIA is the voice of the information technology (IT) industry. Its 2,000+ member companies, 1.8 million certification holders, and 3,000 academic and training partners, are at the forefront of innovation and digitalization. CompTIA is dedicated to advancing industry growth through educational programs, market intelligence, networking events and professional certifications.

Through its public advocacy efforts, CompTIA champions member-driven business and IT priorities that impact the entire continuum of information technology companies – from small IT service providers and software developers to large equipment manufacturers and communications service providers. CompTIA gives eyes, ears and a voice to technology companies, allowing them to quickly and comprehensively understand policy developments – and then do something about it. CompTIA fosters an environment for members to succeed in information technology through comprehensive global, national and regional advocacy as well as high-level business intelligence that delivers an edge in the marketplace.



KEY FINDINGS

- ❑ The information technology (IT) industry plays an important role in the Canadian economy. In 2015, the industry accounted for approximately 4.3 percent of Canadian GDP. According to the research consultancy IDC, IT spending in Canada reached \$123.2 CAD in 2015, an increase of 3.7 percent year-over-year in constant currency.
- ❑ Canadian technology companies employed an estimated 462,313 workers in 2015, an increase of 1.2 percent over 2014. These workers were employed by one of 39,085 business enterprises found across the Canadian tech landscape. Additionally, there were an estimated 56,153 self-employed, sole proprietors working in some capacity in the technology industry, according to the research consultancy EMSI and Statistics Canada, the data arm of the Canadian government.
- ❑ On an employment basis, the IT services sector is the largest component of the industry, followed by telecommunications and internet services, manufacturing, wholesale/distribution, and software publishing. The strong showing of IT services reflects the growing need for expertise in areas such as cloud computing, mobility, business process automation, big data, managed services and more.
- ❑ The Canadian tech industry follows a classic pyramid pattern, with a large number of small firms at the base, narrowing to a limited number of large enterprises. Among companies with payroll, a net 98 percent can be classified as small businesses with fewer than 100 employees. Breaking this down further, 82.5 percent can be classified as micro-size businesses with fewer than 10 employees. The capital-intensive sectors – telecommunications and manufacturing, have the largest share of large enterprises (500+ employees), while IT services is most heavily dominated by small businesses.
- ❑ Tech industry wages averaged \$74,100 CAD in 2015, \$25,300 higher (+52 percent) than the overall private sector average of \$48,800 CAD.
- ❑ The other side of the employment equation is represented by tech occupations. These are the technical workers employed by every type of industry across the Canadian economy. For example, a network administrator working for a hospital, a software developer for a financial institution, or a computer support specialist at a school. In 2015, businesses employed 628,700 IT workers, up 1.6 percent compared to the previous year.
- ❑ On a year-over-year percent change basis, the following occupations increased at the highest rate: software engineers and designers (+3.6 percent), computer network technicians (+2.9 percent), computer and information system managers (+2.8 percent), data analysts and administrators (+2.6 percent) and system testing technicians (+2.6 percent). These data points cover workers employed by businesses only; self-employed workers are counted separately by Statistics Canada and EMSI. This segment included 89,650 workers as of yearend 2015, with the category of information system analysts and computer programmers and interactive media developers accounting for the largest share.

TECH SECTOR EMPLOYMENT

	<u>2014</u>	<u>2015</u>	<u>Numeric Change</u>
Tech Mfg.	60,000	58,000	-2,000
Telecommunications and Internet Services	128,600	128,500	-100
Software	37,500	37,400	-100
IT Services	180,800	186,700	5,900
IT Wholesale	50,100	51,800	1,700
Total	457,000	462,300	5,300

ANNUAL NET JOB CHANGE

	<u>2012-2013</u>	<u>2013-2014</u>	<u>2014-2015</u>
Tech Mfg.	-3,000	-4,500	-2,000
Telecommunications and Internet Services	-2,700	-200	-100
Software	+3,300	+200	-100
IT Services	+7,200	+12,200	+5,900
Engineering Services, R&D, and Testing	-2100	-600	+1,700
Total	+2,700	+7,100	+5,300

LEADING TECH OCCUPATIONS

	<u>2014</u>	<u>2015</u>	<u>Percent Change</u>
Information systems analysts	132,500	133,500	+0.7%
Programmers/interactive media dev.	122,100	122,700	+0.5%
User support technicians	84,500	85,500	+1.2%
Computer network technicians	66,700	68,700	+2.9%
Computer/information systems managers	59,300	61,000	+2.8%
Total	618,900	628,700	+1.6%

Source: EMSI | Statistics Canada
Some numeric changes affected by rounding

KEY FINDINGS

- ❑ While the long-term macro trend points toward increasing demand for skilled technology workers, hiring demand in the short-term appears somewhat muted. According to Burning Glass Technologies Labor Insights, job postings for technology occupations fell -12.8 percent during Q4 2015 compared to Q4 2014. One area hit especially hard due to the sharp drop in oil prices was the province of Alberta, where job postings for tech workers were down 43.4 percent.
- ❑ Among provinces, Ontario stands apart for its size, accounting for nearly half of all tech industry jobs (48 percent). The province of Quebec ranks second, with 25 percent of tech industry jobs, followed by British Columbia (11 percent) and Alberta (8 percent).
- ❑ The largest net gain in tech jobs between 2014 and 2015 was in Ontario, which added 3,400 jobs, followed by British Columbia, which added 900 jobs and Alberta, which added 700 jobs. Manitoba saw its tech employment drop the most, losing some 242 net tech jobs.
- ❑ Alberta leads the nation with average annual wages of \$81,200, followed by British Columbia and Newfoundland and Labrador. Wages were also very high in the Northwest Territories and Nunavut but are not noted in this table as the number in these provinces is based on fewer numbers of jobs in the IT sector.
- ❑ All provinces have technology workers earning more than the average private sector worker. The wage differentials ranged from 36 percent in Alberta and Saskatchewan to 65 percent in New Brunswick and Manitoba.
- ❑ Ontario accounts for more than half the tech enterprises in Canada (52 percent), followed by Quebec which accounts for 18 percent of tech enterprises.

TOP CYBERPROVINCES BY TECH SECTOR EMPLOYMENT

1. Ontario	220,900
2. Quebec	114,700
3. British Columbia	49,100
4. Alberta	37,500
5. Manitoba	9,500

TOP AND BOTTOM CYBERPROVINCES BY NUMERIC TECH EMPLOYMENT GROWTH

1. Ontario	+3,400
2. British Columbia	+900
3. Alberta	+700
4. Newfoundland and Labrador	+200
5. Quebec	+200
.....	
9. Yukon	+23
10. Nunavut	+2
11. Northwest Territories	-8
12. Saskatchewan	-23
13. Manitoba	-200

TOP CYBERPROVINCES BY AVERAGE TECH SECTOR WAGES

1. Alberta	\$ 81,200
2. British Columbia	\$ 76,200
3. Newfoundland and Labrador	\$ 75,700
4. Ontario	\$ 75,000
5. Manitoba	\$ 74,400

Source: EMSI | Statistics Canada
Some numeric changes affected by rounding

FORCES SHAPING THE TECH LANDSCAPE

Cloud



Data-Driven



Mobile / Apps



Automation



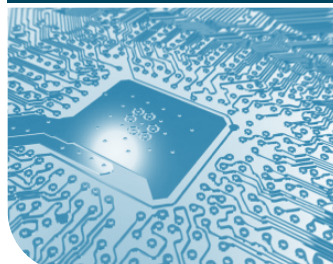
Everything-as-a-Service



Connectivity / IoT



Software-Defined



Cybersecurity and Privacy



Building on foundational innovations of the past decade, a range of emerging developments will propel the information technology (IT) sector to ever-greater heights.

Cloud computing, mobility, big data, automation, and social technologies are reshaping businesses large and small. In the year ahead, these forces will continue to evolve, driving digital transformation strategies of private sector and public sector entities alike. While the degree of cloud adoption is often viewed as a key indicator of digital business sophistication, there is much more to the transformation story. Many organizations now recognize that building digital workflows requires attention to every layer of the software stack. From integration and custom development to APIs and emerging software-defined hardware solutions, organizations will be forced to rethink their approaches to software.

New to the mix will be the expansive category known as the Internet of Things (IoT), where momentum appears to be accelerating. With the mantra of ‘everything that can be connected, will be connected,’ IoT holds the potential of adding intelligence and new capabilities to devices, systems, equipment, infrastructure, cities, people, and more.

In the backdrop of these trends sits the ever-present cyber-threat landscape. Issues such as privacy, surveillance, lawful hacking, cyber-espionage, state-sponsored cyber-attacks, and the cybersecurity talent pipeline, will require attention on many fronts. In the near term, expect greater numbers of organizations to go on the offensive with cybersecurity, increasing activities such as penetration testing, external audits, and investments in new security training platforms.

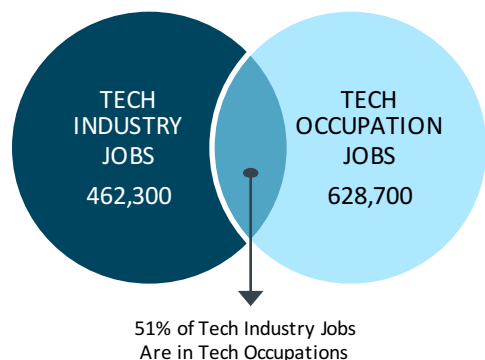
While these emerging technologies hold great promise for businesses across the Canadian economy, the reality is that most will not be equipped to realize maximum benefits without assistance. The layer of technology firms known as the channel plays an integral role in facilitating the flow of technology goods and services from producer to customer. The channel ecosystem, consisting of solution providers, managed service providers, VARs, vendors, OEMs, distributors, cloud service providers, and more, work in concert to supply and support customers’ technology needs.

For more detail on these and other trends shaping the tech sector and tech workforce, see CompTIA’s *IT Industry Outlook 2016*.



CANADA

STATE OF TECHNOLOGY IN CANADA

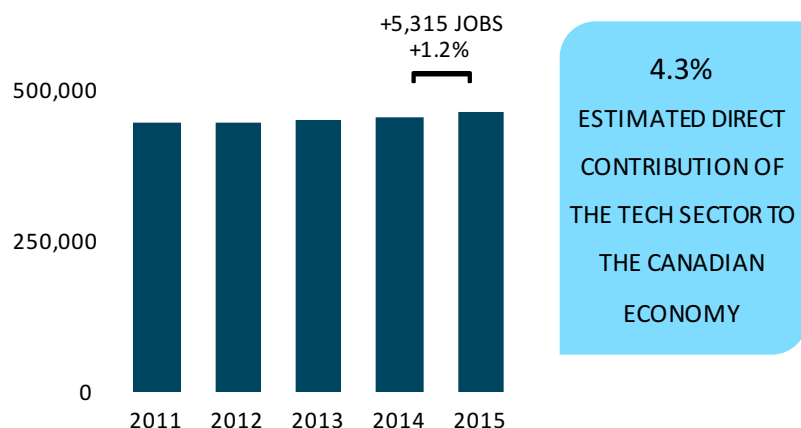


TECH INDUSTRY JOBS	462,313
# OF TECH ENTERPRISES WITH EMPLOYEES	39,085
# OF SOLE PROPRIETOR TECH ENTERPRISES	56,153
AVERAGE ANNUAL WAGE IN TECH INDUSTRY	\$74,091
% OF CANADIAN PRIVATE SECTOR WORKERS EMPLOYED BY TECH INDUSTRY FIRMS	2.9%
% OF TECH INDUSTRY FIRMS THAT ARE SMALL BUSINESSES (<100 EMPLOYEES)	98.0%

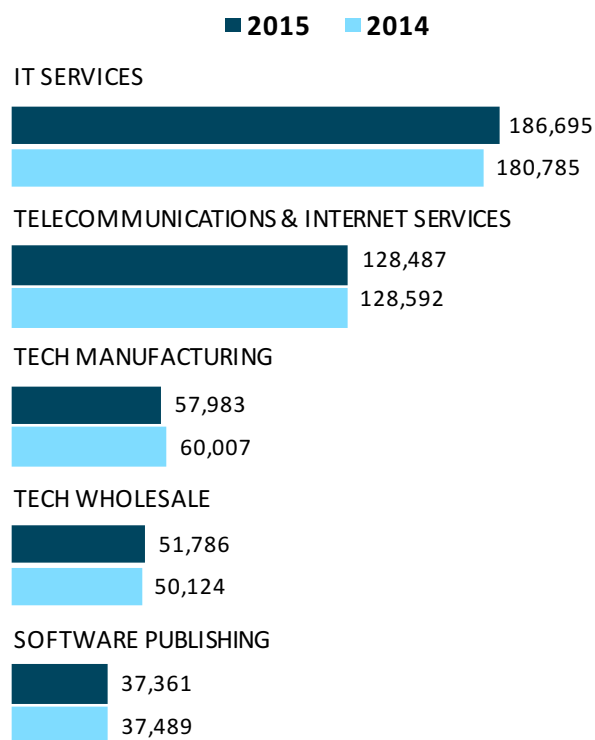
Sources: Statistics Canada | EMSI

Data covers the 2015 time period, except where specified as other | Employer firm level data

TECH INDUSTRY EMPLOYMENT TRENDS



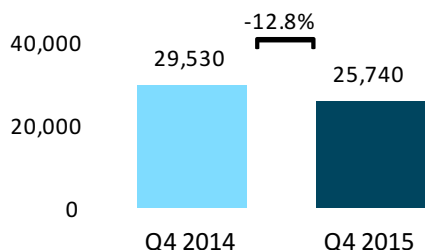
LEADING TECH INDUSTRY SECTORS (BY EMPLOYMENT)



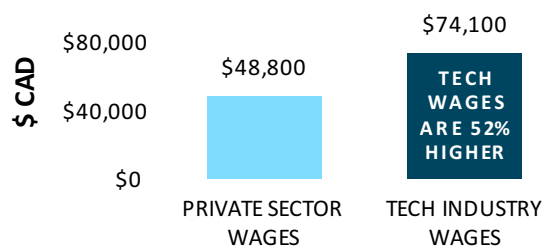
LEADING OCCUPATIONAL JOB CATEGORIES

	2015	YoY % Change
Information systems analysts and consultants	133,485	0.7%
Programmers and interactive media developers	122,723	0.5%
User support technicians	85,506	1.2%
Computer network technicians	68,655	2.9%
Computer and information systems managers	61,020	2.8%

POSTINGS FOR TECH OCCUPATIONS JOB OPENINGS (NET)



TECH INDUSTRY WAGES (AVERAGE WAGES)

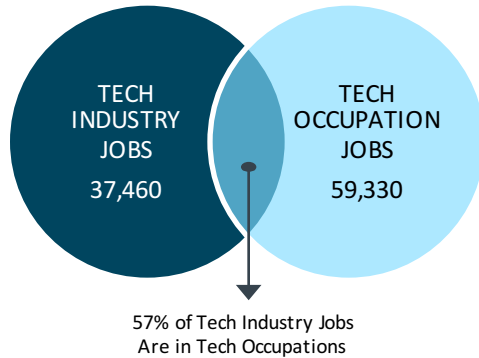


Source: Burning Glass Technologies Labor Insights



ALBERTA

STATE OF TECHNOLOGY IN ALBERTA

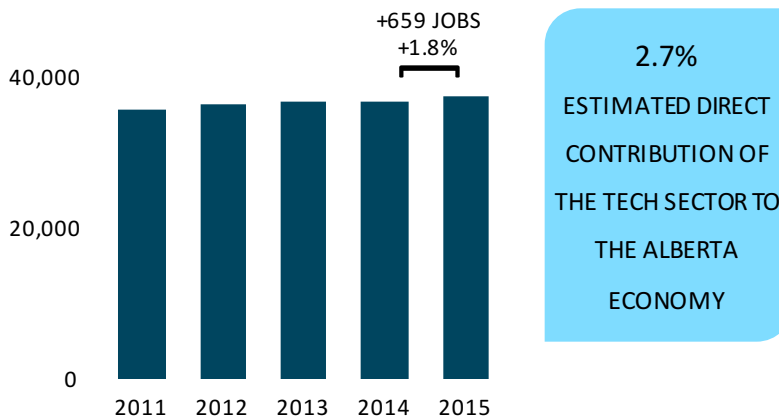


TECH INDUSTRY JOBS	37,459
# OF TECH ENTERPRISES WITH EMPLOYEES	4,463
# OF SOLE PROPRIETOR TECH ENTERPRISES	6,907
AVERAGE ANNUAL WAGE IN TECH INDUSTRY	\$81,150
% OF PRIVATE SECTOR WORKERS EMPLOYED BY TECH INDUSTRY FIRMS	1.8%
% OF TECH INDUSTRY FIRMS THAT ARE SMALL BUSINESSES (<100 EMPLOYEES)	98.6%

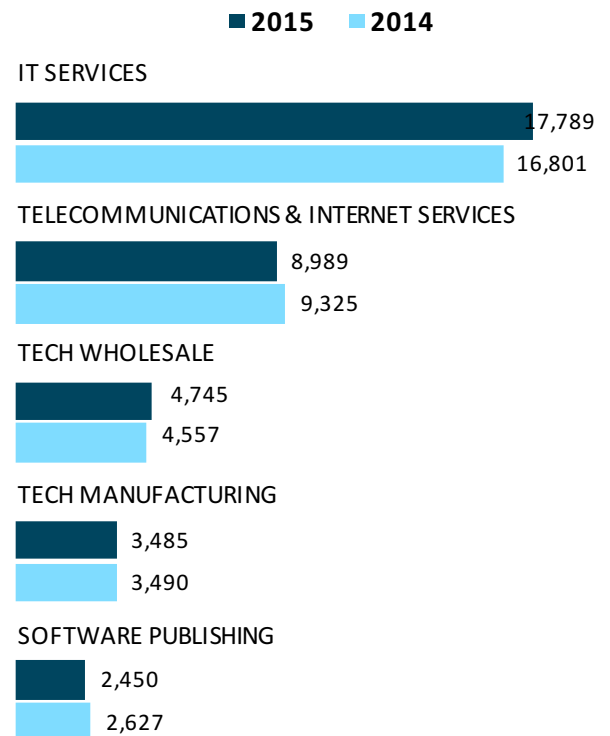
Sources: Statistics Canada | EMSI

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TECH INDUSTRY EMPLOYMENT TRENDS



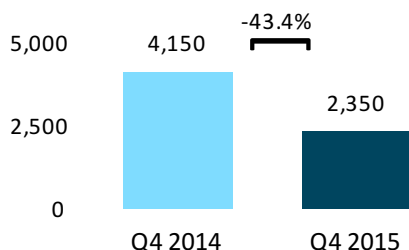
LEADING TECH INDUSTRY SECTORS (BY EMPLOYMENT)



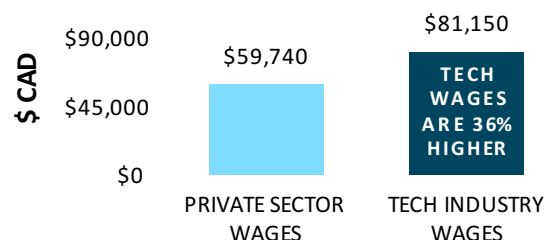
LEADING OCCUPATIONAL JOB CATEGORIES

	2015	YoY % Change
Programmers and media developers	12,203	1.4%
Information systems analysts and consultants	11,619	-0.8%
User support technicians	8,598	2.6%
Computer network technicians	7,660	1.5%
Computer and information systems managers	5,465	0.7%

POSTINGS FOR TECH OCCUPATIONS JOB OPENINGS (NET)



TECH INDUSTRY WAGES

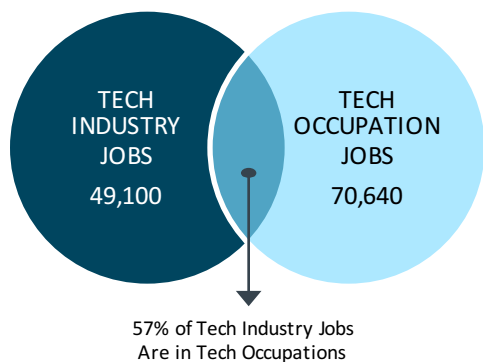


Source: Burning Glass Technologies Labor Insights



BRITISH COLUMBIA

STATE OF TECHNOLOGY IN BRITISH COLUMBIA

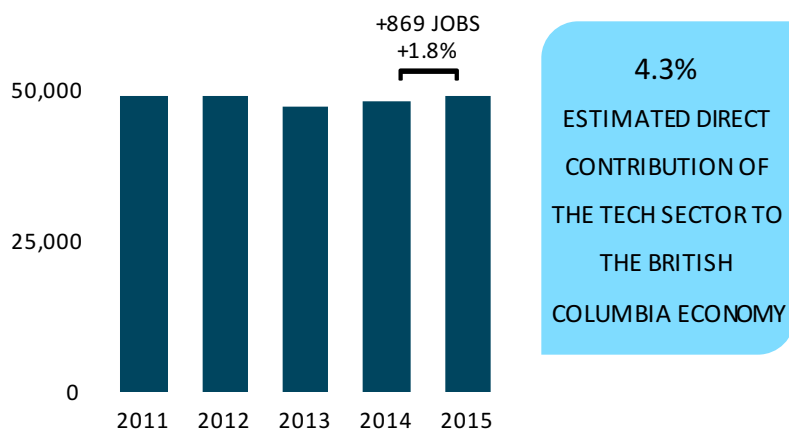


TECH INDUSTRY JOBS	49,075
# OF TECH ENTERPRISES WITH EMPLOYEES	4,538
# OF SOLE PROPRIETOR TECH ENTERPRISES	7,313
AVERAGE ANNUAL WAGE IN TECH INDUSTRY	\$76,200
% OF PRIVATE SECTOR WORKERS EMPLOYED BY TECH INDUSTRY FIRMS	2.4%
% OF TECH INDUSTRY FIRMS THAT ARE SMALL BUSINESSES (<100 EMPLOYEES)	98.1%

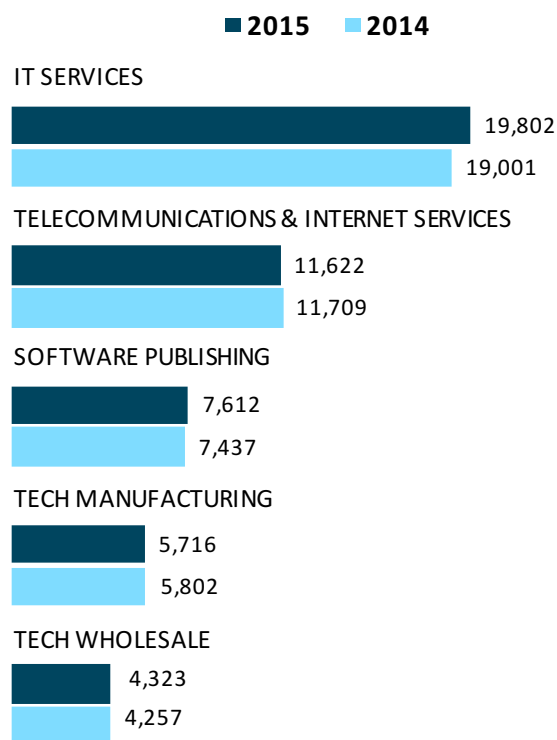
Sources: Statistics Canada | EMSI

Data covers the 2014 time period, except where specified as other | Employer firm level data

TECH INDUSTRY EMPLOYMENT TRENDS



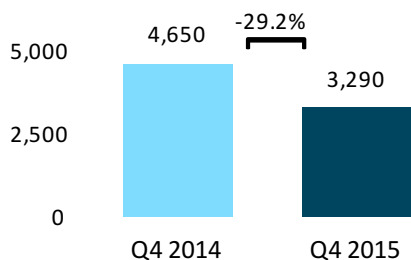
LEADING TECH INDUSTRY SECTORS (BY EMPLOYMENT)



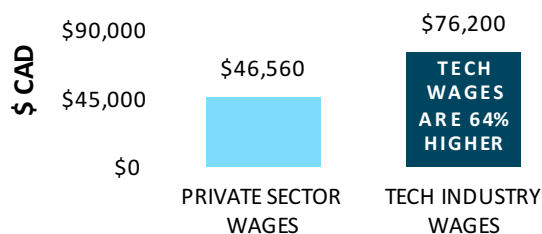
LEADING OCCUPATIONAL JOB CATEGORIES

	2015	YoY % Change
Programmers and media developers	15,196	2.2%
Information systems analysts and consultants	9,924	1.5%
User support technicians	9,892	2.4%
Computer network technicians	7,637	3.4%
Computer and information systems managers	7,455	2.6%

POSTINGS FOR TECH OCCUPATIONS JOB OPENINGS (NET)



TECH INDUSTRY WAGES

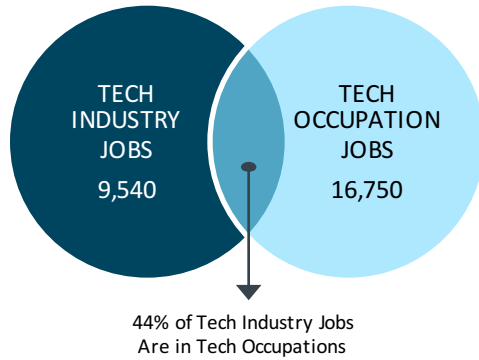


Source: Burning Glass Technologies Labor Insights



MANITOBA

STATE OF TECHNOLOGY IN MANITOBA

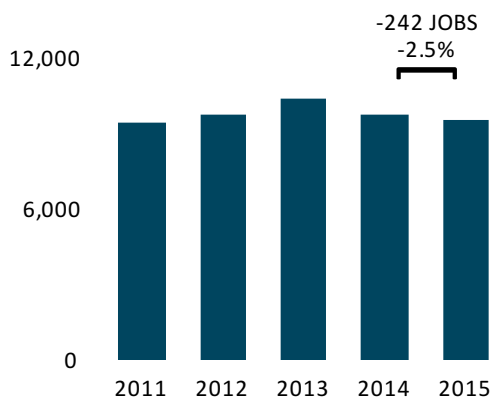


TECH INDUSTRY JOBS	9,537
# OF TECH ENTERPRISES WITH EMPLOYEES	551
# OF SOLE PROPRIETOR TECH ENTERPRISES	636
AVERAGE ANNUAL WAGE IN TECH INDUSTRY	\$74,410
% OF PRIVATE SECTOR WORKERS EMPLOYED BY TECH INDUSTRY FIRMS	1.6%
% OF TECH INDUSTRY FIRMS THAT ARE SMALL BUSINESSES (<100 EMPLOYEES)	96.6%

Sources: Statistics Canada | EMSI

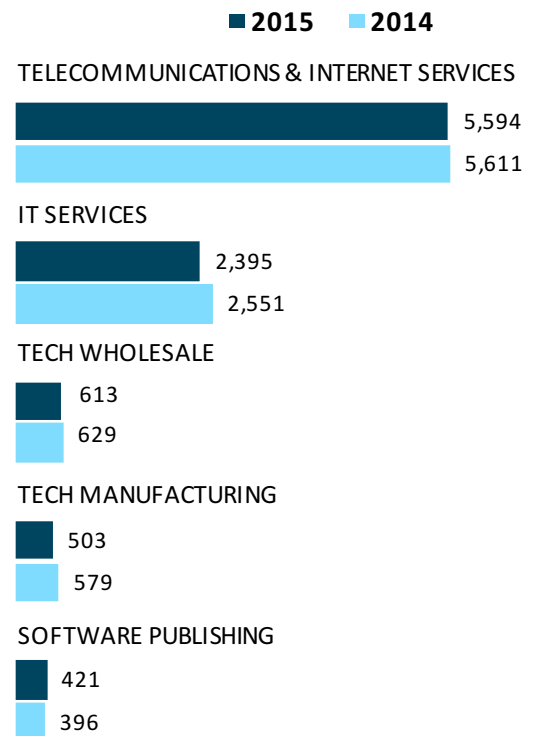
Data covers the 2014 time period, except where specified as other | Employer firm level data

TECH INDUSTRY EMPLOYMENT TRENDS



3.4%
ESTIMATED DIRECT
CONTRIBUTION OF
THE TECH SECTOR TO
THE MANITOBA
ECONOMY

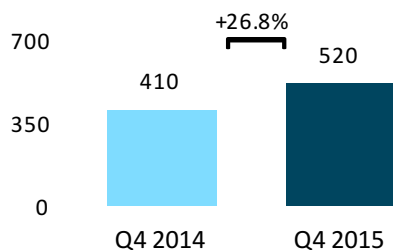
LEADING TECH INDUSTRY SECTORS (BY EMPLOYMENT)



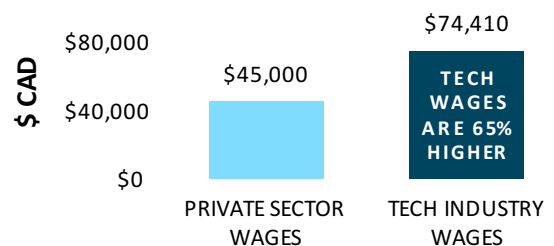
LEADING OCCUPATIONAL JOB CATEGORIES

	2015	YoY % Change
Information systems analysts and consultants	3,389	2.1%
Programmers and media developers	3,204	1.2%
User support technicians	3,013	2.8%
Computer network technicians	2,357	2.3%
Computer and information systems managers	1,371	1.6%

POSTINGS FOR TECH OCCUPATIONS JOB OPENINGS (NET)



TECH INDUSTRY WAGES

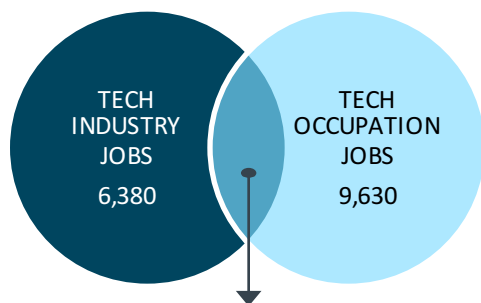


Source: Burning Glass Technologies Labor Insights



NEW BRUNSWICK

STATE OF TECHNOLOGY IN NEW BRUNSWICK

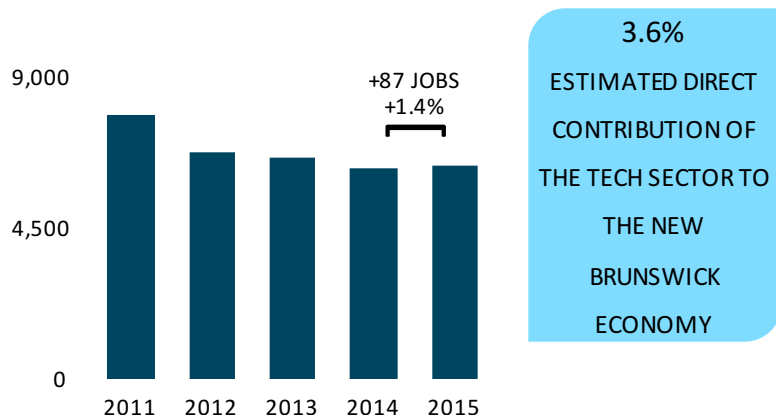


TECH INDUSTRY JOBS	6,383
# OF TECH ENTERPRISES WITH EMPLOYEES	326
# OF SOLE PROPRIETOR TECH ENTERPRISES	333
AVERAGE ANNUAL WAGE IN TECH INDUSTRY	\$71,950
% OF PRIVATE SECTOR WORKERS EMPLOYED BY TECH INDUSTRY FIRMS	2.0%
% OF TECH INDUSTRY FIRMS THAT ARE SMALL BUSINESSES (<100 EMPLOYEES)	95.1%

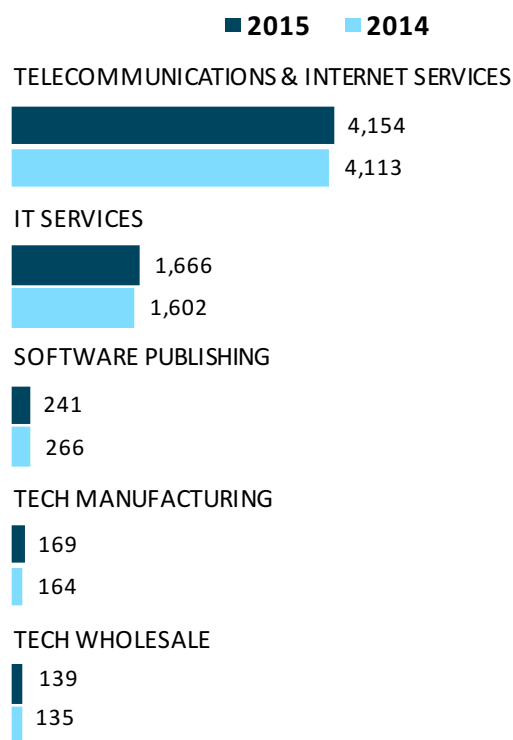
Sources: Statistics Canada | EMSI

Data covers the 2014 time period, except where specified as other | Employer firm level data

TECH INDUSTRY EMPLOYMENT TRENDS



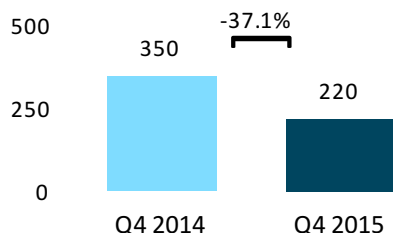
LEADING TECH INDUSTRY SECTORS (BY EMPLOYMENT)



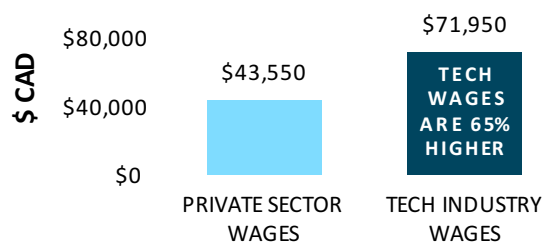
LEADING OCCUPATIONAL JOB CATEGORIES

	2015	YoY % Change
User support technicians	2,402	-0.3%
Information systems analysts and consultants	1,849	0.7%
Programmers and media developers	1,488	-2.0%
Computer network technicians	992	1.4%
Computer and information systems managers	929	1.9%

POSTINGS FOR TECH OCCUPATIONS JOB OPENINGS (NET)



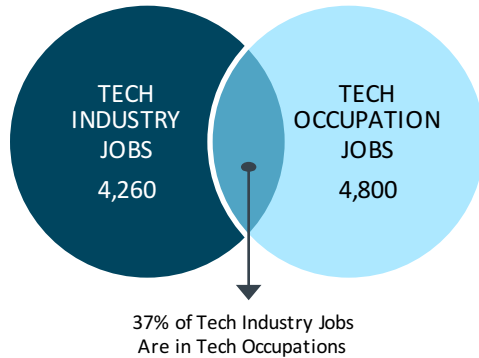
TECH INDUSTRY WAGES



Source: Burning Glass Technologies Labor Insights

NEWFOUNDLAND AND LABRADOR

STATE OF TECHNOLOGY IN NEWFOUNDLAND AND LABRADOR

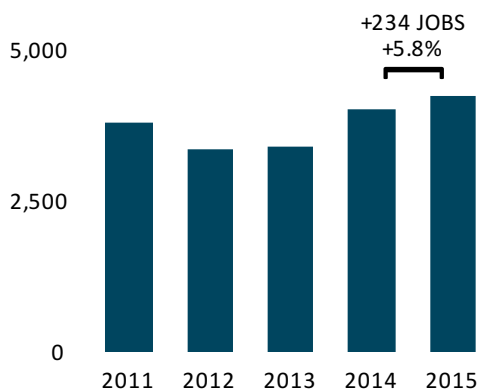


TECH INDUSTRY JOBS	4,258
# OF TECH ENTERPRISES WITH EMPLOYEES	176
# OF SOLE PROPRIETOR TECH ENTERPRISES	154
AVERAGE ANNUAL WAGE IN TECH INDUSTRY	\$75,650
% OF PRIVATE SECTOR WORKERS EMPLOYED BY TECH INDUSTRY FIRMS	1.9%
% OF TECH INDUSTRY FIRMS THAT ARE SMALL BUSINESSES (<100 EMPLOYEES)	97.7%

Sources: Statistics Canada | EMSI

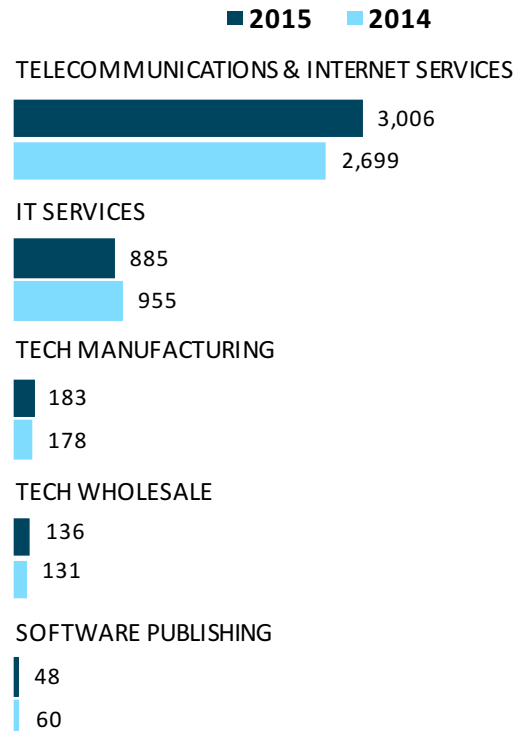
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TECH INDUSTRY EMPLOYMENT TRENDS



2.5%
ESTIMATED DIRECT
CONTRIBUTION OF THE
TECH SECTOR TO THE
NEWFOUNDLAND AND
LABRADOR ECONOMY

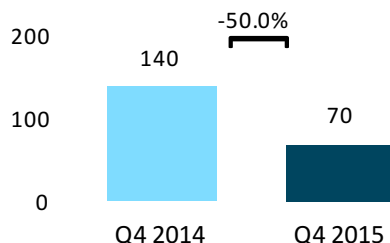
LEADING TECH INDUSTRY SECTORS (BY EMPLOYMENT)



LEADING OCCUPATIONAL JOB CATEGORIES

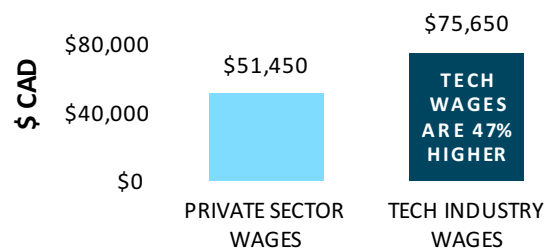
	2015	YoY % Change
Information systems analysts and consultants	1,271	1.6%
User support technicians	940	-2.6%
Programmers and media developers	801	-0.4%
Computer and information systems managers	412	4.2%
Computer network technicians	375	-0.3%

POSTINGS FOR TECH OCCUPATIONS JOB OPENINGS (NET)



Source: Burning Glass Technologies Labor Insights

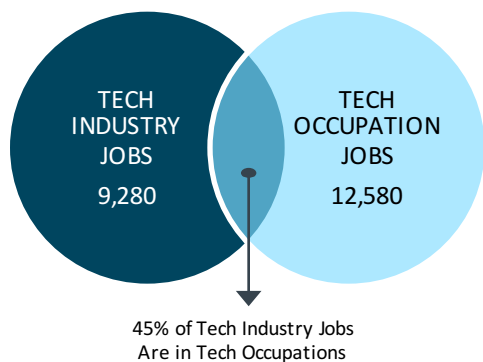
TECH INDUSTRY WAGES





NOVA SCOTIA

STATE OF TECHNOLOGY IN NOVA SCOTIA

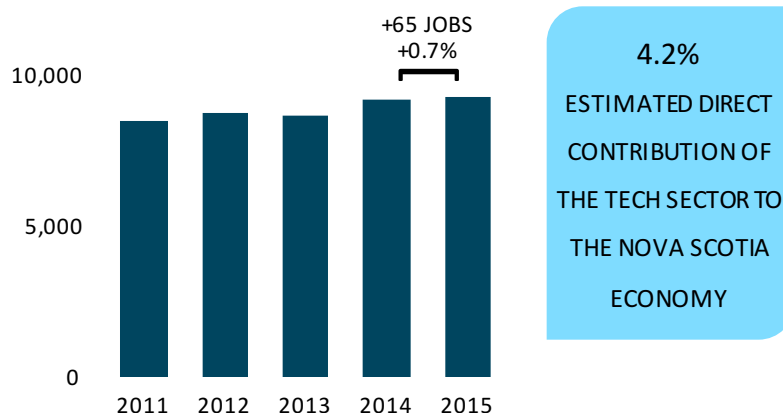


TECH INDUSTRY JOBS	9,280
# OF TECH ENTERPRISES WITH EMPLOYEES	483
# OF SOLE PROPRIETOR TECH ENTERPRISES	589
AVERAGE ANNUAL WAGE IN TECH INDUSTRY	\$66,490
% OF PRIVATE SECTOR WORKERS EMPLOYED BY TECH INDUSTRY FIRMS	2.2%
% OF TECH INDUSTRY FIRMS THAT ARE SMALL BUSINESSES (<100 EMPLOYEES)	96.9%

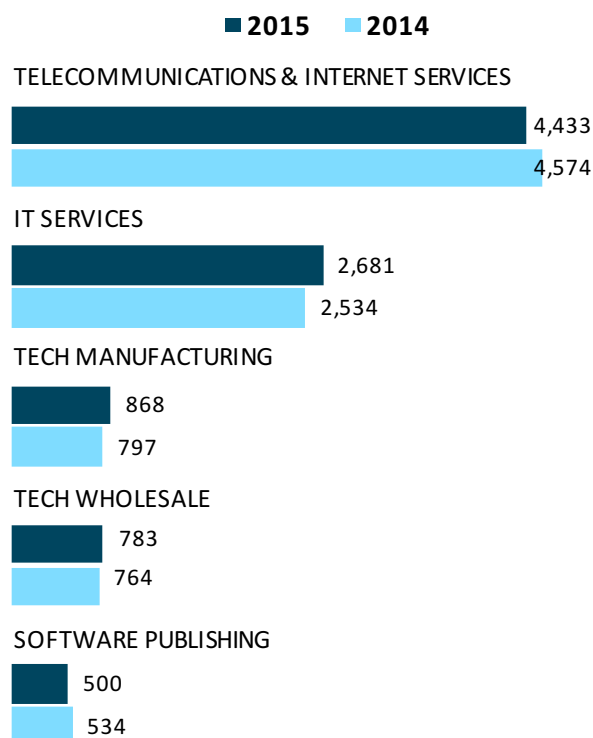
Sources: Statistics Canada | EMSI

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TECH INDUSTRY EMPLOYMENT TRENDS



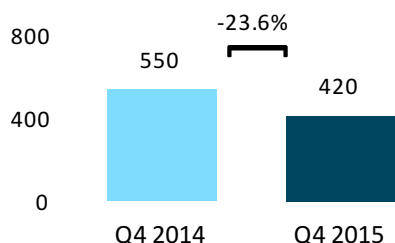
LEADING TECH INDUSTRY SECTORS (BY EMPLOYMENT)



LEADING OCCUPATIONAL JOB CATEGORIES

	2015	YoY % Change
Programmers and media developers	2,225	2.3%
User support technicians	2,217	-3.8%
Information systems analysts and consultants	2,181	-1.1%
Computer network technicians	1,702	3.2%
Computer and information systems managers	1,236	3.6%

POSTINGS FOR TECH OCCUPATIONS JOB OPENINGS (NET)



TECH INDUSTRY WAGES

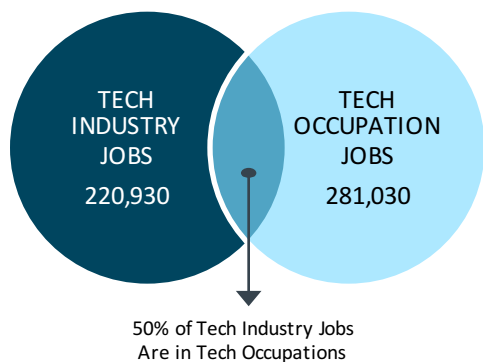


Source: Burning Glass Technologies Labor Insights



ONTARIO

STATE OF TECHNOLOGY IN ONTARIO

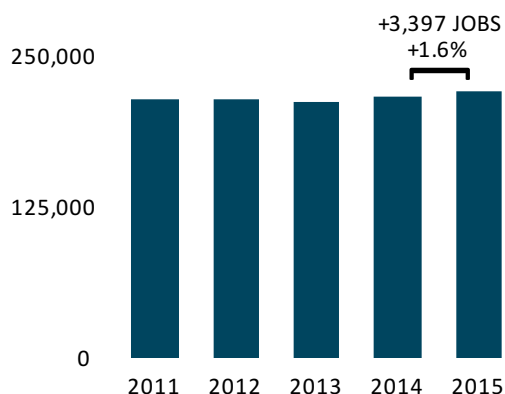


TECH INDUSTRY JOBS	220,927
# OF TECH ENTERPRISES WITH EMPLOYEES	20,850
# OF SOLE PROPRIETOR TECH ENTERPRISES	29,051
AVERAGE ANNUAL WAGE IN TECH INDUSTRY	\$74,960
% OF PRIVATE SECTOR WORKERS EMPLOYED BY TECH INDUSTRY FIRMS	3.6%
% OF TECH INDUSTRY FIRMS THAT ARE SMALL BUSINESSES (<100 EMPLOYEES)	98.2%

Sources: Statistics Canada | EMSI

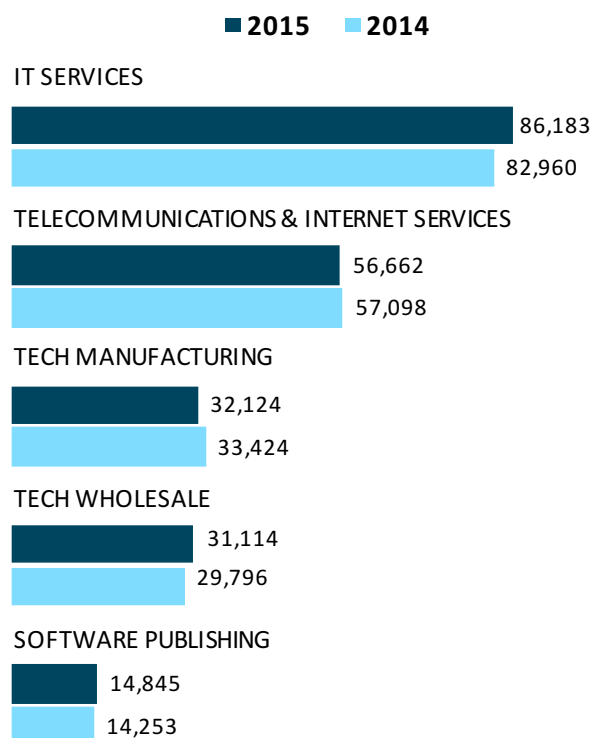
Data covers the 2014 time period, except where specified as other | Employer firm level data

TECH INDUSTRY EMPLOYMENT TRENDS



5.2%
ESTIMATED DIRECT
CONTRIBUTION OF
THE TECH SECTOR TO
THE ONTARIO
ECONOMY

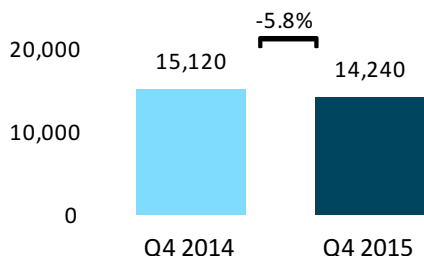
LEADING TECH INDUSTRY SECTORS (BY EMPLOYMENT)



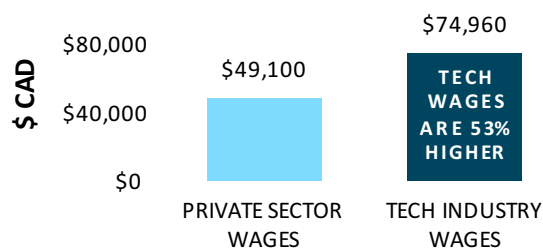
LEADING OCCUPATIONAL JOB CATEGORIES

	2015	YoY % Change
Information systems analysts and consultants	59,852	0.6%
Programmers and media developers	54,213	0.1%
User support technicians	35,905	1.2%
Computer and information systems managers	32,086	3.6%
Computer network technicians	28,288	3.1%

POSTINGS FOR TECH OCCUPATIONS JOB OPENINGS (NET)



TECH INDUSTRY WAGES

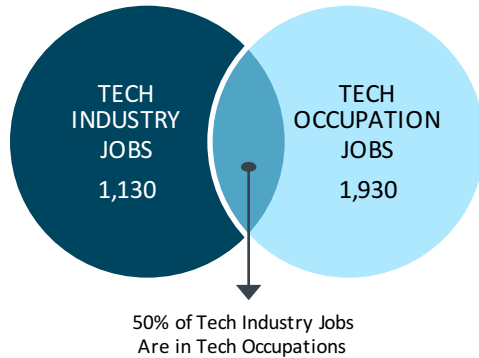


Source: Burning Glass Technologies Labor Insights



PRINCE EDWARD ISLAND

STATE OF TECHNOLOGY IN PRINCE EDWARD ISLAND

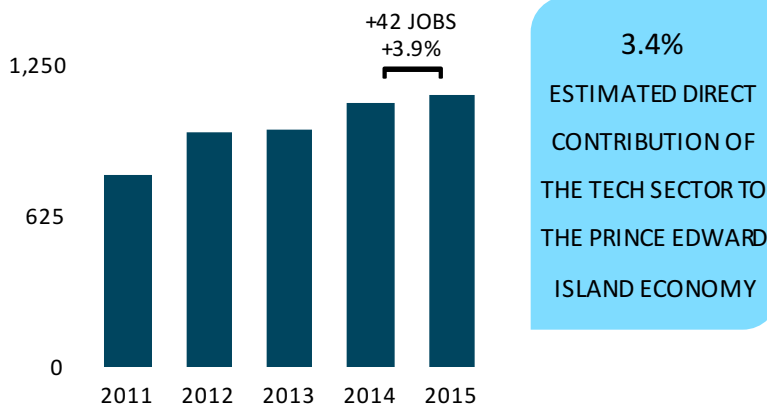


TECH INDUSTRY JOBS	1,132
# OF TECH ENTERPRISES WITH EMPLOYEES	72
# OF SOLE PROPRIETOR TECH ENTERPRISES	81
AVERAGE ANNUAL WAGE IN TECH INDUSTRY	\$57,420
% OF PRIVATE SECTOR WORKERS EMPLOYED BY TECH INDUSTRY FIRMS	1.7%
% OF TECH INDUSTRY FIRMS THAT ARE SMALL BUSINESSES (<100 EMPLOYEES)	95.8%

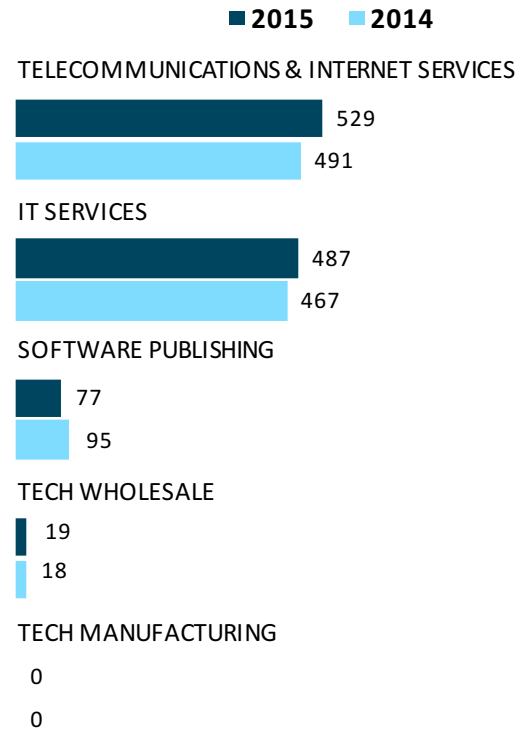
Sources: Statistics Canada | EMSI

Data covers the 2014 time period, except where specified as other | Employer firm level data

TECH INDUSTRY EMPLOYMENT TRENDS



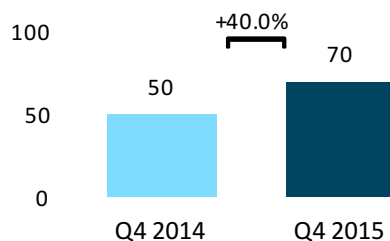
LEADING TECH INDUSTRY SECTORS (BY EMPLOYMENT)



LEADING OCCUPATIONAL JOB CATEGORIES

	2015	YoY % Change
User support technicians	502	-4.1%
Programmers and media developers	406	1.3%
Information systems analysts and consultants	327	-0.1%
Computer network technicians	306	3.7%
Telecommunications installation and repair workers	106	-0.5%

POSTINGS FOR TECH OCCUPATIONS JOB OPENINGS (NET)



TECH INDUSTRY WAGES

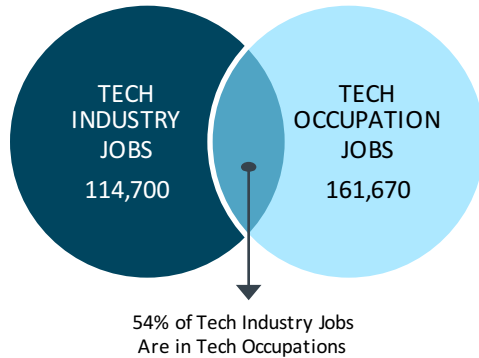


Source: Burning Glass Technologies Labor Insights



QUEBEC

STATE OF TECHNOLOGY IN QUEBEC

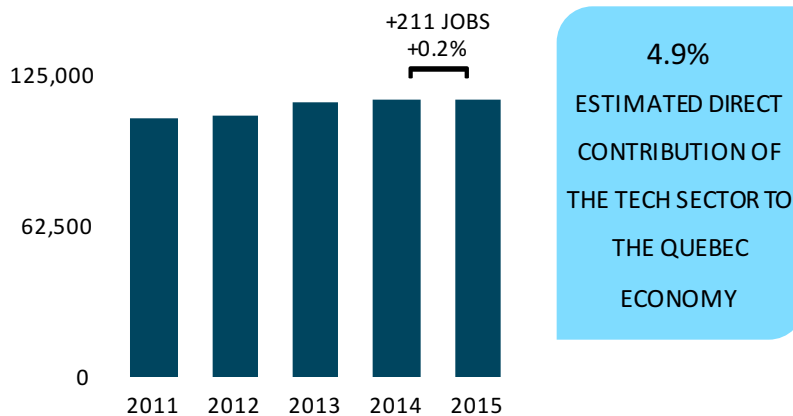


TECH INDUSTRY JOBS	114,700
# OF TECH ENTERPRISES WITH EMPLOYEES	7,174
# OF SOLE PROPRIETOR TECH ENTERPRISES	10,422
AVERAGE ANNUAL WAGE IN TECH INDUSTRY	\$70,390
% OF PRIVATE SECTOR WORKERS EMPLOYED BY TECH INDUSTRY FIRMS	3.2%
% OF TECH INDUSTRY FIRMS THAT ARE SMALL BUSINESSES (<100 EMPLOYEES)	97.4%

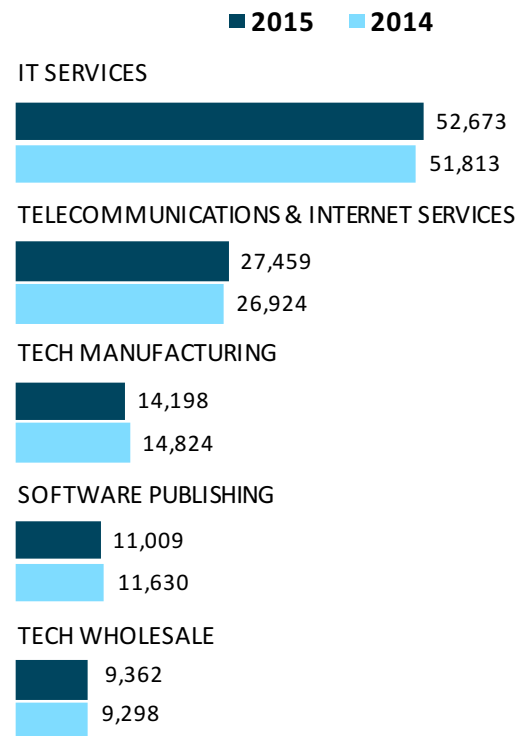
Sources: Statistics Canada | EMSI

Data covers the 2014 time period, except where specified as other | Employer firm level data

TECH INDUSTRY EMPLOYMENT TRENDS



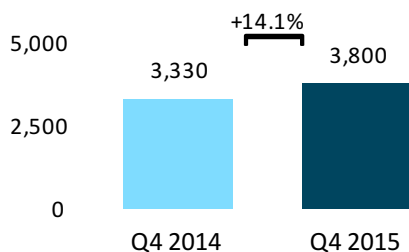
LEADING TECH INDUSTRY SECTORS (BY EMPLOYMENT)



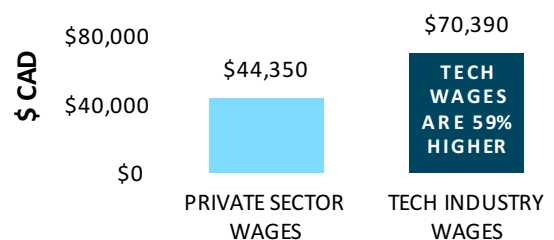
LEADING OCCUPATIONAL JOB CATEGORIES

	2015	YoY % Change
Information systems analysts and consultants	41,217	1.3%
Programmers and media developers	31,025	-0.1%
User support technicians	20,307	1.1%
Computer network technicians	17,623	3.3%
Computer and information systems managers	11,034	2.5%

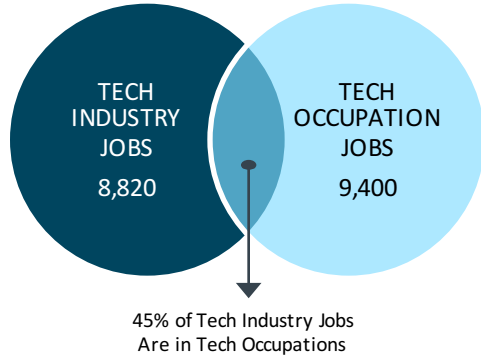
POSTINGS FOR TECH OCCUPATIONS JOB OPENINGS (NET)



TECH INDUSTRY WAGES



Source: Burning Glass Technologies Labor Insights

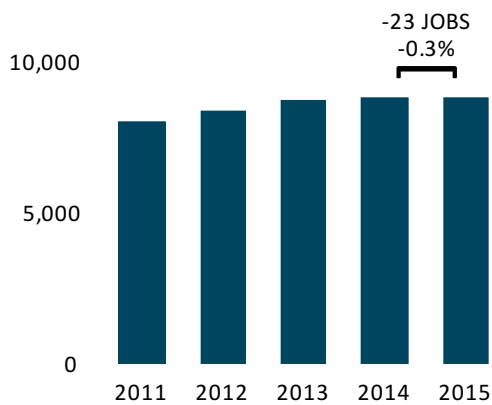


TECH INDUSTRY JOBS	8,822
# OF TECH ENTERPRISES WITH EMPLOYEES	410
# OF SOLE PROPRIETOR TECH ENTERPRISES	620
AVERAGE ANNUAL WAGE IN TECH INDUSTRY	\$68,700
% OF PRIVATE SECTOR WORKERS EMPLOYED BY TECH INDUSTRY FIRMS	1.8%
% OF TECH INDUSTRY FIRMS THAT ARE SMALL BUSINESSES (<100 EMPLOYEES)	97.1%

Sources: Statistics Canada | EMSI

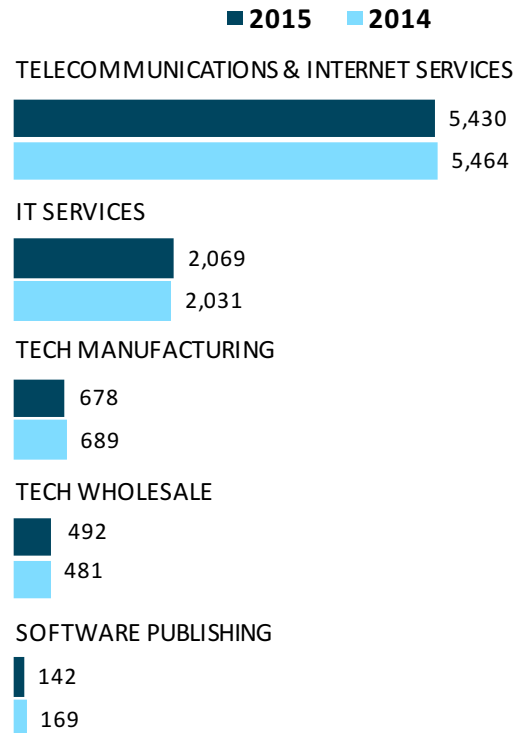
Data covers the 2014 time period, except where specified as other | Employer firm level data

TECH INDUSTRY EMPLOYMENT TRENDS



1.9%
ESTIMATED DIRECT
CONTRIBUTION OF
THE TECH SECTOR TO
THE SASKATCHEWAN
ECONOMY

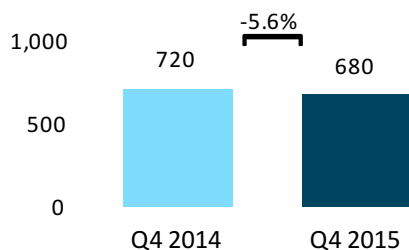
LEADING TECH INDUSTRY SECTORS (BY EMPLOYMENT)



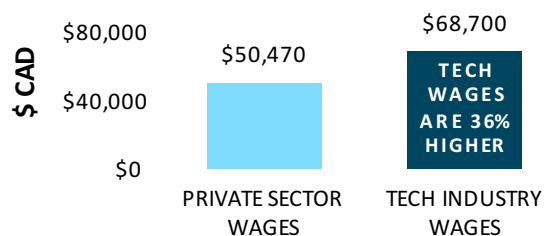
LEADING OCCUPATIONAL JOB CATEGORIES

	2015	YoY % Change
Programmers and media developers	1,917	0.3%
Information systems analysts and consultants	1,617	-4.7%
Computer network technicians	1,532	2.7%
User support technicians	1,502	0.3%
Computer and information systems managers	838	-1.7%

POSTINGS FOR TECH OCCUPATIONS JOB OPENINGS (NET)



TECH INDUSTRY WAGES



Source: Burning Glass Technologies Labor Insights

APPENDIX I

CANADIAN TECH OCCUPATION SUMMARY		2014			2015			% Change
NOC-S	Occupation	Workers Employed by Firms	Self-Employed	Total	Workers Employed by Firms	Self-Employed	Total	Total 2014 vs. Total 2015
A122	Computer and information systems managers	59,334	1,661	60,996	61,020	1,625	62,644	2.7%
C047	Computer engineers (except software engineers)	21,778	858	22,636	22,177	805	22,981	1.5%
C071	Information systems analysts and consultants	132,523	40,727	173,250	133,485	41,815	175,300	1.2%
C072	Database analysts and data administrators	28,662	1,552	30,214	29,417	1,545	30,962	2.5%
C073	Software engineers and designers	46,110	4,570	50,680	47,762	4,702	52,464	3.5%
C074	Computer programmers and interactive media developers	122,141	21,803	143,945	122,723	21,986	144,710	0.5%
C075	Web designers and developers	19,461	13,102	32,563	19,660	13,424	33,084	1.6%
C181	Computer network technicians	66,701	738	67,439	68,655	703	69,358	2.8%
C182	User support technicians	84,474	293	84,767	85,506	261	85,767	1.2%
C183	Systems testing technicians	14,105	82	14,187	14,472	76	14,547	2.5%
H216	Telecommunications installation and repair workers	23,635	2,703	26,337	23,833	2,713	26,547	0.8%
TOTAL		618,924	88,089	707,013	628,711	89,654	718,365	1.6%

Sources: Statistics Canada | EMSI

CANADIAN TECH OCCUPATION SUMMARY		2014			2015			% Change
Province / Territory		Workers Employed by Firms	Self-Employed	Total	Workers Employed by Firms	Self-Employed	Total	Total 2014 vs. Total 2015
Alberta		58,671	9,541	68,212	59,328	9,730	69,058	1.2%
British Columbia		68,779	10,600	79,379	70,638	10,677	81,315	2.4%
Manitoba		16,438	1,200	17,638	16,746	1,219	17,965	1.9%
New Brunswick		9,651	407	10,058	9,625	407	10,032	-0.3%
Newfoundland and Labrador		4,774	36	4,810	4,798	34	4,832	0.5%
Northwest Territories		418	1	419	415	2	417	-0.5%
Nova Scotia		12,437	1,052	13,489	12,576	1,058	13,634	1.1%
Nunavut		102	0	102	103	0	103	1.0%
Ontario		277,141	46,038	323,179	281,030	46,883	327,913	1.5%
Prince Edward Island		1,937	211	2,148	1,925	235	2,160	0.6%
Quebec		158,660	17,909	176,569	161,668	18,269	179,937	1.9%
Saskatchewan		9,437	1,047	10,484	9,390	1,090	10,480	0.0%
Yukon		479	48	527	470	49	519	-1.5%
TOTAL		618,924	88,090	707,014	628,712	89,653	718,365	1.6%

Sources: Statistics Canada | EMSI

Note: totals may differ slightly due to rounding

APPENDIX II

CANADIAN TECH INDUSTRY SUMMARY				2014			2015			% Change
				Firms with Employees	Sole Proprietor-ships	Total	Firms with Employees	Sole Proprietor-ships	Total	Total 2014 vs. Total 2015
NAICS										
TECH MANUFACTURING				1,723	1,423	3,146	1,687	1,400	3,087	-1.9%
3341	Computer and peripheral equipment manufacturing			244	340	584	239	333	572	-2.1%
3342	Communications equipment manufacturing			272	205	477	264	232	496	4.0%
3343	Audio and video equipment manufacturing			87	164	251	84	159	243	-3.2%
3344	Semiconductor and other electronic components			361	234	595	362	218	580	-2.5%
3345	Navigational, measuring, medical and control instruments			684	366	1,050	668	348	1,016	-3.2%
3346	Manufacturing and reproducing magnetic and optical media			75	114	189	70	110	180	-4.8%
SOFTWARE				1,644	1,485	3,129	1,669	1,471	3,140	0.4%
5112	Software publishers			1,644	1,485	3,129	1,669	1471	3,140	0.4%
TELECOMMUNICATIONS & INTERNET SERVICES				3,096	5,270	8,366	2,955	5,316	8,271	-1.1%
5171	Wired telecommunications carriers			931	568	1,499	846	574	1,420	-5.3%
5172	Wireless telecommunications carriers (except satellite)			302	271	573	287	257	544	-5.1%
5174	Satellite telecommunications			95	234	329	85	233	318	-3.3%
5179	Other telecommunications			788	1,709	2,497	771	1711	2,482	-0.6%
5182	Data processing, hosting, and related services			980	2,488	3,468	966	2541	3,507	1.1%
TECH WHOLESALE				2,664	1,713	4,377	2,623	1,672	4,295	-1.9%
4173	Computer and communications equipment wholesalers			2,664	1,713	4,377	2,623	1,672	4,295	-1.9%
IT SERVICES				28,865	44,659	73,524	30,151	46,294	76,445	4.0%
5415	Computer systems design and related services			28,865	44,659	73,524	30,151	46,294	76,445	4.0%
TOTAL				37,992	54,550	92,542	39,085	56,153	95,238	2.9%

Sources: Statistics Canada | EMSI

CANADIAN TECH OCCUPATION SUMMARY				2014			2015			% Change
				Firms with Employees	Sole Proprietor-ships	Total	Firms with Employees	Sole Proprietor-ships	Total	Total 2014 vs. Total 2015
Province / Territory										
Alberta				4,394	6,772	11,166	4,463	6,907	11,370	1.8%
British Columbia				4,397	7,117	11,514	4,538	7,313	11,851	2.9%
Manitoba				541	646	1,187	551	636	1,187	0.0%
New Brunswick				331	320	651	326	333	659	1.2%
Newfoundland and Labrador				176	154	330	176	154	330	0.0%
Northwest Territories				16	18	34	17	21	38	11.8%
Nova Scotia				475	581	1,056	483	589	1,072	1.5%
Nunavut				6	5	11	6	5	11	0.0%
Ontario				20,015	28,067	48,082	20,850	29,051	49,901	3.8%
Prince Edward Island				62	96	158	72	81	153	-3.2%
Quebec				7,154	10,132	17,286	7,174	10,422	17,596	1.8%
Saskatchewan				407	621	1,028	410	620	1,030	0.2%
Yukon				18	21	39	19	21	40	2.6%
TOTAL				37,992	54,550	92,542	39,085	56,153	95,238	2.9%

Sources: Statistics Canada | EMSI

Note: totals may differ slightly due to rounding

APPENDIX III

2015 Data	Overall	Tech Mfg.	Software Publishing	Telecom & Internet Services	Tech Wholesale	IT Services
Sole Proprietorships / Self-employed	56,153	1,400	1,471	5,316	1,672	46,294
Micro Tech establishments (1-9 employees)	32,239	890	1,023	1,825	1,608	26,893
Small Tech establishments (10-99 employees)	6,071	664	555	957	946	2,949
Medium Tech establishments (100-499 employees)	677	44	84	141	60	274
Large Tech establishments (500+ employees)	98	15	7	32	9	35
NUMBER OF ESTABLISHMENTS WITH EMPLOYEES	39,085	1,613	1,669	2,955	2,623	30,151
TOTAL: EMPLOYER FIRMS + SOLE PROPRIETORSHIPS	95,238	3,087	3,140	8,271	4,295	76,445

Sources: Statistics Canada

METHODOLOGY

Statistics on jobs, wages, payroll, and establishments were compiled from Canadian government statistics, referred to as [Statistics Canada](#), by the research consultancy Economic Modeling Specialist International (EMSI).

Most data cited in this report is at the employer level. This is a standard classification method used to define businesses that have employees and thus payroll. This designation is used in describing the Canadian tech industry, as well as tech occupation employment. Non-employer entities – those without payroll, are classified as self-employed or sole proprietorships. Because the data at an employer firm level is often more detailed that is the reason why it serves as the basis for reporting. The Appendix tables depict the breakout between employer firms and the self-employed.

When comparing totals, slight differences may occur due to rounding.

Variance in the data may also stem from the timing of when the data was extracted. The primary time period covered in this report is 2015, with comparisons to 2014. At the time of publication, most data for 2015 is estimated based on partial year 2015 data. There is always a notable lag between when government agencies collect and publish data and when that data can be aggregated into reports such as this.

If comparing the CompTIA *Cyberprovinces* data to outside sources and differences arise, it could be a function of the timing of when data was extracted. Differences may also exist due to different interpretations of information technology. Some groups may use a more expansive definition, while others may use a narrower definition.

The provinces of Northwest Territories, Nunavut, and the Yukon were excluded from the detailed summary pages due to their extremely small sizes. Combined, these provinces account for only 0.2 percent of Canadian tech industry jobs. Data for these provinces can be found in the Appendix tables.

CompTIA is responsible for all content and analysis. Any questions regarding the report should be directed to CompTIA Research and Market Intelligence staff at research@comptia.org. The CompTIA *Cyberprovinces* and *Cyberstates* reports can be accessed online at CompTIA.org.



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