

# State of the Tech Workforce Canada

Nationwide | Province | Metro Area

Tech Hiring Trends | Wages | Workforce Characteristics

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**STATE OF THE TECH WORKFORCE CANADA**  
IS PRODUCED BY  
The Computing Technology Industry Association (CompTIA)

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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](mailto:research@comptia.org).

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ABOUT COMPTIA

The Computing Technology Industry Association (CompTIA) is a leading voice and advocate for the \$5 trillion global information technology ecosystem; and the estimated 75 million industry and tech professionals who design, implement, manage, and safeguard the technology that powers the world’s economy. Through education, training, certifications, advocacy, philanthropy, and market research, CompTIA is the hub for unlocking the potential of the tech industry and its workforce.

CompTIA is the world’s leading vendor-neutral IT-certifying body with more than 3.0 million certifications awarded based on the passage of rigorous, performance-based exams. CompTIA sets the standard for preparing entry-level candidates through expert-level professionals to succeed at all stages of their career in technology. Through CompTIA’s philanthropic arm, CompTIA develops innovative on-ramps and career pathways to expand opportunities to populations that traditionally have been under-represented in the information technology workforce.

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- CompTIA [Tech Career Academy](#)
- CompTIA [IT Salary Calculator](#)
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ABOUT THE STATE OF THE TECH WORKFORCE CANADA

CompTIA’s *State of the Tech Workforce Canada* provides an in-depth look at employment, economic impact, technology trends, salaries, hiring activity and more across the provinces and metropolitan areas of Canada. The report draws upon a number of data sources including EMSI Burning Glass, Canadian government statistics (StatsCan), CompTIA and more.

PROVINCE COVERAGE		METRO AREA COVERAGE
Alberta	Nova Scotia	Montreal
British Columbia	Ontario	Toronto
Manitoba	Prince Edward Island	Calgary
New Brunswick	Quebec	Edmonton
Newfoundland and Labrador	Saskatchewan	Vancouver

As with any sector-level report, there are varying interpretations of what constitutes the tech sector and the tech workforce. Some of this variance may be attributed to the objectives of the author. Is the goal to depict the broadest possible representation of STEM and digital economy fields, or a more narrowly defined technology subset? Is the goal to capture all possible knowledge workers, or a more narrowly defined technology subset? CompTIA weighs a number of factors in making these decisions. See the methodology section for details of the specific NAICS codes and SOC codes CompTIA uses in its definitions.

CompTIA’s base of IT certification holders spans 232 countries





# DEFINING NET TECH EMPLOYMENT

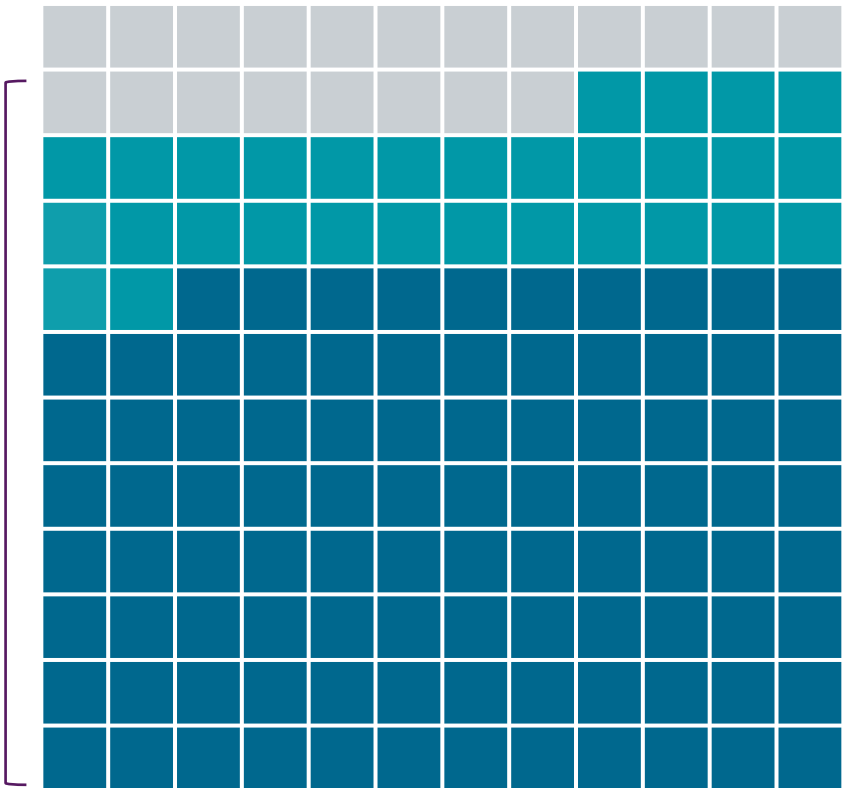
The tech workforce consists of two primary components, represented as a single figure by the ‘net tech employment’ designation. The foundation is the set of technology professionals working in technical positions, such as IT support, network engineering, software development, data scientist, and related roles. Many of these professionals work for technology companies (68%), but many others are employed by organizations across every industry sector in the Canadian economy (32%).

The second component consists of the business professionals employed by technology companies. These professionals – encompassing sales, marketing, finance, HR, operations and management, play an important role in supporting the development and delivery of the technology products and services used throughout the economy. About 24% of the net tech-employment total consists of tech-industry business professionals.

One final segment involves workers classified as self-employed. For the purposes of this report, only dedicated, full-time self-employed technology workers are counted towards net tech employment. Workers that are characterized as “gig” workers, which may entail working on the side for supplementary income, are excluded from this analysis due to several uncertainties with the data and to minimize the possibility of double counting.

- N = Technology professionals employed across the economy, including in the tech sector**  
(e.g. software developers, network architects, database admins, etc.)
- N = Tech sector employment, less technology professionals**  
(e.g. sales, marketing, finance, HR, etc.)

1.2 million  
workers in total  
2021 estimate



76%  
% of NET tech  
employment is  
in technology  
occupations

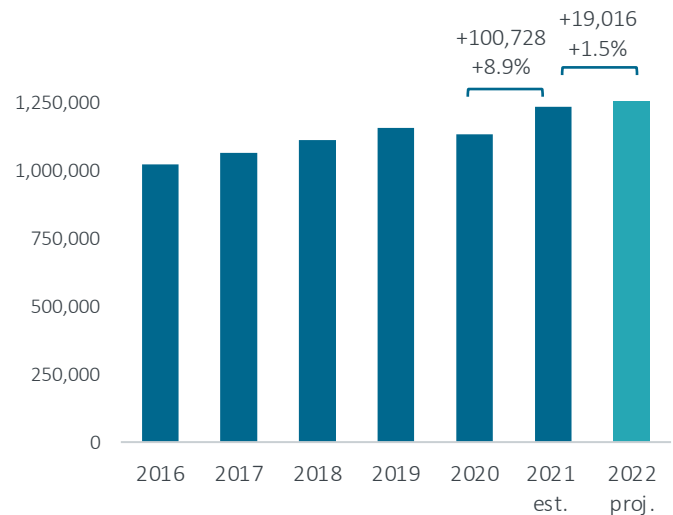
= 10,000 workers  
Source: EMSI Burning Glass | CompTIA  
Some numeric changes affected by rounding

# KEY FINDINGS

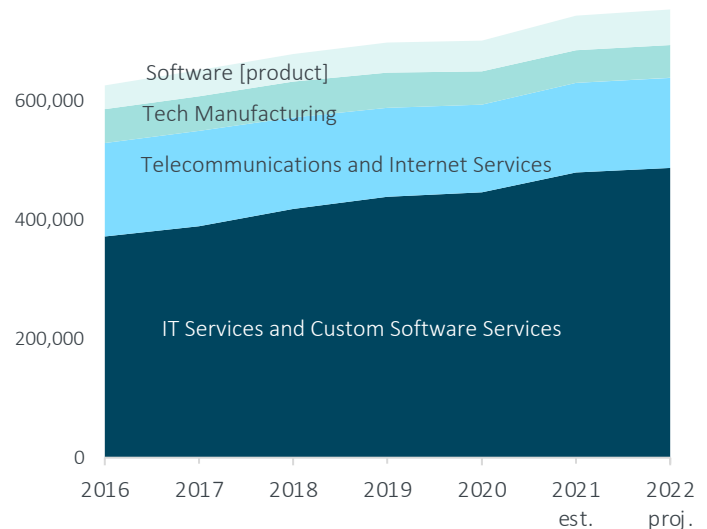
## KEY POINTS

- Net tech employment in Canada – as described on the previous page, reached an estimated 1,235,692 workers in 2021, approximately an 8.9% increase over the previous year. It is projected to grow by 1.5% to reach 1,254,708 workers in 2022.
- Since 2016, net tech employment increased by an estimated 213,432 net new jobs. Net tech employment growth has been largely steady during this span, except for a decline in 2020.
- Net tech employment accounted for approximately 6.3% of the overall Canada workforce in 2021. Because of the blurring of lines across industries, there is likely a degree of undercounting in tech sector employment as a percentage of Canada employment.
- Among the components of net tech employment, the tech sector side of the equation experienced estimated growth of +6.0% year over year, while the occupation side across all industry sectors experienced an increase of 12.0% year over year. Looking ahead, tech sector and tech occupation gains are projected to be 1.4% and 1.7% respectively.
- Sectors of the tech industry that have seen an increase in jobs since 2016 are the IT services (+107,446) and Software (+17,151) sectors. The tech manufacturing and telecommunications sectors have seen declines in employment.
- Largest tech occupation job gains (numeric), 2016-2021
  - Systems Analysts and Cybersecurity: +78.2k
  - Software and Web Developers: +73.7k
  - Database, Data Analyst and Data Science: +22.7k
  - CIOs, IT Managers and IT Project Managers: +15.2k
  - IT Support and Network Technicians: +16.1k
- Largest tech occupation job gains (% change), 2016-2021
  - Database, Data Analyst and Data Science: +75%
  - Systems Analysts and Cybersecurity: +40%
  - Software and Web Developers: +31%
  - CIOs, IT Managers and IT Project Managers: +24%
  - IT Support and Network Technicians: +11%
- Economic impact is an assessment of output – the dollar value of goods and services produced during a given year (also referred to as gross domestic product). As a percentage of the overall Canadian economy, the tech industry accounts for approximately 5.3% of direct economic value, which translates to \$104.5 billion CAD.
- In addition to the direct economic impact, there are downstream indirect benefits of the technology industry, such as the employment multiplier effect of technology ecosystems.

## NET TECH EMPLOYMENT TRENDING



## TECH INDUSTRY EMPLOYMENT TRENDING



## ECONOMIC IMPACT OF TECH INDUSTRY



Source: EMSI Burning Glass | Canadian Government Statistics | CompTIA

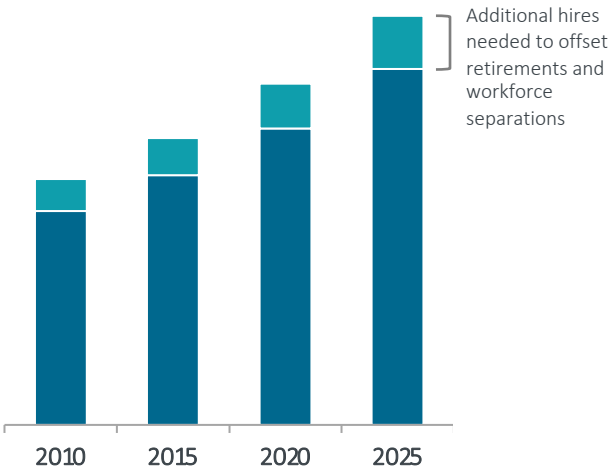
# KEY FINDINGS

## KEY POINTS

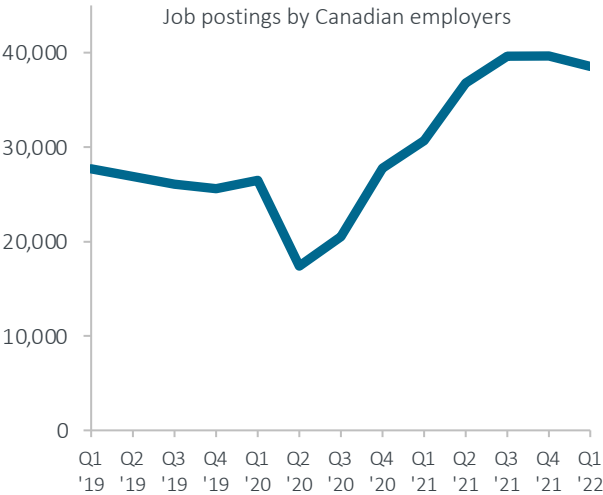
- By 2025, projections from EMSI Burning Glass put the base of tech occupation employment at nearly 1,003,708 (note: this covers occupations only and represents a subset of the net tech employment figure presented previously).
- Calculating future workforce needs over the next decade is a function of several variables. First, there is a growth component, which may entail organizations adding headcount due to expansion or possibly to support emerging technologies. Secondly, there is a retirement factor, with a portion of the workforce transitioning away from the workforce permanently. And lastly, there is a segment leaving the workforce for some other reason, also referred to as separations. These may stem from a career change, a return to school, family pursuits, or other. Changes to any of these variables can boost or shrink future workforce projections.
- Job posting data provides another layer of insight into the tech job market outlook. Because Canadian government labour taxonomies, referred to as National Occupation Classification (NOCs), lag the speed with which the market changes, job posting data provides a more up-to-date look at the skills and experiences employers seek.
- Mirroring the situation with economies across the globe during the height of the pandemic, quarterly tech job postings among Canadian employers fell during 2020. Postings then rebounded with many employers resuming hiring activity in conjunction with a recovering Canadian economy.
- During the Q1-Q4 period of 2021, employer job postings jumped 54,552 year-over-year, the equivalent of a 59% increase. For context, overall job postings across all occupation categories in the Canadian economy increased 50% during that period.
- The largest occupation category for job postings – software engineers and designers, had one of the highest growth rates for new employer job postings during 2021 (63%) vs. the same period during the previous year. The next two largest contributors to job posting gains during 2021 were the categories covering systems analysts and cybersecurity, and IT support and network technicians. Combined, these categories contributed nearly 60% of employer hiring activity during the period. *See methodology notes regarding the use of job posting data.*
- Slightly more than half of employer job postings for tech jobs during 2021 specified a required level of work experience, with the remaining 42% unspecified. Many employers continue to evaluate their recruiting practices to cast a wider net and accept more candidates for consideration, such as those with industry-recognized certification rather than traditional university degrees.

## TECH OCCUPATION EMPLOYMENT OUTLOOK

Workforce need = annual replacement rate + growth rate

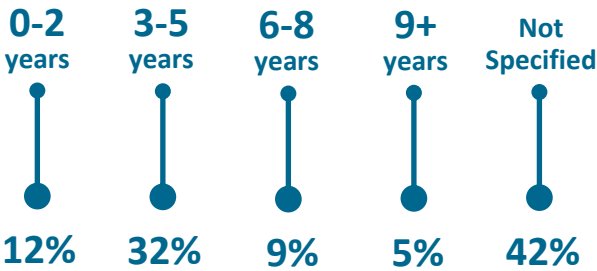


## AGGREGATE QUARTERLY JOB POSTINGS FOR TECH OCCUPATIONS



## TECH HIRING BY REQUESTED YEARS OF EXPERIENCE

Job postings by Canadian employers, Q1-Q4 2021



Source: EMSI Burning Glass | Canadian Government Statistics | CompTIA

# KEY FINDINGS

## PROVINCE NET TECH EMPLOYMENT

- The top provinces when it comes to projected Net Tech Employment are Ontario and Quebec. The greatest number of jobs is projected to be added in Ontario in 2022.
- When compared to the other provinces Ontario stands apart for the number of jobs in tech with 47.1% of Canadian projected net tech employment coming from this province. This is consistent with Ontario's population ratio (about 39% of the country), and economic impact (about 38%).
- Anchored by Canada's most populous city, Toronto, the province of Ontario also accounted for a significant portion of tech employment gains during 2022.

## PROVINCE HIRING ACTIVITY BY EMPLOYERS

- As measured by employer job posting volumes, every province across Canada increased its hiring activity for technology professionals.
- Employers based in Ontario increased hiring activity by +31,629 job postings during 2021, translating to a year-over-year growth rate of 69%.

## PROVINCE EMPLOYMENT CONCENTRATION

- Employment concentration provides a measure of tech employment relative to employment across all the other industry sectors in a local economy. Along with economic impact as a percentage of a local economy, these metrics help to put tech into context.
- At about 8%, Ontario has the highest concentration of net tech employment as a percentage of its overall employment base. Quebec and British Columbia follow in the rankings.

## PROVINCE TECH BUSINESS ESTABLISHMENTS

- A large, dynamic base of business establishments, also referred to as company locations, is another measure of a healthy tech sector. Tech business establishments tend to be concentrated in population centers and in locations that are close to the customers they serve.
  - Ontario: 27,119
  - Quebec: 10,301
  - British Columbia: 5,996
  - Alberta: 4,927
- Beyond numerical measures based on size, relative measures based on the size of the province economy reveal additional insight. Overall, an estimated 6.5% of Ontario's economy is attributed to the tech sector, as defined by this report. In comparison, approximately 2.3% of Saskatchewan's economy is attributed to the tech sector.

## TOP PROVINCES BY NET TECH EMPLOYMENT

[2022 projected]

1.	Ontario	591,017
2.	Quebec	288,905
3.	British Columbia	169,830
4.	Alberta	99,633
5.	Manitoba	31,326
6.	Nova Scotia	23,113
7.	Saskatchewan	19,223
8.	New Brunswick	17,814
9.	Newfoundland & Labrador	8,683
10.	Prince Edward Island	3,485

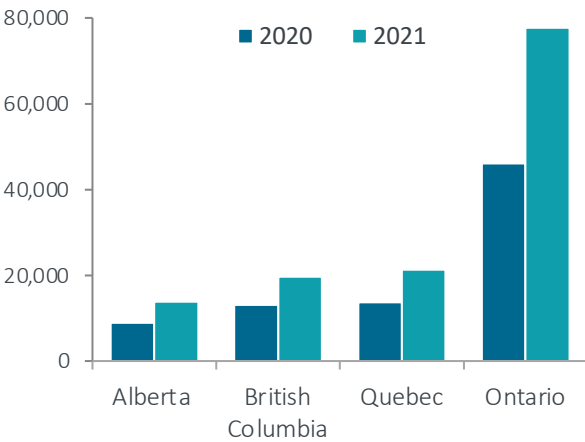
## TOP PROVINCES BY NET NEW TECH EMPLOYMENT JOB GAINS

[2022 projected]

1.	Ontario	+7,846
2.	British Columbia	+4,394
3.	Quebec	+4,061
4.	Manitoba	+996
5.	Alberta	+743
6.	Nova Scotia	+339
7.	New Brunswick	+260
8.	Saskatchewan	+206
9.	Newfoundland and Labrador	+102
10.	Prince Edward Island	+46

## PROVINCE EMPLOYER HIRING ACTIVITY

employer tech job postings, Q1-Q4 period YoY



Source: EMSI Burning Glass | Canadian Government Statistics | CompTIA

# KEY FINDINGS

## METRO AREA NET TECH EMPLOYMENT

- The top three metropolitan areas are projected to employ a little more than 687,150 tech industry and tech occupation workers, or about 1 in 2 tech workers in the nation.
- Toronto is the largest metropolitan area in the country by a wide margin. It follows that it also has the largest base of tech employment.
- The Toronto metro area will also see the highest increase in net tech employment during year at a projected +5,756 new positions, an amount exceeding the combined volume of the other metro areas covered in this report.

## METRO HIRING ACTIVITY BY EMPLOYERS

- As the largest employment hubs in each province, hiring activity in major metropolitan areas closely tracks with province-level data. For example, the volume of employer tech job postings in British Columbia increased 50% during the Q1-Q4 2021 period when compared to 2020 and there was a 50% increase for Vancouver.
- Employers based in Ontario increased hiring activity by +32,00 job postings in 2021 when compared to 2020, the largest contributor to job posting volumes among metro areas.

## METRO AREA EMPLOYMENT CONCENTRATION

- Employment concentration provides a measure of tech employment relative to employment across all the other industry sectors in a local economy. Along with economic impact as a percentage of a local economy, these metrics help to put tech into context.
- At 10%, Toronto has the highest concentration of net tech employment as a percentage of its overall employment.
- Compared to the national tech employment concentration benchmark of 6.3%, four of the metro areas had a higher rate, confirming the importance of technology to a far-reaching set of cities across the country.

## METRO AREA TECH BUSINESS ESTABLISHMENTS

- A large, dynamic base of business establishments, also referred to as company locations, is another measure of a healthy tech sector. Tech business establishments tend to be concentrated in population centers and in locations that are close to the customers they serve.
  - Toronto: 18,491
  - Montreal: 7,316
  - Vancouver: 4,227
  - Calgary: 2,841
  - Edmonton: 1,425

## TOP METROS BY NET TECH EMPLOYMENT

[2022 projected]

1.	Toronto	373,218
2.	Montreal	198,408
3.	Vancouver	127,608
4.	Calgary	52,681
5.	Edmonton	35,404

## TOP METROS BY NET TECH EMPLOYMENT JOB GAINS

[2022 projected]

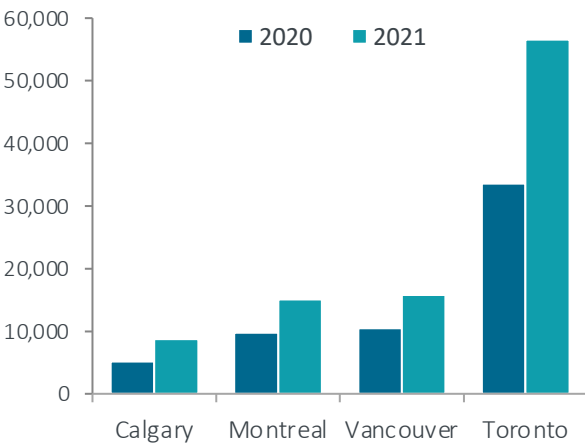
1.	Toronto	+ 5,756
2.	Vancouver	+ 3,621
3.	Montreal	+ 2,705
4.	Edmonton	+432
5.	Calgary	+219

## TOP METROS BY NET TECH EMPLOYMENT AS A % OF LOCAL EMPLOYMENT

1.	Toronto	10.0%
2.	Montreal	8.3%
3.	Vancouver	7.8%
4.	Calgary	6.4%
5.	Edmonton	4.6%

## METRO AREA EMPLOYER HIRING ACTIVITY

employer tech job postings, Q1-Q4 period YoY



Source: EMSI Burning Glass | Canadian Government Statistics | CompTIA



# NATIONAL SNAPSHOT

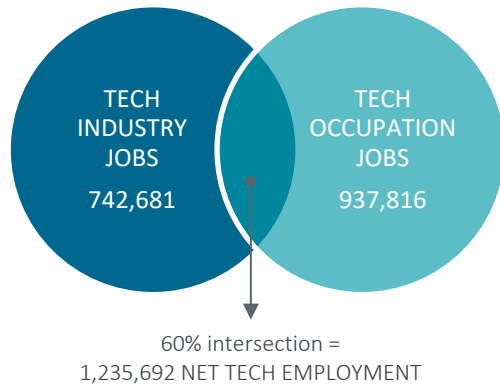
# Canada



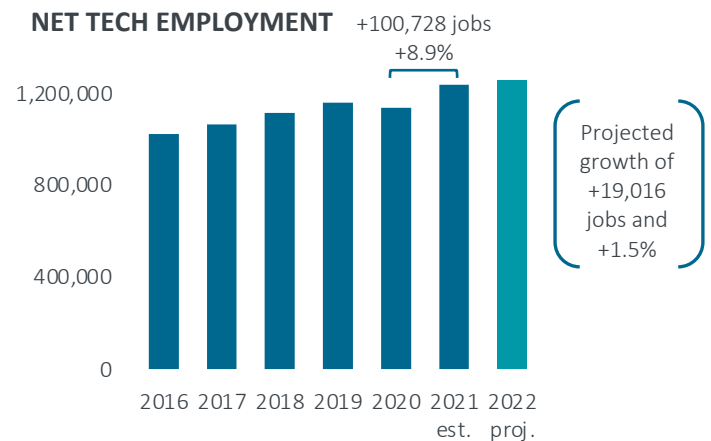
## STATE OF TECHNOLOGY SUMMARY

1,235,692	NET TECH EMPLOYMENT <sup>1</sup>
6.3%	NET EMPLOYMENT AS A % OF OVERALL WORKFORCE
51,158	TECH BUSINESS ESTABLISHMENTS [firms with payroll]
\$104,567	ECONOMIC IMPACT CAD
146,668	EMPLOYER JOB POSTINGS [2021 total for tech occupations]
24.4%	EMERGING TECH JOB POSTINGS AS A % OF TOTAL

<sup>1</sup>Net of tech industry + tech occupation + self-employed | Sources: CompTIA analysis of EMSI Burning Glass data, Canadian Government Statistics, and others | Data estimates cover 2021-2022 time period or most recently available | See report Methodology for details

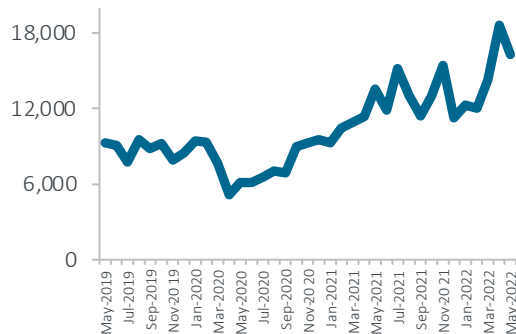


## NET TECH EMPLOYMENT



## EMPLOYER HIRING ACTIVITY VIA JOB POSTINGS

Monthly tech job posting trending



## LEADING TECH OCCUPATIONS

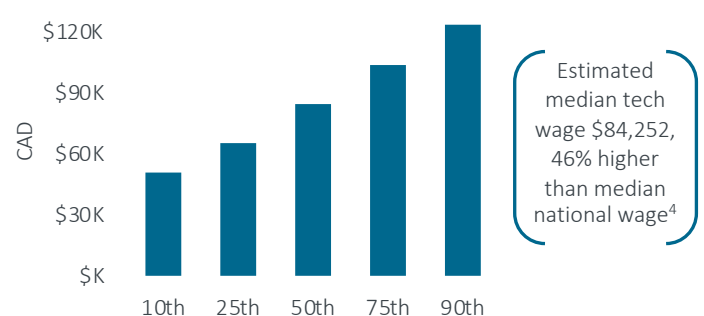
	2021	2022 % Change <sup>3</sup>
Software and Web Developers	307,968	+1.5%
Systems Analysts and Cybersecurity <sup>2</sup>	274,737	+2.1%
IT Support and Network Technicians	163,926	+1.3%
CIOs, IT Managers and IT Project Managers	77,671	+2.2%
Database, Data Analysts and Data Science	52,889	+2.6%

<sup>2</sup>The cybersecurity job roles does not yet have a dedicated occupation category, but rather spans several categories. For reporting purposes, it is grouped with Systems Analysts

## LEADING TECH INDUSTRY SECTORS [by employment]

	2021	2022 % Change <sup>3</sup>
IT Services + Custom Software Services	479,167	+1.6%
Telecom and Internet Services	150,326	+0.6%
Software [product]	57,525	+3.9%
Tech Manufacturing	55,664	-0.7%

## TECH OCCUPATION WAGES [by percentile]



<sup>3</sup>2022 projection | <sup>4</sup>Wage data subject to revisions and may not be directly comparable to prior years

# PROVINCE SNAPSHOTS

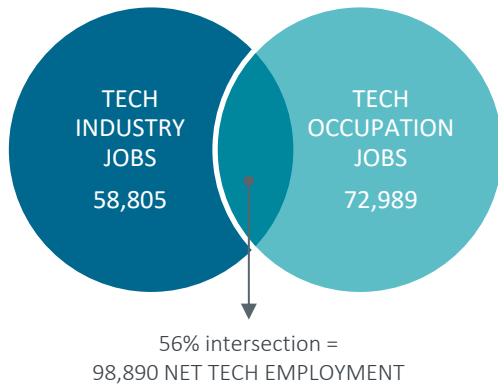
# Alberta

## STATE OF TECHNOLOGY SUMMARY

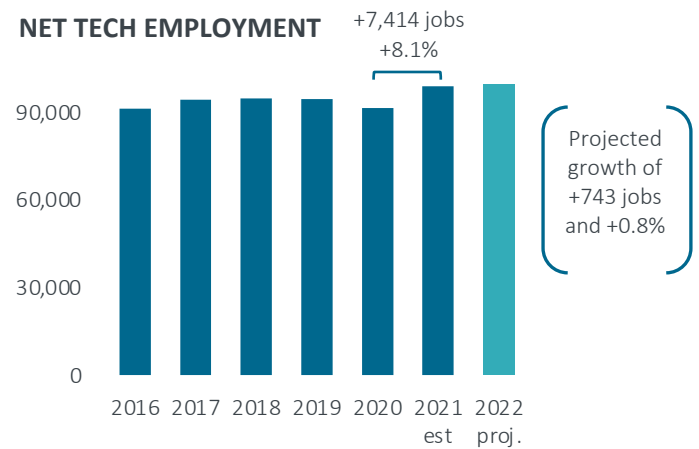
98,890	NET TECH EMPLOYMENT <sup>1</sup>
4.3%	NET EMPLOYMENT AS A % OF OVERALL WORKFORCE
4,927	TECH BUSINESS ESTABLISHMENTS [firms with payroll]
13,835	EMPLOYER JOB POSTINGS [2021 total for tech occupations]
2,946	EMERGING TECH JOB POSTINGS [job roles + skills]
21.3%	EMERGING TECH JOB POSTINGS AS A % OF TOTAL



<sup>1</sup>Net of tech industry + tech occupation + self-employed | Sources: CompTIA analysis of EMSI Burning Glass data, Canadian Government Statistics, and others | Data estimates cover 2021-2022 time period or most recently available | See report Methodology for details

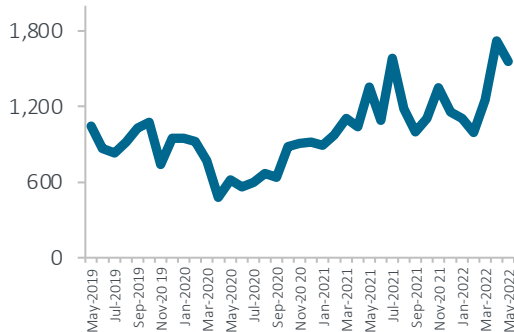


### NET TECH EMPLOYMENT



### EMPLOYER HIRING ACTIVITY VIA JOB POSTINGS

Monthly tech job posting trending



### LEADING TECH OCCUPATIONS

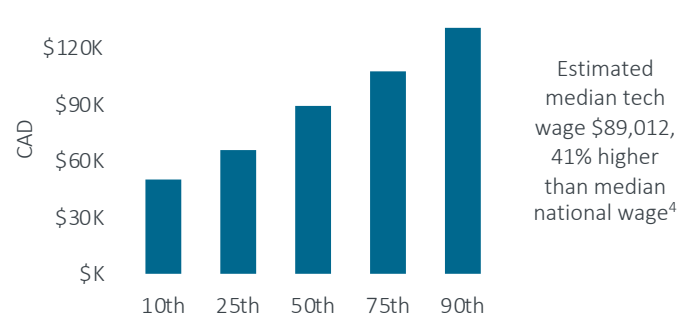
	2021	2022 % Change <sup>3</sup>
Systems Analysts and Cybersecurity <sup>2</sup>	23,171	+2.0%
Software and Web Developers	21,122	-0.1%
IT Support and Network Technicians	13,579	+0.5%
CIOs, IT Managers and IT Project Managers	5,174	+0.5%
Database, Data Analysts and Data Science	5,008	+2.8%

<sup>2</sup>The cybersecurity job roles does not yet have a dedicated occupation category, but rather spans several categories. For reporting purposes, it is grouped with Systems Analysts

### LEADING TECH INDUSTRY SECTORS [by employment]

	2021	2022 % Change <sup>3</sup>
IT Services + Custom Software Services	39,380	+0.3%
Telecom and Internet Services	13,470	+0.4%
Tech Manufacturing	3,355	+0.8%
Software [product]	2,598	+2.6%

### TECH OCCUPATION WAGES [by percentile]



<sup>3</sup>2022 projection | <sup>4</sup>Wage data subject to revisions and may not be directly comparable to prior years

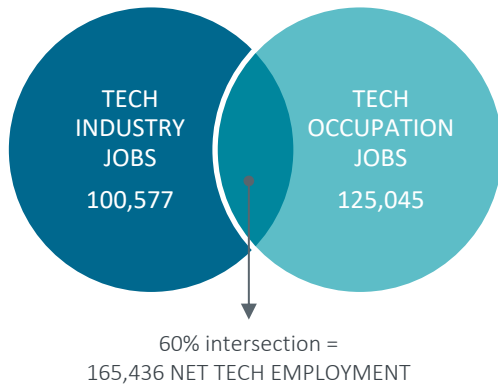
# British Columbia

## STATE OF TECHNOLOGY SUMMARY

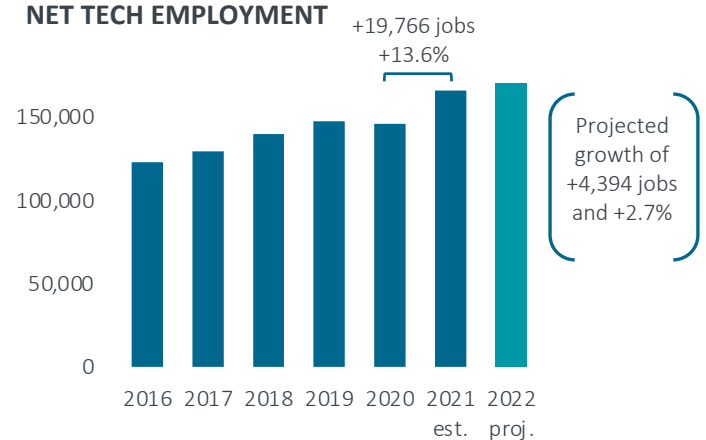
165,436	NET TECH EMPLOYMENT <sup>1</sup>
5.9%	NET EMPLOYMENT AS A % OF OVERALL WORKFORCE
5,996	TECH BUSINESS ESTABLISHMENTS [firms with payroll]
19,588	EMPLOYER JOB POSTINGS [2021 total for tech occupations]
4,145	EMERGING TECH JOB POSTINGS [job roles + skills]
21.2%	EMERGING TECH JOB POSTINGS AS A % OF TOTAL



<sup>1</sup>Net of tech industry + tech occupation + self-employed | Sources: CompTIA analysis of EMSI Burning Glass data, Canadian Government Statistics, and others | Data estimates cover 2021-2022 time period or most recently available | See report Methodology for details

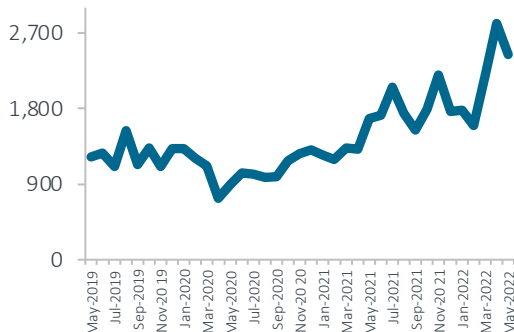


## NET TECH EMPLOYMENT



## EMPLOYER HIRING ACTIVITY VIA JOB POSTINGS

Monthly tech job posting trending



## LEADING TECH OCCUPATIONS

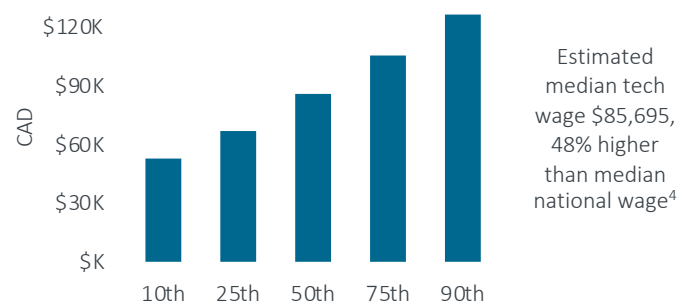
	2021	2022 % Change <sup>3</sup>
Software and Web Developers	51,149	+2.9%
Systems Analysts and Cybersecurity <sup>2</sup>	27,847	+4.1%
IT Support and Network Technicians	24,088	+2.8%
CIOs, IT Managers and IT Project Managers	9,200	+2.6%
Database, Data Analysts and Data Science	5,833	+2.8%

<sup>2</sup>The cybersecurity job roles does not yet have a dedicated occupation category, but rather spans several categories. For reporting purposes, it is grouped with Systems Analysts

## LEADING TECH INDUSTRY SECTORS [by employment]

	2021	2022 % Change <sup>3</sup>
IT Services + Custom Software Services	60,870	+2.6%
Telecom and Internet Services	22,796	+1.5%
Software [product]	10,914	+3.6%
Tech Manufacturing	5,998	0.0%

## TECH OCCUPATION WAGES [by percentile]



<sup>3</sup>2022 projection | <sup>4</sup>Wage data subject to revisions and may not be directly comparable to prior years



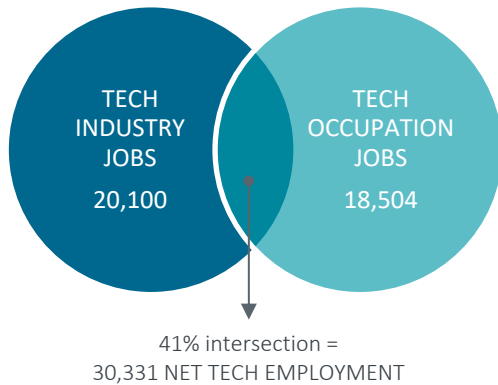
# Manitoba



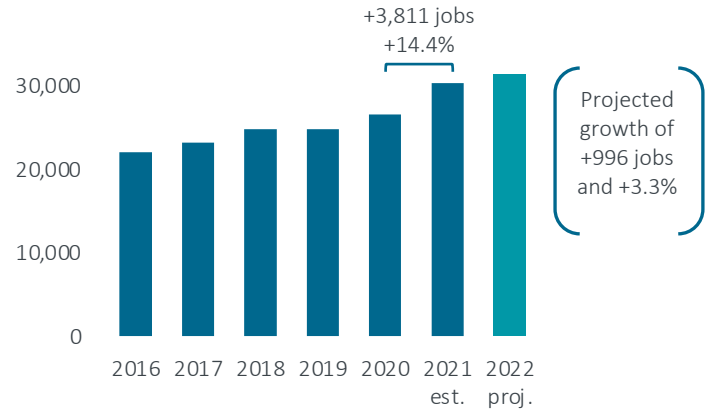
## STATE OF TECHNOLOGY SUMMARY

30,331	NET TECH EMPLOYMENT <sup>1</sup>
4.3%	NET EMPLOYMENT AS A % OF OVERALL WORKFORCE
722	TECH BUSINESS ESTABLISHMENTS [firms with payroll]
2,968	EMPLOYER JOB POSTINGS [2021 total for tech occupations]
498	EMERGING TECH JOB POSTINGS [job roles + skills]
16.8%	EMERGING TECH JOB POSTINGS AS A % OF TOTAL

<sup>1</sup>Net of tech industry + tech occupation + self-employed | Sources: CompTIA analysis of EMSI Burning Glass data, Canadian Government Statistics, and others | Data estimates cover 2021-2022 time period or most recently available | See report Methodology for details



## NET TECH EMPLOYMENT



## EMPLOYER HIRING ACTIVITY VIA JOB POSTINGS

Monthly tech job posting trending



## LEADING TECH OCCUPATIONS

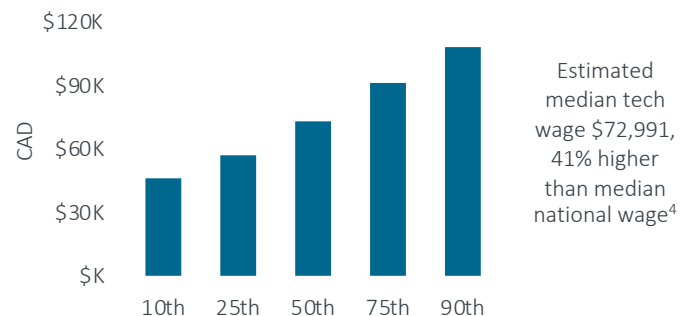
	2021	2022 % Change <sup>3</sup>
Software and Web Developers	5,484	+1.0%
IT Support and Network Technicians	4,867	+0.9%
Systems Analysts and Cybersecurity <sup>2</sup>	4,599	+0.6%
CIOs, IT Managers and IT Project Managers	1,232	+1.1%
Database, Data Analysts and Data Science	908	-1.0%

<sup>2</sup>The cybersecurity job roles does not yet have a dedicated occupation category, but rather spans several categories. For reporting purposes, it is grouped with Systems Analysts

## LEADING TECH INDUSTRY SECTORS [by employment]

	2021	2022 % Change <sup>3</sup>
Telecom and Internet Services	12,961	+8.1%
IT Services + Custom Software Services	6,179	+2.5%
Software [product]	500	+3.5%
Tech Manufacturing	453	-2.3%

## TECH OCCUPATION WAGES [by percentile]



<sup>3</sup>2022 projection | <sup>4</sup>Wage data subject to revisions and may not be directly comparable to prior years

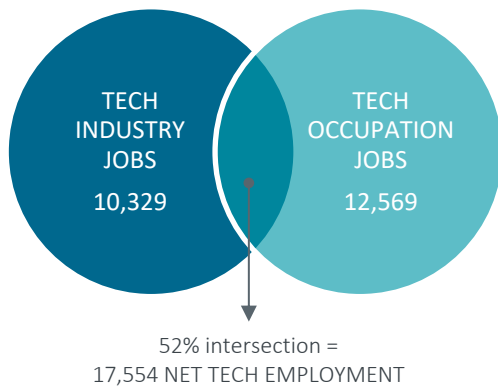
# New Brunswick



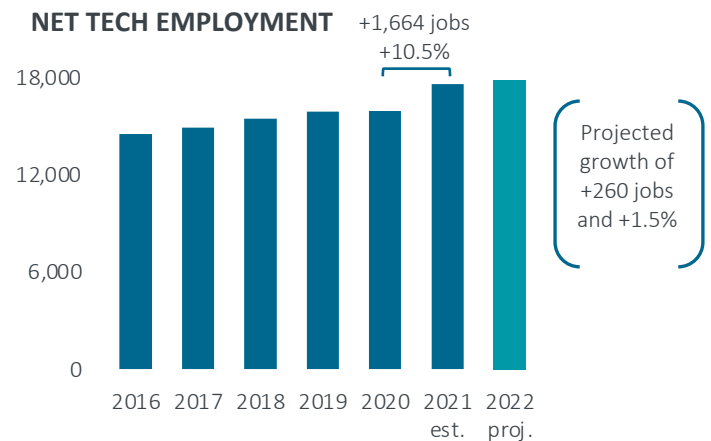
## STATE OF TECHNOLOGY SUMMARY

17,554	NET TECH EMPLOYMENT <sup>1</sup>
4.6%	NET EMPLOYMENT AS A % OF OVERALL WORKFORCE
445	TECH BUSINESS ESTABLISHMENTS [firms with payroll]
2,301	EMPLOYER JOB POSTINGS [2021 total for tech occupations]
358	EMERGING TECH JOB POSTINGS [job roles + skills]
15.6%	EMERGING TECH JOB POSTINGS AS A % OF TOTAL

<sup>1</sup>Net of tech industry + tech occupation + self-employed | Sources: CompTIA analysis of EMSI Burning Glass data, Canadian Government Statistics, and others | Data estimates cover 2021-2022 time period or most recently available | See report Methodology for details

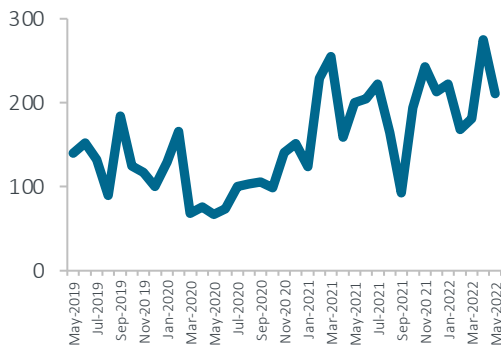


## NET TECH EMPLOYMENT



## EMPLOYER HIRING ACTIVITY VIA JOB POSTINGS

Monthly tech job posting trending



## LEADING TECH OCCUPATIONS

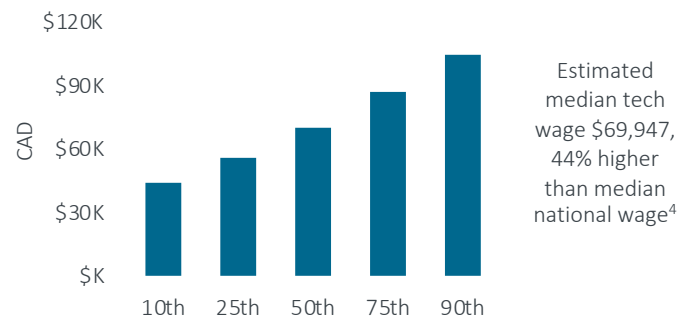
	2021	2022 % Change <sup>3</sup>
IT Support and Network Technicians	3,602	+0.5%
Systems Analysts and Cybersecurity <sup>2</sup>	3,413	+3.0%
Software Engineers and Web Developers	3,313	+1.5%
CIOs, IT Managers and IT Project Managers	1,053	+2.4%
Database, Data Analysts and Data Science	491	+2.4%

<sup>2</sup>The cybersecurity job roles does not yet have a dedicated occupation category, but rather spans several categories. For reporting purposes, it is grouped with Systems Analysts

## LEADING TECH INDUSTRY SECTORS [by employment]

	2021	2022 % Change <sup>3</sup>
IT Services + Custom Software Services	4,851	+1.4%
Telecom and Internet Services	4,482	+3.1%
Tech Manufacturing	591	+4.1%
Software [product]	393	-2.3%

## TECH OCCUPATION WAGES [by percentile]



<sup>3</sup>2022 projection | <sup>4</sup>Wage data subject to revisions and may not be directly comparable to prior years

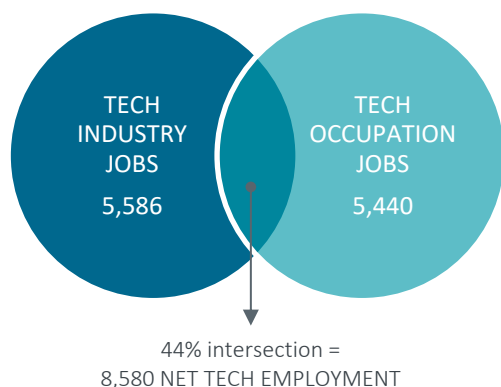
# Newfoundland & Labrador



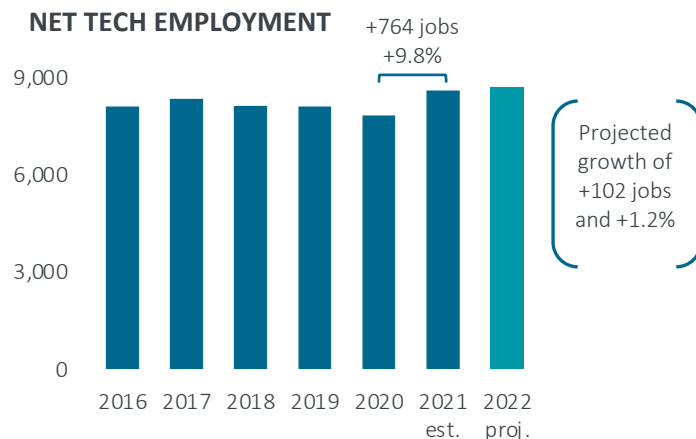
## STATE OF TECHNOLOGY SUMMARY

8,580	NET TECH EMPLOYMENT <sup>1</sup>
3.7%	NET EMPLOYMENT AS A % OF OVERALL WORKFORCE
250	TECH BUSINESS ESTABLISHMENTS [firms with payroll]
676	EMPLOYER JOB POSTINGS [2021 total for tech occupations]
109	EMERGING TECH JOB POSTINGS [job roles + skills]
16.1%	EMERGING TECH JOB POSTINGS AS A % OF TOTAL

<sup>1</sup>Net of tech industry + tech occupation + self-employed | Sources: CompTIA analysis of EMSI Burning Glass data, Canadian Government Statistics, and others | Data estimates cover 2021-2022 time period or most recently available | See report Methodology for details

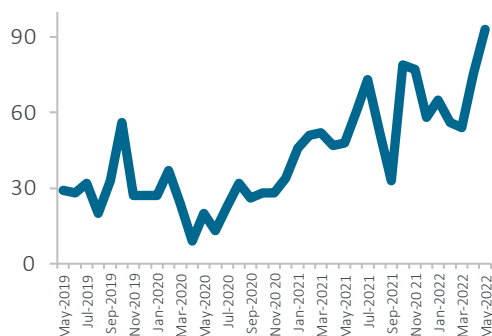


## NET TECH EMPLOYMENT



## EMPLOYER HIRING ACTIVITY VIA JOB POSTINGS

Monthly tech job posting trending



## LEADING TECH OCCUPATIONS

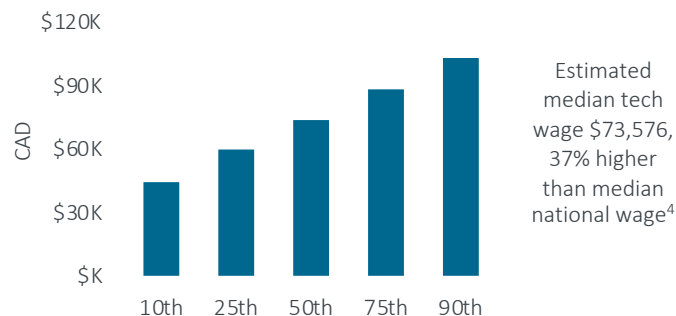
	2021	2022 % Change <sup>3</sup>
IT Support and Network Technicians	1,536	+1.4%
Software and Web Developers	1,516	+2.3%
Systems Analysts and Cybersecurity <sup>2</sup>	1,183	-0.7%
CIOs, IT Managers and IT Project Managers	373	+3.3%
Database, Data Analysts and Data Science	236	-3.2%

<sup>2</sup>The cybersecurity job roles does not yet have a dedicated occupation category, but rather spans several categories. For reporting purposes, it is grouped with Systems Analysts

## LEADING TECH INDUSTRY SECTORS [by employment]

	2021	2022 % Change <sup>3</sup>
Telecom and Internet Services	3,299	+1.2%
IT Services + Custom Software Services	2,031	+2.8%
Software [product]	147	+2.4%
Tech Manufacturing	90	-0.3%

## TECH OCCUPATION WAGES [by percentile]



<sup>3</sup>2022 projection | <sup>4</sup>Wage data subject to revisions and may not be directly comparable to prior years

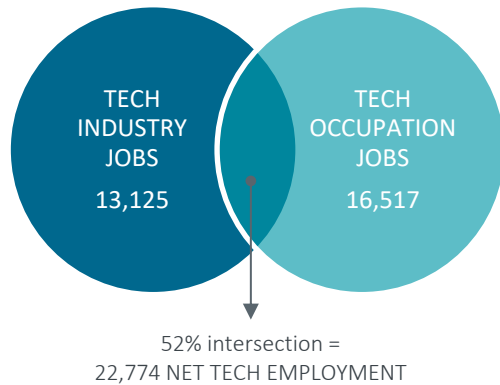
# Nova Scotia



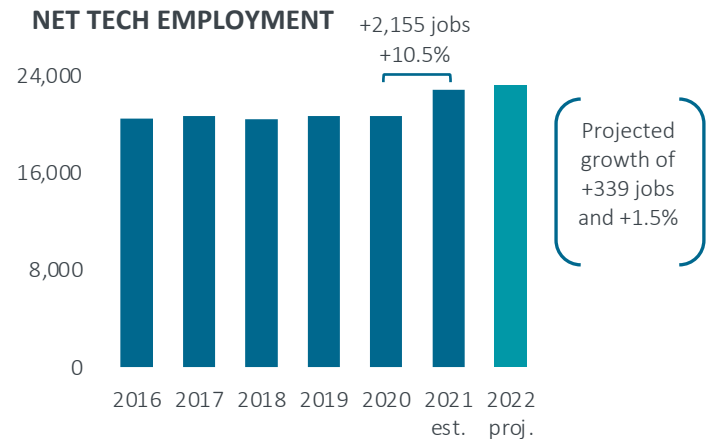
## STATE OF TECHNOLOGY SUMMARY

22,774	NET TECH EMPLOYMENT <sup>1</sup>
4.6%	NET EMPLOYMENT AS A % OF OVERALL WORKFORCE
648	TECH BUSINESS ESTABLISHMENTS [firms with payroll]
4,193	EMPLOYER JOB POSTINGS [2021 total for tech occupations]
892	EMERGING TECH JOB POSTINGS [job roles + skills]
21.3%	EMERGING TECH JOB POSTINGS AS A % OF TOTAL

<sup>1</sup>Net of tech industry + tech occupation + self-employed | Sources: CompTIA analysis of EMSI Burning Glass data, Canadian Government Statistics, and others | Data estimates cover 2021-2022 time period or most recently available | See report Methodology for details

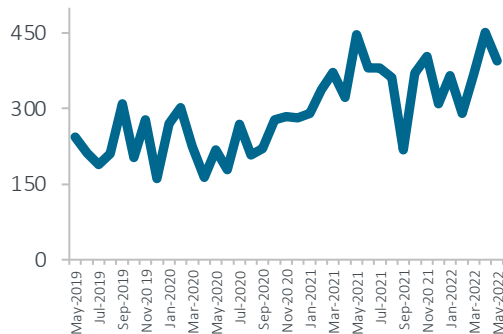


## NET TECH EMPLOYMENT



## EMPLOYER HIRING ACTIVITY VIA JOB POSTINGS

Monthly tech job posting trending



## LEADING TECH OCCUPATIONS

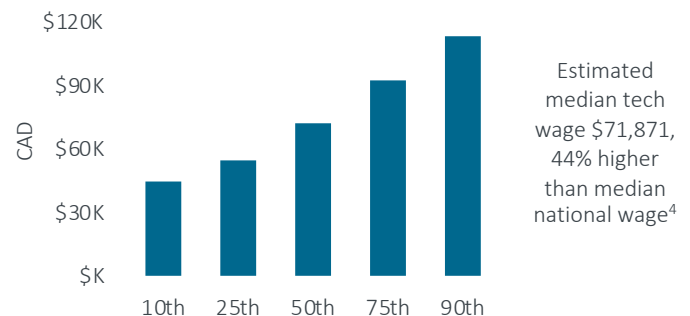
	2021	2022 % Change <sup>3</sup>
Software and Web Developers	5,113	+1.4%
Systems Analysts and Cybersecurity <sup>2</sup>	4,439	+2.8%
IT Support and Network Technicians	4,111	+0.5%
CIOs, IT Managers and IT Project Managers	1,070	-0.3%
Database, Data Analysts and Data Science	640	+0.7%

<sup>2</sup>The cybersecurity job roles does not yet have a dedicated occupation category, but rather spans several categories. For reporting purposes, it is grouped with Systems Analysts

## LEADING TECH INDUSTRY SECTORS [by employment]

	2021	2022 % Change <sup>3</sup>
IT Services + Custom Software Services	7,013	+1.3%
Telecom and Internet Services	4,505	+1.1%
Tech Manufacturing	1,182	+5.3%
Software [product]	420	+1.8%

## TECH OCCUPATION WAGES [by percentile]



<sup>3</sup>2022 projection | <sup>4</sup>Wage data subject to revisions and may not be directly comparable to prior years

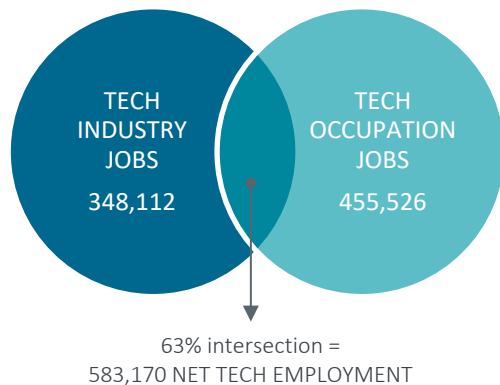
# Ontario



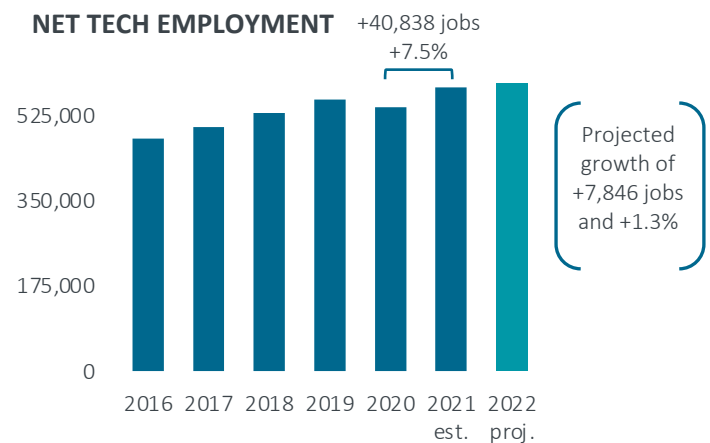
## STATE OF TECHNOLOGY SUMMARY

583,170	NET TECH EMPLOYMENT <sup>1</sup>
7.7%	NET EMPLOYMENT AS A % OF OVERALL WORKFORCE
27,119	TECH BUSINESS ESTABLISHMENTS [firms with payroll]
77,651	EMPLOYER JOB POSTINGS [2021 total for tech occupations]
22,118	EMERGING TECH JOB POSTINGS [job roles + skills]
28.5%	EMERGING TECH JOB POSTINGS AS A % OF TOTAL

<sup>1</sup>Net of tech industry + tech occupation + self-employed | Sources: CompTIA analysis of EMSI Burning Glass data, Canadian Government Statistics, and others | Data estimates cover 2021-2022 time period or most recently available | See report Methodology for details

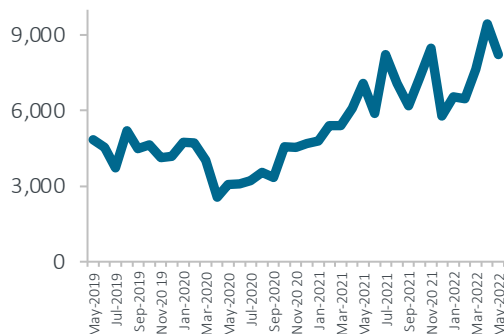


## NET TECH EMPLOYMENT



## EMPLOYER HIRING ACTIVITY VIA JOB POSTINGS

Monthly tech job posting trending



## LEADING TECH OCCUPATIONS

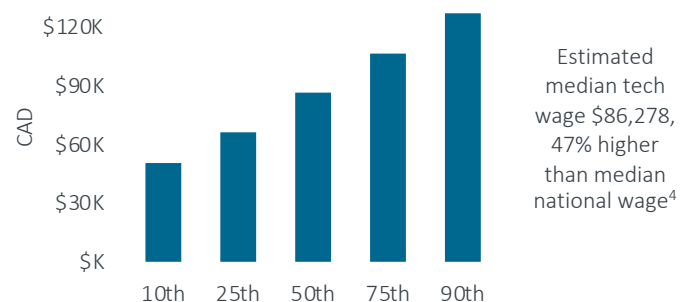
	2021	2022 % Change <sup>3</sup>
Software Engineers and Web Developers	148,158	+1.3%
Systems Analysts and Cybersecurity <sup>2</sup>	139,896	+2.2%
IT Support and Network Technicians	69,928	+1.1%
CIOs, IT Managers and IT Project Managers	43,864	+2.6%
Database, Data Analysts and Data Science	28,985	+2.7%

<sup>2</sup>The cybersecurity job roles does not yet have a dedicated occupation category, but rather spans several categories. For reporting purposes, it is grouped with Systems Analysts

## LEADING TECH INDUSTRY SECTORS [by employment]

	2021	2022 % Change <sup>3</sup>
IT Services + Custom Software Services	237,117	+1.6%
Telecom and Internet Services	53,128	-1.7%
Software [product]	30,183	+4.9%
Tech Manufacturing	27,684	-2.0%

## TECH OCCUPATION WAGES [by percentile]



<sup>3</sup>2022 projection | <sup>4</sup>Wage data subject to revisions and may not be directly comparable to prior years



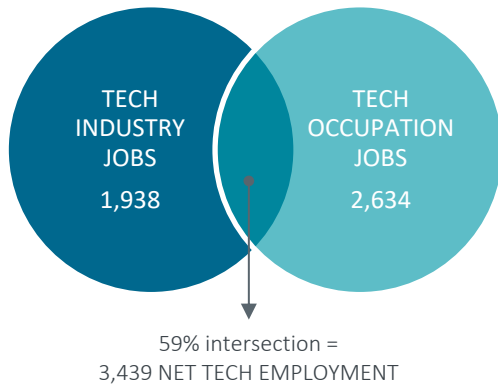
# Prince Edward Island



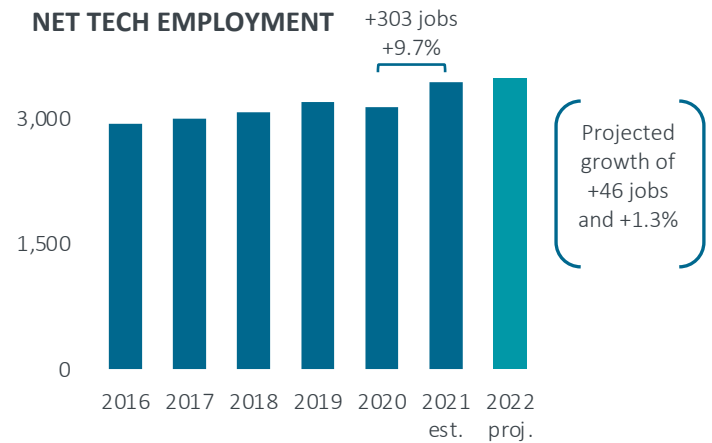
## STATE OF TECHNOLOGY SUMMARY

3,439	NET TECH EMPLOYMENT <sup>1</sup>
4.1%	NET EMPLOYMENT AS A % OF OVERALL WORKFORCE
110	TECH BUSINESS ESTABLISHMENTS [firms with payroll]
378	EMPLOYER JOB POSTINGS [2021 total for tech occupations]
68	EMERGING TECH JOB POSTINGS [job roles + skills]
18.0%	EMERGING TECH JOB POSTINGS AS A % OF TOTAL

<sup>1</sup>Net of tech industry + tech occupation + self-employed | Sources: CompTIA analysis of EMSI Burning Glass data, Canadian Government Statistics, and others | Data estimates cover 2021-2022 time period or most recently available | See report Methodology for details

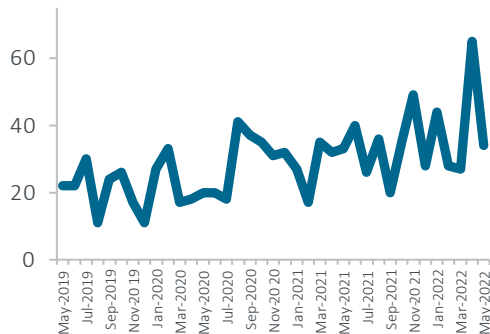


## NET TECH EMPLOYMENT



## EMPLOYER HIRING ACTIVITY VIA JOB POSTINGS

Monthly tech job posting trending



## LEADING TECH OCCUPATIONS

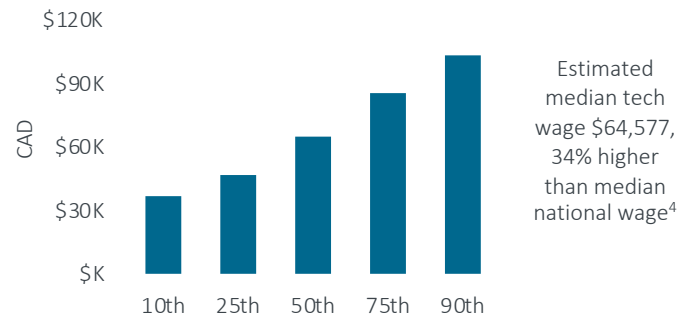
	2021	2022 % Change <sup>3</sup>
Software and Web Developers	848	+1.4%
Systems Analysts and Cybersecurity <sup>2</sup>	697	+3.2%
IT Support and Network Technicians	682	-0.2%
CIOs, IT Managers and IT Project Managers	127	+5.1%
Database, Data Analysts and Data Science	101	-2.2%

<sup>2</sup>The cybersecurity job roles does not yet have a dedicated occupation category, but rather spans several categories. For reporting purposes, it is grouped with Systems Analysts

## LEADING TECH INDUSTRY SECTORS [by employment]

	2021	2022 % Change <sup>3</sup>
IT Services + Custom Software Services	1,327	+3.6%
Telecom and Internet Services	405	-0.5%
Software [product]	108	-3.3%
Tech Manufacturing	73	-0.4%

## TECH OCCUPATION WAGES [by percentile]



<sup>3</sup>2022 projection | <sup>4</sup>Wage data subject to revisions and may not be directly comparable to prior years

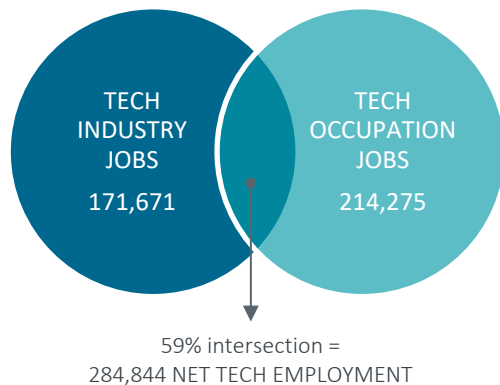
# Quebec

## STATE OF TECHNOLOGY SUMMARY

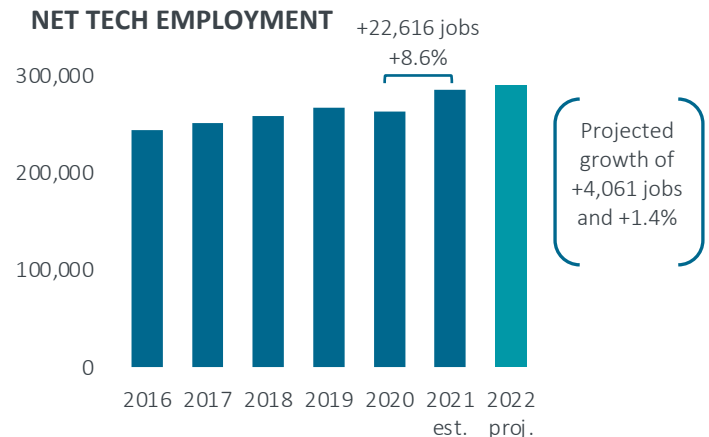
284,844	NET TECH EMPLOYMENT <sup>1</sup>
6.6%	NET EMPLOYMENT AS A % OF OVERALL WORKFORCE
10,301	TECH BUSINESS ESTABLISHMENTS [firms with payroll]
21,310	EMPLOYER JOB POSTINGS [2021 total for tech occupations]
4,266	EMERGING TECH JOB POSTINGS [job roles + skills]
20.0%	EMERGING TECH JOB POSTINGS AS A % OF TOTAL



<sup>1</sup>Net of tech industry + tech occupation + self-employed | Sources: CompTIA analysis of EMSI Burning Glass data, Canadian Government Statistics, and others | Data estimates cover 2021-2022 time period or most recently available | See report Methodology for details

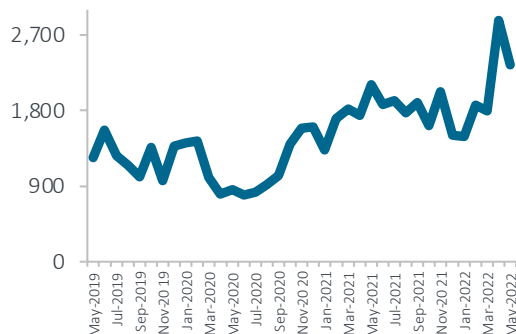


## NET TECH EMPLOYMENT



## EMPLOYER HIRING ACTIVITY VIA JOB POSTINGS

Monthly tech job posting trending



## LEADING TECH OCCUPATIONS

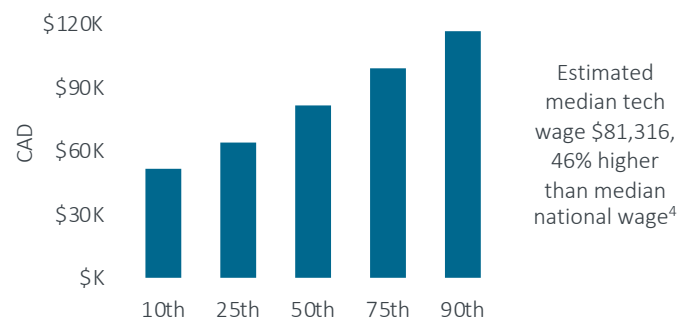
	2021	2022 % Change <sup>3</sup>
Software and Web Developers	67,936	+1.5%
Systems Analysts and Cybersecurity <sup>2</sup>	65,262	+1.3%
IT Support and Network Technicians	38,257	+1.4%
CIOs, IT Managers and IT Project Managers	14,314	+1.4%
Database, Data Analysts and Data Science	10,122	+2.8%

<sup>2</sup>The cybersecurity job roles does not yet have a dedicated occupation category, but rather spans several categories. For reporting purposes, it is grouped with Systems Analysts

## LEADING TECH INDUSTRY SECTORS [by employment]

	2021	2022 % Change <sup>3</sup>
IT Services + Custom Software Services	114,942	+1.5%
Telecom and Internet Services	29,831	+0.6%
Tech Manufacturing	15,413	+0.3%
Software [product]	11,486	+2.0%

## TECH OCCUPATION WAGES [by percentile]



<sup>3</sup>2022 projection | <sup>4</sup>Wage data subject to revisions and may not be directly comparable to prior years

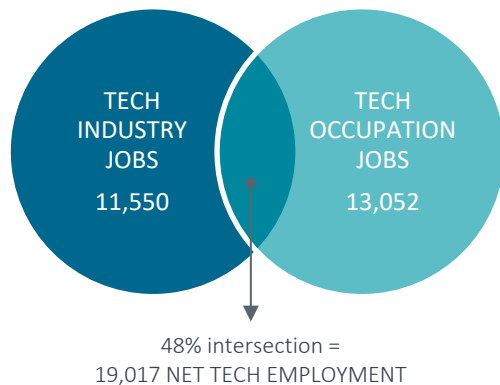
# Saskatchewan

## STATE OF TECHNOLOGY SUMMARY

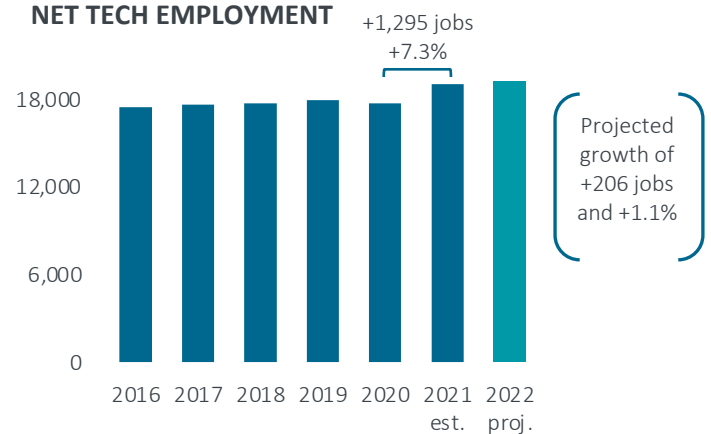
19,017	NET TECH EMPLOYMENT <sup>1</sup>
3.3%	NET EMPLOYMENT AS A % OF OVERALL WORKFORCE
597	TECH BUSINESS ESTABLISHMENTS [firms with payroll]
3,504	EMPLOYER JOB POSTINGS [2021 total for tech occupations]
394	EMERGING TECH JOB POSTINGS [job roles + skills]
11.2%	EMERGING TECH JOB POSTINGS AS A % OF TOTAL



<sup>1</sup>Net of tech industry + tech occupation + self-employed | Sources: CompTIA analysis of EMSI Burning Glass data, Canadian Government Statistics, and others | Data estimates cover 2021-2022 time period or most recently available | See report Methodology for details

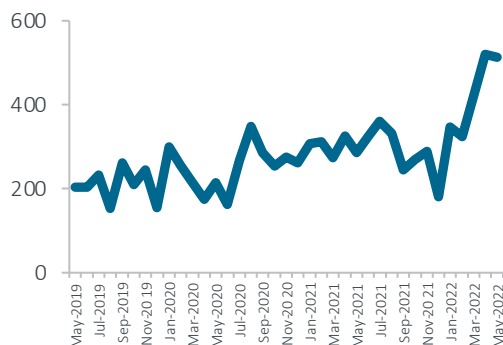


## NET TECH EMPLOYMENT



## EMPLOYER HIRING ACTIVITY VIA JOB POSTINGS

Monthly tech job posting trending



## LEADING TECH OCCUPATIONS

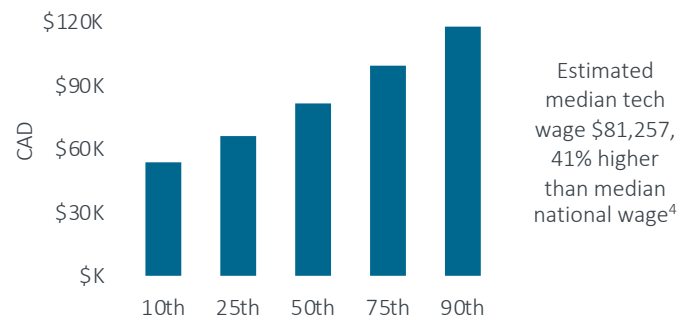
	2021	2022 % Change <sup>3</sup>
Systems Analysts and Cybersecurity <sup>2</sup>	3,929	+1.4%
Software Engineers and Web Developers	3,167	+0.1%
IT Support and Network Technicians	2,907	+1.0%
CIOs, IT Managers and IT Project Managers	1,127	+1.3%
Database, Data Analysts and Data Science	459	-0.1%

<sup>2</sup>The cybersecurity job roles does not yet have a dedicated occupation category, but rather spans several categories. For reporting purposes, it is grouped with Systems Analysts

## LEADING TECH INDUSTRY SECTORS [by employment]

	2021	2022 % Change <sup>3</sup>
IT Services + Custom Software Services	5,242	+3.9%
Telecom and Internet Services	4,787	-1.7%
Tech Manufacturing	777	+1.6%
Software [product]	740	+8.5%

## TECH OCCUPATION WAGES [by percentile]



<sup>3</sup>2022 projection | <sup>4</sup>Wage data subject to revisions and may not be directly comparable to prior years

# METRO AREA SNAPSHOTS

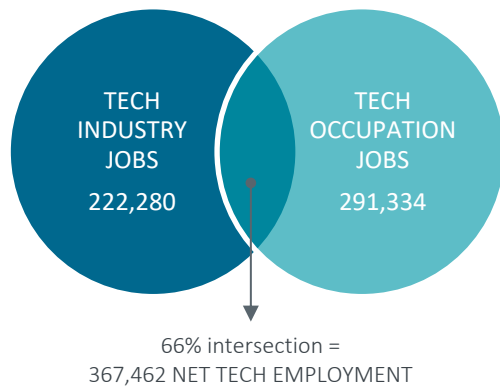
# Toronto

## STATE OF TECHNOLOGY SUMMARY

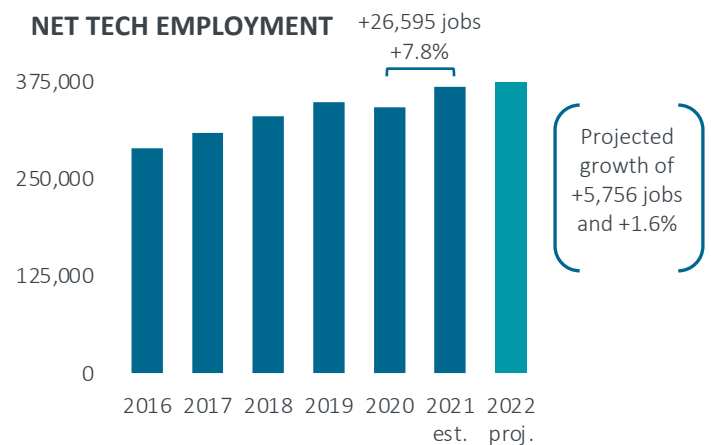
367,462	NET TECH EMPLOYMENT <sup>1</sup>
10.0%	NET EMPLOYMENT AS A % OF OVERALL WORKFORCE
18,491	TECH BUSINESS ESTABLISHMENTS [firms with payroll]
56,597	EMPLOYER JOB POSTINGS [2021 total for tech occupations]
15,961	EMERGING TECH JOB POSTINGS [job roles + skills]
28.2%	EMERGING TECH JOB POSTINGS AS A % OF TOTAL



<sup>1</sup>Net of tech industry + tech occupation + self-employed | Sources: CompTIA analysis of EMSI Burning Glass data, Canadian Government Statistics, and others | Data estimates cover 2021-2022 time period or most recently available | See report Methodology for details

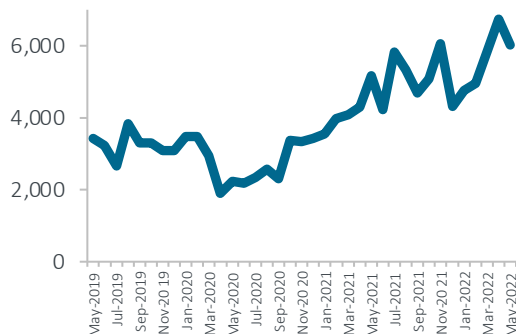


## NET TECH EMPLOYMENT



## EMPLOYER HIRING ACTIVITY VIA JOB POSTINGS

Monthly tech job posting trending



## LEADING TECH OCCUPATIONS

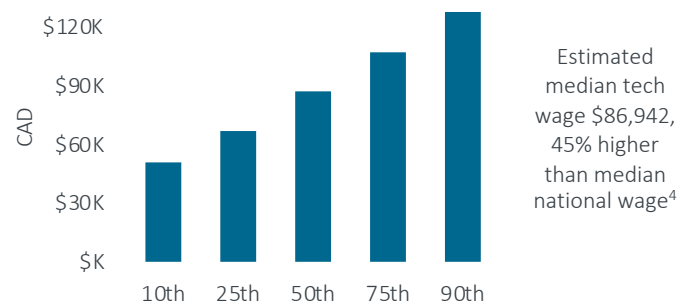
	2021	2022 % Change <sup>3</sup>
Systems Analysts and Cybersecurity <sup>2</sup>	97,104	+3.0%
Software Engineers and Web Developers	94,637	+1.9%
IT Support and Network Technicians	38,250	+0.6%
CIOs, IT Managers and IT Project Managers	28,562	+2.8%
Database, Data Analysts and Data Science	18,805	+2.7%

<sup>2</sup>The cybersecurity job roles does not yet have a dedicated occupation category, but rather spans several categories. For reporting purposes, it is grouped with Systems Analysts

## LEADING TECH INDUSTRY SECTORS [by employment]

	2021	2022 % Change <sup>3</sup>
IT Services + Custom Software Services	158,052	+1.5%
Telecom and Internet Services	35,523	-1.7%
Tech Manufacturing	15,026	-1.8%
Software [product]	13,679	+5.2%

## TECH OCCUPATION WAGES [by percentile]



<sup>3</sup>2022 projection | <sup>4</sup>Wage data subject to revisions and may not be directly comparable to prior years



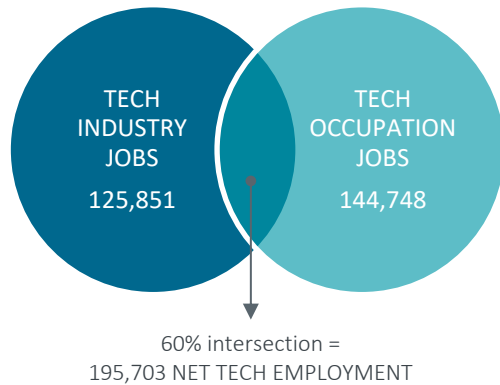
# Montreal

## STATE OF TECHNOLOGY SUMMARY

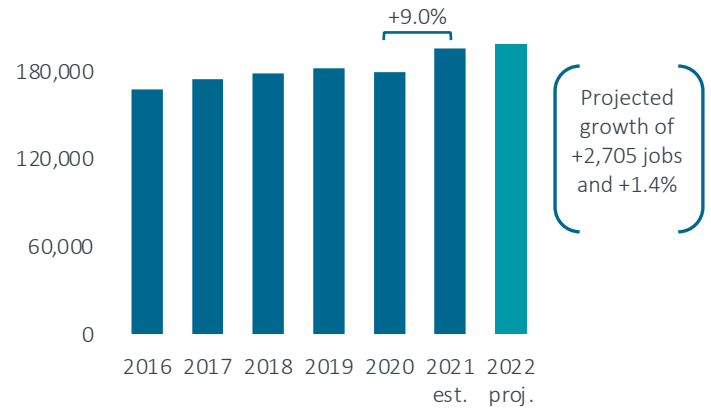
195,703	NET TECH EMPLOYMENT <sup>1</sup>
8.3%	NET EMPLOYMENT AS A % OF OVERALL WORKFORCE
7,316	TECH BUSINESS ESTABLISHMENTS [firms with payroll]
15,104	EMPLOYER JOB POSTINGS [2021 total for tech occupations]
3,720	EMERGING TECH JOB POSTINGS [job roles + skills]
24.6%	EMERGING TECH JOB POSTINGS AS A % OF TOTAL



<sup>1</sup>Net of tech industry + tech occupation + self-employed | Sources: CompTIA analysis of EMSI Burning Glass data, Canadian Government Statistics, and others | Data estimates cover 2021-2022 time period or most recently available | See report Methodology for details

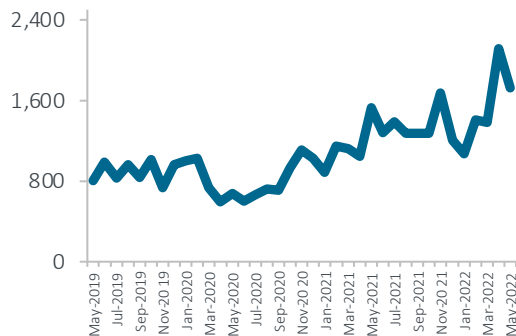


## NET TECH EMPLOYMENT



## EMPLOYER HIRING ACTIVITY VIA JOB POSTINGS

Monthly tech job posting trending



## LEADING TECH OCCUPATIONS

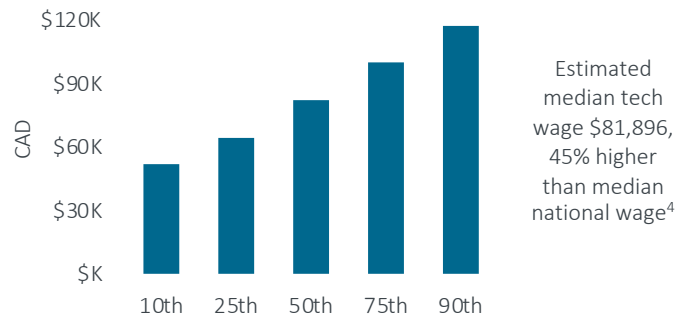
	2021	2022 % Change <sup>3</sup>
Software and Web Developers	49,752	+1.9%
Systems Analysts and Cybersecurity <sup>2</sup>	42,296	+1.1%
IT Support and Network Technicians	23,656	+0.6%
CIOs, IT Managers and IT Project Managers	10,347	+1.4%
Database, Data Analysts and Data Science	7,552	+3.5%

<sup>2</sup>The cybersecurity job roles does not yet have a dedicated occupation category, but rather spans several categories. For reporting purposes, it is grouped with Systems Analysts

## LEADING TECH INDUSTRY SECTORS [by employment]

	2021	2022 % Change <sup>3</sup>
IT Services + Custom Software Services	85,599	+1.5%
Telecom and Internet Services	21,816	+0.3%
Tech Manufacturing	9,551	0.0%
Software [product]	8,883	+1.8%

## TECH OCCUPATION WAGES [by percentile]



<sup>3</sup>2022 projection | <sup>4</sup>Wage data subject to revisions and may not be directly comparable to prior years

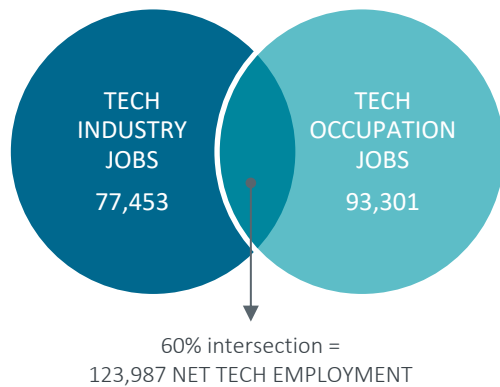
# Vancouver

## STATE OF TECHNOLOGY SUMMARY

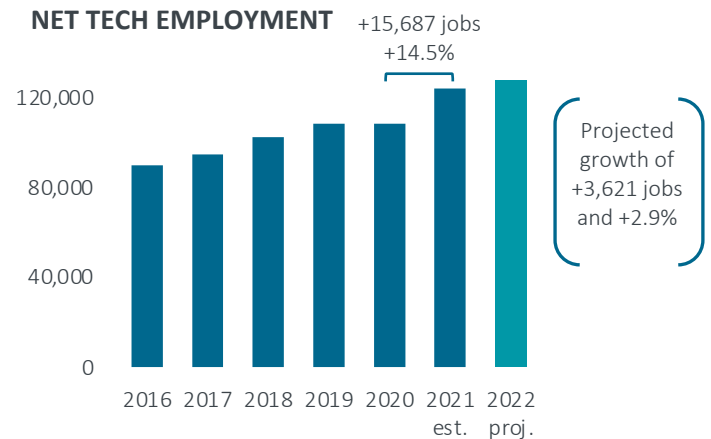
123,987	NET TECH EMPLOYMENT <sup>1</sup>
7.8%	NET EMPLOYMENT AS A % OF OVERALL WORKFORCE
4,227	TECH BUSINESS ESTABLISHMENTS [firms with payroll]
15,744	EMPLOYER JOB POSTINGS [2021 total for tech occupations]
3,573	EMERGING TECH JOB POSTINGS [job roles + skills]
22.7%	EMERGING TECH JOB POSTINGS AS A % OF TOTAL



<sup>1</sup>Net of tech industry + tech occupation + self-employed | Sources: CompTIA analysis of EMSI Burning Glass data, Canadian Government Statistics, and others | Data estimates cover 2021-2022 time period or most recently available | See report Methodology for details

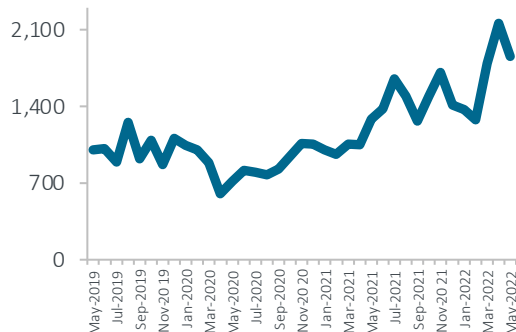


### NET TECH EMPLOYMENT



### EMPLOYER HIRING ACTIVITY VIA JOB POSTINGS

Monthly tech job posting trending



### LEADING TECH OCCUPATIONS

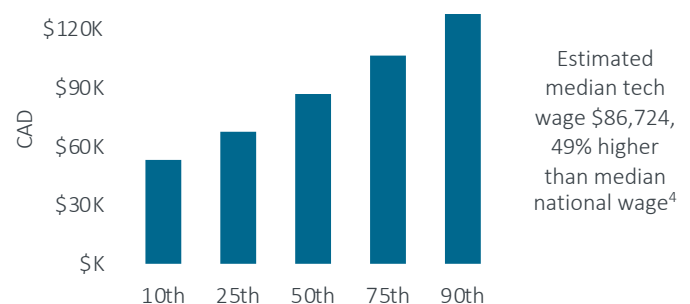
	2021	2022 % Change <sup>3</sup>
Software Engineers and Web Developers	40,491	+3.3%
Systems Analysts and Cybersecurity <sup>2</sup>	21,106	+4.7%
IT Support and Network Technicians	16,189	+2.4%
CIOs, IT Managers and IT Project Managers	6,496	+2.1%
Database, Data Analysts and Data Science	4,146	+4.2%

<sup>2</sup>The cybersecurity job roles does not yet have a dedicated occupation category, but rather spans several categories. For reporting purposes, it is grouped with Systems Analysts

### LEADING TECH INDUSTRY SECTORS [by employment]

	2021	2022 % Change <sup>3</sup>
IT Services + Custom Software Services	46,091	+2.9%
Telecom and Internet Services	17,132	+1.8%
Software [product]	9,250	+3.6%
Tech Manufacturing	4,981	+0.3%

### TECH OCCUPATION WAGES [by percentile]



<sup>3</sup>2022 projection | <sup>4</sup>Wage data subject to revisions and may not be directly comparable to prior years

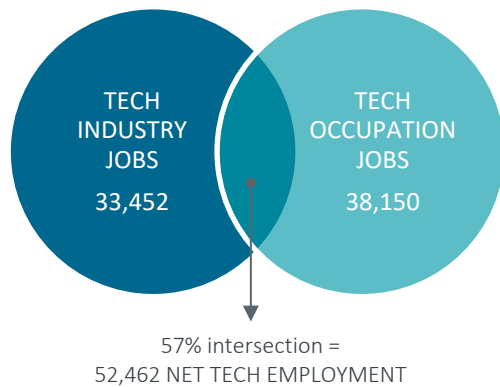
# Calgary

## STATE OF TECHNOLOGY SUMMARY

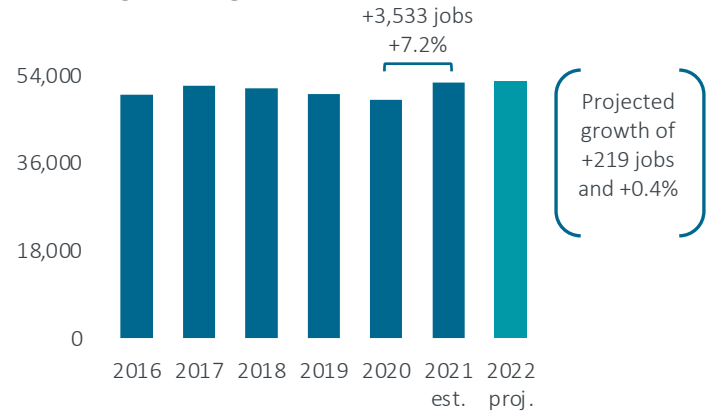
52,462	NET TECH EMPLOYMENT <sup>1</sup>
6.4%	NET EMPLOYMENT AS A % OF OVERALL WORKFORCE
2,841	TECH BUSINESS ESTABLISHMENTS [firms with payroll]
8,713	EMPLOYER JOB POSTINGS [2021 total for tech occupations]
2,087	EMERGING TECH JOB POSTINGS [job roles + skills]
24.0%	EMERGING TECH JOB POSTINGS AS A % OF TOTAL



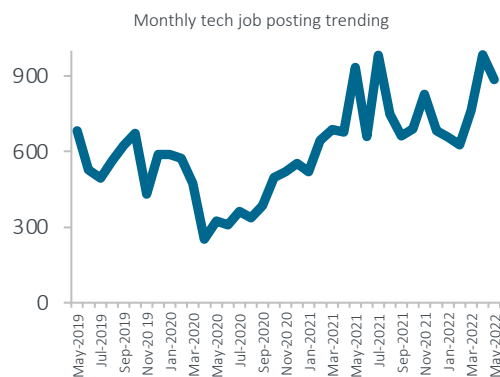
<sup>1</sup>Net of tech industry + tech occupation + self-employed | Sources: CompTIA analysis of EMSI Burning Glass data, Canadian Government Statistics, and others | Data estimates cover 2021-2022 time period or most recently available | See report Methodology for details



## NET TECH EMPLOYMENT



## EMPLOYER HIRING ACTIVITY VIA JOB POSTINGS



## LEADING TECH OCCUPATIONS

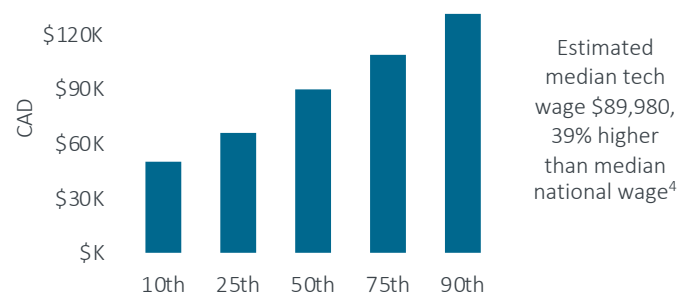
	2021	2022 % Change <sup>3</sup>
Systems Analysts and Cybersecurity <sup>2</sup>	12,720	+1.7%
Software and Web Developers	11,552	-1.5%
IT Support and Network Technicians	6,322	-0.5%
Database, Data Analysts and Data Science	2,982	+2.4%
CIOs, IT Managers and IT Project Managers	2,723	+0.5%

<sup>2</sup>The cybersecurity job roles does not yet have a dedicated occupation category, but rather spans several categories. For reporting purposes, it is grouped with Systems Analysts

## LEADING TECH INDUSTRY SECTORS [by employment]

	2021	2022 % Change <sup>3</sup>
IT Services + Custom Software Services	22,887	+0.8%
Telecom and Internet Services	7,329	-0.1%
Tech Manufacturing	1,767	+0.2%
Software [product]	1,466	+2.6%

## TECH OCCUPATION WAGES [by percentile]



<sup>3</sup>2022 projection | <sup>4</sup>Wage data subject to revisions and may not be directly comparable to prior years

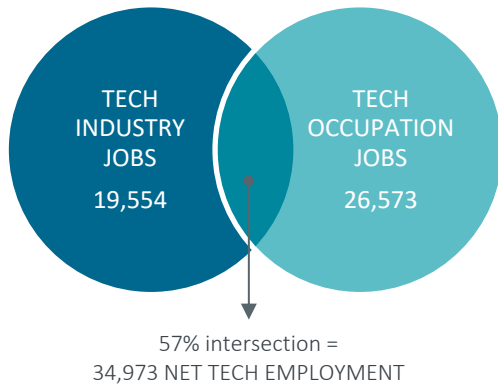
# Edmonton

## STATE OF TECHNOLOGY SUMMARY

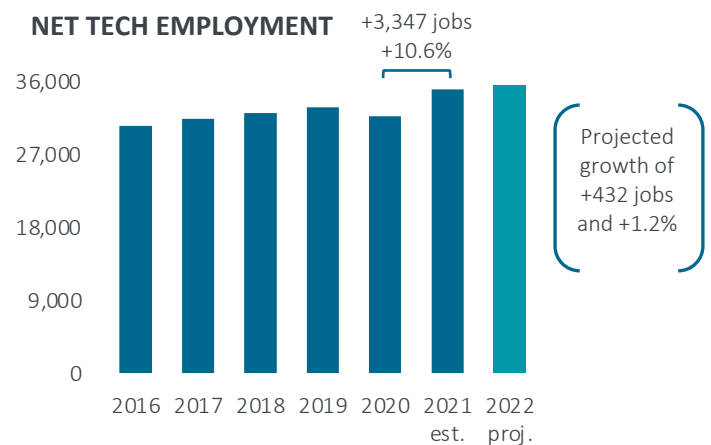
34,973	NET TECH EMPLOYMENT <sup>1</sup>
4.6%	NET EMPLOYMENT AS A % OF OVERALL WORKFORCE
1,425	TECH BUSINESS ESTABLISHMENTS [firms with payroll]
4,354	EMPLOYER JOB POSTINGS [2021 total for tech occupations]
690	EMERGING TECH JOB POSTINGS [job roles + skills]
15.8%	EMERGING TECH JOB POSTINGS AS A % OF TOTAL



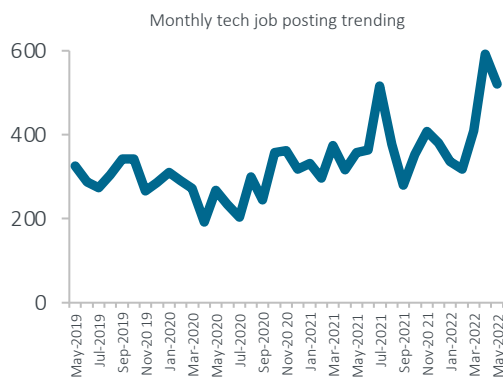
<sup>1</sup>Net of tech industry + tech occupation + self-employed | Sources: CompTIA analysis of EMSI Burning Glass data, Canadian Government Statistics, and others | Data estimates cover 2021-2022 time period or most recently available | See report Methodology for details



### NET TECH EMPLOYMENT



### EMPLOYER HIRING ACTIVITY VIA JOB POSTINGS



### LEADING TECH OCCUPATIONS

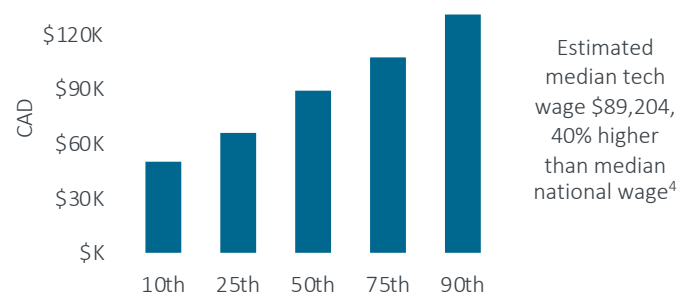
	2021	2022 % Change <sup>3</sup>
Systems Analysts and Cybersecurity <sup>2</sup>	8,544	+2.5%
Software Engineers and Web Developers	7,698	+1.8%
IT Support and Network Technicians	5,117	+0.8%
CIOs, IT Managers and IT Project Managers	1,943	+1.0%
Database, Data Analysts and Data Science	1,655	+4.0%

<sup>2</sup>The cybersecurity job roles does not yet have a dedicated occupation category, but rather spans several categories. For reporting purposes, it is grouped with Systems Analysts

### LEADING TECH INDUSTRY SECTORS [by employment]

	2021	2022 % Change <sup>3</sup>
IT Services + Custom Software Services	13,222	+0.1%
Telecom and Internet Services	4,277	+0.3%
Tech Manufacturing	1,322	+1.4%
Software [product]	722	+2.8%

### TECH OCCUPATION WAGES [by percentile]



<sup>3</sup>2022 projection | <sup>4</sup>Wage data subject to revisions and may not be directly comparable to prior years

## APPENDIX TABLES



<b>NET TECH EMPLOYMENT</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022 proj.</b>
Canada	1,022,260	1,064,746	1,113,816	1,157,520	1,134,964	1,235,692	1,254,708
Alberta	91,160	94,383	94,737	94,483	91,476	98,890	99,633
British Columbia	122,706	129,041	139,422	147,062	145,670	165,436	169,830
Manitoba	22,062	23,217	24,766	24,819	26,519	30,331	31,326
New Brunswick	14,479	14,865	15,444	15,866	15,890	17,554	17,814
Newfoundland and Labrador	8,092	8,332	8,110	8,094	7,816	8,580	8,683
Nova Scotia	20,413	20,605	20,343	20,628	20,619	22,774	23,113
Ontario	478,040	501,542	530,653	557,450	542,333	583,170	591,017
Prince Edward Island	2,940	2,997	3,078	3,197	3,136	3,439	3,485
Quebec	243,391	250,601	257,970	266,369	262,228	284,844	288,905
Saskatchewan	17,457	17,621	17,728	17,933	17,722	19,017	19,223
Montreal	167,306	174,432	178,309	181,954	179,496	195,703	198,408
Toronto	288,573	308,035	330,088	347,868	340,867	367,462	373,218
Calgary	50,042	51,793	51,323	50,181	48,929	52,462	52,681
Edmonton	30,432	31,307	32,055	32,766	31,626	34,973	35,404
Vancouver	89,856	94,772	102,293	108,443	108,300	123,987	127,608
<b>INDUSTRY EMPLOYMENT</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022 proj.</b>
Canada	626,025	650,991	678,427	697,466	700,584	742,681	753,229
Alberta	54,156	58,057	58,455	57,581	56,787	58,805	59,084
British Columbia	76,470	80,499	88,740	91,576	91,013	100,577	102,879
Manitoba	10,600	11,344	13,316	13,672	16,985	20,100	21,309
New Brunswick	8,102	8,274	8,957	9,429	9,471	10,329	10,549
Newfoundland and Labrador	4,889	5,196	5,102	5,194	5,169	5,586	5,694
Nova Scotia	11,970	12,050	11,769	11,875	12,123	13,125	13,338
Ontario	299,689	309,897	322,477	337,070	336,417	348,112	351,915
Prince Edward Island	1,538	1,534	1,590	1,766	1,864	1,938	1,978
Quebec	147,237	152,750	156,718	158,204	159,210	171,671	173,828
Saskatchewan	10,555	10,551	10,474	10,241	10,699	11,550	11,748
Montreal	107,869	113,496	115,558	114,962	115,687	125,851	127,364
Toronto	190,436	196,877	206,570	216,266	215,987	222,280	224,478
Calgary	30,914	33,302	33,134	31,553	31,658	33,452	33,658
Edmonton	18,017	18,721	19,244	19,689	19,073	19,554	19,620
Vancouver	58,147	60,988	66,711	69,440	69,746	77,453	79,442
<b>OCCUPATION EMPLOYMENT</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022 proj.</b>
Canada	731,021	767,891	812,142	857,700	837,047	937,816	954,000
Alberta	65,009	66,037	66,972	67,753	65,170	72,989	73,630
British Columbia	87,766	91,752	97,460	105,593	105,728	125,045	128,802
Manitoba	16,249	17,046	17,390	17,201	16,541	18,504	18,645
New Brunswick	10,242	10,547	10,865	11,204	11,265	12,569	12,781
Newfoundland and Labrador	5,055	5,054	4,920	5,015	4,804	5,440	5,491
Nova Scotia	13,976	14,417	14,506	14,881	14,714	16,517	16,740
Ontario	342,500	366,143	395,886	421,829	409,967	455,526	463,260
Prince Edward Island	2,127	2,269	2,333	2,405	2,320	2,634	2,672
Quebec	175,511	181,925	188,706	198,166	193,393	214,275	217,545
Saskatchewan	11,420	11,504	11,885	12,416	11,965	13,052	13,165
Montreal	118,709	124,201	128,201	133,403	130,273	144,748	146,901
Toronto	202,882	223,392	245,972	264,277	260,212	291,334	297,610
Calgary	35,672	35,999	36,285	36,447	34,891	38,150	38,244
Edmonton	21,771	22,354	22,852	23,386	22,764	26,573	27,027
Vancouver	63,401	66,578	70,988	77,307	77,937	93,301	96,330

Source: EMSI Burning Glass | CompTIA

# METHODOLOGY

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## CLASSIFICATION SYSTEM

*State of the Tech Workforce Canada* utilizes the North American Industrial Classification System (NAICS) to define the tech industry. The NAICS is a hierarchical system, with six-digit numbers assigned to the most specific industries. The NAICS is constructed around the concept of production and is able to reflect advances in technology, including many new service-oriented businesses. Economic units with similar production processes are classified in the same industry. Because *State of the Tech Workforce Canada* analyzes the tech industry by using industry classifications, the report in general focuses on companies and sectors, not individual occupations.

NAICS was devised by the United States, Canada, and Mexico to allow industry analysis across all three nations. NAICS codes are revised periodically to reflect the emergence of new industry sectors or sub-sectors. The *State of the Tech Workforce Canada* NAICS definition of the tech industry has evolved over the years to reflect these changes. Consequently, the data in this report may not be entirely comparable with previous reports.

For occupation analysis, *State of the Tech Workforce Canada* utilizes National Occupational Classification (NOC) System, which is a standard used by federal agencies to classify workers into occupational categories.

## NET TECH EMPLOYMENT

The tech workforce consists of two primary components. The foundation is the set of technology occupation professionals working in technical positions, such as IT support, network engineering, software development and every related roles. Many of these professionals work for technology companies (68%), but many others are employed by organizations across every industry sector in the Canadian economy (32%).

The second component of the discussion consists of the business professionals employed by technology companies. These professionals play an important role in supporting the development and delivery of the technology products and services used throughout the economy. About 24% of the net tech employment total consists of tech industry business professionals.

See page 4 of this report for more details on the concept of Net Tech Employment.

## TECH INDUSTRY DEFINITION

There are a number of considerations when developing a definition of the technology industry. In some cases, NAICS codes do not perfectly reflect industry dynamics. This can be especially challenging in times of rapid innovation, when new tech sectors emerge in a short period of time. More recently, the degree to which technology has become core to so many industry sectors poses new questions. For example, a technology platform designed to facilitate the online sale of goods may have traditionally been viewed as a retailer, although given the intense use of technology, an argument could be made to classify it as a technology firm.

Conceptually, *State of the Tech Workforce Canada* focuses on the sectors involved in making, creating, enabling, integrating, or supporting technology, whether as a product or service. At this time, *State of the Tech Workforce Canada* does not include industry sectors categorized primarily as users of technology.

*State of the Tech Workforce Canada* includes 14 NAICS codes in its definition of the tech industry. Broadly these can be thought of in two broad categories: tech manufacturing and tech services. These industries sufficiently represent the technology industry within the framework provided under the NAICS system.

## TECH OCCUPATION DEFINITION

The occupations covered by *State of the Tech Workforce Canada* are broadly categorized into core information technology (IT) positions and then engineering, repair, technician, and assembly positions. In total, 12 distinct NOCs are used to define the tech occupations found across every industry sector of the economy.

## TECH INDUSTRY SECTORS BY NAICS<sup>1</sup>

### TECH MANUFACTURING

- 3341 Computer and peripheral equipment manufacturing
- 3342 Communications equipment manufacturing
- 3343 Audio and video equipment manufacturing
- 3344 Semiconductor and other electronic component manufacturing
- 3345 Navigational, measuring, medical and control instruments manufacturing
- 3346 Manufacturing and reproducing magnetic and optical media

### IT SERVICES

- 4173 Computer and communications equipment and supplies merchant wholesalers
- 5415 Computer systems design and related services
- 8112 Electronic and precision equipment repair and maintenance

### TELECOMMUNICATIONS AND INTERNET SERVICES

- 5173 Wired and wireless telecommunications carriers (except satellite)
- 5174 Satellite telecommunications
- 5179 Other telecommunications
- 5182 Data processing, hosting, and related services

### SOFTWARE

- 5112 Software publishers

## TECH OCCUPATIONS BY NOC<sup>2</sup>

### CORE INFORMATION TECHNOLOGY OCCUPATIONS

- 213 Computer and information systems managers
- 2147 Computer engineers (except software engineers and designers)
- 2171 Information systems analysts and consultants
- 2172 Database analysts and data administrators
- 2173 Software engineers and designers
- 2174 Computer programmers and interactive media developers
- 2175 Web designers and developers
- 2281 Computer network technicians
- 2282 User support technicians
- 2283 Information systems testing technicians
- 131 Telecommunication carriers managers
- 7246 Telecommunications installation and repair workers

<sup>1</sup>North American Industry Classification System (NAICS)

<sup>2</sup>National Occupational Classification (NOC)



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