

The State of Saskatchewan's Tech Sector

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For:  innovation
SASKATCHEWAN



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Executive Summary

This report defines the provincial technology sector (tech sector) and provides details on its impact. Focusing on technology companies in Saskatchewan, this report provides growth data, employment insights, business counts, revenue analysis and interprovincial comparisons.

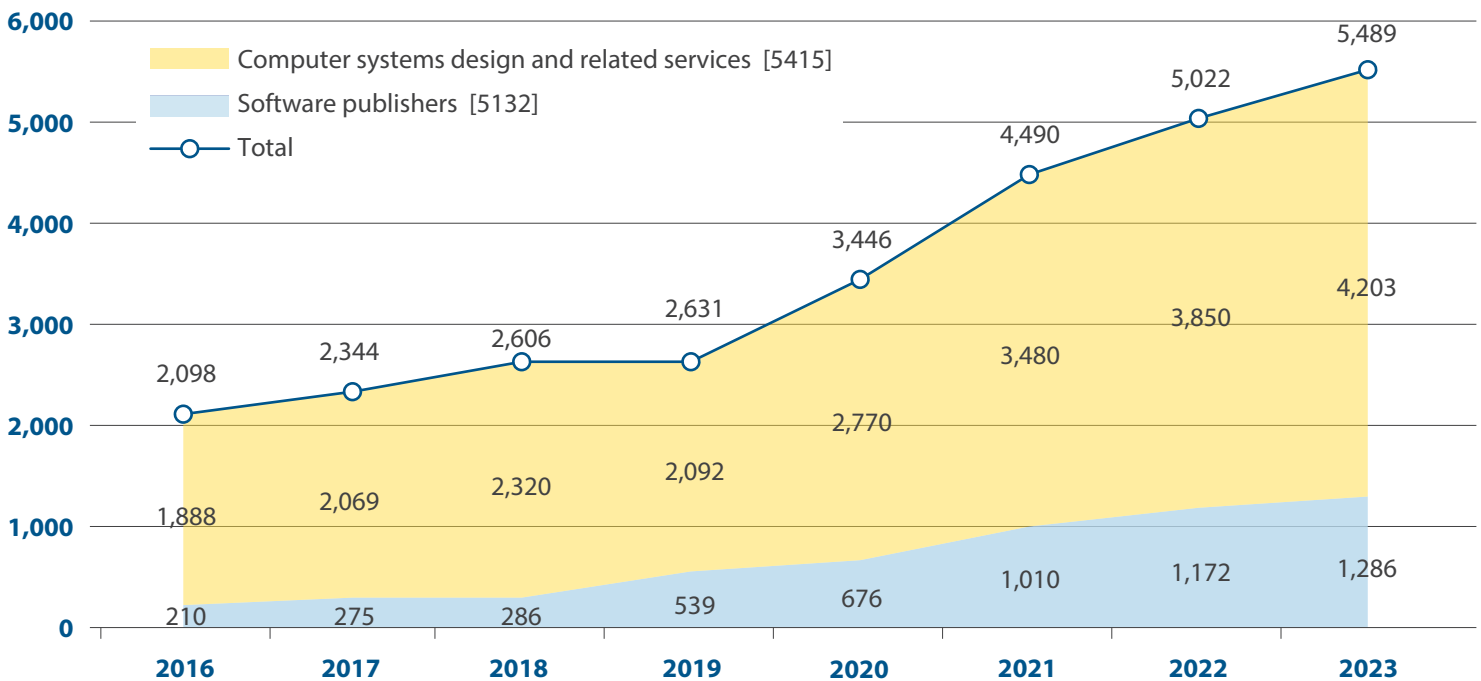
To define the tech sector, the report used North American Industry Classification System (NAICS) codes. The tech sector contains two four-digit NAICS codes including software publishers and computer system design and related services. The data source is primarily Statistics Canada for

employment and business growth. No primary data collection was undertaken (surveys, interviews). **As showcased throughout the report, there has been substantial growth in employment, revenue and business counts in software publishers and computer systems design.**

Employment in the tech sector has significantly increased since 2016, with an even higher growth rate since 2019. The following table graphs the growth of software publishers and computer systems design, the areas identified as the tech sector.

Saskatchewan Tech Labour Force Growth

2016-2023



Statistics Canada. Table 14-10-0202-01

Summary of Tech Sector Growth Indicators

	Total 2023	Growth Since 2016	Growth Since 2019
Employment	5,489	161.6%	108.6%
Businesses	347	28.5%	4.2%
Revenues	\$845.5 Million*	74.9%	32.8%

*Revenues are for 2022

Other significant observations for Saskatchewan's tech sector include:

Employment

- The tech sector had 5,489 employees in 2023, adding 2,858 employees between 2019 and 2023. This represented 108.6% growth since 2019 alone.

Business Counts

- There were 347 companies in the tech sector in Saskatchewan in 2023, adding 14 companies since 2019, including the addition of five companies with over 100 employees.

Employment and Business Counts by Subsector

- Computer system design and related services accounted for 94% of companies (326 companies) and nearly 77% of employees (4,203) within the Saskatchewan tech sector.
- Software publishing accounted for 6% of all companies (21) and 23% (1,286) of all employment in the tech sector.
- Video game development and publishing has grown since 2016, but it remains a relatively small sector.

Revenues and Profit

- The tech sector had \$845.5 million in revenues in 2022, up 32.7% since 2019. Revenues have increased since 2016, with higher levels of growth since 2018.
- While revenues have increased, profit has decreased, particularly for software publishers where the profit margin decreased to -41.8%.
- Labour and operating expenses have outpaced revenue growth, leading to decreased profits.
- The larger computer system design sector encountered decreased profit margins but remained profitable (11.0%).

Regina and Saskatoon

- Saskatoon has a larger tech sector employment base relative to Regina largely because Saskatoon captures 90% of the software publishing industry.
- Regina and Saskatoon capture 88% of tech sector employment in the province.

Interprovincial Comparisons

- Tech sector growth has outpaced percentage employment growth relative to the other prairie provinces.

Tech Sector Percentage Employment Growth

Prairie Provinces

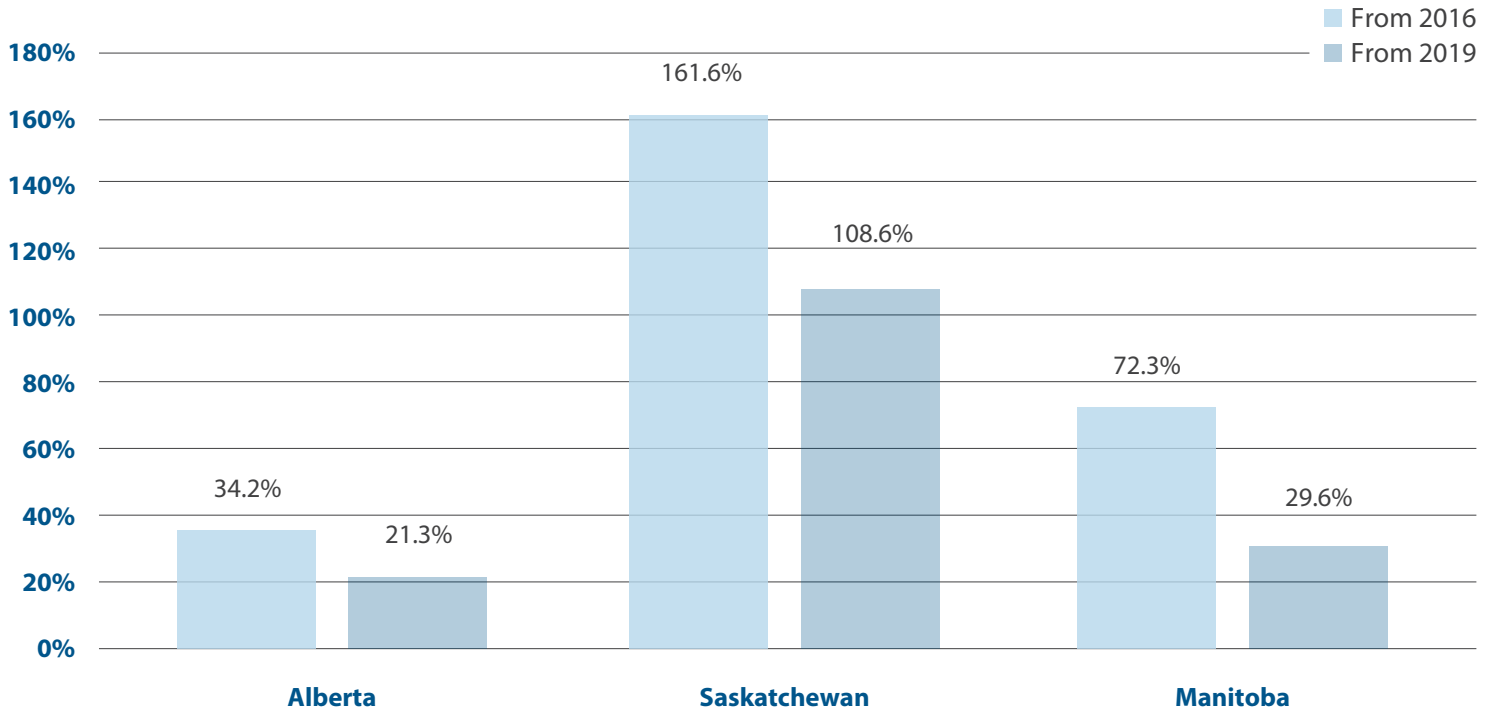


Table: 14-10-0202-01

Saskatchewan's tech workforce is 1.1% of the total workforce, which is comparable across the Prairie provinces.

Tech Sector Workers as a % of the Total Workforce

2023

	Tech Workforce %
Alberta	1.3%
Saskatchewan	1.1%
Manitoba	0.7%

Table: 98-10-0592-01

1.0

Introduction

This report has been prepared for Innovation Saskatchewan. This report provides data on technology-focused companies. In this instance, the tech sector does not include infrastructure providers (web services, internet carriers) or manufacturing (computer, communications or electrical component manufacturing). Instead, this definition includes tech companies that develop intellectual property (IP) through new products or services.

This definition focuses on companies whose primary line of business is technology and technology development. This report focuses exclusively on what would generally be defined as the 'core tech sector'. This report includes Saskatchewan's annual statistics on tech company growth, the number of employees at tech companies and the revenue generated by tech companies.

2.0

Defining the Tech Sector

■ 2.1 – Tech Sector Definition

There are several definitions of the tech sector in Canada. Some definitions aim to include all technology professions, some encompass the value chain of manufacturing, warehousing, sales and usage of IT equipment. Others include only the development of technology-related intellectual property. **This report focuses on companies that develop and sell technology-based products and services, which people would typically think of as the tech sector.**

Some definitions are relevant for the purpose of other research. For instance, labour force demand analyses aim to capture all technology-related employment, whether it is in the tech sector or not. As such, they include non-tech companies in their definition and identify the number of technology workers working in that company.

In a practical example, some definitions of the tech sector would include tech workers at an agricultural manufacturing company whose primary line of business is agriculture related. They are not included in this report as they are not primarily technology companies.

With a focus on labour market demand, it is irrelevant whether employees work for a software development company or a power utility. Both sectors are drawing tech workers from the same pool of limited technology-skilled resources.

Skilled labour is critical to the tech sector's growth, and it is important to identify all forms of labour demand. However, this report focused on identifying tech companies, not tech workers, and the level of employment they create.

Much of the data in this report was collected from Statistics Canada. The main data sources are the Survey of Employment, Payrolls and Hours (SEPH) and the Business Register. The data was collected in NAICS form. NAICS was preferred over the National Occupation Classification (NOC) as the NAICS format is based on sectors while the NOC format is based on employment. As this report is focussed on the tech sector, the NAICS format was more appropriate. No primary survey data collection was undertaken as it would not be possible to determine the full extent of the tech sector through surveys. The Business Register and SEPH capture the most comprehensive data on tech related businesses and employment available.

Statistics Canada Definition: A comprehensive definition of the tech sector comes from Statistics Canada. They have defined the information and communications technology (ICT) sector through NAICS codes¹. However, this definition is too broad for this report, as it includes computer and component manufacturing, computer sales, wholesale trade and computer repair companies.

¹ The North American Industry Classification System (NAICS) is the standard used by Federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing and publishing statistical data related to the U.S. business economy. It was developed to allow for a high level of comparability in business statistics among the three North American countries. NAICS is based on a production-oriented concept, meaning that it groups establishments into industries according to similarity in the processes used to produce goods or services.

Statistics Canada Definition of Information and Communication Technology (ICT) sector - Classification structure - Variant of NAICS 2017 Version 3.0

Code	Title
31-33 ICT - Manufacturing	3341 Computer and peripheral equipment manufacturing
	3342 Communications equipment manufacturing
	3343 Audio and video equipment manufacturing
	3344 Semiconductor and other electronic component manufacturing
	3346 Manufacturing and reproducing magnetic and optical media
41 ICT - Wholesale trade	41731 - Computer, computer peripheral and pre-packaged software merchant wholesalers
	41732 Electronic components, navigational and communications equipment and supplies merchant wholesalers
51 ICT - Information and cultural industries	511211 Software publishers (except video game publishers)
	511212 Video game publishers
	5173 Wired and wireless telecommunications carriers (except satellite)
	5174 Satellite telecommunications
	5179 Other telecommunications
54 ICT - Professional, scientific and technical services	51821 Data processing, hosting, and related services
	541514 Computer systems design and related services (except video game design and development)
81 ICT - Other services (except public administration)	541515 Video game design and development services
	81121 Electronic and precision equipment repair and maintenance

NAICS classifications used to define the tech sector in this report are in bold.

<https://www23.statcan.gc.ca/imdb/p3VD.pl?Function=getVD&TVD=1205615&CVD=1205616&CPV=ICT/TIC&CST=01012017&CLV=1&MLV=6>

Tech Sector Definition for This Report

The definition of the tech sector for this report started with the Statistics Canada definition of the ICT sector (shown in the table above) and removed:

- computer and computer component manufacturing,
- warehousing and selling computers,
- internet and wireless communications; and
- repair and maintenance.

Once those components are removed, only core tech sector companies remain. They are identified in the following table.

Core Tech Sector by NAICS Code

4 Digit	6 Digit Components
Software publishers [5132]	Software publishers (except video game publishers) [513211] Video game publishers [513212]
Computer systems design and related services [5415]	541514 Computer systems design and related services (except video game design and development) 541515 Video game design and development services

Software publishing has two assigned NAICS codes, 5132 (NAICS version 2022) and 5112 (NAICS version 2017), depending on the data source and when data collection began. For consistency in the report, 5132 is used for software publishers.

For newly created businesses, the primary industrial coding is done based on the business activity listed in the business registration using automated coding software. The classification of companies within the NAICS codes is determined through various cross-referenced sources, including Revenue Canada, Business Register profiles and surveys.

While there could be some crossover between these two NAICS codes with some fitting of both descriptions, they are both expanded through the six-digit NAICS definitions. For more detailed definitions, see Appendix I.

- **Software publishers (except video game publishers) [513211]** - A software publisher is a company or entity responsible for developing, producing and distributing software products.
- **Video game publishers [513212]** - These establishments carry out operations necessary for producing and distributing computer video game software, such as designing video games, providing documentation and providing support services to purchasers.
- **Computer systems design and related services (except video game design and development) [541514]** - Comprises establishments primarily engaged in computer systems design and related services through one or more activities, such as writing, modifying, testing and supporting software to meet the needs of a particular customer, including custom Internet web-page development; planning and designing computer systems that integrate hardware, software and communication technologies; on-site management and operation of clients' computer and data processing facilities; providing advice in the field of information technologies; and other professional and technical computer-related services, such as training and support after sales.
- **Video game design and development services [541515]** - Comprises establishments primarily engaged in designing and developing video games through one or more activities without publishing them.

The current methodology may be revisited in future research to account for the evolving nature of the tech sector.

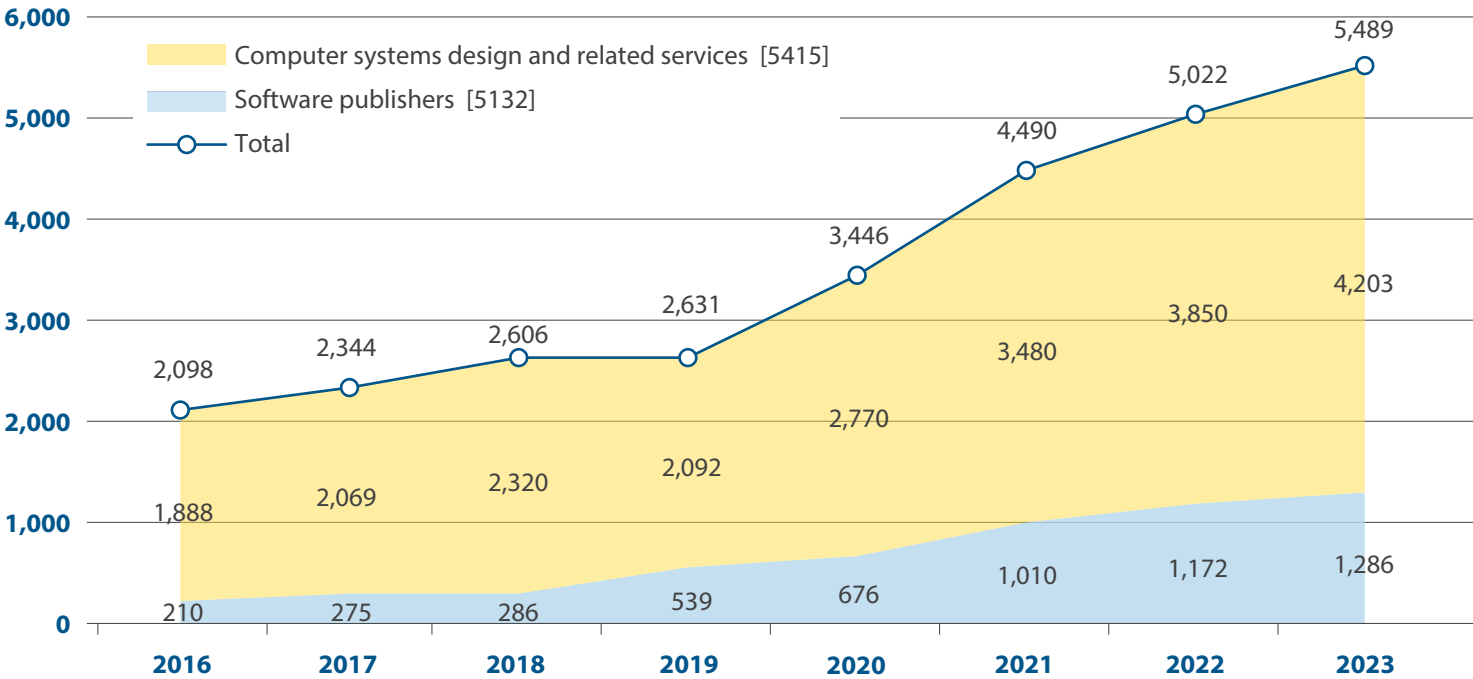
3.0 Tech Sector Size and Growth

3.1 – Employment

Employment in the tech sector has increased significantly since 2016 and has had an even more aggressive growth rate since 2019. The following table graphs the growth of software publishers and computer systems design, the areas identified as the core tech sector in the last section. The top line is the total tech sector ².

Saskatchewan Tech Labour Force Growth

2016-2023



Statistics Canada Table 14-10-0202-01 ³

The following table demonstrates the year-over-year growth in tech sector employment from 2016 to 2023.

² See Appendix IV for employment data growth over longer timeframes.
³ Data is drawn from the Survey of Employment, Payrolls and Hours (SEPH), a monthly portrait of the of earnings, jobs, and hours worked by detailed NAICS.

Year-over-Year Saskatchewan Tech Sector Employment Growth

	2016	2017	2018	2019	2020	2021	2022	2023	Change 2016-2023	% Change 2016-2023
Software publishers	210	275	286	539	676	1,010	1,172	1,286	1,076	512.4%
Computer systems design and related services	1,888	2,069	2,320	2,092	2,770	3,480	3,850	4,203	2,315	122.6%
Total	2,098	2,344	2,606	2,631	3,446	4,490	5,022	5,489	3,391	161.6%

Statistics Canada Table 14-10-0202-01

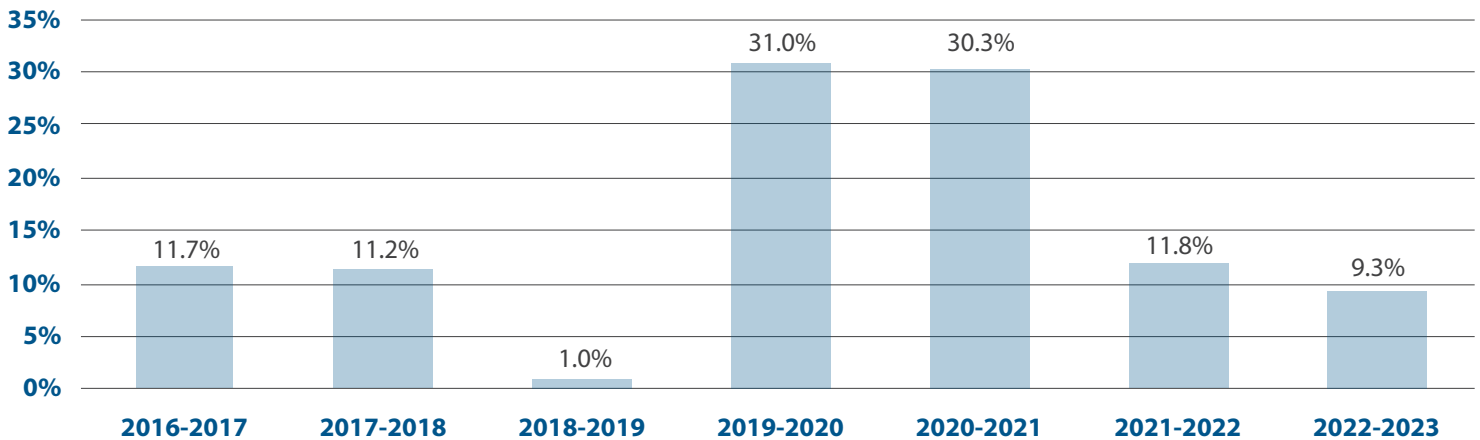
Examining the year-over-year growth in the tech sector employment reveals a significant increase since 2019, with some years experiencing over 30% growth. Although recent growth has dropped, it remains well above growth in other sectors. From 2016 to 2023, the average compound annual growth rate was 15.2%.

Overall, the prairie provinces have shown similar growth trends, especially from 2019 through 2021. Reference Section 3.4 for further interprovincial comparisons.

Year-over-Year Tech Employment Sector Growth

Prairie Provinces

2016-2023



Statistics Canada. Table 14-10-0202-01

In Saskatchewan, software publishing (video game and software) has increased by 1,076 employees since 2016, with most of that growth (747 employees) since 2019. Because software publishing had only 210 employees in 2016, the percentage growth to 2023 is high at 512.4%.

Computer system design (including video game development) has added 2,315 employees since 2016, with 2,111 added since 2019. The total number of employees has more than doubled since 2016, with 108.6% growth. The total number of jobs added in the tech sector from 2016 to 2023 was 3,391.

While computer system design and related services accounted for 77% of employees (4,203), it accounted for 94% of companies (326 companies). Software publishing accounted for 6% of all companies (21) and 23% (1,286) of all employment in the tech sector.

Saskatchewan Tech Sector Labour Force Growth to 2023

	Jobs Added Since 2016	% Growth From 2016	Jobs Added Since 2019	% Growth From 2019
Software publishers	1,076	512.4%	747	138.6%
Computer systems design and related services	2,315	122.6%	2,111	100.9%
Total	3,391	161.6%	2,858	108.6%

To provide context, the following table compares Saskatchewan's mining, manufacturing and the broader economy with tech sector growth. **The tech sector accounted for 10% of all job creation from 2016 to 2023.** Job creation in the tech sector was larger than in mining and manufacturing despite these being much larger sectors.

Comparative Employment Growth for Saskatchewan and Select Sectors 2016 to 2023

Sector	2016	2019	2023	Jobs Added from 2019	% Growth since 2019
All Sectors*	469,307	481,851	506,958	25,107	5.2%
Mining, quarrying, and oil and gas extraction	16,862	18,277	19,199	922	5.0%
Manufacturing	23,359	25,200	26,593	1,393	5.5%
Tech Sector	2,098	2,631	5,489	2,858	108.6%

Table: 14-10-0202-01

*It should be noted that the Statistics Canada Survey of Employment, Payrolls and Hours does not include agricultural or commercial fishing employment.

The impact of job creation in the tech sector is even greater when wages are considered. Software publishing employees make 35% more than average Saskatchewan employees, and computer system design employees make 27% more.

Average Saskatchewan Compensation for Tech Sector and Total Economy 2023

Software publishers	\$87,896
Computer systems design and related services	\$82,857
All Employment	\$65,075

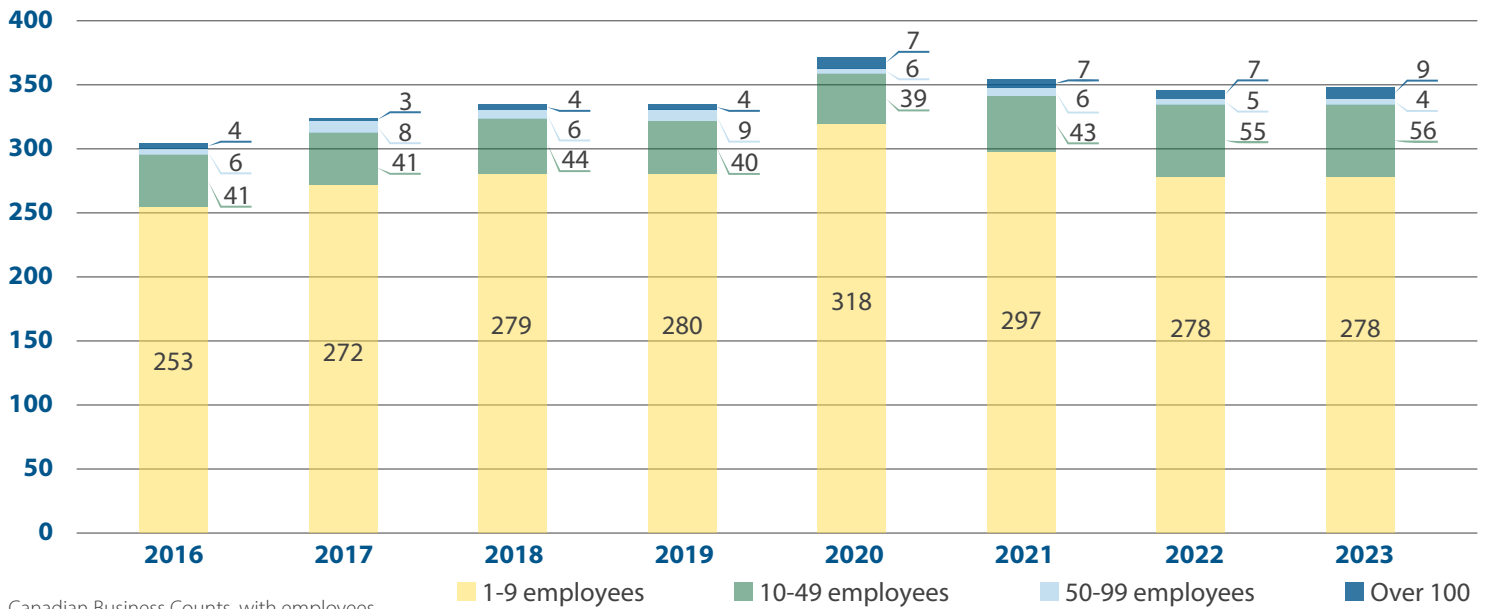
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3.2 – Business Count

Another way to look at growth in the tech sector is through the business counts. Business count data also provides greater granularity as it further breaks down the subsectors. The following table shows that the total business counts have not increased significantly compared to the employment levels. However, the details on business size show that the smaller businesses remained flat or decreased while there was growth in the larger employers. This suggests a healthy tech sector, with smaller companies gradually expanding and increasing their workforce.

Tech Sector Business Count Growth

2016-2023



Overall, 43 businesses were added to the tech sector from 2016 to 2023. Of the 43 companies, 13 were between 10 and 99 employees, and five were over 100. Most of the growth in the larger employers came in the past four years. Since 2019, the number of companies with more than 100 employees has grown by five or 125%.

Tech Sector Growth by Subsector 2016-2023 and 2019-2023

	2016	2019	2023	Growth From 2016	% Growth From 2016	Growth From 2019	% Growth From 2019
Total, with employees	304	333	347	43	28.5%	14	4.2%
1-9 Employees	253	280	278	25	9.9%	-2	-0.7%
10-99 Employees	47	49	60	13	27.7%	11	22.4%
Over 100 Employees	4	4	9	5	125.0%	5	125.0%

Canadian Business Counts, with employees

An advantage of the business count data is it allows a greater level of granularity when looking at subsectors.

Tech Sector by Subsector 2023

Sector	Software Publishers [5132]		Computer Systems Design and Related Services [5415]		
Subsector	Software publishers (except video game)	Video game publishers	Computer systems design and related services (except video game)	Video game design and development services	Total
1 to 4 employees	8	1	230	3	242
5 to 9 employees	2	0	34	0	36
10 to 19 employees	2	1	34	0	37
20 to 49 employees	3	0	16	0	19
50 to 99 employees	1	0	3	0	4
100 to 199 employees	1	0	3	0	4
200 to 499 employees	2	0	3	0	5
500 plus employees	0	0	0	0	0
Total Over 100	3	0	6	0	9
Total, with employees	19	2	323	3	347

Canadian Business Counts, with employees

To break out the growth of each subsector, the following shows the growth by employment size from 2016 to 2023.

- Software publishers (not including video games) experienced a decrease in medium employers. However, software publishers added three companies with over 100 employees.
- Video game publishers have just started to emerge as an industry, with no companies in 2016 and adding two companies by 2023, with one being over 10 employees.
- Computer systems design (not including video games) had the most substantive growth of all the subsectors, adding 35 new companies, with two of them being over 100 employees.
- Video game design had one company in 2016 and had grown to three by 2023.

Tech Sector Business Count Growth by Subsector 2016-2023

Software publishers (except video game publishers) [513211]

	2016	2023	Growth From 2016	% Growth From 2016
Under 10 employees	7	10	3	42.9%
10 to 99 employees	8	6	-2	-25.0%
Over 100 Employees	0	3	3	n/a
Total, with employees	15	19	4	26.7%

Video game publishers [513212]

	2016	2023	Growth From 2016	% Growth From 2016
Under 10 employees	0	1	1	n/a
10 to 99 employees	0	1	1	n/a
Over 100 Employees	0	0	0	n/a
Total, with employees	0	2	2	n/a

Computer systems design and related services (except video game design and development) [541514]

	2016	2023	Growth From 2016	% Growth From 2016
Under 10 employees	245	264	19	7.8%
10 to 99 employees	39	53	14	35.9%
Over 100 Employees	4	6	2	50.0%
Total, with employees	288	323	35	12.2%

Video game design and development services [541515]

	2016	2023	Growth From 2016	% Growth From 2016
Under 10 employees	1	3	2	200.0%
10 to 99 employees	0	0	0	n/a
Over 100 Employees	0	0	0	n/a
Total, with employees	1	3	2	200.0%

Canadian Business Counts, with employees

The following shows the growth in the number of companies for each subsector by employment size from 2019 to 2023.

- Over this time period, software publishers (not including video games) added seven companies, with two being over 100 employees.
- Video game publishers added one additional company from 2019 to 2023.
- Computer systems design (not including video games) only added four companies over this period. However, much of the growth was in the larger employers, with companies with 10 to 99 employees expanding by ten and companies with over 100 employees expanding by three. This is the subsector where companies are scaling up in employment.
- Video game design added two additional companies with under ten employees by 2023.

Tech Sector Business Count Growth by Subsector 2019-2023

Software publishers (except video game publishers) [513211]

	2019	2023	Growth From 2019	% Growth From 2019
Under 10 employees	6	10	4	66.7%
10 to 99 employees	5	6	1	20.0%
Over 100 Employees	1	3	2	200.0%
Total, with employees	12	19	7	58.3%

Video game publishers [513212]

	2019	2023	Growth From 2019	% Growth From 2019
Under 10 employees	0	1	1	n/a
10 to 99 employees	1	1	0	n/a
Over 100 Employees	0	0	0	0.0%
Total, with employees	1	2	1	n/a

Computer systems design and related services (except video game design and development) [541514]

	2019	2023	Growth From 2019	% Growth From 2019
Under 10 employees	273	264	-9	-3.3%
10 to 99 employees	43	53	10	23.3%
Over 100 Employees	3	6	3	100.0%
Total, with employees	319	323	4	1.3%

Video game design and development services [541515]

	2019	2023	Growth From 2019	% Growth From 2019
Under 10 employees	1	3	2	200.0%
10 to 99 employees	0	0	0	0.0%
Over 100 Employees	0	0	0	0.0%
Total, with employees	1	3	2	200.0%

Canadian Business Counts, with employees

3.3 – Tech Sector Revenue, Expenditures and Profit

3.3.1 Revenue Data

Because of the delay in reporting revenues, this data is only available to 2022. As with employment and expansion in business entities, revenue data shows similar patterns. Revenues generally increase from 2016 to 2018 and then grow at a much higher rate to 2022.

Tech Sector Revenues

(Millions)

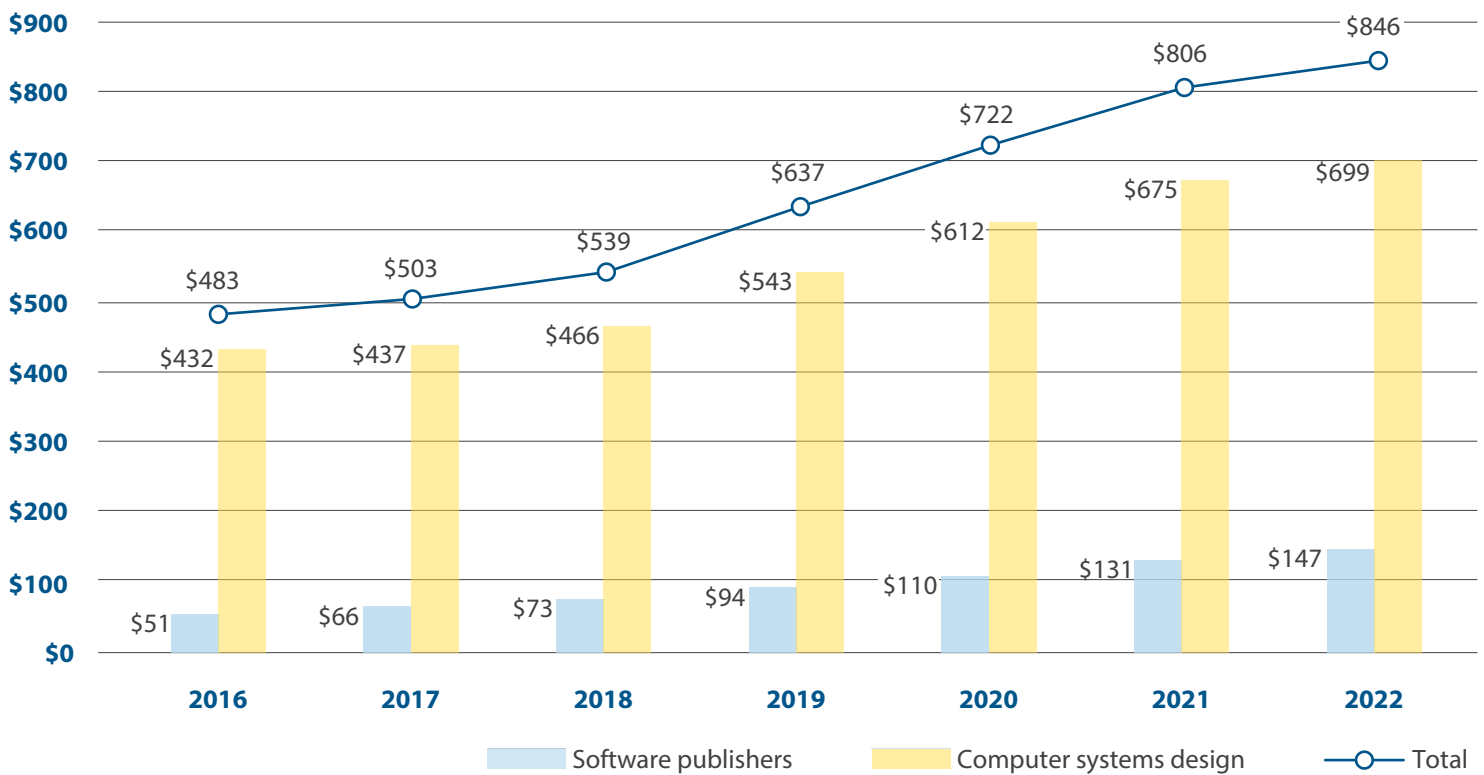


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Starting from a modest \$51.2 million in revenues in 2016, software publisher revenues increased dramatically by 2022 to \$147.0 million or 187.1% in 2022. Software development and computer services revenues increased from \$432.2 million in 2016 to \$698.5 million in 2022, or 61.6%.

In dollar values, software publishing increased \$95.8 million (\$53.2 since 2019 alone) from 2016 to 2022. Computer system design revenues have increased by \$266.3 million (\$155.7 from 2019 alone) since 2016. The total tech sector added \$362.1 million in revenues to the province. It should also be noted that these subsectors have a high export ratio, meaning that much of this revenue was new to the province.

The total tech sector added
\$362.1 million
 in revenues to the province.

Tech Sector Revenue Growth to 2022

	Since 2016	Since 2019
Software publishers	187.1%	56.7%
Computer systems design and related services	61.6%	28.7%
Total	74.9%	32.8%

3.3.2 Labour Expenditure Data

Labour expenditure data (including salaries, wages, commissions and benefits) offers valuable insights into the labor costs for companies in Saskatchewan. Labour expenditures rose from \$223.6 million in 2016 to \$410.8 million in 2022.

Tech Sector Labour Expenditures

(Millions)

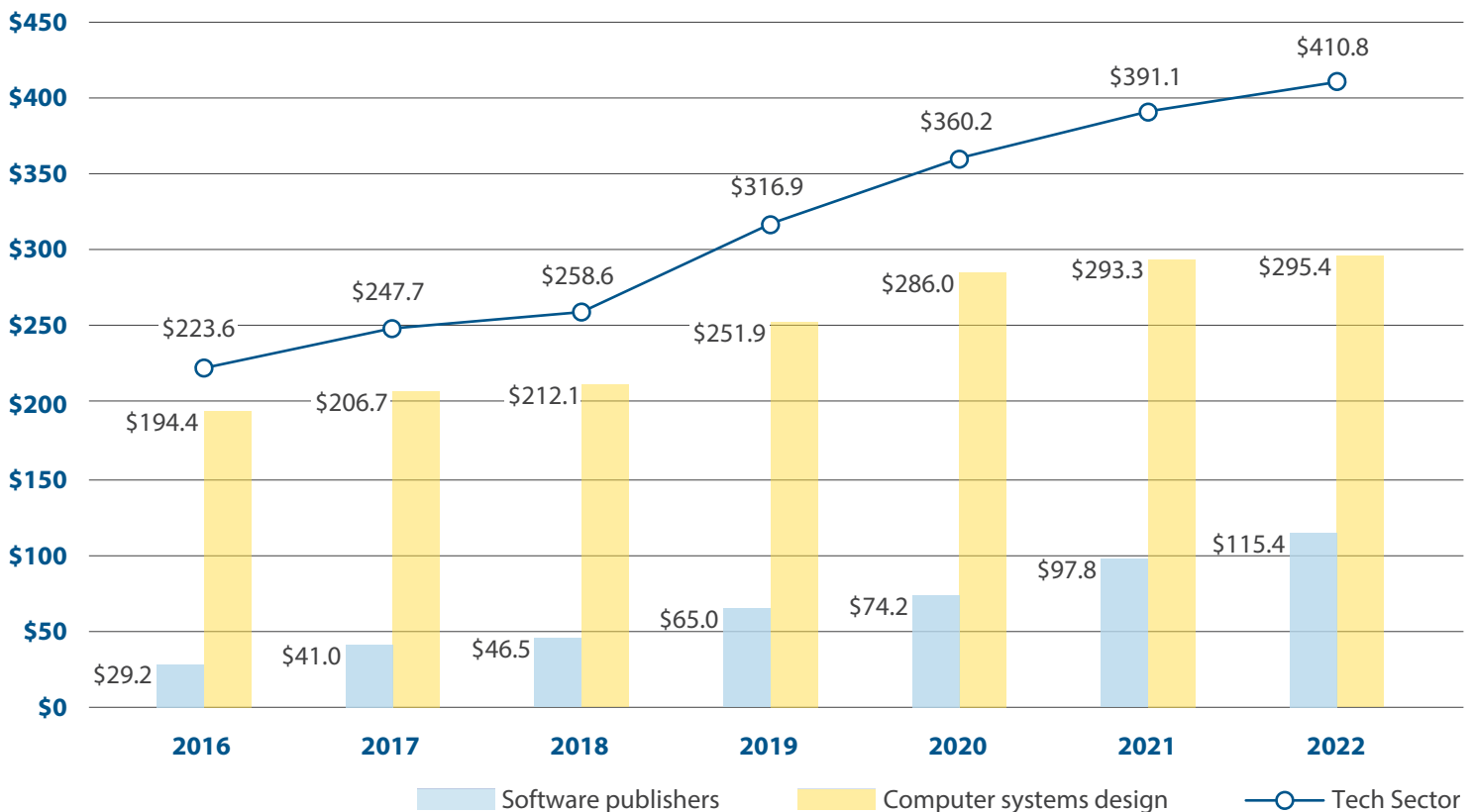


Table: 22-10-0087-01

In total, there was an increase of \$187.2 million in labour expenditures in the tech sector, with \$93.9 million occurring since 2019 alone.

Tech Sector Labour Expenditures Growth to 2022 (Millions)

	Growth Since 2016		Growth Since 2019	
Software publishers	\$86.2	295.2%	\$50.4	77.5%
Computer systems design and related services	\$101.0	52.0%	\$43.5	17.3%
Tech Sector	\$187.2	83.7%	\$93.9	29.6%

Table: 22-10-0087-01

3.3.3 Profit Margin Data

The profit margin of these companies is of interest. Computer system design, the larger of the two subsectors, has seen profit margins decline from 14.9% to 11.0% from 2016 to 2022.

Software publishers have gone through a significant downturn in profit margins. In 2022, the profit margins declined to -41.8%. This could be associated with the increase in startups raising capital for development and expansion where the focus is not on profitability.

Tech Company Operating Profit Margin

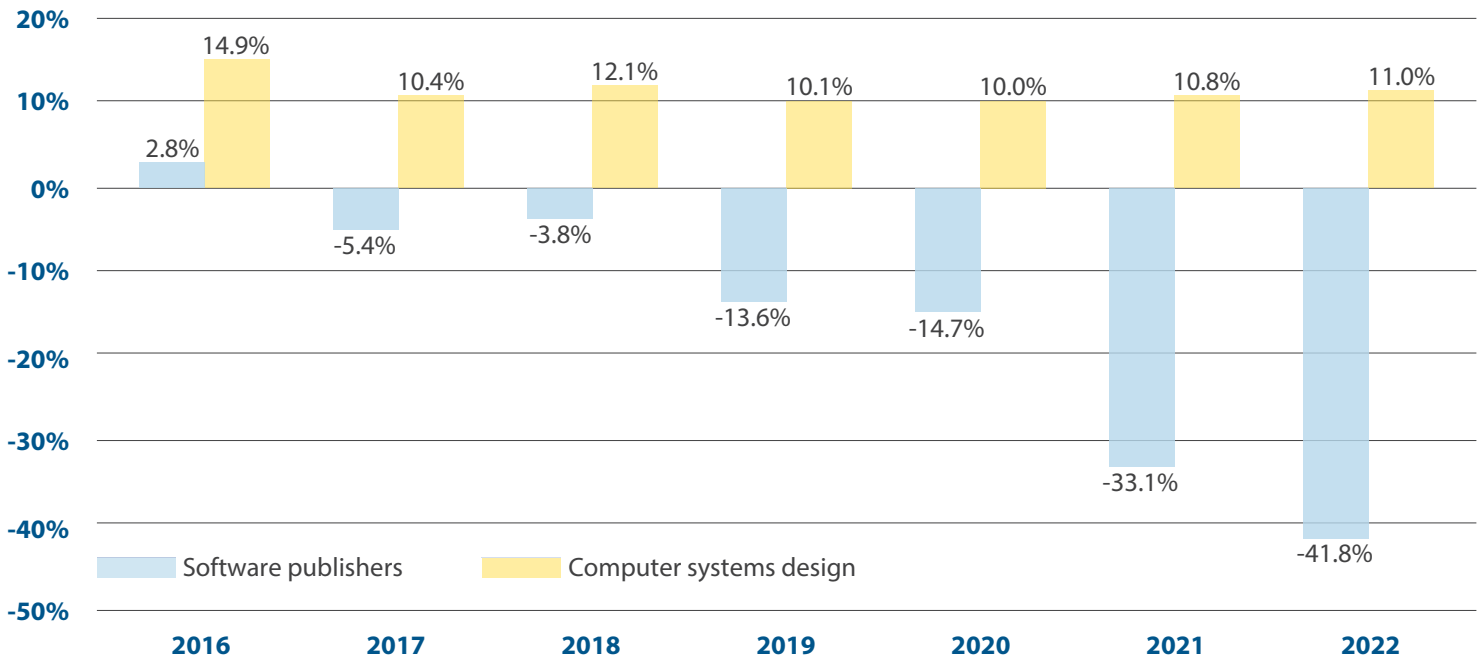


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In terms of understanding how the software publishing industry in Saskatchewan has been impacted, the following table demonstrates the revenue growth with the operating and labour expenses. While the increase in startups is likely playing a role, inflation is also likely impacting the bottom line, as there has been a 318.5% increase in operating expenditures and a 295.2% increase in labour expenditures between 2016 and 2022.

Software Publishing % Operating Expense Changes from 2016-2022

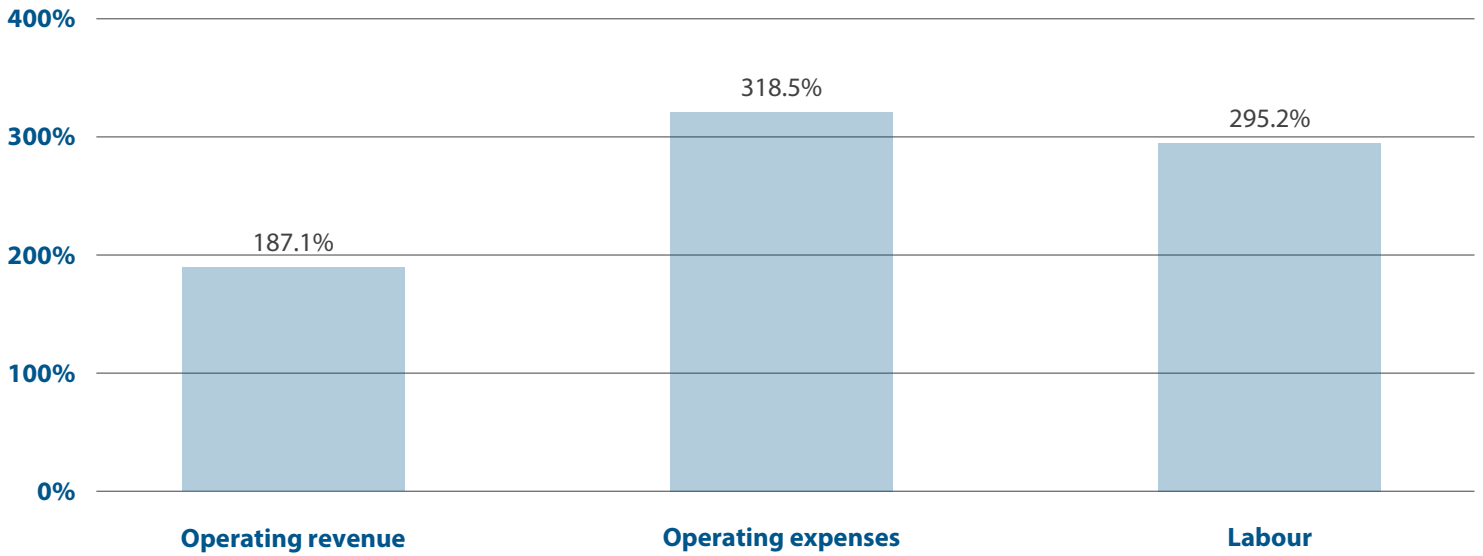


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3.4 – Interprovincial Comparison

In terms of employment growth, all the prairie provinces in Canada (Manitoba, Saskatchewan and Alberta) have increased their tech workforce over the past ten years. **As the table shows, Saskatchewan has overtaken Manitoba in terms of the size of the tech workforce.** Because of its economy’s relative size, Alberta has a much larger workforce, which dwarfs the data from Manitoba and Saskatchewan. As such, it is challenging to see the scope of the employment growth in these regions.

With year-over-year growth,

Saskatchewan significantly outpaced employment growth over Alberta and Manitoba in 2019-2020 and 2020-2021.

Prairie Province Tech Sector Employment

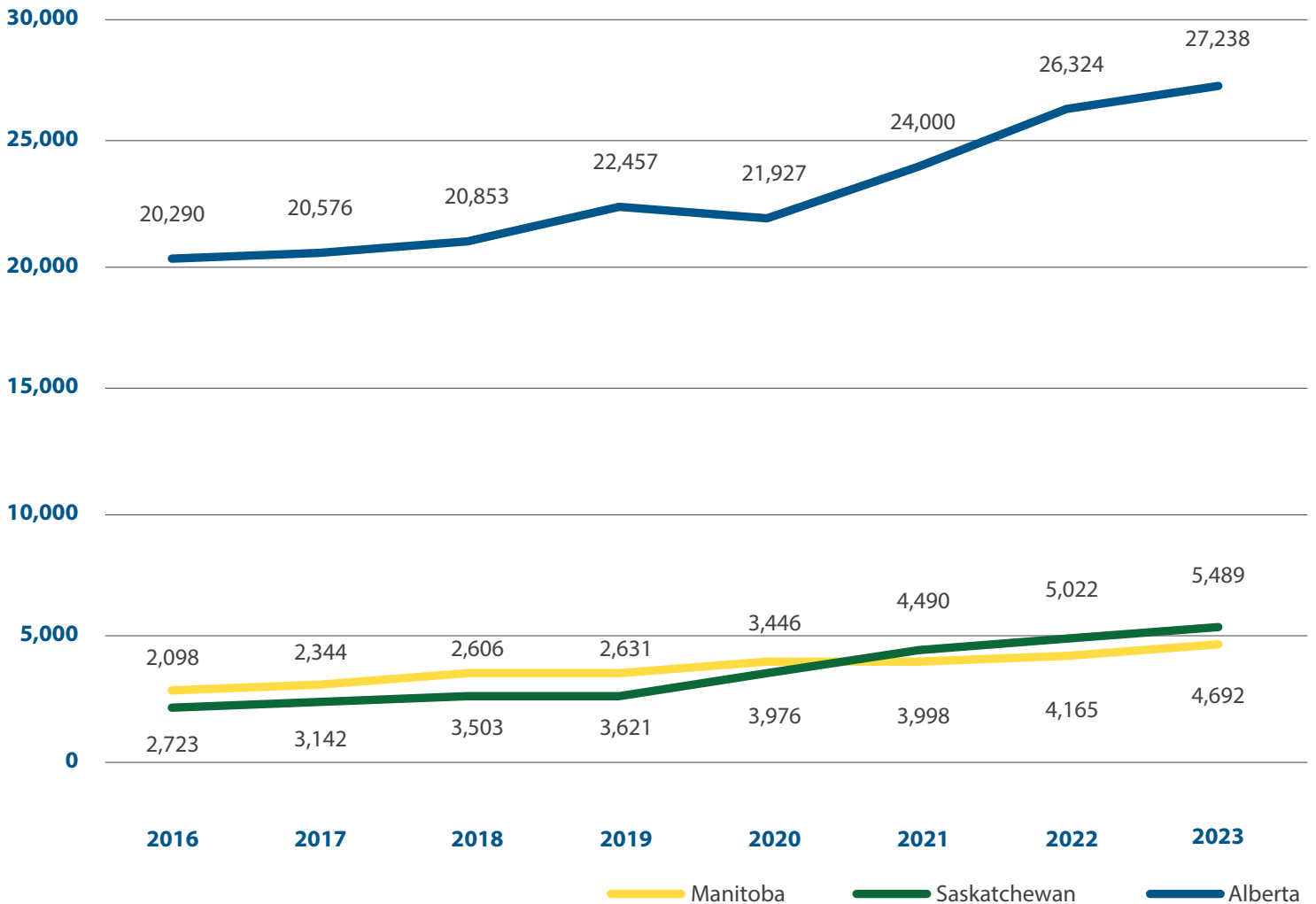


Table: 14-10-0202-01

If employment growth is broken out by percentage growth, the increase in Saskatchewan tech employment becomes more apparent. Saskatchewan's tech sector employment has grown by 161.6% since 2016, compared with 72.3% for Manitoba and 34.2% for Alberta.

Tech Sector Percentage Employment Growth

Prairie Provinces

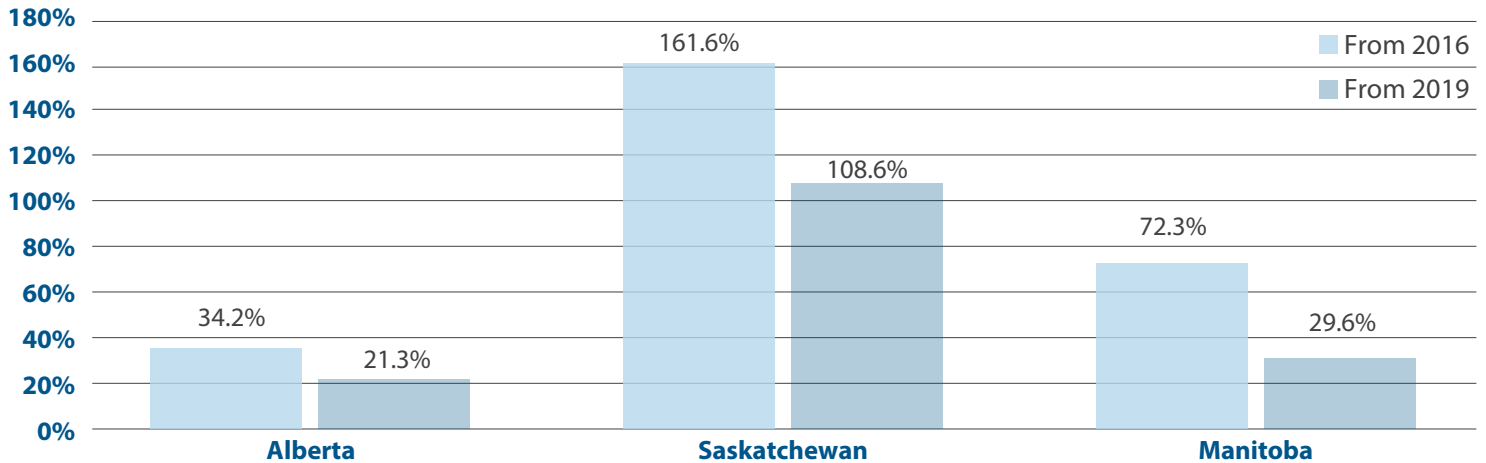


Table: 14-10-0202-01

With year-over-year growth, Saskatchewan significantly outpaced employment growth over Alberta and Manitoba in 2019-2020 and 2020-2021.

Year-over-Year Tech Employment Sector Growth

Prairie Provinces

2016-2023

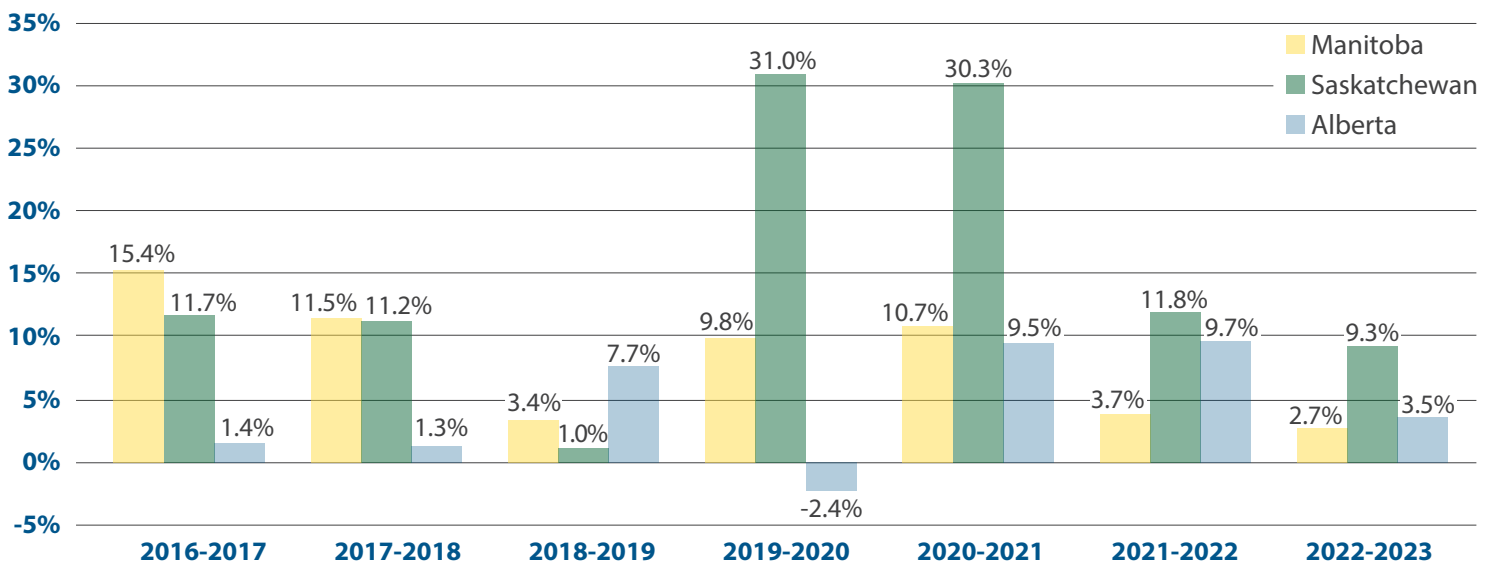


Table: 14-10-0202-01

As seen in section 3.1, wages are higher for the Saskatchewan tech sector in relative to average wages. However, it should be noted that tech workers in Manitoba, and particularly Alberta, are paid more. Computer system design workers are making around 70% more than the average compensation in both Alberta and Manitoba compared with Saskatchewan workers who only earn 35% more than the average worker.

Average Total Compensation for Tech Sector and Total Provincial Employment Prairie Provinces

	Alberta	Saskatchewan	Manitoba
Software publishers	\$137,549	\$87,896	\$108,124
Computer systems design and related services	\$94,773	\$82,857	\$80,843
Total Provincial Employment	\$80,534	\$65,075	\$64,038

Table: 36-10-0489-05

Reflecting on the table above, it's crucial to consider the number of businesses within each subsector. There are 21 software publishing companies compared to 326 Computer Systems Design and Related Services companies. This difference could impact the average salaries reported. Additionally, many of these companies are in the early stages of their operations, with fewer than 10 employees, who may have different salary structures compared to more established firms.

3.5 – Interprovincial Tech Workforce Comparison

Saskatchewan's tech workforce is 1.1% of the total workforce, which is comparable across the Prairie provinces.

Tech Sector Workers as a % of the Total Workforce 2023

	Tech Workforce %
Alberta	1.3%
Saskatchewan	1.1%
Manitoba	0.7%

Table: 98-10-0592-01

3.6 – Regina and Saskatoon Comparison

In terms of employment at a Census Metropolitan Area (CMA) level, only Statistics Canada Census data can be used. The following table shows the split between tech employment in Regina, Saskatoon and other areas.

Tech Sector Employment

Regina vs Saskatoon
2021 Census Data

Geography	Saskatchewan	Regina (CMA)	Saskatoon (CMA)	Other Saskatchewan Regions
5132 Software publishers	450	30	405	15
5415 Computer systems design and related services	4,620	2,090	1,920	610
Total	5,070	2,120	2,325	625

Table: 98-10-0448-01

From this table, the following observations can be made:

- 88% of tech workers are in Regina or Saskatoon,
- Saskatoon has a slightly larger employment base than Regina,
- the vast majority (90%) of software publishers are in Saskatoon; and
- there are slightly more computer system design jobs in Regina.

For business counts, 2023 data is available at a CMA level. The following table outlines the subsectors of the tech sector.

Tech Sector by Subsector

Regina vs Saskatoon 2023

Subsector	Software Publishers [5132]		Computer Systems Design and Related Services [5415]		Total
	Software publishers (except video game)	Video game publishers	Computer systems design and related services (except video game)	Video game design and development services	
Regina	5	1	177	1	184
Saskatoon	14	1	113	2	130
Other	0	0	33	0	33
Total, with employees	19	2	323	3	347

Business count data reflects the employment data in that the majority of the software publishing sector is in Saskatoon. However, there are more tech companies in Regina, which does not align with the employment data.

The following table looks at business sizes for the two cities. While Regina may have more businesses, Saskatoon captures more large employers. Of the businesses with over five employees, Saskatoon has 54, while Regina has 43. This detailed breakdown coincides with employment data indicating that Saskatoon has a larger tech employment base.

Tech Sector Business Counts by Size 2023

	All Companies	Regina	Saskatoon	Not Regina or Saskatoon
1 to 4 employees	242	141	76	25
5 to 9 employees	36	12	19	5
10 to 19 employees	37	17	17	3
20 to 49 employees	19	8	11	0
50 to 99 employees	4	2	2	0
100 to 199 employees	4	2	2	0
200 to 499 employees	5	2	3	0
500 plus employees	0	0	0	0
Total Over 5 employees	105	43	54	8
Total, with employees	347	184	130	33

Canadian Business Counts, with employees

3.7 – Venture Capital (VC) Investment

A helpful, but more volatile, indicator of tech sector growth is the level of venture capital investment. VC investment can provide some insight into prospective business and employment growth in the tech sector. In Saskatchewan, where VC investment has traditionally been lower compared to larger tech hubs, even modest increases can signal significant momentum. However, this metric can fluctuate greatly due to the relatively small number of deals and the early-stage nature of many companies. Additionally,

VC investment levels are highly dependent on company investment cycles and broader market and macroeconomic conditions, making it both a promising and unpredictable measure of future growth.

The following table provides the total VC investment in Saskatchewan. As the table demonstrates, there has been a reduction in the level of VC investment. This could indicate a reduction in new business growth.

CVCA – Venture Capital Investments in Saskatchewan (Millions)

Metric	2019	2020	2021	2022	2023
Investment	\$114	\$15	\$210	\$136	\$37

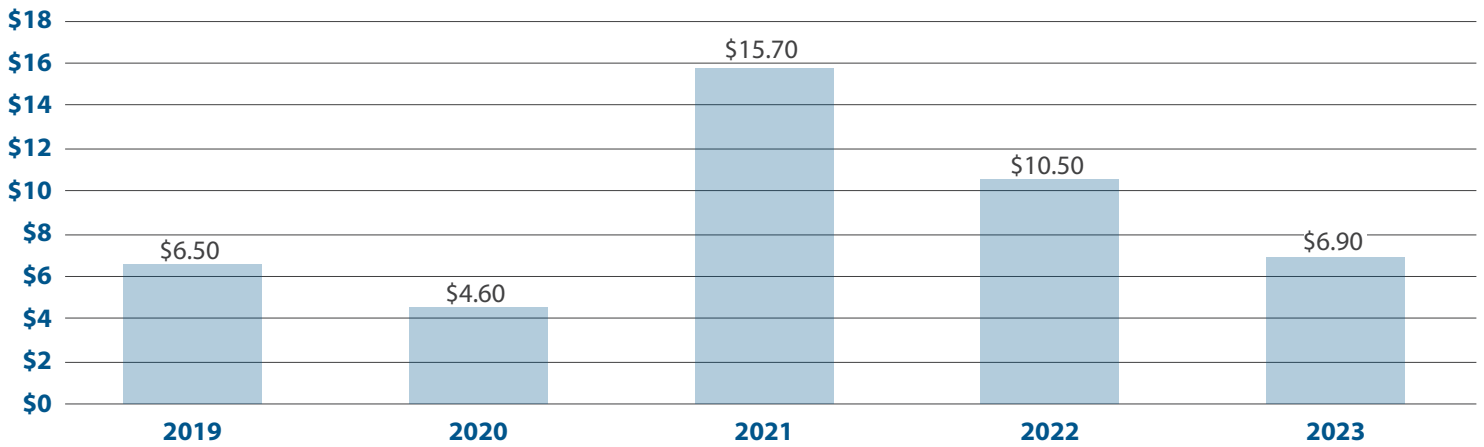
Canadian Venture Capital and Private Equity Association (CVCA) Venture Capital Market Overview
Includes ICT, Life Sciences, Cleantech, and Agribusiness investments

Saskatchewan saw significant VC investment in 2021 and 2022, with a drop in 2023. If the lower levels of investment continue, it could indicate slowing growth. However, the high level of investment in recent years could still impact sector expansion. While this metric includes non-tech sector investments (life sciences, cleantech and agribusiness), it remains a strong indicator of the investment climate and future tech sector growth.

The fluctuation of investment is not limited to Saskatchewan. As the following table shows, VC investment nationwide has experienced high volatility and a general slowdown. National investment levels mirror those of Saskatchewan, peaking in 2021 and declining in subsequent years.

National Venture Capital Investments

Billions



Canadian Venture Capital and Private Equity Association (CVCA) Venture Capital Market Overview
Includes ICT, Life Sciences, Cleantech, and Agribusiness investments

4.0

Future of the Tech Sector

The tech sector, though relatively new, is full of promise as it navigates through growth and volatility.

Tripling the Tech Sector

Included in the Government of Saskatchewan's Growth Plan is a goal to triple the growth of Saskatchewan's technology sector by 2030. To meet this objective the province would have to reach tech sector employment of 7,893.

If Saskatchewan continues to add an average of 715 jobs annually, as it has over the past four years, the sector will grow to nearly 10,500 employees in 2030, more than tripling employment in the tech sector.

Year over Year Saskatchewan Tech Sector Growth and Tripling the Tech Sector Target

	2019	2020	2021	2022	2023	2026	2030
Employment	2,631	3,446	4,490	5,022	5,489	6,691*	7,893*

*Projected data based on average annual growth

The following table demonstrates that the tech sector has grown 108.6% since 2019. The tech sector must grow by an additional 43% by 2030 to reach 7,893 employees, which is triple employment in the tech sector since the baseline in 2019.

Tech Sector Growth Required to Meet 2030 Targets

	2019-2023 Growth	Growth Required to Triple Employment in the Tech Sector by 2030
Employment	2,858	2,404
Employment % Growth	108.6%	43.8%

Another measure to forecast growth is analyzing the compound annual employment growth rate. A compound annual employment growth rate of just 5.3% from 2023 to 2030 would be required to obtain the 7,893 target. From 2016 to 2023 the average compound annual growth rate was 15.2%.

The path to maturity for many larger companies in the sector, with some only now beginning to reach profitability, highlights the tech sector's current stage of development. This ongoing maturation brings with it a heightened sensitivity to broader economic forces, such as inflation and market

fluctuations. As a result, layoffs have been evident among the larger tech giants of the world, with some of these challenges also impacting emerging tech companies in Saskatchewan, though to a lesser extent.

Despite these obstacles, the outlook for the tech sector remains hopeful. The industry's ability to adapt and evolve highlights its resilience. As the tech sector continues to mature, its potential for growth remains strong in an ever-changing landscape.

Appendix I – Tech Sector Definitions

The following outlines the tech sector definitions, including the NAICS codes and definitions.

Core Tech Sector by NAICS Code

4 Digit	6 Digit Components
Software publishers [5132]	Software publishers (except video game publishers) [513211] Video game publishers [513212]
Computer systems design and related services [5415]	541514 Computer systems design and related services (except video game design and development) 541515 Video game design and development services

Software publishers (except video game publishers) [513211]

A software publisher is a company or entity responsible for developing, producing and distributing software products. They oversee the entire lifecycle of software development, from conceptualization and design to testing, packaging, marketing and sales. Software publishers may range from large corporations to independent developers, and they typically aim to create software that meets the needs of various users, whether individuals, businesses or other organizations. They may specialize in particular types of software, such as productivity tools, entertainment applications or specialized business solutions. Software publishing is the process of making your software available so that it can be downloaded and, more importantly, used by others.

Illustrative example(s) include:

- Computer software publishers, packaged
- Utility software, computer, packaged
- Applications software, computer, packaged
- Computer software publishing and reproduction
- Publishers, packaged computer software
- Applications development and publishing, except on a custom basis
- Software publishers, packaged
- Packaged computer software publishers
- Operating systems software, computer, packaged
- Software computer, packaged, publishers

Video game publishers [513212]

This Canadian industry comprises establishments primarily engaged in video game publishing. These establishments carry out operations necessary for producing and distributing computer video game software, such as designing video games, providing documentation and providing support services to purchasers.

Illustrative example(s) include:

- Video game designing and development (with publishing)
- Video game software publishing
- Video game software publishing (including designing and developing)

Computer systems design and related services (except video game design and development) [541514]

This Canadian industry comprises establishments primarily engaged in computer systems design and related services, not including video games, through one or more activities, such as writing, modifying, testing and supporting software to meet the needs of a particular customer, including custom Internet web-page development; planning and designing computer systems that integrate hardware, software and communication technologies; on-site management and operation of clients' computer and data processing facilities; providing advice in the field of information technologies; and other professional and technical computer-related services, such as training and support after sales.

Illustrative example(s) include:

- CAD/CAM systems services
- Computer consulting services
- Computer disaster recovery services
- Computer facilities management services
- Custom application software programming services (except video games)
- Custom computer programming services

Video game design and development services [541515]

This Canadian industry comprises establishments primarily engaged in designing and developing video games through one or more activities without publishing them.

Illustrative example(s) include:

- Custom designing video games
- Video game designing and development (without publishing)

Appendix II – Survey of Employment, Payrolls and Hours

To obtain detailed annual employment data, Statistics Canada Survey of Employment, Payrolls and Hours was used extensively. The following provides details on the program and data collection.

Description

The Survey of Employment, Payrolls and Hours (SEPH) provides a monthly portrait of the amount of earnings, as well as the number of jobs (i.e., occupied positions) and hours worked by detailed industry at the national, provincial and territorial levels.

Data sources

Responding to this survey is mandatory.

Data are collected directly from survey respondents, extracted from administrative files and derived from other Statistics Canada surveys and/or other sources.

The statistics compiled by SEPH are based on a census of administrative records for all in-scope establishments with employees that can be found on the Business Register.

Administrative information for total gross monthly payrolls and the total number of employees for the last pay period in the month are obtained from payroll deduction (PD7 form) accounts maintained by Canada Revenue Agency.

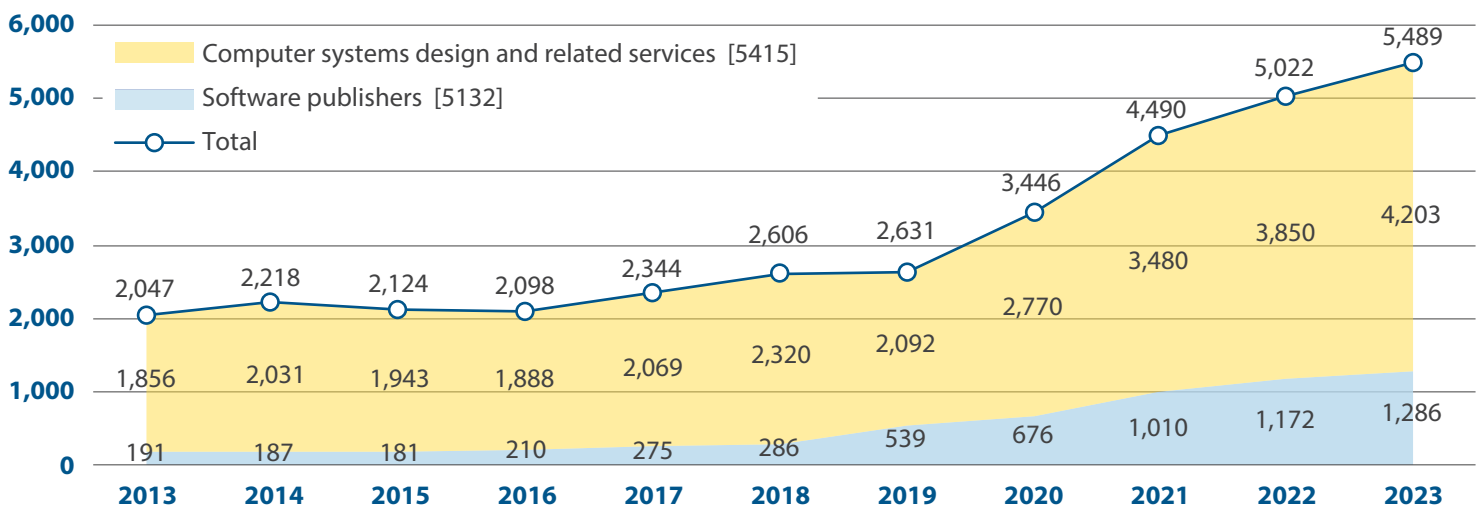
Information for general government services is provided to SEPH monthly by the provincial, territorial and federal governments in the form of electronic files extracted from their payroll records. A BPS questionnaire, adapted for the public sector, is used to collect data for government entities not included in the electronic files.

The Business Payrolls Survey (BPS) conducted monthly, is used to collect SEPH variables not available from administrative sources. The BPS uses a combination of methods for data collection to permit maximum flexibility for respondents. For Internet data collection, invitations and access codes are emailed each month to employers' payroll offices. For respondents who prefer to be surveyed by telephone, computer-assisted telephone interviews (CATI) are used. Reporting units that do not respond to the initial contact are telephoned by staff of Statistics Canada's regional offices.

Appendix III – Growth of Employment in Tech Sector Long Timeframe

To provide context, the following is a longer term look at tech sector employment growth.

Saskatchewan Tech Labour Force Growth



The following table shows the annual growth rates for employment in the tech sector. This provides some context for the recent growth rates.

Tech Sector Annual Employment Growth Rates for Select Timeframes

2005-2012	2012-2016	2016-2019	2019-2023
0.0%	4.9%	8.0%	20.6%

Table: 14-10-0202-01

