

Profile of the British Columbia Technology Sector: 2020 Edition

PREPARED FOR THE MINISTRY OF JOBS,
ECONOMIC RECOVERY AND INNOVATION
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1. Executive Summary

1.1. B.C.'s high technology sector continued to expand in 2019

British Columbia's high technology sector GDP increased 4.2%, to around \$18.3 billion from 2018 to 2019.¹ Both the high tech manufacturing (+6.5%) and services (+4.0%) sectors recorded an increase in GDP. B.C.'s high tech sector is responsible for generating around 6.6% of the province's total GDP.

B.C.'s high tech sector GDP grew faster than that of the overall provincial economy, which increased by 2.8%. The tech sector has outperformed the economy as a whole in every year in the last decade with the exception of 2015.

British Columbia's high tech sector revenue rose 4.0% in 2019, to \$34.9 billion, the highest level ever recorded. All the growth was in the service sector, where revenues increased 4.8%, as high tech manufacturing revenues fell 0.7%.



1.2. High tech employment and wages also increased in 2019

For the eighth consecutive year, employment in B.C.'s high tech sector reached a new high in 2019, rising 4.7% to 131,220. Around 5.6% of British Columbia's paid workforce was employed by the high tech sector in 2019.

In 2019, wages and salaries paid by British Columbia's high tech sector climbed 7.6%, to \$12.0 billion, the highest level ever recorded. Employees of B.C.'s high tech sector earned \$1,760 per week, on average, compared to \$1,000 for the average B.C. worker.

There were 11,052 businesses with employees in B.C.'s high technology sector in 2019, an increase of 111 from a year earlier, which translates to a growth rate of 1.0%. Almost 94% of these businesses were in service sector industries.

¹ Note that GDP data are constant dollar figures, whereas all other indicators are unadjusted for inflation.

1.3. There was growth in exports and imports of high tech goods and services in 2019

B.C.'s high tech sector exported almost \$6.1 billion in services in 2019, an increase of 5.1% over the previous year. This comprised four-fifths of B.C.'s total high technology exports (i.e., goods plus services). The value of B.C.'s imports of high technology services rose 4.5% in 2019, to \$1.5 billion. With B.C. exporting far more high tech services than it imports, there was a trade surplus in tech services of around \$4.5 billion.

B.C.'s exports of high technology goods edged up 0.5% in 2019, to just under \$1.5 billion. While a small increase, it still exceeded the growth of B.C.'s overall exports, which fell 6.2%. As a result, the proportion of B.C.'s total exports consisting of high technology goods increased to 3.4%. Imports of high technology goods increased slightly faster than exports, with growth of 1.4%. Consequently, B.C.'s high tech commodity trade deficit expanded, rising to \$5.8 billion.

Combining the surplus in trade in services with the deficit in trade in goods, the overall deficit in trade in high technology goods and services was around \$1.3 billion.

1.4. B.C.'s high tech sector ranks within top three provinces on multiple measures

Among Canadian provinces, British Columbia's tech sector ranks third in GDP, revenue, employment and value of commodity exports, fourth in count of businesses, and second in average weekly earnings. As is the case with other provinces, British Columbia's tech sector lags behind a large number of U.S. states, with high technology making up a far smaller share of employment and GDP in British Columbia.



2. Introduction

2.1. The study of high technology

The *Profile of the High Technology Sector* is part of a continuing effort to monitor the growth and performance of the high technology sector in British Columbia by evaluating the economic contribution of firms that produce high technology goods and services. The key indicators examined include:

- gross domestic product
- revenue
- employment
- wages and salaries
- business counts
- international trade

The characterization of a high technology sector within traditionally-defined industrial sectors of the economy is based on the premise that high technology firms behave in a manner that allows them to be understood as a group and that programs or policies can be tailored to respond to their needs. However, the technology sector is growing increasingly integrated with all sectors, with technology solutions becoming an important component of operations for businesses across all industries.

2.2. Defining high technology

High tech is usually defined as the newest and most advanced stage of technological development. Given that research and development (R&D) is a key factor in technological advancement, those industries that perform a significant amount of R&D often have a considerable high tech component.

However, an industry does not necessarily need to be R&D-intensive to be considered high tech. Industries that produce goods or services that are uniformly recognized as high tech outputs are also included in the high technology sector. The concept of the high technology sector used in this report is, at its core, product- or output-based; therefore, some manufacturers that employ advanced processes are not included. In other words, just because a good is produced using advanced processes does not automatically make it a high tech product. For example, a tomato produced in a high tech greenhouse is still just a tomato.

There are many different definitions of high technology in use around the world. This report uses two different definitions—one that is industry-based and another that is commodity-based—to measure, respectively, high tech’s contribution to the British Columbia economy and the volume of international trade in high technology goods.

Since the inception of the Profile reports in 1996, statistics on the high technology sector have been constructed using information from standard industries defined under the North American Industry Classification System (NAICS).² This industry-based approach offers consistency with other Statistics Canada data, as well as comparative data for other provinces and the United States, with a reasonable degree of accuracy.

It should be noted that the high technology definition used by BC Stats is a British Columbia-focused classification. Some high technology industries that are not present in British Columbia, but may be prevalent elsewhere, may be excluded from the data presented in this report. Conversely, some industries that have a substantial high tech component in British Columbia and are therefore included in the high technology sector may be mainly low tech in other regions. For example, the fuel cell industry is included in the NAICS classification 335990 (all other electrical equipment and component manufacturing), which is generally not considered a high technology industry. However, given the presence of the fuel cell cluster in B.C., it makes sense to include it in B.C.’s high tech sector definition.

The industry-based definition includes manufacturers of pharmaceuticals and other chemicals, computers and other electronic products, aerospace products and parts, and medical equipment and supplies. Also included are service industries such as engineering, computer services, motion picture and video production, surveying and mapping, scientific and technical consulting, telecommunications, and research and development.

² NAICS is a system of classifying industries developed in cooperation between Statistics Canada, the United States Office of Management and Budget and the Instituto Nacional de Estadística, Geografía e Informática of Mexico.

For a more detailed discussion of the industry-based definition used in this report, including a complete listing of the industries included in BC Stats' high technology definition, see Appendix A, "Defining the High Technology Sector." Note that, due to confidentiality requirements, the industry detail available for reporting purposes is limited. For most of the data tables in this report, the manufacturing industries are not reported separately and service industries are grouped into the following categories:

- motion picture production and post-production
- telecommunications
- engineering services
- software publishing
- other computer and related services
- other services.

While an industry-based definition makes sense when examining high technology GDP or employment, it is not really appropriate for looking at trends in high tech commodity exports and imports. For this purpose, a second, commodity-based definition was developed. This definition was constructed using harmonized system codes, which are the commodity classification codes used in Canadian customs documents. The list of commodities classified as high technology products was based on the U.S. Bureau of the Census' advanced technology products (ATP) list, which is a recognized definition of high technology goods. Since Canadian and American commodity codes are identical only at the six-digit level and Canadian export codes are eight digits and import codes are ten digits, it was necessary to do some conversion. As a result, the final definition may not be identical to that used in the United States; however, it is reasonably similar and allows for broad comparisons.

For more detail on the commodity-based definition used in this report and a brief description of the ATP categories, see Appendix B, "Defining High Technology Commodities."

2.3. Data for the film industry

Business activity in the film sector—comprised of the motion picture production and post-production industries—tends to be project-driven. In other words, a production company is often formed specifically for the production of one film project and then dissolved once production on that film is completed.

These unique characteristics of the motion picture industry create challenges with respect to gathering data that are able to accurately capture activities in the film sector, which could result in large data revisions whenever there is new information. Statistics Canada has been working to remedy this situation and better capture the true nature of the industry with the expectation that the data for all provinces will be revised once this review is complete. While Statistics Canada works on revising their estimates for the motion picture production and post-production industries, BC Stats will continue to use the data that are currently available. As such, the film sector data contained in this report should be viewed with caution and data for B.C. specifically should be considered an underestimate of the true activity in the sector.

2.4. This year's edition

This report includes the latest information available as of October 2020. It should be noted that data revisions will result in differences between this and earlier editions of this publication and figures should not be compared between editions.

Readers should note that graphs and text in this publication deal only with the highlights of the information that has been collected. The data tables preceding the appendices contain additional useful detail.

2.5. The high technology sector and the pandemic

With the world reeling from the effects of COVID-19, most economic indicators have changed dramatically since the period covered in this report. Given the nature of the technology sector, it is difficult to say what the effect of the pandemic on the sector has been and will be going forward.

Some tech industries have likely suffered similar to other parts of the economy; however, there are others that have probably benefitted from a surge in demand for their services, such as the telecommunications industry, for example. There are possibly other industries that have experienced little impact at all. The data presented in this report will serve as a useful benchmark to determine the full impact of the pandemic on the tech sector once data for 2020 are available.

3. Profile and Trends

3.1. Gross Domestic Product

High tech sector GDP continues to expand

In 2019, there was a 4.2% rise in British Columbia's high technology sector GDP.³ There was growth in both the manufacturing and service sectors, with increases of 6.5% and 4.0% respectively. Within the service sector, the strongest growth was in other services—which consists of activities such as research and development, testing laboratories, surveying and mapping, and environmental, scientific and technical consulting—where GDP climbed 7.6%. The increase in engineering services GDP was only marginally lower, at 7.5%.

The motion picture production and post-production industry was the only tech industry to experience a drop in GDP, with output falling 8.1%.

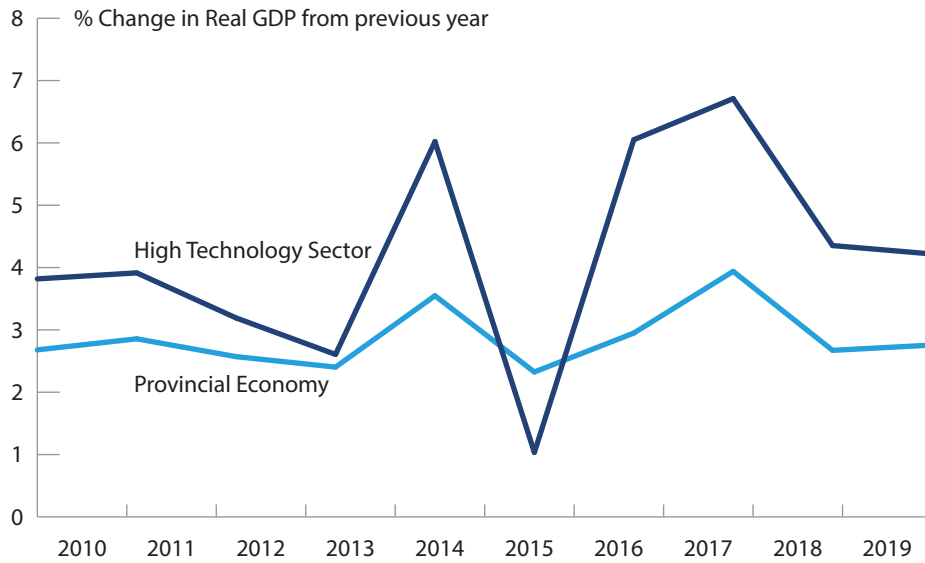
The tech sector's growth in GDP of 4.2% in 2019 was higher than that of the overall provincial GDP, which climbed 2.8%. In fact, high technology GDP has exceeded overall GDP growth every year in the last decade with the exception of 2015. The high tech sector is responsible for around 6.6% of B.C.'s economic output.⁴



³ All GDP figures quoted in this report are in chained 2012 constant dollars unless otherwise stated.

⁴ This figure is calculated using current dollar GDP figures. Chained dollar figures are not additive and, therefore, it would be inaccurate to use those figures to calculate a percentage share. Also, this offers consistency with the U.S. state comparisons below, given that U.S. GDP figures are only available valued in current dollars.

FIGURE 1: REAL GDP GROWTH FOR HIGH TECHNOLOGY AND OVERALL ECONOMY, BRITISH COLUMBIA



GDP growth in B.C.'s high tech sector has usually exceeded that of the overall economy in the last decade

Services constitute the bulk of high tech GDP in B.C.

The service sector was responsible for around 90% of B.C.'s high tech output in 2019, generating \$16.5 billion in GDP. By contrast, manufacturing industries generated just under \$1.8 billion in high technology GDP, a fraction of that of the service sector.

TABLE A1: B.C. GDP, 2019 (CHAINED 2012 DOLLARS)

	\$ MILLION	% CHANGE 2018/2019
Manufacturing	1,769	6.5
Services	16,584	4.0
High Tech Total	18,348	4.2
B.C. Total	253,049	2.8

The service sector is responsible for generating the bulk of high technology GDP

B.C. ranks third in the country in high technology GDP

Together, Ontario and Quebec accounted for over two-thirds of Canada's high technology GDP in 2019. Ontario's high tech sector produced \$63.3 billion in GDP, while the tech sector in Quebec generated around \$35.7 billion. British Columbia's \$18.3 billion in high tech GDP represented over 12% of the Canadian total, which was enough to rank B.C. third in the country, followed by Alberta, which generated \$16.5 billion in high tech GDP.

The 4.2% growth in B.C.'s high tech GDP was marginally lower than the average national growth rate of 4.7% and ranked third among the provinces for which the high tech sector is measured. The only province to exceed the national rate was Quebec, at 7.6%. Ontario had the next highest GDP growth, at 4.6%. The three Prairie provinces all trailed B.C. in GDP growth.

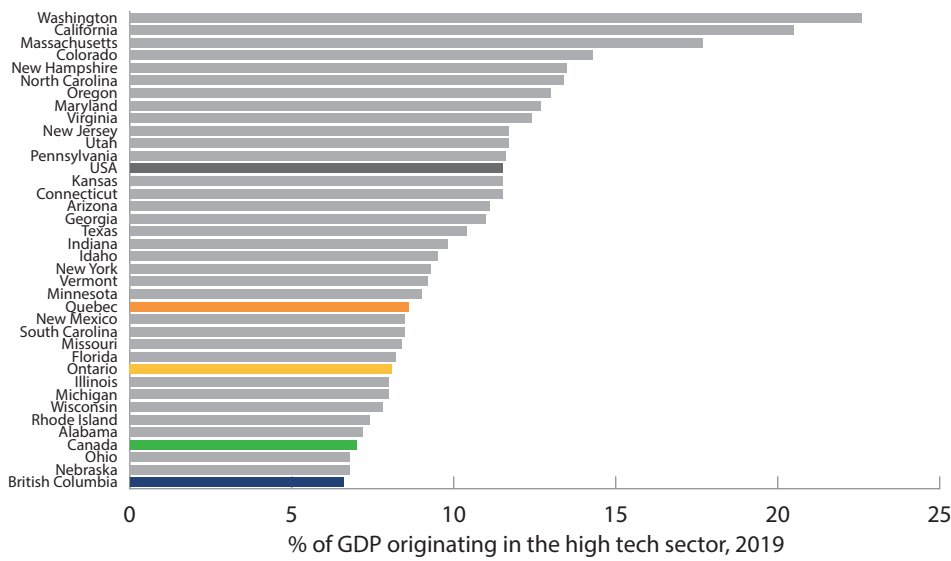
High technology plays a far bigger role in the United States

High technology makes up a larger part of the overall economy in the U.S. than it does in Canada. In 2019, the tech sector generated just over 11% of total GDP in the United States, compared to 7% in Canada. The output of the U.S. tech sector was around \$3.3 trillion, over 20 times that of total Canadian high tech GDP.⁵

The importance of high technology to the overall economy varies considerably among the states, but the sector is particularly significant in Washington, California and Massachusetts. In 2019, just under 23% of Washington State's GDP was generated by the high tech sector. The comparable figures in California and Massachusetts were 20% and 17%, respectively.

⁵ All dollar figures for the United States have been restated in Canadian currency to allow direct comparison with Canadian figures. An annual average of the Canada/U.S. exchange rate was used to perform this conversion. All GDP figures for the U.S. are in current dollars and comparisons with Canada and the provinces are made using current dollar figures.

FIGURE 2: PERCENT OF GDP GENERATED BY THE HIGH TECHNOLOGY SECTOR, 2019



High technology industries play a significant role in the economies of many U.S. states

In 2019, the value of GDP for California’s high tech sector alone was over five times that of the GDP of Canada’s high technology sector. California’s tech sector produced \$851.9 billion in GDP, accounting for 26% of the nation’s total high tech GDP. Both Texas (\$254.2 billion) and New York (\$218.6 billion) also produced more high tech GDP than Canada as a whole (\$156.9 billion).

The high technology sector comprises a larger portion of the economies of most American states than it does in Canadian provinces. In 2019, there were 33 states where high tech was responsible for a larger proportion of GDP than the 6.6% of provincial GDP attributable to B.C.’s tech sector. Quebec’s tech sector ranked first in Canada at 8.6% of total GDP, but there were still 22 states where the tech sector’s share of total GDP was higher. In terms of total value of output generated by the sector, more than half the states had larger high tech sectors than British Columbia.

3.2. Revenue

High technology revenue continued to grow in 2019

Revenue in British Columbia’s high technology sector peaked for the tenth consecutive year in 2019, rising 4.0% to \$34.9 billion.⁶ All the growth was attributable to the service sector as revenue in high tech manufacturing edged down 0.7%. Conversely, revenues in the high tech service sector climbed 4.8%. Revenues increased in all tech industries with the exception of telecommunications, where they fell 6.7%. The highest growth was in engineering services, where revenues jumped 13.5%.

⁶ Note that all revenue, wage and trade figures in this report are in current dollars as sufficient information is not available to calculate constant dollar figures. As such, growth rates include the effects of inflation.

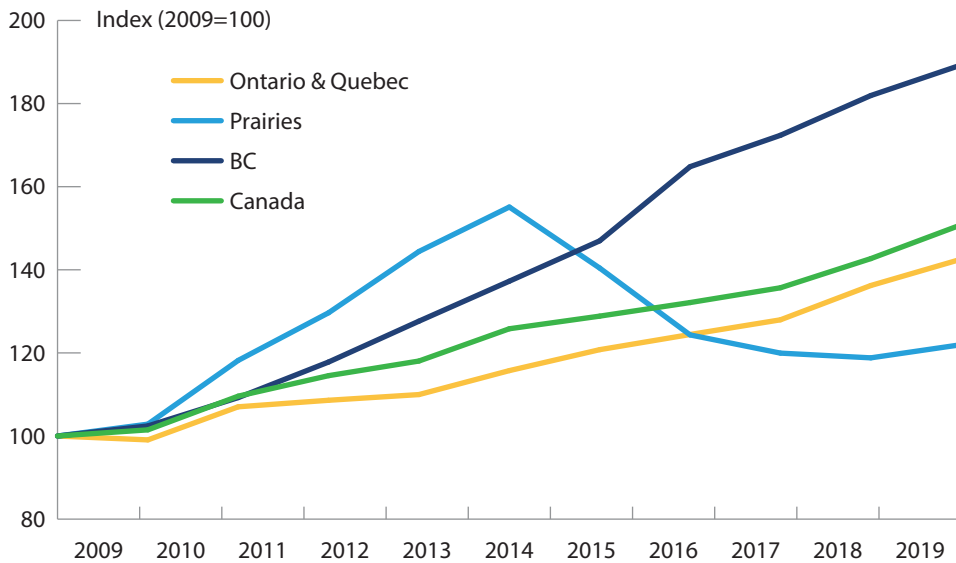
In 2019, B.C.'s rate of growth in high tech revenue trailed the national average of 5.7% and ranked fourth among the provinces for which high tech revenues are calculated. Quebec had the highest growth, at 7.7%, followed by Manitoba, at 6.6%, and Ontario, at 4.6%.

High technology revenue in the United States climbed 6.5% in 2019, to \$4.6 trillion. As with GDP, California (\$1,023.6 billion), Texas (\$335.8 billion) and New York (\$308.5 billion) all had more revenue from their tech sectors than Canada as a whole (\$289.4 billion).

Over the last decade, B.C. has outpaced the national average in revenue growth

While B.C.'s tech sector revenue growth trailed a few provinces in 2019, over the last decade, revenues in B.C.'s high tech sector have grown steadily, rising at a faster pace than any other province. Up to 2014, the Prairie provinces saw the fastest rise in tech revenue, but since then declines in Alberta and Saskatchewan have dragged their tech revenue growth below that of British Columbia and central Canada. Revenues in Ontario and Quebec have grown at a similar pace to the national average with Ontario's growth trailing Canada's slightly and Quebec's growth, in recent years, pulling ahead of Canada's.

FIGURE 3: INDEX OF HIGH TECH REVENUE



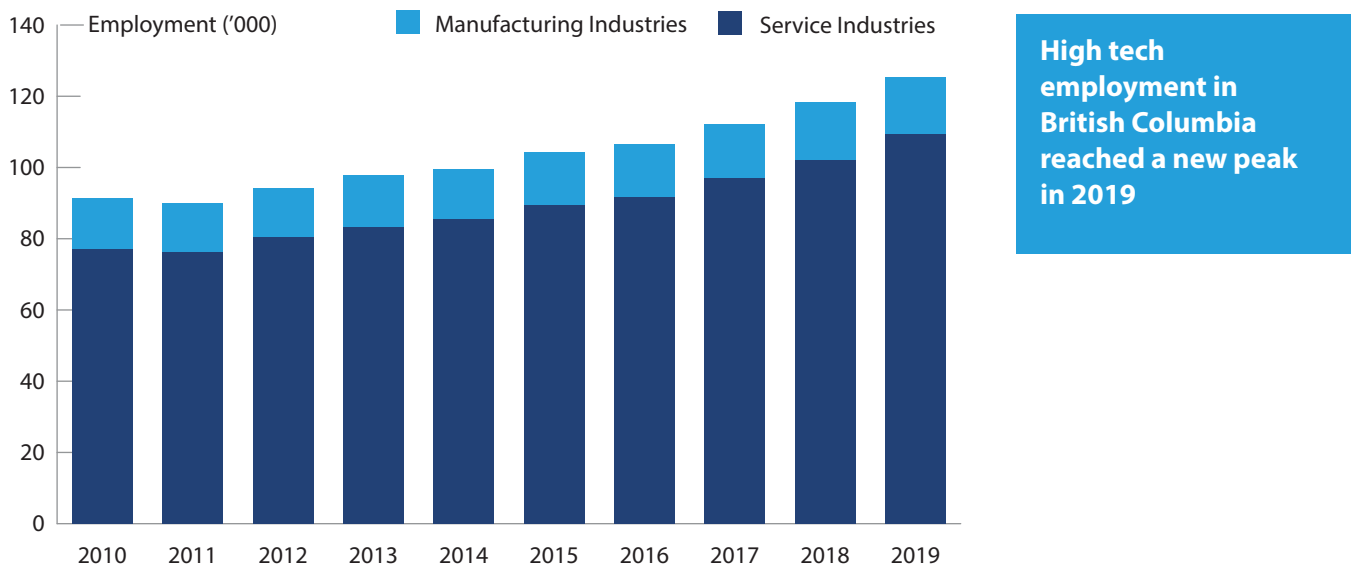
Growth in B.C.'s high tech revenues has outpaced the Canadian average over the last decade

3.3. Employment

B.C. high tech sector employment peaked again in 2019

Employment in B.C.'s high tech sector grew 4.7%, to 131,220, the highest level ever recorded.⁷ It was the eighth consecutive year that employment hit a new peak. Both the manufacturing and service sectors saw growth, with increases of 9.0% and 4.0% respectively. With the exception of the telecommunications industry, which shed 5.7% of its employees in 2019, the other high tech industries all increased their employment. The decline in employment in telecommunications came on the heels of a 27.4% jump the previous year, such that employment in that industry still registered its second highest annual total ever.

FIGURE 4: BRITISH COLUMBIA HIGH TECHNOLOGY EMPLOYMENT



The 4.7% increase in tech sector employment was higher than B.C.'s industrial aggregate growth of 2.4%. This was the fourth straight year that growth in employment in the high tech sector exceeded that of overall provincial employment growth.

⁷ The measure of employment used in this report is based mainly on Statistics Canada's Survey of Employment, Payroll and Hours (SEPH). This employer survey provides a wealth of detail about employment, wages and hours in a large number of industries. However, because it is an employer survey, the SEPH data do not include self-employed workers and workers in commercial fishing, agriculture and some services.

The data from SEPH give an average number of workers in an industry over the course of the year. If an industry is highly seasonal, the peak number of workers is offset by those months where there are fewer workers. A full-time worker is accorded equal status with a part-time worker. No attempt is made to measure the number of "person years" or "full-time equivalents."

TABLE A2: B.C. EMPLOYMENT, 2019

	WORKERS	% CHANGE 2018/2019
Manufacturing	17,380	9.0
Services	113,840	4.0
High Tech Total	131,220	4.7
B.C. Total	2,343, 010	2.4

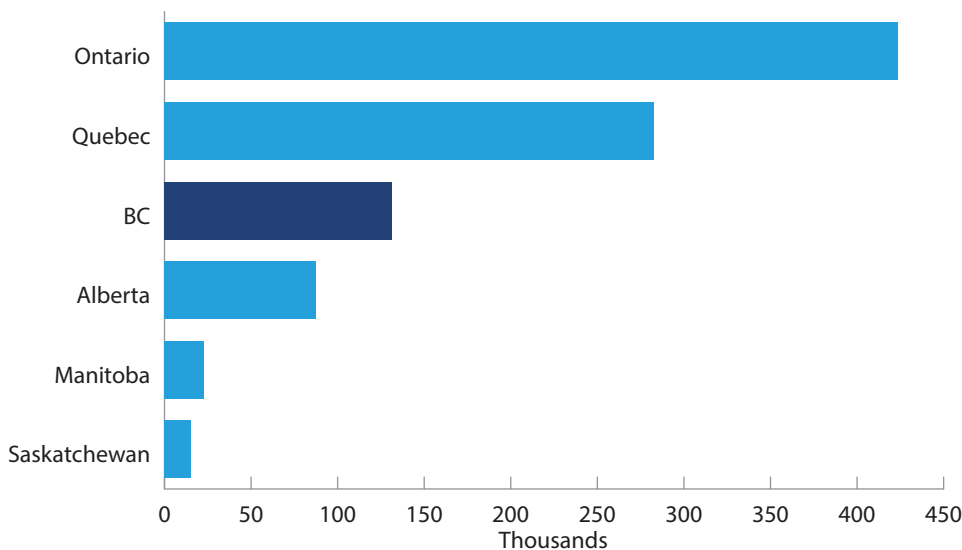
Employment in B.C.'s high tech sector grew faster than the industrial average once again in 2019

Most of B.C.'s high technology workers are employed by a service sector industry. In 2019, around 113,840 people worked in a high tech service industry, or 87% of total high tech employment, while the remaining 17,380 tech workers were employed in a manufacturing industry.

B.C. has the third largest high tech workforce in Canada

Almost 70% of Canada's high tech employees are located in Ontario or Quebec. In 2019, Ontario had 423,750 people employed by the high tech sector, or 42% of the Canadian total. Quebec was the location of 28% of the nation's tech workers, more than B.C. (13%), Alberta (9%), Manitoba (2%) and Saskatchewan (2%) combined.

FIGURE 5: HIGH TECHNOLOGY EMPLOYMENT BY PROVINCE, 2019



B.C. ranked third in high tech employment in Canada in 2019

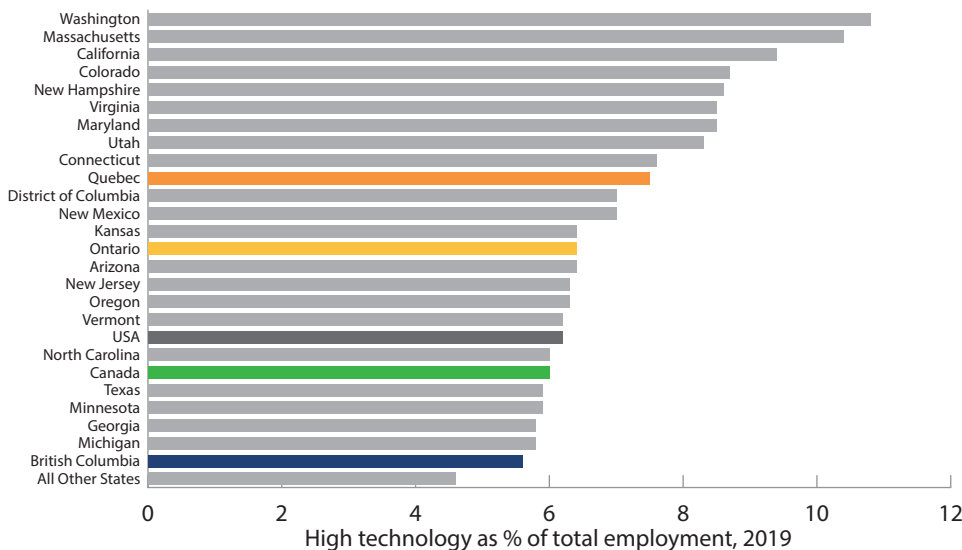
In 2019, British Columbia, with its 4.7% rise in high tech employment, was the only province other than Quebec, which led the country with a 6.4% jump in tech employment, to exceed the national average growth of 4.1%. Saskatchewan was the only province to see a decline, with high tech employment falling 1.5%.

Approximately 5.6% of B.C.'s workforce was employed by the high tech sector in 2019. This ranks the province third in Canada behind Quebec (7.5%) and Ontario (6.4%) and slightly below the national average of 6.0%. Alberta's tech sector employed roughly 4.3% of the province's workers, Manitoba had 3.7% of provincial employment in the tech sector and Saskatchewan's high tech sector was responsible for around 3.2% of total employment in the province.

The high technology sector is a major employer for some U.S. states

Around 6.2% of the American workforce was employed in the high technology sector in 2019, a slightly higher share compared to Canada.⁸ However, there is quite a wide range in high tech's share of total employment among individual states, ranging from a high of 10.8% in Washington State to a low of 2.6% in Mississippi. Other states where the high technology sector is a prominent employer include Massachusetts (10.4%), California (9.4%), Colorado (8.7%), New Hampshire (8.6%), Virginia (8.5%), Maryland (8.5%) and Utah (8.3%).

FIGURE 6: HIGH TECHNOLOGY AS A PERCENT OF TOTAL EMPLOYMENT, 2019



Within the United States, Washington State has the largest share of employment comprised of high technology workers

⁸ Similar to the Canadian numbers, the employment data used in this report comes from an employer survey (*Quarterly Census of Employment and Wages*), so self-employed workers are excluded.



In 2019, British Columbia trailed 21 states in terms of the proportion of the total workforce comprised of high tech sector workers.⁹ Quebec, with Canada's highest rate of employment generated by the high technology sector, ranked slightly behind Connecticut, which placed ninth in the United States, while Ontario was marginally behind Kansas, which was twelfth among the states.

There were almost 9.2 million people working in the high tech sector in the United States in 2019, an increase of 3.1% over the previous year. Around 18% of these (1.7 million) were located in California, which was more than double the 0.7 million high tech workers employed in second-ranked Texas.

The manufacturing sector has a much larger presence in the high tech sector in the United States than it does in Canada. Approximately 27% of all U.S. high tech employment was in manufacturing industries in 2019, compared to 19% in Canada and 13% in British Columbia. There were nine states where at least 40% of all high tech employment was in the manufacturing sector, with Kansas leading the way at 49%. At the other end of the scale, the District of Columbia had the smallest share at less than half of a percent. Hawaii and Alaska were not far behind, with manufacturing shares of 2% and 3%, respectively.

⁹ For ease of reporting, the District of Columbia is counted as a state.

3.4. Wages and Salaries

Total high tech wages and salaries continued to grow in 2019

In 2019, there was a 7.6% increase in the wages and salaries paid out by British Columbia's high tech sector. Total wages and salaries of B.C.'s high tech sector climbed to \$12.0 billion, the highest level ever recorded.¹⁰ Wage growth in the tech sector exceeded that of the economy as a whole, as total wages and salaries in the province increased 5.4%.

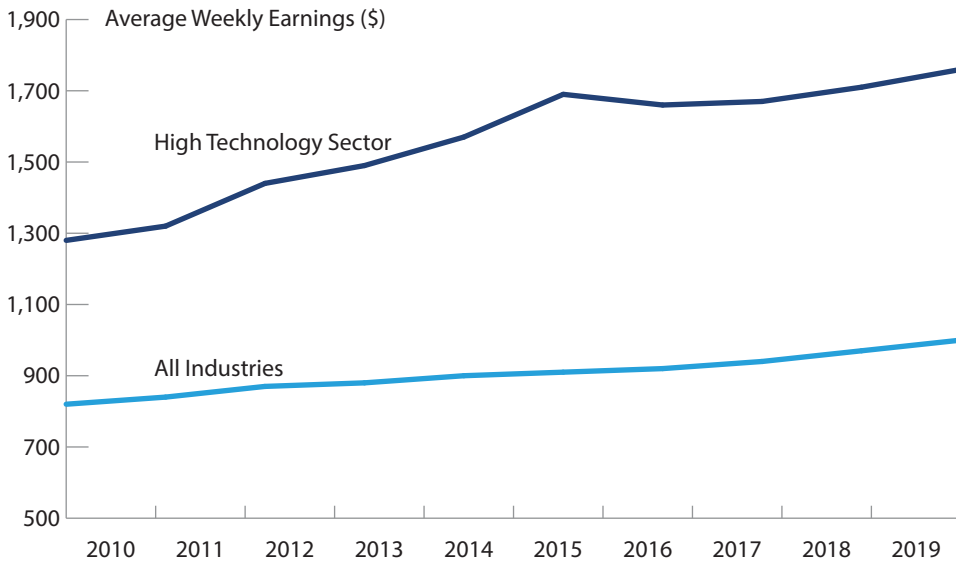
The growth in employment contributed to the rise in wages and salaries, but there was also a 2.8% increment in average weekly earnings.

Workers in B.C.'s high tech sector earn more than the provincial average

Employees working in B.C.'s high technology sector earn higher wages, on average, compared to a typical worker in the province. The average weekly earnings of a tech worker in the province was \$1,760 in 2019, compared to \$1,000 per week for the average worker in the province as a whole. Those high tech employees that worked in the manufacturing sector actually earned slightly less than the average for all manufacturers, at around \$1,250 per week, compared to \$1,260 for the average manufacturing worker. However, for service sector workers, tech workers earned almost double the average service sector wage (\$1,830 per week, compared to \$950).

¹⁰ Wages and salaries are based on the earnings of all workers in an industry who are on the payroll, from working owners and senior executives to junior support staff. While overtime and bonus pay are included, other benefits such as medical plans, stock options and time off in lieu of overtime are not. Like the employment values described earlier in this report, the wages and salaries data are mainly calculated using source data from Statistics Canada's Survey of Employment, Payroll and Hours.

FIGURE 7: AVERAGE EARNINGS IN THE HIGH TECHNOLOGY SECTOR COMPARED WITH ALL INDUSTRIES, BRITISH COLUMBIA

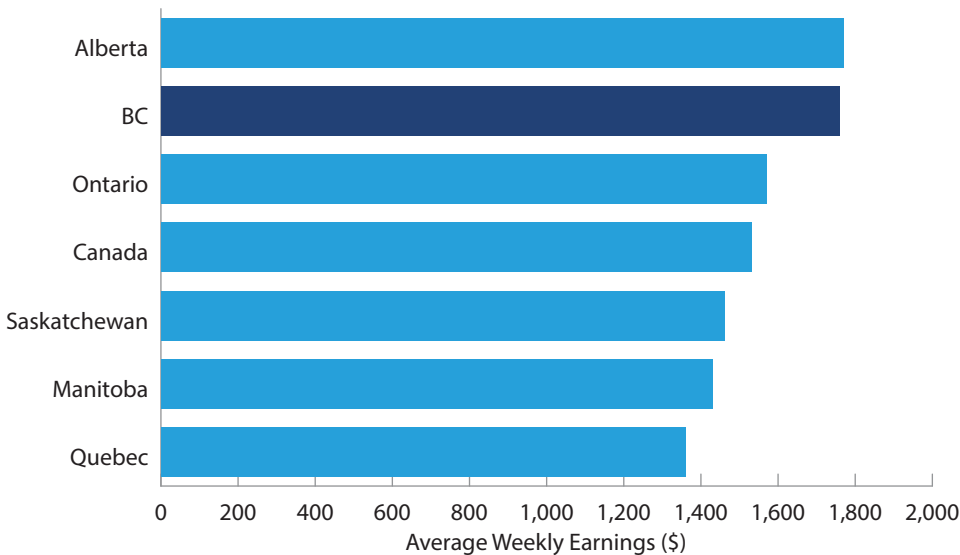


Wages in high technology industries are far higher than the average for all industries in the province

Earnings of tech workers in B.C. are higher than the national average

The average Canadian high technology worker earned around \$1,530 per week in 2019. Alberta’s tech sector offered the best average pay in the country, at \$1,770 per week, followed closely by B.C.’s \$1,760 per week. Ontario (\$1,570 per week) was the only other province to exceed the Canadian average.

FIGURE 8: AVERAGE EARNINGS IN THE HIGH TECH SECTOR BY PROVINCE, 2019



Employees of B.C.’s high technology sector earned more, on average, than tech workers in all other provinces except Alberta

In 2019, average weekly earnings in Canada's high tech sector grew 3.6%. High tech earnings grew the fastest in Manitoba, at 5.3%. Quebec, with a 5.0% rise in earnings, and Saskatchewan, with a 4.7% increase also exceeded the national average rate of growth. B.C.'s earnings growth of 2.8% was the next largest, followed by Ontario, at 2.5%. Alberta's 2.0% increase in earnings was the lowest among the provinces for which estimates for the high technology sector were produced.

While earnings in Canada's tech sector are far higher than the industrial aggregate, they are still relatively low compared to pay in the United States' high tech sector. In 2019, high tech workers in the U.S. earned \$3,030 per week, on average, ranging from \$1,657 in South Dakota to \$4,335 in California. Compared to B.C., only Mississippi and South Dakota paid their high tech workers less, on average. Some of this difference is due to the fact that the exchange rate is not properly reflective of relative purchasing power. However, even when using a purchasing power parity (PPP) measure to convert U.S. wages to Canadian dollars, high tech wages in B.C. and the rest of Canada would still be lower than those in most American states.



3.5. Business Counts

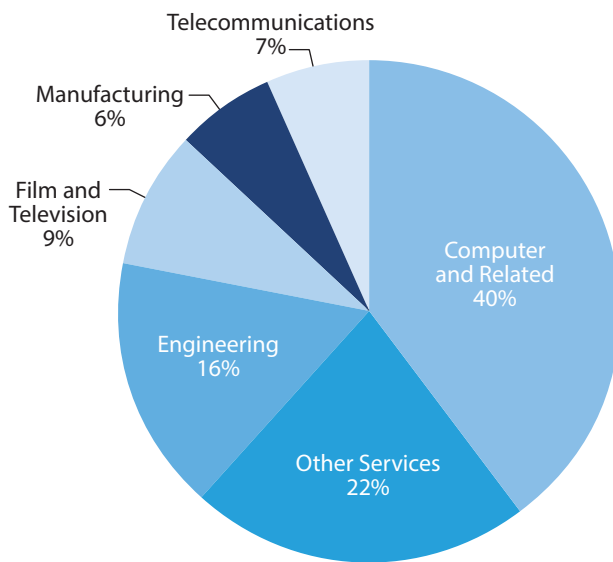
The number of high tech businesses in B.C.

In 2019, there were 11,052 businesses with employees in B.C.'s high technology sector, an increase of 111 from the previous year, which translates to a growth rate of 1.0%.¹¹ The growth was entirely in the service sector, where the business count expanded 1.3%, as there were 22 fewer high tech businesses in the manufacturing sector, a drop of 3.0%.

Most of B.C.'s high tech businesses are in the service sector

Just under 94% of B.C.'s high tech businesses were in the service sector in 2019. Of high technology businesses with employees, 10,341 were in service industries and 711 were manufacturers.

FIGURE 9: DISTRIBUTION OF B.C.'S HIGH TECH BUSINESSES, 2019



Service sector businesses dominate B.C.'s high tech sector

The computer and related services industry group is the largest within B.C.'s high tech sector, making up 40% of the province's high tech businesses. Other services (22%) and engineering (16%) are the next two largest high tech industry groups. Environmental, scientific and technical consulting industries are the largest component of the "other services" industry group, accounting for well over half of the businesses in that category.

¹¹ Owner-operated firms with no paid employees are not included in the tabulation of business counts. Information on firms with no employees is discussed later in this section on page 23.

High tech manufacturing firms are larger

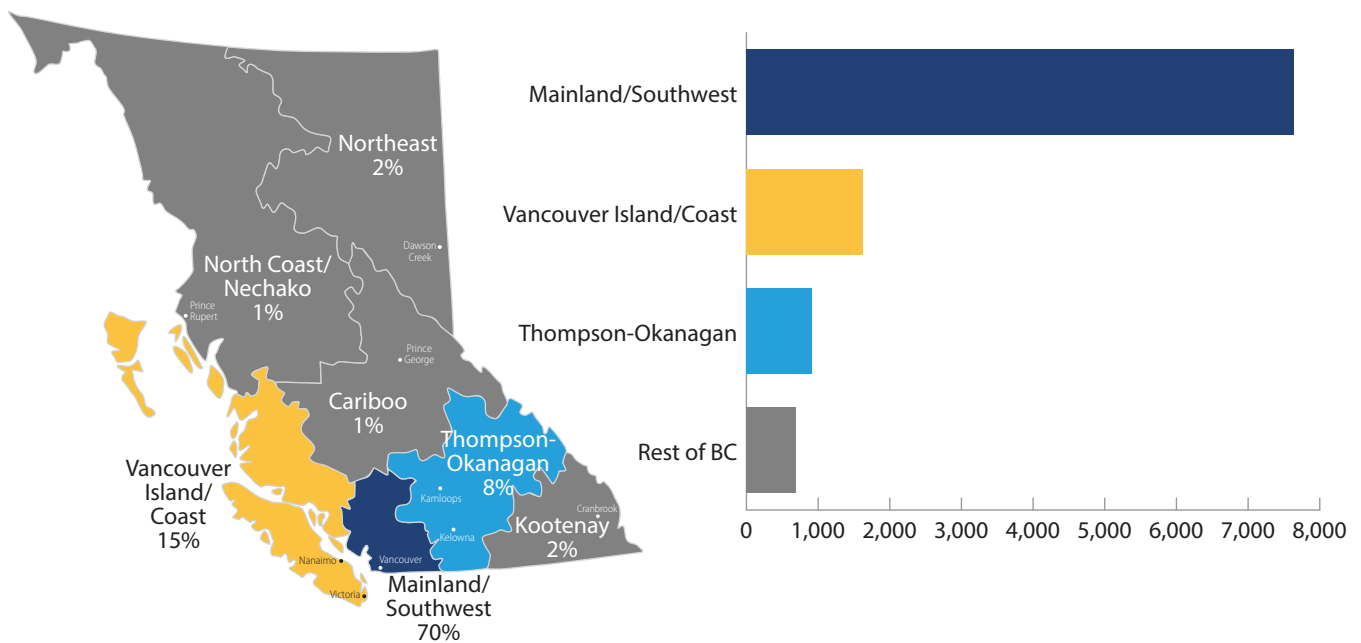
With respect to number of employees, B.C.'s high tech manufacturers tend to be larger compared to their service sector counterparts. Of those manufacturing businesses with employees, 10% employed 50 workers or more, compared to just 4% of high tech service businesses. At the other end of the scale, fewer than half (43%) of high tech manufacturers have between one and four employees, while two-thirds (67%) of the businesses in the service sector fit this description.

High tech businesses are located where the people are

High technology businesses are most often located in areas of the province with the largest populations. Around 70% of B.C.'s high technology businesses are situated in the Mainland/Southwest region, with most of those located in Metro Vancouver. Vancouver Island/Coast is home to 15% of B.C.'s tech businesses, with the majority located in the Capital region, and the Thompson-Okanagan region is the location of an additional 8% of tech businesses.

Relative to population share, there is a disproportionate number of high tech businesses in Metro Vancouver; however, there are tech businesses distributed throughout the province.

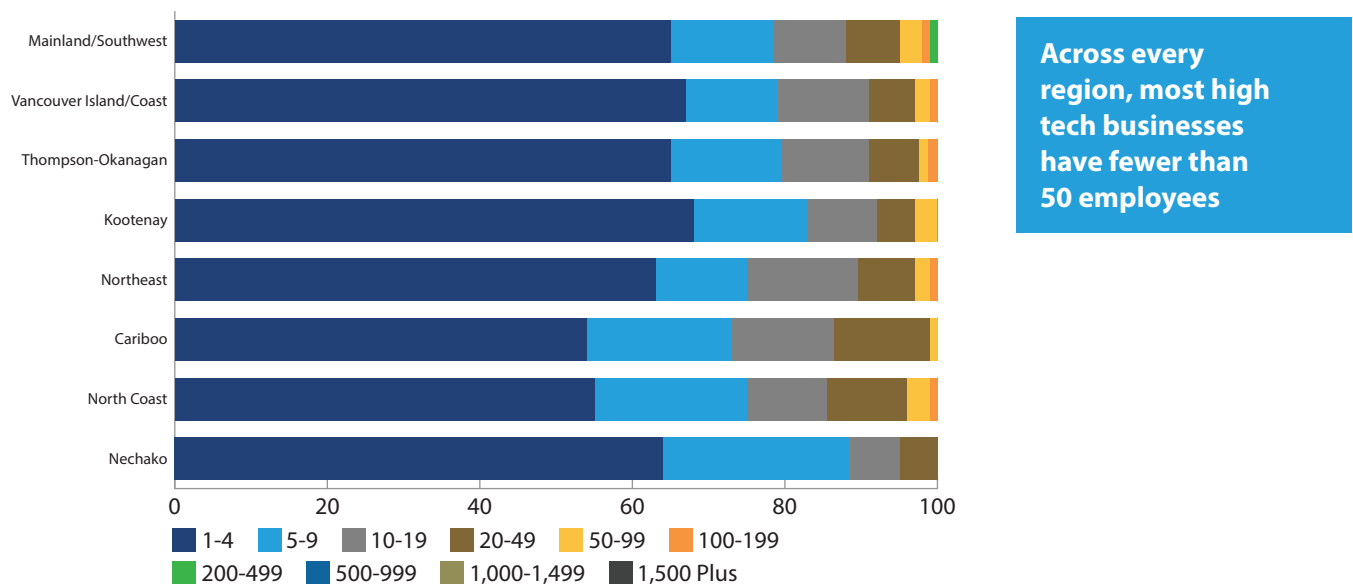
FIGURE 10: DISTRIBUTION OF HIGH TECHNOLOGY BUSINESSES BY REGION, 2019



In 2019, there were 7,637 high technology businesses located in the Mainland/Southwest region, an increase of 2.7% from 2018. The Vancouver Island/Coast region was home to 1,630 high tech businesses in 2019, which was 1.8% higher than a year earlier. A further 912 high tech companies were located in the Thompson-Okanagan region, up 2.9% from 2018. The remaining 873 technology businesses were scattered throughout the rest of the province.¹²

While there is some variation with respect to size of high technology businesses by region, most high tech firms in the province are small businesses with fewer than 50 employees. All high tech businesses with more than 1,000 employees are located in the Mainland/Southwest region. The only two other regions to have businesses with more than 500 employees are the Vancouver Island/Coast and Thompson-Okanagan regions, while Cariboo is the only other region to have a high tech business with more than 200 employees, with one such business located in that area.

FIGURE 11: EMPLOYEE SIZE BREAKDOWN OF HIGH TECHNOLOGY BUSINESSES BY REGION, 2019



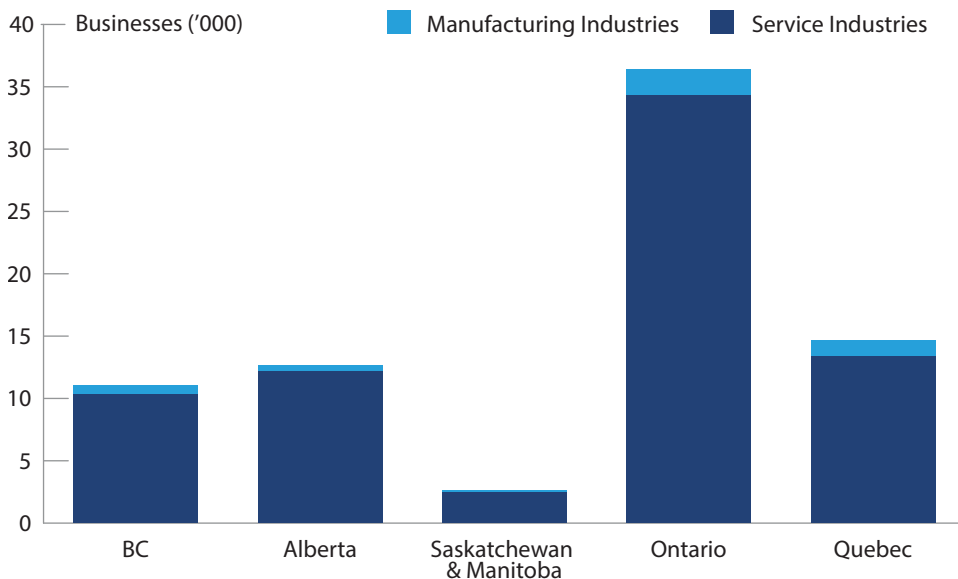
Across every region, most high tech businesses have fewer than 50 employees

¹² This includes 183 businesses for which location data are not available. Some or all of these could be located in Mainland/Southwest, Vancouver Island/Coast or Thompson-Okanagan regions. Note that this figure has dropped significantly from 2018, when 327 businesses did not have location information, so some of the growth in these regions could be due to Statistics Canada identifying locations of some of these businesses, rather than an actual increase in new businesses.

Provincial variance in business counts

In 2019, roughly 14% of Canada’s high tech businesses were located in British Columbia, ranking it fourth in the country behind Ontario, Quebec and Alberta. There were 36,424 high technology businesses in Ontario, or 45% of the Canadian total. Quebec ranked second with 18% of Canada’s high tech businesses and Alberta was third, with just under 16%. In all provinces, the large majority of high tech businesses were in the service sector and manufacturing businesses comprised a small fraction of the high technology sector.

FIGURE 12: COUNTS OF HIGH TECHNOLOGY BUSINESSES BY PROVINCE, 2019



In each province, the high tech sector is dominated by service industries

For Canada as a whole, 6% of high tech firms were in the manufacturing sector. Manitoba had the largest proportion of manufacturers in the high technology sector, at slightly under 9%, followed by Quebec, with just over 8%. At only 4%, Alberta had proportionately the fewest manufacturers in its high tech sector.

High tech businesses with no employees

Some high technology industries are ideally suited to self-employment, where the skills, knowledge and energy of the individual are more important than large capital investment. There is currently no perfect measure available of self-employment in the high tech sector as data by industry from Statistics Canada's Labour Force Survey are not detailed enough to derive a high tech aggregate. However, counts of businesses with no employees can be used to approximate the number of self-employed with no employees (those with employees are counted in the number of businesses discussed earlier).¹³ This is only an approximation because the figure may also include companies that hire only contractors, or companies with unpaid family workers.

TABLE A3: BUSINESS COUNTS, 2019

	WITHOUT EMPLOYEES	WITH EMPLOYEES
Manufacturing	578	711
Services	18,952	10,341
High Tech Total	19,530	11,052
B.C. Total	449,657	206,532

There are a large number of self-employed individuals working in B.C.'s high tech sector

There were 19,530 high tech businesses with no employees in British Columbia in 2019, which was around 77% higher than the amount of high tech firms with employees. As one might expect, it is far less likely to have sole proprietorship businesses in manufacturing industries. Fewer than half (45%) of high tech manufacturers had no employees, compared to 65% of high tech service businesses.

¹³ Note that it would be erroneous to add these counts of self-employed to the total number of high technology workers reported elsewhere in this report due to the differences in what is being measured.

3.6. Service Exports and Imports

Exports of high tech services

Exports of services are defined as all services provided by B.C. residents to non-residents. For example, service exports take place when B.C.-based professionals, such as engineers or software programmers, work for a period of time outside the province. Service exports also occur when, for example, an engineering firm produces a study in its B.C. office for an overseas client, or when a software developer creates a new program that is delivered on-line to a client in another country.

It is generally more difficult to measure service exports than exports of goods. Goods exports are tracked through customs documents, providing an administrative record that can be used for statistical purposes, but this is not usually the case with service exports, which have to be estimated using surveys and other available information.

B.C.'s exports of high tech services climbed 5.1% in 2019. There was growth of 2.5% in exports of computer-related services and 3.8% in exports of professional, scientific and technical services. However, the largest growth was in exports of other high tech services (telecommunications, film production, etc.), which jumped 9.0% from 2018 to 2019. B.C.'s service exports grew faster than the national average, as exports of high tech services across the nation rose 3.8%.

TABLE A4: B.C. HIGH TECHNOLOGY SERVICE EXPORTS – 2019

	\$ MILLIONS	% CHANGE 2018/2019
Computer-Related Services	1,780	2.5
Professional, Scientific and Technical Services	2,282	3.8
Other Services	2,025	9.0
Total	6,087	5.1

B.C.'s exports of high technology services grew 5.1% in 2019

B.C.'s high technology sector exports far more services than goods. In 2019, services made up four-fifths of B.C.'s total high technology exports (i.e., goods plus services).

Imports of high tech services

There was also an increase in the value of B.C.'s imports of high technology in 2019, with growth of 4.5%. Imports of professional, scientific and technical services rose 5.5%, imports of computer-related services increased 5.3%, and there was a 1.1% boost in imports of all other high technology services. B.C.'s imports of high tech services grew slower than the national average, as Canadian high tech service imports increased 5.5%.

TABLE A5: B.C. HIGH TECHNOLOGY SERVICE IMPORTS – 2019

	\$ MILLIONS	% CHANGE 2018/2019
Computer-Related Services	782	5.3
Professional, Scientific and Technical Services	470	5.5
Other Services	297	1.1
Total	1,549	4.5

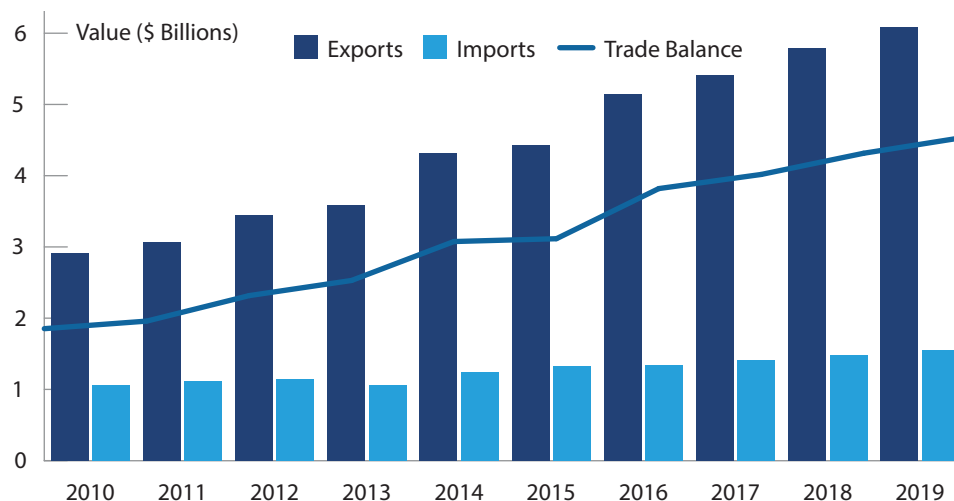
B.C.'s imports of high technology services grew 4.5% in 2019

In contrast to exports, B.C.'s tech sector imports far fewer services than goods. In 2019, services comprised only 17% of B.C.'s total high technology imports.

Balance of trade in high tech services

B.C. exports far more high tech services than it imports, such that the province has a large trade surplus. In 2019, B.C. exported almost \$6.1 billion worth of high tech services and imported just over \$1.5 billion, resulting in a trade surplus of \$4.5 billion.

FIGURE 13: BRITISH COLUMBIA HIGH TECHNOLOGY BALANCE OF TRADE IN SERVICES



B.C. has a large surplus in trade of high technology services

3.7. Commodity Exports and Imports

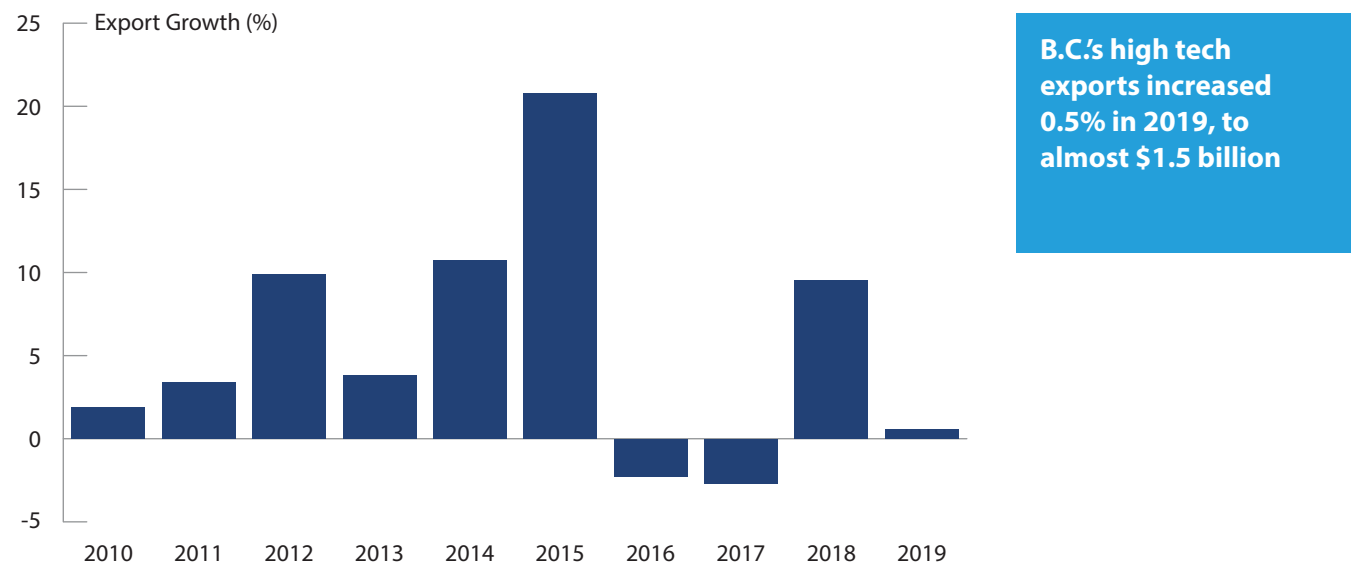
International trade in high tech goods

International trade is an important aspect of the high technology sector, as is reflected in the high volume of two-way trade. The domestic market for high technology goods¹⁴ generally does not have sufficient volume to achieve the economies of scale needed to remain competitive; therefore, access to international markets is extremely important as it allows B.C. producers of high tech goods to focus on market niches. At the same time, B.C. manufacturers do not produce enough of some types of high technology equipment to satisfy the domestic demand from either consumers or the high tech industry itself and, as a result, large volumes of goods are imported into the province.

High tech goods exports increased in 2019

The value of B.C.'s exports of high technology goods edged up 0.5% in 2019, to just under \$1.5 billion. While modest, this growth was in contrast to a 6.2% decline in B.C.'s overall commodity exports. As a result, the proportion of B.C.'s total exports consisting of high technology goods rose to 3.4%.

FIGURE 14: GROWTH IN BRITISH COLUMBIA HIGH TECHNOLOGY GOODS EXPORTS



¹⁴ High technology goods referred to in this document are based on a list developed by the U.S. Bureau of the Census and modified to fit Canadian conditions. See Appendix B, "Defining High Technology Commodities" for more information.

Exports of high tech goods are concentrated in selected commodity groups

Aerospace products were the top group of high tech commodities exported from the province in 2019, supplanting computers and telecommunications equipment, which had occupied the top rank since estimates for B.C.'s high technology sector were first produced. In 2019, aerospace products comprised a third (33%) of B.C.'s total high tech goods exports, while computers and telecommunications equipment made up 32%.¹⁵ There was growth in international shipments of aerospace products of 10.1% between 2018 and 2019, while exports of computers and telecommunications equipment fell 10.9%.

TABLE A6: B.C. HIGH TECHNOLOGY EXPORTS BY COMMODITY GROUP – 2019

	\$ MILLIONS	% SHARE	% CHANGE 2018/2019
Computers and Telecommunications	481.4	33.1	10.1
Aerospace	466.8	32.0	-10.9
Life Sciences	270.7	18.6	5.4
Computer Integrated Manufacturing	119.5	8.2	2.7
Opto-Electronics	62.3	4.3	30.4
Electronics	28.8	2.0	-38.5
Weapons and Nuclear	15.9	1.1	49.2
Biotechnology	7.4	0.5	78.7
Material Design	3.7	0.3	-20.5
Total	1,456.5	100.0	0.5

Aerospace products have replaced computers and telecommunications goods as the largest high technology commodity group export from B.C.

Other significant tech exports from the province included life sciences products (19%) and computer integrated manufacturing (8%). The remaining commodity groups accounted for just 8% of B.C.'s tech exports.

¹⁵ For information on high technology commodity groups, see Appendix B.

The U.S. is the primary destination for B.C. high tech exports

Around 59% of B.C.'s exports of high technology goods were shipped to the United States in 2019. This is well down from the peak of 84% recorded in 2000, as the market for B.C.'s high tech exports has diversified, particularly to countries of the Pacific Rim, but also to parts of Europe and the Middle East. However, compared to B.C.'s exports as a whole, the tech sector is much more dependent on the U.S. market for commodity export sales, as just under 51% of B.C.'s total exports were shipped to the United States in 2019.

TABLE A7: B.C. HIGH TECHNOLOGY EXPORTS BY DESTINATION – 2019

	\$ MILLIONS	%SHARE	% CHANGE 2018/2019
United States	857.5	58.9	0.9
European Union	157.2	10.8	-8.5
France	42.9	2.9	41.4
Italy	32.2	2.2	6.7
Netherlands	31.5	2.2	-17.6
Pacific Rim	195.5	13.4	-13.3
Mainland China	37.9	2.6	-9.9
Hong Kong	35.0	2.4	44.5
Japan	29.6	2.0	-6.3
Rest of the world	246.3	16.9	22.2
Total	1,456.4	100.0	0.5

The United States is by far the most significant destination for B.C. high technology product exports

Exports of high tech goods to the United States increased 0.9%, while there was a decline in shipments to both the European Union (-8.5%) and the countries of the Pacific Rim (-13.3%). However, exports of high technology products to the rest of the world jumped 22.2%. Much of this increase was due to shipments of aircraft to countries such as Qatar, Chad, Chile, Argentina, Guatemala and Peru.

Mode of transport of high tech goods depends on destination

The mode of transport used to ship high technology goods tends to be determined primarily by the destination of the goods, although the types of goods being shipped can also influence the mode chosen. For example, in 2019, almost two-thirds (66%) of high tech goods exported to the United States were transported over land by truck or rail, with the remainder shipped by airfreight. However, most of the tech goods shipped to the rest of the world were transported by air (94%), with 4% shipped by sea and only 2% transported over land.¹⁶

TABLE A8: B.C. HIGH TECH EXPORTS BY DESTINATION AND MODE OF TRANSPORT – 2019

	MODE OF TRANSPORT	\$ MILLIONS	% OF REGION	% OF TOTAL HIGH TECH EXPORTS
United States	Land	564.5	65.8	38.8
	Sea	0.0	0.0	0.0
	Air	292.9	34.2	20.1
	Total	857.5	100.0	58.9
All Other Countries	Land	11.8	2.0	0.8
	Sea	23.7	4.0	1.6
	Air	563.6	94.1	38.7
	Total	599.0	100.0	41.1
Total	Land	576.3	39.6	39.6
	Sea	23.7	1.6	1.6
	Air	856.5	58.8	58.8
	Total	1,456.5	100.0	100.0

Airfreight was the most popular mode of transport for high tech goods exported from B.C. in 2019

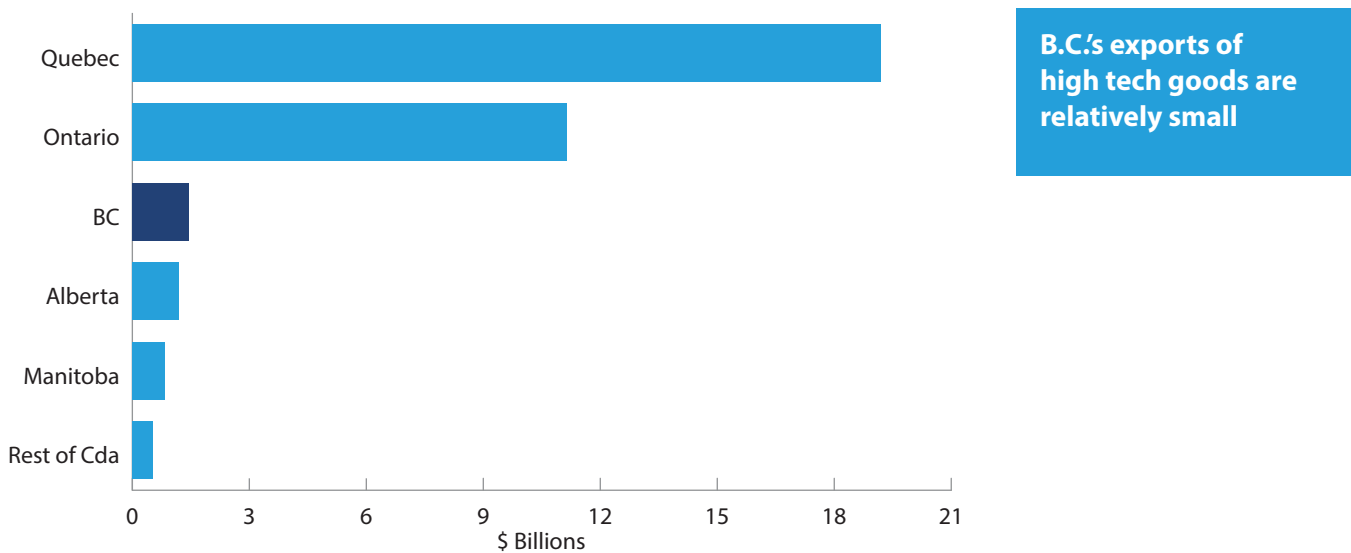
¹⁶ Note that the shipments by land to destinations other than the United States are not necessarily all destined for Mexico. Goods destined for overseas destinations may leave B.C. by truck or rail to points of departure in the United States where they are loaded onto ships or planes for the remainder of their journey.

The mode of transport of tech goods does vary from year to year due to fluctuations in both the types of goods shipped and their intended destination. However, shipping over land or by air are generally the two primary modes of transportation for high tech goods exported from British Columbia. In 2019 around 59% of B.C.'s tech exports were shipped by air, almost 40% were moved over land by road or rail and just under 2% were transported by sea.

B.C. ranks third in the country in terms of high tech exports

The almost \$1.5 billion in high tech goods exported by British Columbia in 2019 ranked the province third in the country. Quebec, with \$19.2 billion in high tech commodity exports, topped all provinces. Around 21% of Quebec's total commodity exports consisted of high tech products, by far the most of any province. Quebec was the only province to exceed the national average of 6% of commodity exports consisting of high technology products.

FIGURE 15: EXPORTS OF HIGH TECHNOLOGY GOODS BY PROVINCE, 2019



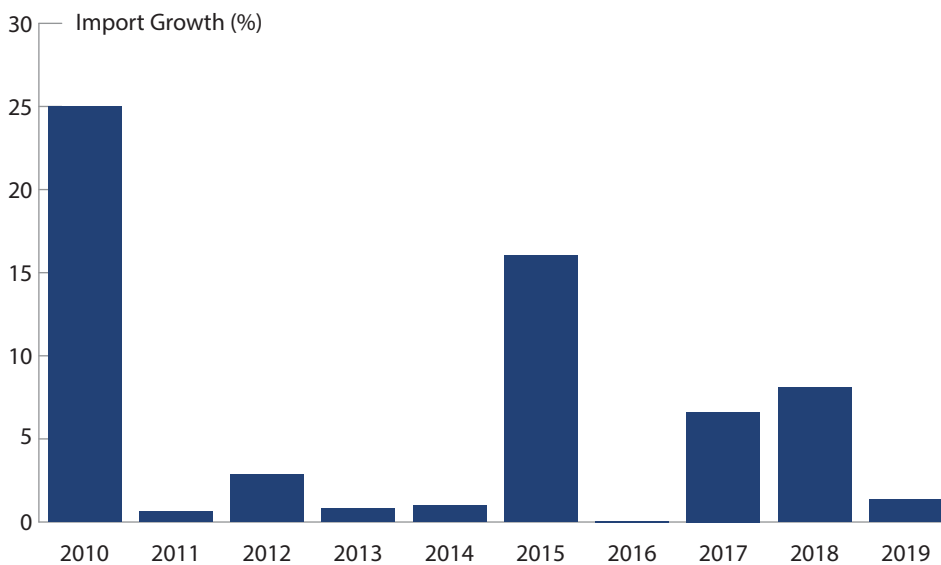
Ontario ranked second after Quebec, exporting almost \$11.2 billion worth of high tech products in 2019. Together, the two provinces accounted for 88% of Canada's high technology commodity exports. Alberta shipped around \$1.2 billion in tech products to international destinations, ranking it fourth among the provinces, followed by Manitoba, which exported \$834 million of high tech goods. Saskatchewan exports very few high tech goods, with only \$38 million worth of high tech commodities exported in 2019.

British Columbia's 0.5% growth in exports of high technology goods was well below the national average rate of growth of 5.6%. Quebec had the fastest growth among the provinces, with high tech goods exports rising 6.8%. Alberta, with growth of 6.4%, and Ontario, with an increase of 5.7%, also saw high tech commodity exports rise at a rate exceeding the national average. At the other end of the scale, Saskatchewan experienced a substantial 36.6% decline in exports of high tech goods, while Manitoba saw a much smaller drop of 0.9%.

Imports of high technology goods continued to grow in 2019

Imports of high technology goods into B.C. climbed 1.4% in 2019, to almost \$7.6 billion. This was despite the fact that imports fell from B.C.'s two largest trading partners, the United States (-3.3%) and Mainland China (-4.2%). Most of the decline from those two countries was offset by strong growth in imports from the European Union (+14.8%) and Mexico (+8.4%). Within the EU, there was a particularly large uptick in imports from France (+41.0%).

FIGURE 16: GROWTH IN B.C. IMPORTS OF HIGH TECHNOLOGY GOODS



Imports of high technology products into B.C. climbed 1.4% in 2019

In 2019, the top source of high technology commodity imports into B.C. was Mainland China, which shipped \$2.3 billion worth of goods to the province. The United States was not far behind, exporting just over \$2.2 billion of tech goods to British Columbia. Together, Mainland China and the U.S. were the source of 60% of high tech commodities imported into the province (almost \$4.6 billion). By comparison, all the countries of the EU plus the United Kingdom combined shipped only \$953 million worth of tech products to British Columbia.

Import growth varied by type of high tech product

Computer and telecommunications goods are by far the largest category of high technology imports with just over \$4.0 billion worth of these goods imported into B.C. in 2019, representing over half (53%) of total high tech product imports into the province. This was almost three times more than the \$1.4 billion in imports of second-ranked aerospace products.

TABLE A9: B.C. HIGH TECHNOLOGY IMPORTS BY COMMODITY GROUP – 2019

	\$ MILLIONS	%SHARE	% CHANGE 2018/2019
Computers and Telecommunications	4,015.4	52.9	0.6
Aerospace	1,366.4	18.0	-0.6
Life Sciences	888.1	11.7	10.3
Biotechnology	450.3	5.9	15.5
Electronics	314.6	4.1	-10.2
Opto-Electronics	256.1	3.4	-4.5
Computer Integrated Manufacturing	203.2	2.7	-4.5
Material Design	71.7	0.9	-3.4
Weapons and Nuclear	23.3	0.3	8.7
Total	7,589.1	100.0	1.4

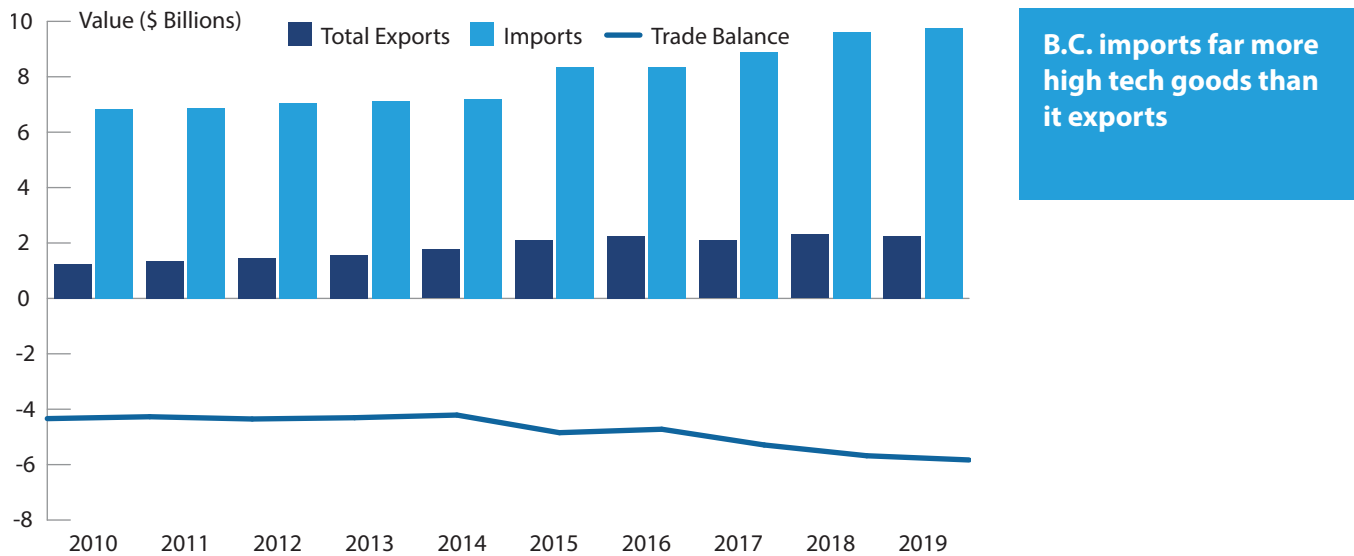
Over half the value of high tech goods imported into B.C. in 2019 was comprised of computers and telecommunications products

While overall imports of tech goods into B.C. grew only 1.4% in 2019, there were some commodity groups that recorded much stronger growth. Topping the list were biotechnology products, imports of which increased 15.5%. Other commodity groups to experience stronger than average growth were life sciences products, which saw imports climb 10.3%, and weapons and nuclear goods, which posted an 8.7% rise in imports. The largest drop in imports was for electronics goods (-10.2%).

B.C.'s high tech trade deficit widened in 2019

British Columbia imports far more high technology goods than it exports and, as a result, the province has a substantial commodity trade deficit for high tech products. In 2019, the province imported over four times the value of high tech goods that it exported. With imports growing faster than exports, the deficit widened to over \$5.8 billion.¹⁷

FIGURE 17: B.C. HIGH TECHNOLOGY BALANCE OF TRADE IN GOODS



B.C.'s largest trade deficit for high tech goods is with Mainland China, at almost \$2.3 billion. The United States is next largest, at about \$1.4 billion, followed by Mexico, at just over \$0.6 billion. British Columbia exports very few high tech goods to Mexico, but imports a large amount, accounting for the deficit.

¹⁷ Note that the balance of trade is calculated by taking the difference of total exports (including re-exports) and subtracting imports. In 2019, B.C.'s domestic exports of high tech goods were \$1.5 billion, but there were another \$290 million in re-exports, for a total of over \$1.7 billion in exports.

TABLE A10: B.C. BALANCE OF TRADE IN HIGH TECH GOODS BY COMMODITY GROUP – 2019

	\$ MILLIONS
Weapons and Nuclear	-6.7
Material Design	-67.9
Computer Integrated Manufacturing	-78.0
Opto-Electronics	-189.1
Electronics	-273.8
Biotechnology	-442.6
Life Sciences	-610.4
Aerospace	-709.0
Computers and Telecommunications	-3,465.5
Total	-5,843.1

B.C. imports more goods than it exports for every high tech commodity category

The trade deficit spans across all commodity groups with the largest deficits for goods with the highest volumes of trade. The trade deficit for computers and telecommunications alone is over two times the value of all B.C. domestic high tech commodity exports combined.

The United States exports and imports relatively more high technology goods than Canada

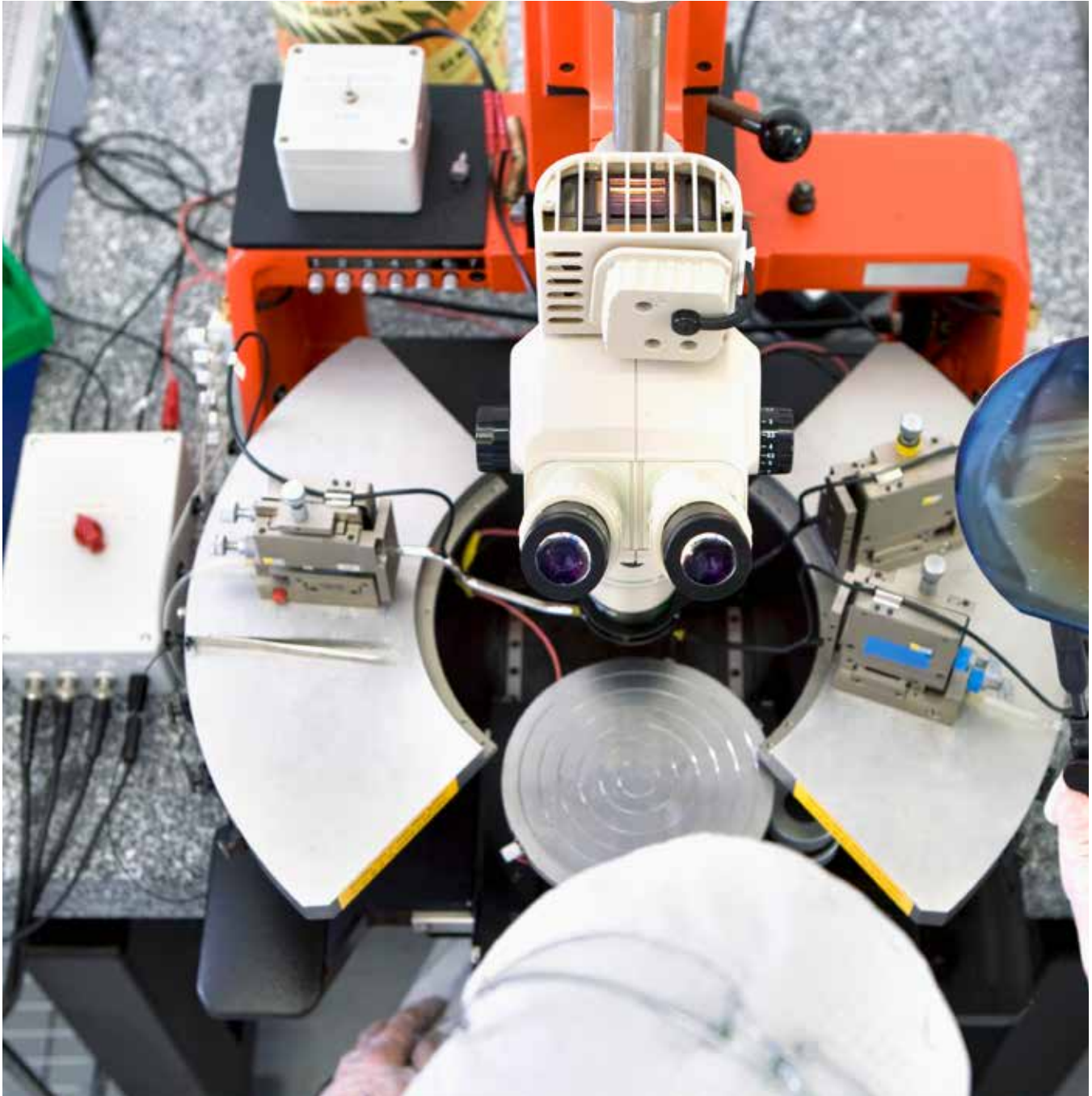
The share of total exports consisting of high tech products is far higher in the United States than it is in Canada. In 2019, the U.S. exported \$334.0 billion worth of high tech goods,¹⁸ which represented 18% of total U.S. domestic exports (compared to 6% for Canada and 3% for British Columbia). Among the provinces, only Quebec, at 21%, can compare in terms of the ratio of high tech to overall goods exports.

In 2019, the U.S. imported \$643.6 billion in high tech products, which comprised 20% of total U.S. imports (compared to 12% for Canada).

There was a 3.1% decline in the value of U.S. domestic exports of high tech goods in 2019, while imports recorded a marginal increase of 0.1%. As a result, the deficit in trade of high tech products increased to \$171.6 billion.

¹⁸ All figures for U.S. trade are denominated in Canadian dollars and growth rates and percentages are calculated using these figures. This figure does not include re-exports, which were valued at \$138.0 billion.

As recently as 1997, the U.S. had a surplus in trade of high tech goods exceeding \$45 billion, but considerable growth in imports, particularly from Mainland China, coupled with much smaller increases in exports, has put American trade in high technology goods into a growing deficit position over the last 18 years. In 2019, the U.S. high tech trade deficit with China alone was \$133.2 billion, while at the other end of the scale, the United States' largest surplus in trade of high technology goods was with Canada, at almost \$18.7 billion.



4. Detailed Tables

The tables in this section include a notation of “r” to indicate data that have been revised from previous editions and “p” to indicate that the data are preliminary. Most data for 2019 are denoted as preliminary, which should not be construed to mean there are problems with the data, but rather that they are based on information that itself is preliminary and therefore subject to greater revision than data for previous years.

Note that the tables are available in electronic form on the BC Stats website:

https://www2.gov.bc.ca/assets/gov/data/statistics/business-industry-trade/industry/tech_profile_data.xlsx

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TABLE 1. BRITISH COLUMBIA GROSS DOMESTIC PRODUCT (GDP) (CONSTANT DOLLAR) AT BASIC PRICES, BY INDUSTRY

Chained 2012 \$ million ¹											
INDUSTRY	2009	2010	2011	2012	2013	2014	2015	2016 ^r	2017 ^r	2018 ^r	2019 ^p
Manufacturing	1,176	1,364	1,357	1,415	1,388	1,441	1,481	1,515	1,622	1,661	1,769
Services	11,008	11,288	11,788	12,150	12,531	13,317	13,429	14,298	15,253	15,950	16,584
Motion picture production & post-production ²	443	403	502	515	606	861	691	1,026	1,357	1,395	1,283
Telecommunications	4,191	4,282	4,193	4,210	4,093	4,116	4,410	4,550	4,847	5,048	5,157
Engineering services	2,024	2,052	2,285	2,431	2,364	2,307	2,349	2,606	2,768	2,957	3,180
Software publishing	653	719	792	854	946	1,034	1,059	997	1,006	949	1,009
Other computer and related services	2,335	2,344	2,488	2,558	2,736	3,189	3,245	3,608	3,777	3,985	4,151
Other services	1,386	1,475	1,531	1,581	1,792	1,823	1,716	1,573	1,623	1,741	1,873
High Technology Sector Total	12,185	12,650	13,145	13,564	13,918	14,756	14,909	15,811	16,871	17,606	18,348
BC Industrial Aggregate	190,709	195,819	201,413	206,591	211,555	219,061	224,153	230,764	239,852	246,260	253,049
% change from previous year											
INDUSTRY	2009	2010	2011	2012	2013	2014	2015	2016 ^r	2017 ^r	2018 ^r	2019 ^p
Manufacturing	-11.5	16.0	-0.5	4.3	-1.9	3.8	2.8	2.3	7.0	2.4	6.5
Services	-2.0	2.6	4.4	3.1	3.1	6.3	0.8	6.5	6.7	4.6	4.0
Motion picture production & post-production	-11.9	-9.0	24.6	2.5	17.6	42.2	-19.8	48.6	32.3	2.8	-8.1
Telecommunications	-0.3	2.2	-2.1	0.4	-2.8	0.6	7.1	3.2	6.5	4.1	2.2
Engineering services	6.2	1.4	11.3	6.4	-2.8	-2.4	1.8	10.9	6.2	6.8	7.5
Software publishing	-21.6	10.1	10.2	7.9	10.8	9.2	2.4	-5.8	0.9	-5.7	6.3
Other computer and related services	1.7	0.4	6.2	2.8	7.0	16.6	1.7	11.2	4.7	5.5	4.2
Other services	-6.1	6.4	3.8	3.3	13.4	1.7	-5.9	-8.3	3.1	7.3	7.6
High Technology Sector Total	-3.0	3.8	3.9	3.2	2.6	6.0	1.0	6.1	6.7	4.4	4.2
BC Industrial Aggregate	-2.6	2.7	2.9	2.6	2.4	3.5	2.3	2.9	3.9	2.7	2.8

1. Note that for chained data, the aggregates are not equal to the sum of their components and, therefore, the sum of the industries will not necessarily equal the "all industries" total.

2. Note that Statistics Canada data for British Columbia's film industry are understated. Efforts are under way by Statistics Canada to better capture the true nature of the industry.

^r Revised

^p Preliminary

Source: BC Stats and Statistics Canada

TABLE 2. BRITISH COLUMBIA GROSS DOMESTIC PRODUCT (GDP) (CURRENT DOLLAR) AT BASIC PRICES, BY INDUSTRY

\$ million											
INDUSTRY	2009	2010	2011	2012	2013	2014	2015	2016 ^r	2017 ^r	2018 ^r	2019 ^p
Manufacturing	1,133	1,224	1,295	1,415	1,412	1,459	1,559	1,604	1,640	1,781	1,839
Services	10,552	10,855	11,611	12,150	12,340	13,136	13,633	14,553	15,423	16,279	17,410
Motion picture production & post-production ¹	222	255	458	515	525	945	665	878	1,148	1,118	1,057
Telecommunications	4,205	4,274	4,170	4,210	4,119	3,886	4,103	4,302	4,466	4,309	4,344
Engineering services	1,845	1,966	2,251	2,431	2,324	2,302	2,400	2,416	2,529	2,823	3,245
Software publishing	871	862	925	854	969	1,051	999	1,040	1,049	1,127	1,193
Other computer and related services	2,105	2,090	2,292	2,558	2,632	3,082	3,625	4,188	4,382	4,844	5,296
Other services	1,304	1,409	1,517	1,581	1,770	1,870	1,840	1,730	1,850	2,059	2,275
High Technology Sector Total	11,685	12,079	12,906	13,564	13,752	14,595	15,192	16,158	17,064	18,060	19,248
BC Industrial Aggregate	182,953	190,874	202,033	206,591	214,089	225,863	231,725	243,317	260,777	273,065	292,996
High Technology as a % of Total	6.4	6.3	6.4	6.6	6.4	6.5	6.6	6.6	6.5	6.6	6.6
% change from previous year											
INDUSTRY	2009	2010	2011	2012	2013	2014	2015	2016 ^r	2017 ^r	2018 ^r	2019 ^p
Manufacturing	-5.1	8.0	5.8	9.3	-0.2	3.3	6.9	2.9	2.3	8.6	3.2
Services	0.3	2.9	7.0	4.6	1.6	6.5	3.8	6.8	6.0	5.6	6.9
Motion picture production & post-production	-19.1	14.6	79.6	12.6	2.0	79.9	-29.6	32.1	30.8	-2.7	-5.5
Telecommunications	-0.3	1.6	-2.4	1.0	-2.2	-5.6	5.6	4.8	3.8	-3.5	0.8
Engineering services	0.1	6.5	14.5	8.0	-4.4	-0.9	4.2	0.7	4.7	11.6	15.0
Software publishing	-12.8	-1.0	7.3	-7.6	13.5	8.4	-4.9	4.1	0.8	7.5	5.8
Other computer and related services	17.4	-0.7	9.7	11.6	2.9	17.1	17.6	15.5	4.6	10.5	9.3
Other services	-6.3	8.1	7.6	4.3	11.9	5.7	-1.6	-6.0	6.9	11.3	10.5
High Technology Sector Total	-0.2	3.4	6.8	5.1	1.4	6.1	4.1	6.4	5.6	5.8	6.6
BC Industrial Aggregate	-4.4	4.3	5.8	2.3	3.6	5.5	2.6	5.0	7.2	4.7	7.3

1. Note that Statistics Canada data for British Columbia's film industry are understated. Efforts are under way by Statistics Canada to better capture the true nature of the industry.

^r Revised

^p Preliminary

Source: BC Stats and Statistics Canada

TABLE 3. BRITISH COLUMBIA GROSS DOMESTIC PRODUCT (GDP) AT BASIC PRICES, SELECTED ACTIVITIES

	Chained 2012 \$ million ¹										
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Goods-producing industries	43,914	46,411	48,460	50,363	50,642	53,526	54,178	55,281	57,766	59,742	61,508
Agriculture, forestry, fishing and hunting	4,525	4,917	5,335	5,343	5,656	5,661	5,891	5,643	5,541	5,831	5,621
Crop and animal production	2,529	2,581	2,656	2,655	2,810	2,792	2,973	2,921	2,881	3,066	3,306
Forestry and logging	1,248	1,533	1,814	1,860	2,011	1,977	1,970	1,807	1,755	1,844	1,488
Fishing, hunting and trapping	156	181	172	150	172	196	195	174	157	153	119
Support activities for agriculture and forestry	604	621	694	678	670	702	733	721	730	755	759
Mining, oil and gas extraction	7,548	8,587	9,218	8,942	9,188	9,729	9,423	9,668	9,683	10,848	10,920
Utilities	4,282	4,143	4,529	4,587	4,507	4,554	4,805	5,023	5,002	4,833	4,868
Construction	14,532	14,895	14,987	16,797	16,699	18,167	18,108	18,322	19,825	20,562	22,650
Manufacturing	13,029	13,798	14,272	14,693	14,623	15,427	15,845	16,517	17,538	17,621	17,383
Non-durable manufacturing	5,778	6,001	5,968	5,933	5,706	6,231	6,406	6,720	7,084	6,920	7,007
Durable manufacturing	7,239	7,789	8,300	8,761	8,920	9,194	9,437	9,796	10,452	10,694	10,378
Service-producing industries	146,820	149,435	152,961	156,229	160,907	165,548	169,960	175,426	182,047	186,490	191,516
Wholesale trade	7,176	7,374	7,646	8,317	8,591	8,841	8,595	8,919	9,405	9,455	9,539
Retail trade	11,237	11,659	11,728	11,741	12,474	12,639	13,032	13,632	14,486	14,670	14,770
Transportation and warehousing	10,196	10,433	10,749	10,983	11,534	12,154	12,624	12,847	13,774	14,374	14,729
Information and cultural services	6,946	6,946	6,992	7,111	7,216	7,634	7,722	8,098	8,671	8,793	8,876
Finance and insurance	10,683	11,170	11,470	11,404	11,821	12,110	12,569	13,010	13,566	13,942	14,432
Real estate and rental and leasing	32,807	33,943	34,980	36,365	37,657	39,164	40,757	42,387	43,671	44,275	45,753
Professional, scientific and technical services	10,772	10,798	11,372	11,893	12,696	13,512	13,892	14,593	15,126	15,439	16,142
Management of companies and enterprises	1,363	1,314	1,350	1,343	1,422	1,307	1,341	1,136	1,142	1,164	1,133
Administration and support, waste mgmt.	5,138	5,066	5,021	5,288	5,251	5,462	5,699	5,989	5,932	6,028	6,073
Education	10,723	10,929	11,125	11,375	11,521	11,287	11,780	11,869	12,113	12,580	12,969
Health care and social assistance	14,603	14,472	14,933	15,127	15,213	15,450	15,593	16,019	16,357	16,911	17,576
Arts, entertainment and recreation	2,058	2,054	2,029	1,961	1,993	2,115	2,086	2,201	2,276	2,327	2,411
Accommodation and food services	5,776	5,837	5,749	5,763	5,906	6,327	6,567	6,860	7,188	7,573	7,735
Other services	4,760	4,647	4,785	4,819	4,948	5,109	5,122	5,166	5,291	5,358	5,409
Public administration	12,619	12,779	13,015	12,736	12,666	12,473	12,607	12,754	13,135	13,615	13,958
GDP at basic prices	190,709	195,819	201,413	206,591	211,555	219,061	224,153	230,764	239,852	246,260	253,049

	% change from previous year										
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Goods-producing industries	-9.1	5.7	4.4	3.9	0.6	5.7	1.2	2.0	4.5	3.4	3.0
Agriculture, forestry, fishing and hunting	-9.4	8.7	8.5	0.1	5.9	0.1	4.1	-4.2	-1.8	5.2	-3.6
Crop and animal production	4.9	2.1	2.9	0.0	5.8	-0.6	6.5	-1.7	-1.4	6.4	7.8
Forestry and logging	-31.2	22.9	18.3	2.6	8.1	-1.7	-0.4	-8.3	-2.9	5.1	-19.3
Fishing, hunting and trapping	4.4	15.9	-5.1	-12.8	15.2	13.5	-0.1	-11.0	-9.5	-2.9	-21.9
Support activities for agriculture and forestry	0.9	2.7	11.8	-2.3	-1.2	4.7	4.5	-1.7	1.2	3.5	0.5
Mining, oil and gas extraction	-10.5	13.8	7.3	-3.0	2.8	5.9	-3.1	2.6	0.2	12.0	0.7
Utilities	-2.1	-3.3	9.3	1.3	-1.7	1.0	5.5	4.5	-0.4	-3.4	0.7
Construction	-5.5	2.5	0.6	12.1	-0.6	8.8	-0.3	1.2	8.2	3.7	10.2
Manufacturing	-13.8	5.9	3.4	3.0	-0.5	5.5	2.7	4.2	6.2	0.5	-1.4
Non-durable manufacturing	-8.6	3.9	-0.5	-0.6	-3.8	9.2	2.8	4.9	5.4	-2.3	1.3
Durable manufacturing	-17.6	7.6	6.6	5.5	1.8	3.1	2.6	3.8	6.7	2.3	-3.0
Service-producing industries	-0.3	1.8	2.4	2.1	3.0	2.9	2.7	3.2	3.8	2.4	2.7
Wholesale trade	-8.4	2.8	3.7	8.8	3.3	2.9	-2.8	3.8	5.4	0.5	0.9
Retail trade	-2.2	3.8	0.6	0.1	6.2	1.3	3.1	4.6	6.3	1.3	0.7
Transportation and warehousing	0.0	2.3	3.0	2.2	5.0	5.4	3.9	1.8	7.2	4.4	2.5
Information and cultural services	-4.9	0.0	0.7	1.7	1.5	5.8	1.1	4.9	7.1	1.4	0.9
Finance and insurance	-1.6	4.6	2.7	-0.6	3.7	2.4	3.8	3.5	4.3	2.8	3.5
Real estate and rental and leasing	3.6	3.5	3.1	4.0	3.6	4.0	4.1	4.0	3.0	1.4	3.3
Professional, scientific and technical services	-6.0	0.2	5.3	4.6	6.8	6.4	2.8	5.0	3.7	2.1	4.6
Management of companies and enterprises	-3.6	-3.5	2.7	-0.5	5.9	-8.1	2.6	-15.3	0.5	2.0	-2.7
Administration and support, waste mgmt.	-7.1	-1.4	-0.9	5.3	-0.7	4.0	4.3	5.1	-0.9	1.6	0.7
Education	1.2	1.9	1.8	2.2	1.3	-2.0	4.4	0.7	2.1	3.9	3.1
Health care and social assistance	1.9	-0.9	3.2	1.3	0.6	1.6	0.9	2.7	2.1	3.4	3.9
Arts, entertainment and recreation	1.6	-0.2	-1.3	-3.3	1.6	6.2	-1.4	5.5	3.4	2.2	3.6
Accommodation and food services	-1.0	1.1	-1.5	0.2	2.5	7.1	3.8	4.5	4.8	5.4	2.1
Other services	-1.6	-2.4	3.0	0.7	2.7	3.2	0.3	0.8	2.4	1.3	1.0
Public administration	5.8	1.3	1.8	-2.1	-0.5	-1.5	1.1	1.2	3.0	3.7	2.5
GDP at basic prices	-2.6	2.7	2.9	2.6	2.4	3.5	2.3	2.9	3.9	2.7	2.8

1. Note that for chained data, the aggregates are not equal to the sum of their components and, therefore, the sum of the industries will not necessarily equal the "all industries" total.

Source: Statistics Canada

TABLE 4. HIGH TECHNOLOGY GDP (CONSTANT DOLLAR) AT BASIC PRICES, BY PROVINCE

		Chained 2012 \$ million ¹										
Province		2009 ^r	2010 ^r	2011 ^r	2012 ^r	2013 ^r	2014 ^r	2015 ^r	2016 ^r	2017 ^r	2018 ^r	2019 ^p
Canada	Manufacturing	25,551	25,385	25,242	24,797	24,106	25,612	25,369	25,160	26,248	26,631	28,228
	Services	86,407	88,460	93,336	96,329	96,412	101,802	100,802	103,367	106,740	111,056	115,892
	Total	111,981	113,850	118,573	121,126	120,520	127,417	126,173	128,496	132,968	137,621	144,078
British Columbia	Manufacturing	1,176	1,364	1,357	1,415	1,388	1,441	1,481	1,515	1,622	1,661	1,769
	Services	11,008	11,288	11,788	12,150	12,531	13,317	13,429	14,298	15,253	15,950	16,584
	Total	12,185	12,650	13,145	13,564	13,918	14,756	14,909	15,811	16,871	17,606	18,348
Alberta	Manufacturing	890	803	909	965	965	1,064	1,066	919	1,098	1,093	1,091
	Services	15,204	15,713	17,314	17,851	18,836	21,055	18,701	16,926	16,202	15,231	15,423
	Total	16,101	16,514	18,222	18,816	19,802	22,120	19,766	17,846	17,275	16,292	16,483
Saskatchewan	Manufacturing	223	204	185	193	164	187	167	198	186	154	161
	Services	1,596	1,745	1,901	2,006	2,351	2,496	2,077	1,755	1,793	1,798	1,811
	Total	1,822	1,949	2,086	2,198	2,515	2,683	2,245	1,951	1,977	1,946	1,967
Manitoba	Manufacturing	800	840	903	938	985	1,040	1,095	1,056	1,068	1,125	1,162
	Services	1,828	1,918	2,060	2,068	2,004	2,016	2,057	2,227	2,267	2,356	2,390
	Total	2,628	2,758	2,963	3,006	2,989	3,055	3,151	3,285	3,337	3,485	3,559
Ontario	Manufacturing	12,015	11,664	11,503	10,765	10,078	10,721	10,840	11,414	11,859	12,134	12,359
	Services	35,456	35,910	37,059	38,039	37,925	39,820	41,470	43,799	45,740	48,416	51,004
	Total	47,502	47,584	48,565	48,804	48,009	50,545	52,306	55,207	57,592	60,532	63,324
Quebec	Manufacturing	9,534	9,726	9,657	9,769	9,826	10,475	10,058	9,349	9,713	9,792	10,876
	Services	17,860	18,190	19,484	19,641	18,962	19,372	20,049	21,115	22,260	23,643	25,052
	Total	27,400	27,923	29,141	29,410	28,793	29,866	30,079	30,337	31,819	33,200	35,732

		% change from previous year										
Province		2009 ^r	2010 ^r	2011 ^r	2012 ^r	2013 ^r	2014 ^r	2015 ^r	2016 ^r	2017 ^r	2018 ^r	2019 ^p
Canada	Manufacturing	-7.1	-0.7	-0.6	-1.8	-2.8	6.2	-1.0	-0.8	4.3	1.5	6.0
	Services	-0.9	2.4	5.5	3.2	0.1	5.6	-1.0	2.5	3.3	4.0	4.4
	Total	-2.4	1.7	4.1	2.2	-0.5	5.7	-1.0	1.8	3.5	3.5	4.7
British Columbia	Manufacturing	-11.5	16.0	-0.5	4.3	-1.9	3.8	2.8	2.3	7.0	2.4	6.5
	Services	-2.0	2.6	4.4	3.1	3.1	6.3	0.8	6.5	6.7	4.6	4.0
	Total	-3.0	3.8	3.9	3.2	2.6	6.0	1.0	6.1	6.7	4.4	4.2
Alberta	Manufacturing	-11.1	-9.8	13.2	6.2	-0.1	10.2	0.2	-13.8	19.5	-0.5	-0.2
	Services	-5.6	3.3	10.2	3.1	5.5	11.8	-11.2	-9.5	-4.3	-6.0	1.3
	Total	-6.0	2.6	10.3	3.3	5.2	11.7	-10.6	-9.7	-3.2	-5.7	1.2
Saskatchewan	Manufacturing	-4.6	-8.8	-8.9	3.9	-15.0	14.2	-10.9	18.7	-6.0	-17.2	4.5
	Services	6.2	9.3	8.9	5.5	17.2	6.2	-16.8	-15.5	2.2	0.3	0.7
	Total	4.6	6.9	7.1	5.4	14.4	6.7	-16.3	-13.1	1.4	-1.6	1.1
Manitoba	Manufacturing	-3.3	5.0	7.5	3.9	5.0	5.6	5.2	-3.5	1.1	5.3	3.3
	Services	0.8	4.9	7.4	0.4	-3.1	0.6	2.0	8.2	1.8	3.9	1.4
	Total	-0.5	5.0	7.4	1.5	-0.6	2.2	3.1	4.3	1.6	4.4	2.1
Ontario	Manufacturing	-4.7	-2.9	-1.4	-6.4	-6.4	6.4	1.1	5.3	3.9	2.3	1.8
	Services	-0.1	1.3	3.2	2.6	-0.3	5.0	4.1	5.6	4.4	5.9	5.3
	Total	-1.3	0.2	2.1	0.5	-1.6	5.3	3.5	5.5	4.3	5.1	4.6
Quebec	Manufacturing	-9.7	2.0	-0.7	1.2	0.6	6.6	-4.0	-7.0	3.9	0.8	11.1
	Services	2.9	1.9	7.1	0.8	-3.5	2.2	3.5	5.3	5.4	6.2	6.0
	Total	-2.0	1.9	4.4	0.9	-2.1	3.7	0.7	0.9	4.9	4.3	7.6

1. Note that for chained data, the aggregates are not equal to the sum of their components and, therefore, the sum of the industries will not necessarily equal the "all industries" total.

^r Revised

^p Preliminary

Source: BC Stats

TABLE 5. HIGH TECHNOLOGY GDP (CURRENT DOLLAR) AT BASIC PRICES, BY PROVINCE AND THE UNITED STATES

		Cdn \$ million										
Region		2009 ^r	2010 ^r	2011 ^r	2012 ^r	2013 ^r	2014 ^r	2015 ^r	2016 ^r	2017 ^r	2018 ^r	2019 ^p
Canada	Manufacturing	24,620	24,873	24,513	24,797	24,378	26,705	27,614	27,240	29,477	29,876	32,396
	Services	80,432	84,528	91,432	96,329	97,867	103,975	103,731	107,234	110,779	115,258	124,489
	Total	105,052	109,401	115,945	121,126	122,245	130,680	131,344	134,474	140,255	145,134	156,885
British Columbia	Manufacturing	1,133	1,224	1,295	1,415	1,412	1,459	1,559	1,604	1,640	1,781	1,839
	Services	10,552	10,855	11,611	12,150	12,340	13,136	13,633	14,553	15,423	16,279	17,410
	Total	11,685	12,079	12,906	13,564	13,752	14,595	15,192	16,158	17,064	18,060	19,248
Alberta	Manufacturing	853	815	901	965	944	1,044	1,065	870	870	1,014	1,027
	Services	13,608	14,527	16,458	17,851	19,141	21,324	18,771	16,880	15,919	14,948	15,273
	Total	14,460	15,342	17,359	18,816	20,085	22,368	19,836	17,750	16,788	15,962	16,300
Saskatchewan	Manufacturing	231	197	182	193	169	212	185	204	217	203	222
	Services	1,450	1,657	1,840	2,006	2,460	2,669	2,240	1,998	1,994	1,925	2,028
	Total	1,682	1,854	2,022	2,198	2,629	2,881	2,424	2,201	2,211	2,128	2,250
Manitoba	Manufacturing	721	761	830	938	1,012	1,118	1,110	1,090	1,355	1,398	1,553
	Services	1,700	1,785	1,957	2,068	2,107	2,147	2,203	2,375	2,370	2,418	2,548
	Total	2,420	2,546	2,787	3,006	3,119	3,265	3,313	3,465	3,725	3,817	4,102
Ontario	Manufacturing	11,985	11,500	11,392	10,765	10,066	11,010	11,792	12,446	12,756	13,840	13,999
	Services	32,729	34,367	36,370	38,039	38,650	40,897	42,491	46,012	49,005	51,697	55,319
	Total	44,714	45,867	47,762	48,804	48,716	51,906	54,282	58,458	61,760	65,538	69,319
Quebec	Manufacturing	8,938	9,599	9,212	9,769	10,060	11,105	11,090	10,228	11,947	11,068	13,153
	Services	16,363	17,224	18,864	19,641	18,739	19,178	19,622	20,536	21,675	22,978	25,795
	Total	25,302	26,824	28,076	29,410	28,799	30,283	30,712	30,764	33,622	34,047	38,948
United States¹	Manufacturing	636,988	584,551	558,463	563,912	601,409	667,077	822,439	864,566	879,893	923,963	985,910
	Services	1,148,058	1,090,187	1,098,337	1,148,931	1,267,045	1,401,109	1,746,082	1,904,889	1,955,152	2,082,589	2,281,172
	Total	1,785,046	1,674,738	1,656,800	1,712,843	1,868,454	2,068,186	2,568,522	2,769,455	2,835,045	3,006,552	3,267,082

		% change from previous year										
Region		2009 ^r	2010 ^r	2011 ^r	2012 ^r	2013 ^r	2014 ^r	2015 ^r	2016 ^r	2017 ^r	2018 ^r	2019 ^p
Canada	Manufacturing	-2.4	1.0	-1.4	1.2	-1.7	9.5	3.4	-1.4	8.2	1.4	8.4
	Services	1.5	5.1	8.2	5.4	1.6	6.2	-0.2	3.4	3.3	4.0	8.0
	Total	0.6	4.1	6.0	4.5	0.9	6.9	0.5	2.4	4.3	3.5	8.1
British Columbia	Manufacturing	-5.1	8.0	5.8	9.3	-0.2	3.3	6.9	2.9	2.3	8.6	3.2
	Services	0.3	2.9	7.0	4.6	1.6	6.5	3.8	6.8	6.0	5.6	6.9
	Total	-0.2	3.4	6.8	5.1	1.4	6.1	4.1	6.4	5.6	5.8	6.6
Alberta	Manufacturing	-8.0	-4.4	10.5	7.2	-2.2	10.6	2.0	-18.3	-0.1	16.6	1.3
	Services	-5.7	6.8	13.3	8.5	7.2	11.4	-12.0	-10.1	-5.7	-6.1	2.2
	Total	-5.9	6.1	13.1	8.4	6.7	11.4	-11.3	-10.5	-5.4	-4.9	2.1
Saskatchewan	Manufacturing	-11.6	-14.8	-7.7	6.0	-12.3	25.6	-13.1	10.4	6.8	-6.4	9.1
	Services	3.1	14.2	11.0	9.0	22.7	8.5	-16.1	-10.8	-0.2	-3.5	5.3
	Total	0.8	10.3	9.1	8.7	19.6	9.6	-15.8	-9.2	0.4	-3.8	5.7
Manitoba	Manufacturing	-6.2	5.6	9.0	13.1	7.9	10.5	-0.8	-1.8	24.3	3.2	11.1
	Services	-0.5	5.0	9.7	5.6	1.9	1.9	2.6	7.8	-0.2	2.0	5.4
	Total	-2.3	5.2	9.5	7.9	3.8	4.7	1.5	4.6	7.5	2.5	7.5
Ontario	Manufacturing	2.4	-4.0	-0.9	-5.5	-6.5	9.4	7.1	5.5	2.5	8.5	1.1
	Services	2.5	5.0	5.8	4.6	1.6	5.8	3.9	8.3	6.5	5.5	7.0
	Total	2.5	2.6	4.1	2.2	-0.2	6.5	4.6	7.7	5.6	6.1	5.8
Quebec	Manufacturing	-7.9	7.4	-4.0	6.0	3.0	10.4	-0.1	-7.8	16.8	-7.4	18.8
	Services	6.9	5.3	9.5	4.1	-4.6	2.3	2.3	4.7	5.5	6.0	12.3
	Total	1.2	6.0	4.7	4.7	-2.1	5.2	1.4	0.2	9.3	1.3	14.4
United States¹	Manufacturing	11.9	-8.2	-4.5	1.0	6.6	10.9	23.3	5.1	1.8	5.0	6.7
	Services	7.0	-5.0	0.7	4.6	10.3	10.6	24.6	9.1	2.6	6.5	9.5
	Total	8.7	-6.2	-1.1	3.4	9.1	10.7	24.2	7.8	2.4	6.0	8.7

1. Figures for the United States were converted from U.S. dollar data using an average annual exchange rate.

^r Revised

^p Preliminary

Source: BC Stats

TABLE 6. HIGH TECHNOLOGY GDP (CURRENT DOLLAR) FOR SELECTED U.S. STATES¹

State	Cdn \$ million ²										
	2009 ^r	2010 ^r	2011 ^r	2012 ^r	2013 ^r	2014 ^r	2015 ^r	2016 ^r	2017 ^r	2018 ^r	2019 ^p
USA	1,785,046	1,674,738	1,656,800	1,712,843	1,868,454	2,068,186	2,568,522	2,769,455	2,835,045	3,006,552	3,267,082
California	346,695	333,357	341,591	382,384	428,439	484,638	620,882	688,798	731,503	772,159	851,850
Texas	134,355	123,021	127,321	136,796	150,343	163,588	202,775	216,822	224,473	237,555	254,233
New York	108,381	104,641	102,936	110,977	119,306	133,726	170,508	184,927	188,746	201,943	218,556
Florida	64,855	57,507	56,142	58,055	63,934	71,353	92,213	100,403	102,310	108,115	120,361
Massachusetts	68,785	68,704	69,355	75,981	78,685	83,885	106,247	114,253	119,176	126,051	139,895
Washington	77,384	72,741	74,994	84,399	91,972	104,511	125,721	123,914	146,743	162,823	183,957
Virginia	60,230	56,375	56,919	59,797	60,814	64,228	76,625	81,200	80,264	83,460	91,362
Pennsylvania	78,724	69,980	67,645	74,198	79,920	84,127	101,822	113,673	107,065	110,844	124,749
Illinois	54,160	50,599	50,703	53,060	58,190	62,824	77,865	86,812	82,105	87,188	94,495
North Carolina	60,022	53,444	53,835	52,059	62,707	72,171	89,910	97,589	92,587	98,960	105,327
Georgia	53,051	50,510	50,691	52,138	54,536	58,243	71,457	81,453	84,939	84,784	91,339
New Jersey	66,652	59,251	56,995	56,687	60,671	65,686	82,742	88,953	85,962	91,440	98,723
Michigan	26,910	25,433	26,358	28,344	31,710	35,009	45,377	49,475	50,526	52,797	56,692
Ohio	38,994	37,242	40,132	39,974	41,731	43,437	51,580	55,430	55,264	56,936	62,766
Colorado	41,509	38,936	39,465	40,858	44,054	48,911	56,219	59,088	60,571	65,667	74,411
Maryland	47,421	46,885	46,893	46,769	47,367	48,961	58,534	63,841	64,886	66,116	72,030
Arizona	26,533	25,961	26,537	28,543	28,802	33,240	41,395	44,352	46,277	49,544	54,593
Minnesota	26,418	25,722	25,909	26,435	29,004	33,133	40,468	41,964	41,957	42,909	45,809
Missouri	22,657	22,586	21,243	22,493	23,689	26,774	32,707	32,438	32,735	34,092	36,739
Indiana	45,443	39,897	38,219	36,412	41,409	44,593	43,785	46,557	44,707	46,830	49,150
Other States	335,865	311,945	282,918	246,484	271,171	305,147	379,691	397,512	392,249	426,338	440,045

State	% change from previous year										
	2009 ^r	2010 ^r	2011 ^r	2012 ^r	2013 ^r	2014 ^r	2015 ^r	2016 ^r	2017 ^r	2018 ^r	2019 ^p
USA	8.7	-6.2	-1.1	3.4	9.1	10.7	24.2	7.8	2.4	6.0	8.7
California	8.4	-3.8	2.5	11.9	12.0	13.1	28.1	10.9	6.2	5.6	10.3
Texas	5.8	-8.4	3.5	7.4	9.9	8.8	24.0	6.9	3.5	5.8	7.0
New York	18.5	-3.5	-1.6	7.8	7.5	12.1	27.5	8.5	2.1	7.0	8.2
Florida	11.1	-11.3	-2.4	3.4	10.1	11.6	29.2	8.9	1.9	5.7	11.3
Massachusetts	5.9	-0.1	0.9	9.6	3.6	6.6	26.7	7.5	4.3	5.8	11.0
Washington	6.3	-6.0	3.1	12.5	9.0	13.6	20.3	-1.4	18.4	11.0	13.0
Virginia	14.4	-6.4	1.0	5.1	1.7	5.6	19.3	6.0	-1.2	4.0	9.5
Pennsylvania	8.8	-11.1	-3.3	9.7	7.7	5.3	21.0	11.6	-5.8	3.5	12.5
Illinois	12.5	-6.6	0.2	4.6	9.7	8.0	23.9	11.5	-5.4	6.2	8.4
North Carolina	13.5	-11.0	0.7	-3.3	20.5	15.1	24.6	8.5	-5.1	6.9	6.4
Georgia	6.1	-4.8	0.4	2.9	4.6	6.8	22.7	14.0	4.3	-0.2	7.7
New Jersey	5.4	-11.1	-3.8	-0.5	7.0	8.3	26.0	7.5	-3.4	6.4	8.0
Michigan	4.0	-5.5	3.6	7.5	11.9	10.4	29.6	9.0	2.1	4.5	7.4
Ohio	13.3	-4.5	7.8	-0.4	4.4	4.1	18.7	7.5	-0.3	3.0	10.2
Colorado	10.5	-6.2	1.4	3.5	7.8	11.0	14.9	5.1	2.5	8.4	13.3
Maryland	17.7	-1.1	0.0	-0.3	1.3	3.4	19.6	9.1	1.6	1.9	8.9
Arizona	-1.7	-2.2	2.2	7.6	0.9	15.4	24.5	7.1	4.3	7.1	10.2
Minnesota	6.3	-2.6	0.7	2.0	9.7	14.2	22.1	3.7	0.0	2.3	6.8
Missouri	7.8	-0.3	-5.9	5.9	5.3	13.0	22.2	-0.8	0.9	4.1	7.8
Indiana	13.6	-12.2	-4.2	-4.7	13.7	7.7	-1.8	6.3	-4.0	4.7	5.0
Other States	5.6	-7.1	-9.3	-12.9	10.0	12.5	24.4	4.7	-1.3	8.7	3.2

1. Top 20 states by employment in 2019.

2. Figures converted from U.S. dollar data using an average annual exchange rate.

^r Revised

^p Preliminary

Source: BC Stats

TABLE 7. BRITISH COLUMBIA HIGH TECHNOLOGY SECTOR REVENUES

\$ million											
INDUSTRY	2009	2010	2011	2012	2013	2014	2015	2016 ^r	2017 ^r	2018 ^r	2019 ^p
Manufacturing	2,567	2,916	2,911	3,224	3,290	3,761	3,955	4,307	4,453	4,536	4,503
Services	15,872	15,968	17,232	18,498	20,245	21,547	23,143	26,081	27,327	29,009	30,398
Motion picture production & post-production ¹	519	484	575	1,058	1,486	2,282	2,490	3,305	3,871	3,723	3,946
Telecommunications	5,888	5,424	5,638	5,586	5,880	6,023	6,499	8,170	8,540	8,995	8,395
Engineering services	2,922	2,957	3,380	3,700	4,174	3,921	4,036	3,998	4,111	4,353	4,940
Software publishing	1,226	1,340	1,402	1,330	1,327	1,150	1,328	1,434	1,503	1,683	1,722
Other computer and related services	3,491	3,707	4,020	4,410	4,743	5,444	6,185	6,877	6,913	7,669	8,498
Other services	1,825	2,056	2,218	2,415	2,634	2,727	2,605	2,297	2,388	2,587	2,898
High Technology Sector Total	18,438	18,884	20,143	21,722	23,535	25,308	27,098	30,388	31,781	33,545	34,901
% change from previous year											
INDUSTRY	2009	2010	2011	2012	2013	2014	2015	2016 ^r	2017 ^r	2018 ^r	2019 ^p
Manufacturing	-12.7	13.6	-0.2	10.8	2.1	14.3	5.1	8.9	3.4	1.9	-0.7
Services	2.1	0.6	7.9	7.3	9.4	6.4	7.4	12.7	4.8	6.2	4.8
Motion picture production & post-production	-35.5	-6.9	18.8	84.0	40.5	53.5	9.1	32.7	17.1	-3.8	6.0
Telecommunications	15.0	-7.9	3.9	-0.9	5.3	2.4	7.9	25.7	4.5	5.3	-6.7
Engineering services	-4.0	1.2	14.3	9.5	12.8	-6.1	2.9	-1.0	2.8	5.9	13.5
Software publishing	-18.1	9.3	4.6	-5.1	-0.3	-13.3	15.5	8.0	4.8	11.9	2.3
Other computer and related services	8.7	6.2	8.4	9.7	7.6	14.8	13.6	11.2	0.5	10.9	10.8
Other services	-2.1	12.6	7.9	8.9	9.1	3.5	-4.4	-11.8	4.0	8.3	12.0
High Technology Sector Total	-0.2	2.4	6.7	7.8	8.3	7.5	7.1	12.1	4.6	5.6	4.0

1. Note that Statistics Canada data for British Columbia's film industry are understated. Efforts are under way by Statistics Canada to better capture the true nature of the industry.

^r Revised

^p Preliminary

Source: BC Stats and Statistics Canada

TABLE 8. HIGH TECHNOLOGY SECTOR REVENUES, BY PROVINCE AND THE UNITED STATES

Cdn \$ million											
Region	2009	2010	2011	2012 ^r	2013 ^r	2014 ^r	2015 ^r	2016 ^r	2017 ^r	2018 ^r	2019 ^p
Canada	191,918	194,759	210,333	219,794	226,549	241,449	247,281	253,547	260,377	273,841	289,449
British Columbia	18,438	18,884	20,143	21,722	23,535	25,308	27,098	30,388	31,781	33,545	34,901
Alberta	21,871	22,849	25,357	28,524	32,503	35,139	31,103	27,431	25,811	25,819	26,248
Saskatchewan	4,114	4,221	5,047	4,841	4,963	5,214	4,463	4,054	3,896	4,203	4,282
Manitoba	5,510	5,324	6,822	7,471	8,015	8,497	8,658	7,674	8,070	7,397	7,886
Ontario	88,178	87,343	92,810	93,902	94,577	99,481	105,001	109,965	113,181	121,620	127,247
Quebec	48,911	49,079	51,641	54,582	54,232	58,882	61,182	63,241	67,045	70,029	75,402
United States ¹	2,657,156	2,493,616	2,548,015	2,660,199	2,808,338	3,137,616	3,734,012	4,011,694	4,205,538	4,321,240	4,602,920

% change from previous year											
Region	2009	2010	2011	2012 ^r	2013 ^r	2014 ^r	2015 ^r	2016 ^r	2017 ^r	2018 ^r	2019 ^p
Canada	-2.0	1.5	8.0	4.5	3.1	6.6	2.4	2.5	2.7	5.2	5.7
British Columbia	-0.2	2.4	6.7	7.8	8.3	7.5	7.1	12.1	4.6	5.6	4.0
Alberta	-8.8	4.5	11.0	12.5	14.0	8.1	-11.5	-11.8	-5.9	0.0	1.7
Saskatchewan	10.9	2.6	19.6	-4.1	2.5	5.1	-14.4	-9.2	-3.9	7.9	1.9
Manitoba	4.7	-3.4	28.1	9.5	7.3	6.0	1.9	-11.4	5.2	-8.3	6.6
Ontario	2.0	-0.9	6.3	1.2	0.7	5.2	5.5	4.7	2.9	7.5	4.6
Quebec	-1.3	0.3	5.2	5.7	-0.6	8.6	3.9	3.4	6.0	4.5	7.7
United States	2.0	-6.2	2.2	4.4	5.6	11.7	19.0	7.4	4.8	2.8	6.5

1. Figures for the United States were converted from U.S. dollar data using an average annual exchange rate.

^r Revised

^p Preliminary

Source: BC Stats

TABLE 9. HIGH TECHNOLOGY SECTOR REVENUES FOR SELECTED U.S. STATES¹

State	Cdn \$ million ²										
	2009 ^r	2010 ^r	2011 ^r	2012 ^r	2013 ^r	2014 ^r	2015 ^r	2016 ^r	2017 ^r	2018 ^r	2019 ^p
USA	2,657,156	2,493,616	2,548,015	2,660,199	2,808,338	3,137,616	3,734,012	4,011,694	4,205,538	4,321,240	4,602,920
California	476,665	452,463	469,806	517,220	547,030	611,133	761,818	813,439	880,648	926,555	1,023,615
Texas	189,633	175,209	178,856	192,340	207,626	227,304	264,738	284,370	304,970	316,261	335,812
New York	164,490	157,354	158,499	164,480	170,442	201,309	243,470	266,940	284,993	289,665	308,500
Florida	101,779	94,254	94,611	97,976	102,185	117,540	142,776	153,955	163,854	165,586	181,145
Massachusetts	101,892	100,509	100,337	105,424	109,485	118,972	141,481	153,684	163,673	165,976	181,188
Washington	118,013	106,558	110,788	136,331	145,575	173,865	210,647	229,197	238,123	247,284	246,208
Virginia	114,744	107,106	109,059	110,627	112,853	117,222	137,163	148,589	154,960	157,148	156,963
Pennsylvania	104,907	93,292	93,293	96,842	100,285	105,871	126,623	135,646	143,342	150,959	168,276
Illinois	87,239	79,869	81,917	80,110	88,818	98,913	118,507	134,242	126,369	127,650	137,469
North Carolina	84,314	77,609	85,714	81,810	90,417	105,187	124,556	137,313	117,939	123,144	128,437
Georgia	85,486	82,554	89,440	98,983	101,659	110,390	125,651	138,928	141,237	138,953	145,071
New Jersey	112,504	104,216	104,460	108,562	110,629	118,576	143,698	148,764	147,188	150,371	154,640
Michigan	43,435	40,192	42,295	46,450	48,078	51,940	63,963	67,931	70,344	69,674	73,089
Ohio	63,279	58,410	59,100	61,045	64,286	70,593	82,148	87,695	89,149	89,555	92,937
Colorado	64,806	62,676	62,795	63,376	65,697	76,324	87,729	95,243	98,347	100,645	111,965
Maryland	67,418	64,329	62,580	62,045	65,205	70,427	79,787	85,970	88,466	88,130	94,611
Arizona	46,728	42,460	41,912	43,944	49,037	54,664	63,141	66,869	69,938	73,673	75,969
Minnesota	41,013	39,377	39,585	41,792	46,681	50,342	58,369	63,102	67,336	66,589	70,005
Missouri	43,324	40,819	39,663	41,469	42,777	47,250	56,578	59,626	56,764	57,000	60,205
Indiana	54,410	47,950	50,128	51,242	55,729	62,025	59,490	64,862	59,501	59,879	59,954
Other States	491,076	466,410	473,174	458,132	483,844	547,767	641,681	675,330	738,398	756,542	796,862

State	% change from previous year										
	2009 ^r	2010 ^r	2011 ^r	2012 ^r	2013 ^r	2014 ^r	2015 ^r	2016 ^r	2017 ^r	2018 ^r	2019 ^p
USA	2.0	-6.2	2.2	4.4	5.6	11.7	19.0	7.4	4.8	2.8	6.5
California	0.6	-5.1	3.8	10.1	5.8	11.7	24.7	6.8	8.3	5.2	10.5
Texas	-7.2	-7.6	2.1	7.5	7.9	9.5	16.5	7.4	7.2	3.7	6.2
New York	8.0	-4.3	0.7	3.8	3.6	18.1	20.9	9.6	6.8	1.6	6.5
Florida	1.4	-7.4	0.4	3.6	4.3	15.0	21.5	7.8	6.4	1.1	9.4
Massachusetts	-2.9	-1.4	-0.2	5.1	3.9	8.7	18.9	8.6	6.5	1.4	9.2
Washington	9.1	-9.7	4.0	23.1	6.8	19.4	21.2	8.8	3.9	3.8	-0.4
Virginia	9.0	-6.7	1.8	1.4	2.0	3.9	17.0	8.3	4.3	1.4	-0.1
Pennsylvania	7.7	-11.1	0.0	3.8	3.6	5.6	19.6	7.1	5.7	5.3	11.5
Illinois	1.6	-8.4	2.6	-2.2	10.9	11.4	19.8	13.3	-5.9	1.0	7.7
North Carolina	5.0	-8.0	10.4	-4.6	10.5	16.3	18.4	10.2	-14.1	4.4	4.3
Georgia	3.9	-3.4	8.3	10.7	2.7	8.6	13.8	10.6	1.7	-1.6	4.4
New Jersey	2.8	-7.4	0.2	3.9	1.9	7.2	21.2	3.5	-1.1	2.2	2.8
Michigan	-0.3	-7.5	5.2	9.8	3.5	8.0	23.1	6.2	3.6	-1.0	4.9
Ohio	1.9	-7.7	1.2	3.3	5.3	9.8	16.4	6.8	1.7	0.5	3.8
Colorado	5.2	-3.3	0.2	0.9	3.7	16.2	14.9	8.6	3.3	2.3	11.2
Maryland	8.0	-4.6	-2.7	-0.9	5.1	8.0	13.3	7.7	2.9	-0.4	7.4
Arizona	-2.1	-9.1	-1.3	4.8	11.6	11.5	15.5	5.9	4.6	5.3	3.1
Minnesota	-1.7	-4.0	0.5	5.6	11.7	7.8	15.9	8.1	6.7	-1.1	5.1
Missouri	1.0	-5.8	-2.8	4.6	3.2	10.5	19.7	5.4	-4.8	0.4	5.6
Indiana	6.2	-11.9	4.5	2.2	8.8	11.3	-4.1	9.0	-8.3	0.6	0.1
Other States	0.9	-5.0	1.5	-3.2	5.6	13.2	17.1	5.2	9.3	2.5	5.3

1. Top 20 states by employment in 2019.

2. Figures converted from U.S. dollar data using an average annual exchange rate.

^r Revised

^p Preliminary

Source: BC Stats

TABLE 10. BRITISH COLUMBIA HIGH TECHNOLOGY SECTOR EMPLOYMENT¹

INDUSTRY	2009	2010	2011 ^r	2012 ^r	2013 ^r	2014 ^r	2015 ^r	2016 ^r	2017 ^r	2018 ^r	2019 ^p
Manufacturing Industries	14,370	13,640	13,640	14,470	13,990	14,900	14,840	15,350	16,130	15,940	17,380
Service Industries	76,970	76,290	80,470	83,370	85,620	89,300	91,620	96,880	102,140	109,450	113,840
Motion picture production & post-production ²	7,570	7,640	8,750	8,620	9,200	10,150	10,190	11,140	12,560	13,590	14,020
Telecommunications	12,690	12,650	12,620	12,800	12,630	13,170	13,300	13,430	15,730	20,040	18,900
Engineering services	13,970	12,990	14,530	15,780	18,380	18,090	17,900	17,290	18,160	17,170	18,340
Software publishing	8,040	7,650	7,230	7,690	7,840	7,520	8,350	8,260	8,840	9,170	9,420
Other computer and related services	19,730	20,970	22,610	22,110	21,920	23,720	25,140	29,380	30,730	32,060	33,830
Other services	14,970	14,400	14,730	16,380	15,650	16,640	16,740	17,390	16,120	17,430	19,330
High Technology Sector Total	91,340	89,930	94,110	97,830	99,610	104,200	106,470	112,230	118,270	125,390	131,220
BC Industrial Aggregate	1,893,790	1,897,670	1,930,250	1,953,220	1,990,100	2,022,160	2,071,360	2,136,120	2,209,440	2,288,510	2,343,010
% change from previous year											
INDUSTRY	2009	2010	2011 ^r	2012 ^r	2013 ^r	2014 ^r	2015 ^r	2016 ^r	2017 ^r	2018 ^r	2019 ^p
Manufacturing Industries	-6.6	-5.1	0.0	6.1	-3.3	6.5	-0.4	3.4	5.1	-1.2	9.0
Service Industries	-2.6	-0.9	5.5	3.6	2.7	4.3	2.6	5.7	5.4	7.2	4.0
Motion picture production & post-production	33.0	1.0	14.5	-1.5	6.8	10.3	0.4	9.3	12.8	8.2	3.1
Telecommunications	-3.2	-0.3	-0.2	1.4	-1.3	4.3	1.0	1.0	17.2	27.4	-5.7
Engineering services	-8.3	-7.0	11.9	8.6	16.4	-1.6	-1.1	-3.4	5.1	-5.5	6.8
Software publishing	-5.4	-4.9	-5.5	6.4	2.0	-4.0	11.0	-1.2	7.0	3.7	2.8
Other computer and related services	-2.4	6.3	7.8	-2.2	-0.8	8.2	6.0	16.9	4.6	4.3	5.5
Other services	-7.8	-3.8	2.3	11.2	-4.4	6.4	0.6	3.9	-7.3	8.1	10.9
High Technology Sector Total	-3.2	-1.5	4.6	4.0	1.8	4.6	2.2	5.4	5.4	6.0	4.7
BC Industrial Aggregate	-2.6	0.2	1.7	1.2	1.9	1.6	2.4	3.1	3.4	3.6	2.4

1. Totals and percent changes are calculated using unrounded data.

2. Note that Statistics Canada data for British Columbia's film industry are understated. Efforts are under way by Statistics Canada to better capture the true nature of the industry.

^r Revised

^p Preliminary

Source: BC Stats and Statistics Canada

TABLE 11. BRITISH COLUMBIA EMPLOYMENT BY INDUSTRY¹

	Persons (thousands)										
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Goods Producing Industries	291.9	290.1	303.4	310.6	317.6	321.1	327.0	332.1	347.3	362.5	371.1
Agriculture, Fishing and Related	na	na	na	na	na	na	na	na	na	na	na
Forestry and Related	46.8	46.3	47.0	47.5	48.6	50.7	51.8	51.7	52.4	52.9	50.6
Logging and Forestry and Support	13.4	14.2	14.8	15.0	15.3	16.1	17.0	16.9	17.4	17.8	16.7
Paper and Allied Products	8.7	7.6	7.3	7.8	7.9	8.2	8.4	7.8	7.9	7.2	7.2
Wood Manufacturing	24.8	24.4	24.9	24.7	25.4	26.3	26.4	26.9	27.1	27.9	26.8
Mining, Oil and Gas Related	36.9	37.2	41.1	44.0	44.8	44.3	41.8	40.3	42.8	44.6	44.8
Mining and Oil and Gas Extraction	15.2	15.8	18.9	22.2	22.8	22.6	19.7	18.3	19.9	20.4	20.3
Petroleum and Coal Product Mfg.	0.8	0.7	0.7	0.7	1.0	0.8	0.7	0.8	0.9	0.9	0.9
Non-Metallic Mineral Product Mfg.	5.6	5.4	5.5	5.5	5.4	5.6	5.8	6.0	6.2	6.7	7.1
Primary Metal Manufacturing	4.7	5.3	5.5	5.0	4.5	3.8	4.0	3.7	3.9	3.7	3.7
Fabricated Metal Product Mfg.	10.6	10.0	10.4	10.7	11.2	11.5	11.6	11.5	11.9	12.8	12.8
Other Manufacturing	83.0	82.0	84.2	84.7	84.7	84.5	86.2	87.6	91.4	93.3	97.3
Construction	115.1	115.4	121.7	125.0	130.4	132.7	138.5	143.6	150.7	160.1	166.4
Utilities	10.0	9.3	9.4	9.5	9.2	8.9	8.7	9.0	9.9	11.8	12.1
Service Producing Industries	1,563.9	1,562.5	1,582.5	1,599.8	1,637.1	1,667.8	1,700.1	1,754.0	1,805.6	1,865.2	1,914.3
Retail and Wholesale Trade	344.1	338.7	342.0	342.7	348.6	353.4	356.3	361.5	369.3	381.2	388.9
Transportation and Warehousing	98.2	98.7	101.8	103.7	105.0	106.0	106.7	109.0	110.8	112.7	116.3
Information and Culture	45.9	45.9	47.5	47.0	46.4	46.3	46.5	46.4	50.3	55.9	55.3
Finance, Insurance and Real Estate	113.8	114.4	115.6	117.2	121.9	124.1	125.8	129.3	132.5	134.7	136.2
Professional, Scientific and Technical	97.8	97.3	100.7	104.3	106.7	109.7	114.6	123.7	127.6	131.0	137.0
Educational	138.1	136.4	139.3	142.4	144.5	142.8	146.1	153.4	157.0	165.1	174.1
Health and Social	212.9	217.5	222.3	225.1	232.9	239.9	243.8	253.1	260.1	266.9	279.2
Arts, Entertainment and Recreation	37.8	36.2	36.9	36.6	37.3	38.1	39.5	44.2	46.6	51.1	54.1
Accommodation, and Food	185.0	185.2	186.0	190.4	200.1	206.6	214.0	222.7	232.1	238.1	237.4
Public Administration	116.5	116.8	117.3	116.4	115.3	116.0	116.7	121.4	124.4	128.9	132.5
Other Services	174.0	175.4	173.0	174.0	178.5	185.0	190.0	189.3	194.8	199.6	203.3
BC Industrial Aggregate	1,893.8	1,897.7	1,930.3	1,953.2	1,990.1	2,022.2	2,071.4	2,136.1	2,209.4	2,288.5	2,343.0
High Technology Sector Total	91.3	89.9	94.1	97.8	99.6	104.2	106.5	112.2	118.3	125.4	131.2
	% change from previous year										
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Goods Producing Industries	-11.3	-0.6	4.6	2.4	2.3	1.1	1.8	1.6	4.6	4.4	2.4
Agriculture, Fishing and Related	na	na	na	na	na	na	na	na	na	na	na
Forestry and Related	-19.8	-1.3	1.7	0.9	2.4	4.3	2.2	-0.1	1.4	0.9	-4.3
Logging and Forestry and Support	-19.1	6.3	4.1	1.0	2.1	5.2	5.6	-0.4	2.8	2.1	-6.3
Paper and Allied Products	-19.2	-11.8	-4.5	6.7	1.1	4.7	2.1	-6.9	1.0	-8.6	-0.8
Wood Manufacturing	-20.4	-1.7	2.2	-1.0	3.0	3.6	0.2	2.1	0.6	2.8	-4.0
Mining, Oil and Gas Related	-16.5	0.8	10.4	7.2	1.7	-1.1	-5.6	-3.7	6.4	4.1	0.5
Mining and Oil and Gas Extraction	-17.1	4.1	19.7	17.4	2.6	-0.8	-12.7	-7.4	9.0	2.4	-0.3
Petroleum and Coal Product Mfg.	-12.6	-3.4	-2.7	2.1	32.4	-22.8	-2.0	4.8	22.2	-3.5	-6.1
Non-Metallic Mineral Product Mfg.	-6.9	-4.1	2.0	-0.7	-1.5	4.1	3.4	3.4	3.3	8.6	4.9
Primary Metal Manufacturing	-26.3	11.9	4.8	-9.9	-10.4	-14.4	4.2	-7.2	4.5	-3.5	-0.5
Fabricated Metal Product Mfg.	-15.5	-6.0	4.4	2.2	5.0	3.0	0.2	-0.4	3.3	7.5	0.0
Other Manufacturing	-8.4	-1.2	2.7	0.6	0.0	-0.2	2.0	1.5	4.4	2.0	4.3
Construction	-9.2	0.2	5.4	2.7	4.3	1.8	4.4	3.7	4.9	6.2	4.0
Utilities	8.8	-7.7	1.9	0.1	-2.9	-3.4	-2.4	3.4	10.8	18.5	2.8
Service Producing Industries	-1.1	-0.1	1.3	1.1	2.3	1.9	1.9	3.2	2.9	3.3	2.6
Retail and Wholesale Trade	-3.7	-1.6	1.0	0.2	1.7	1.4	0.8	1.5	2.1	3.2	2.0
Transportation and Warehousing	-2.5	0.5	3.2	1.8	1.3	0.9	0.7	2.1	1.7	1.7	3.1
Information and Culture	1.7	0.0	3.7	-1.2	-1.3	-0.1	0.5	-0.4	8.5	11.0	-1.2
Finance, Insurance and Real Estate	-2.1	0.5	1.1	1.3	4.1	1.8	1.4	2.8	2.5	1.7	1.1
Professional, Scientific and Technical	-4.0	-0.6	3.5	3.6	2.4	2.8	4.4	8.0	3.2	2.6	4.6
Educational	-0.8	-1.2	2.1	2.2	1.5	-1.2	2.3	5.0	2.3	5.2	5.4
Health and Social	3.5	2.2	2.2	1.3	3.4	3.0	1.6	3.8	2.7	2.6	4.6
Arts, Entertainment and Recreation	6.0	-4.1	1.8	-0.7	1.9	2.1	3.7	12.0	5.5	9.6	5.9
Accommodation, and Food	0.1	0.1	0.4	2.4	5.1	3.3	3.6	4.1	4.2	2.6	-0.3
Public Administration	2.4	0.3	0.4	-0.7	-1.0	0.6	0.7	4.0	2.5	3.6	2.9
Other Services	-4.0	0.8	-1.3	0.6	2.6	3.6	2.7	-0.4	3.0	2.4	1.9
BC Industrial Aggregate	-2.6	0.2	1.7	1.2	1.9	1.6	2.4	3.1	3.4	3.6	2.4
High Technology Sector Total	-3.2	-1.5	4.6	4.0	1.8	4.6	2.2	5.4	5.4	6.0	4.6

1. Totals and percent changes are calculated using unrounded data.

na: Data not available for specific industry.

Source: Statistics Canada and BC Stats

TABLE 12. HIGH TECHNOLOGY SECTOR EMPLOYMENT, BY PROVINCE

Province	2009	2010	2011 ^r	2012 ^r	2013 ^r	2014 ^r	2015 ^r	2016 ^r	2017 ^r	2018 ^r	2019 ^p
Canada	807,480	805,540	829,260	858,150	869,130	888,150	899,410	908,050	938,880	976,130	1,015,770
British Columbia	91,340	89,930	94,110	97,830	99,610	104,200	106,470	112,230	118,270	125,390	131,220
Alberta	84,230	82,890	87,670	94,170	96,950	99,420	94,820	85,700	84,170	85,860	87,380
Saskatchewan	14,210	13,920	14,940	16,040	16,310	16,210	15,930	15,440	15,710	15,670	15,440
Manitoba	18,240	17,990	19,030	18,800	19,760	20,110	19,580	18,980	20,020	22,760	23,000
Ontario	332,560	329,780	336,940	347,820	351,600	361,700	371,840	382,310	397,300	408,580	423,750
Quebec	226,370	229,430	233,130	240,520	241,770	241,260	243,250	245,230	252,030	265,910	283,000
% change from previous year											
Province	2009	2010	2011 ^r	2012 ^r	2013 ^r	2014 ^r	2015 ^r	2016 ^r	2017 ^r	2018 ^r	2019 ^p
Canada	-2.5	-0.2	2.9	3.5	1.3	2.2	1.3	1.0	3.4	4.0	4.1
British Columbia	-3.2	-1.5	4.6	4.0	1.8	4.6	2.2	5.4	5.4	6.0	4.7
Alberta	-9.0	-1.6	5.8	7.4	2.9	2.6	-4.6	-9.6	-1.8	2.0	1.8
Saskatchewan	0.3	-2.0	7.3	7.4	1.6	-0.6	-1.7	-3.1	1.8	-0.2	-1.5
Manitoba	-6.3	-1.3	5.8	-1.2	5.1	1.7	-2.6	-3.1	5.5	13.7	1.1
Ontario	-1.3	-0.8	2.2	3.2	1.1	2.9	2.8	2.8	3.9	2.8	3.7
Quebec	-2.0	1.4	1.6	3.2	0.5	-0.2	0.8	0.8	2.8	5.5	6.4

^r Revised^p Preliminary

Source: BC Stats

TABLE 13. HIGH TECHNOLOGY SECTOR EMPLOYMENT FOR TOP 20 U.S. STATES

State	2009 ^r	2010 ^r	2011 ^r	2012 ^r	2013 ^r	2014 ^r	2015 ^r	2016 ^r	2017 ^r	2018 ^r	2019 ^p
USA	7,747,860	7,669,640	7,823,160	7,971,690	8,095,350	8,229,660	8,432,230	8,560,350	8,645,350	8,884,220	9,158,470
California	1,329,820	1,326,300	1,359,080	1,396,940	1,429,260	1,464,510	1,509,780	1,555,960	1,555,250	1,601,080	1,663,430
Texas	592,070	584,220	602,960	623,820	642,320	657,900	667,800	665,220	672,550	700,150	737,970
New York	429,970	434,100	448,910	461,880	466,910	474,240	487,390	491,540	501,210	513,420	521,400
Florida	347,270	339,470	341,100	340,690	346,990	356,190	365,930	379,430	394,820	408,160	428,580
Massachusetts	301,870	301,030	305,750	313,850	319,210	324,630	334,060	342,060	351,480	361,880	375,950
Washington	287,350	287,350	299,900	311,060	316,350	321,830	328,440	335,890	338,300	350,760	369,990
Virginia	321,140	320,170	322,210	321,170	315,400	308,380	314,680	318,160	323,220	329,870	335,640
Pennsylvania	293,680	287,350	290,090	294,070	293,270	293,140	296,790	301,500	303,090	311,650	322,520
Illinois	271,540	266,190	270,970	276,870	279,300	284,690	293,630	294,570	291,930	294,370	297,860
North Carolina	208,200	205,570	213,080	219,130	222,660	229,290	240,100	249,170	255,690	267,820	271,030
Georgia	210,100	208,890	211,050	217,930	222,510	229,600	237,300	243,300	254,020	254,790	259,980
New Jersey	265,260	257,650	254,590	251,750	250,860	252,200	252,390	254,840	249,370	254,290	258,700
Michigan	187,140	191,590	200,760	211,600	219,180	227,830	244,900	252,230	245,600	248,800	250,810
Ohio	217,410	215,480	222,500	219,420	221,720	223,350	227,600	231,960	233,590	236,940	243,250
Colorado	191,820	187,370	194,110	196,330	201,130	205,790	211,260	215,660	219,240	229,310	239,370
Maryland	211,430	211,540	213,250	212,610	211,520	211,270	212,460	214,590	217,540	223,250	228,960
Arizona	146,330	143,590	148,420	151,520	155,900	156,280	160,240	161,440	165,480	175,280	185,010
Minnesota	156,160	154,210	157,060	158,940	161,400	163,460	166,210	168,230	169,250	170,350	169,910
Missouri	129,160	123,190	124,290	130,090	135,480	140,030	142,270	144,750	147,780	150,550	153,880
Indiana	124,880	124,180	122,970	125,460	126,660	127,330	130,140	131,300	131,270	131,180	134,870
Other States	1,525,290	1,500,230	1,520,110	1,536,550	1,557,330	1,577,720	1,608,880	1,608,550	1,624,700	1,670,340	1,709,370

State	% change from previous year ¹										
	2009 ^r	2010 ^r	2011 ^r	2012 ^r	2013 ^r	2014 ^r	2015 ^r	2016 ^r	2017 ^r	2018 ^r	2019 ^p
USA	-4.3	-1.0	2.0	1.9	1.6	1.7	2.5	1.5	1.0	2.8	3.1
California	-5.1	-0.3	2.5	2.8	2.3	2.5	3.1	3.1	0.0	2.9	3.9
Texas	-5.2	-1.3	3.2	3.5	3.0	2.4	1.5	-0.4	1.1	4.1	5.4
New York	-2.9	1.0	3.4	2.9	1.1	1.6	2.8	0.9	2.0	2.4	1.6
Florida	-5.5	-2.2	0.5	-0.1	1.8	2.7	2.7	3.7	4.1	3.4	5.0
Massachusetts	-2.8	-0.3	1.6	2.6	1.7	1.7	2.9	2.4	2.8	3.0	3.9
Washington	-1.6	0.0	4.4	3.7	1.7	1.7	2.1	2.3	0.7	3.7	5.5
Virginia	-1.0	-0.3	0.6	-0.3	-1.8	-2.2	2.0	1.1	1.6	2.1	1.8
Pennsylvania	-3.2	-2.2	1.0	1.4	-0.3	0.0	1.2	1.6	0.5	2.8	3.5
Illinois	-5.4	-2.0	1.8	2.2	0.9	1.9	3.1	0.3	-0.9	0.8	1.2
North Carolina	-3.4	-1.3	3.7	2.8	1.6	3.0	4.7	3.8	2.6	4.7	1.2
Georgia	-3.6	-0.6	1.0	3.3	2.1	3.2	3.4	2.5	4.4	0.3	2.0
New Jersey	-5.8	-2.9	-1.2	-1.1	-0.4	0.5	0.1	1.0	-2.1	2.0	1.7
Michigan	-10.0	2.4	4.8	5.4	3.6	3.9	7.5	3.0	-2.6	1.3	0.8
Ohio	-4.3	-0.9	3.3	-1.4	1.0	0.7	1.9	1.9	0.7	1.4	2.7
Colorado	-2.7	-2.3	3.6	1.1	2.4	2.3	2.7	2.1	1.7	4.6	4.4
Maryland	0.1	0.1	0.8	-0.3	-0.5	-0.1	0.6	1.0	1.4	2.6	2.6
Arizona	-5.7	-1.9	3.4	2.1	2.9	0.2	2.5	0.7	2.5	5.9	5.6
Minnesota	-6.2	-1.2	1.8	1.2	1.6	1.3	1.7	1.2	0.6	0.7	-0.3
Missouri	-2.1	-4.6	0.9	4.7	4.1	3.4	1.6	1.7	2.1	1.9	2.2
Indiana	-4.2	-0.6	-1.0	2.0	1.0	0.5	2.2	0.9	0.0	-0.1	2.8
Other States	-4.8	-1.6	1.3	1.1	1.4	1.3	2.0	0.0	1.0	2.8	2.3

1. Percent changes are calculated using unrounded data.

^r Revised

^p Preliminary

Source: BC Stats

TABLE 14. BRITISH COLUMBIA HIGH TECHNOLOGY SECTOR WAGES AND SALARIES

Value (\$ million)											
INDUSTRY	2009	2010	2011 ^r	2012 ^r	2013 ^r	2014 ^r	2015 ^r	2016 ^r	2017 ^r	2018 ^r	2019 ^p
Manufacturing Industries	823.8	817.8	803.9	856.9	855.5	1,014.3	1,035.2	992.1	1,128.3	1,073.6	1,136.0
Service Industries	5,195.3	5,162.1	5,662.6	6,512.9	6,905.9	7,514.3	8,360.5	8,738.3	9,192.4	10,083.4	10,872.6
Motion picture production & post-production ¹	156.8	146.1	166.2	395.9	613.0	807.0	972.3	1,233.1	1,463.8	1,493.5	1,582.9
Telecommunications	785.0	713.8	846.9	920.8	792.7	822.9	848.8	936.0	1,068.4	1,261.1	1,174.0
Engineering services	1,203.3	1,215.3	1,413.7	1,591.0	1,724.0	1,803.0	1,916.3	1,756.7	1,713.1	1,799.4	2,042.0
Software publishing	607.3	540.9	544.4	576.0	660.1	659.0	729.6	719.6	769.8	909.7	930.8
Other computer and related services	1,474.4	1,491.2	1,620.2	1,779.2	1,840.7	2,137.1	2,579.5	2,799.2	2,916.3	3,221.1	3,579.9
Other services	968.5	1,054.8	1,071.2	1,250.0	1,275.4	1,285.3	1,314.1	1,293.7	1,261.1	1,398.6	1,563.0
High Technology Sector Total	6,019.0	5,979.9	6,466.5	7,369.8	7,761.4	8,528.6	9,395.8	9,730.4	10,320.8	11,157.1	12,008.6
BC Industrial Aggregate	78,553.2	80,957.6	84,678.7	88,248.2	90,881.4	94,582.4	98,381.3	102,501.0	108,670.1	115,615.7	121,868.1
% change from previous year											
INDUSTRY	2009	2010	2011 ^r	2012 ^r	2013 ^r	2014 ^r	2015 ^r	2016 ^r	2017 ^r	2018 ^r	2019 ^p
Manufacturing Industries	-2.9	-0.7	-1.7	6.6	-0.2	18.6	2.1	-4.2	13.7	-4.8	5.8
Service Industries	2.1	-0.6	9.7	15.0	6.0	8.8	11.3	4.5	5.2	9.7	7.8
Motion picture production & post-production	-39.4	-6.8	13.8	138.1	54.8	31.6	20.5	26.8	18.7	2.0	6.0
Telecommunications	13.9	-9.1	18.6	8.7	-13.9	3.8	3.1	10.3	14.1	18.0	-6.9
Engineering services	-2.3	1.0	16.3	12.5	8.4	4.6	6.3	-8.3	-2.5	5.0	13.5
Software publishing	2.1	-10.9	0.6	5.8	14.6	-0.2	10.7	-1.4	7.0	18.2	2.3
Other computer and related services	12.0	1.1	8.7	9.8	3.5	16.1	20.7	8.5	4.2	10.5	11.1
Other services	-3.2	8.9	1.6	16.7	2.0	0.8	2.2	-1.6	-2.5	10.9	11.8
High Technology Sector Total	1.4	-0.6	8.1	14.0	5.3	9.9	10.2	3.6	6.1	8.1	7.6
BC Industrial Aggregate	-1.7	3.1	4.6	4.2	3.0	4.1	4.0	4.2	6.0	6.4	5.4

1. Note that Statistics Canada data for British Columbia's film industry are understated. Efforts are under way by Statistics Canada to better capture the true nature of the industry.

^r Revised

^p Preliminary

Source: BC Stats and Statistics Canada

TABLE 15. BRITISH COLUMBIA HIGH TECHNOLOGY SECTOR AVERAGE WEEKLY EARNINGS¹

Dollars per employee week (including overtime)											
INDUSTRY	2009	2010	2011 ^r	2012 ^r	2013 ^r	2014 ^r	2015 ^r	2016 ^r	2017 ^r	2018 ^r	2019 ^p
Manufacturing Industries	1,100	1,150	1,130	1,140	1,170	1,310	1,340	1,240	1,340	1,290	1,250
Service Industries	1,290	1,300	1,350	1,500	1,550	1,610	1,750	1,730	1,730	1,770	1,830
Motion picture production & post-production	400	370	360	880	1,280	1,520	1,830	2,120	2,230	2,110	2,170
Telecommunications	1,190	1,080	1,290	1,380	1,200	1,200	1,220	1,340	1,300	1,210	1,190
Engineering services	1,650	1,790	1,870	1,930	1,800	1,910	2,050	1,950	1,810	2,010	2,140
Software publishing	1,450	1,360	1,440	1,440	1,620	1,680	1,680	1,670	1,670	1,900	1,900
Other computer and related services	1,430	1,360	1,370	1,540	1,610	1,730	1,970	1,830	1,820	1,930	2,030
Other services	1,240	1,410	1,390	1,460	1,560	1,480	1,510	1,430	1,500	1,540	1,550
High Technology Sector Total	1,260	1,280	1,320	1,440	1,490	1,570	1,690	1,660	1,670	1,710	1,760
BC Industrial Aggregate	800	820	840	870	880	900	910	920	940	970	1,000
% change from previous year											
INDUSTRY	2009	2010	2011 ^r	2012 ^r	2013 ^r	2014 ^r	2015 ^r	2016 ^r	2017 ^r	2018 ^r	2019 ^p
Manufacturing Industries	3.9	4.7	-1.7	0.5	3.2	11.3	2.5	-7.3	8.2	-3.7	-3.0
Service Industries	4.7	0.2	4.0	11.0	3.2	4.3	8.4	-1.2	-0.2	2.4	3.7
Motion picture production & post-production	-54.5	-7.7	-0.6	141.9	45.0	19.3	20.0	16.1	5.3	-5.7	2.8
Telecommunications	17.7	-8.8	18.9	7.3	-12.8	-0.5	2.2	9.2	-2.6	-7.3	-1.3
Engineering services	6.5	8.6	4.0	3.6	-6.9	6.2	7.4	-5.1	-7.2	11.1	6.2
Software publishing	7.9	-6.3	6.5	-0.6	12.4	4.0	-0.3	-0.2	-0.1	13.9	-0.4
Other computer and related services	14.8	-4.8	0.8	12.3	4.3	7.3	13.9	-7.2	-0.4	5.9	5.3
Other services	5.0	13.2	-0.7	4.9	6.8	-5.2	1.7	-5.2	5.1	2.6	0.8
High Technology Sector Total	4.7	0.9	3.3	9.6	3.4	5.0	7.8	-1.8	0.6	2.0	2.8
BC Industrial Aggregate	0.9	2.9	2.8	3.0	1.1	2.4	1.5	1.0	2.5	2.7	3.0

1. Totals and percent changes are calculated using unrounded data.

^r Revised

^p Preliminary

Source: BC Stats and Statistics Canada

TABLE 16. HIGH TECHNOLOGY SECTOR AVERAGE WEEKLY EARNINGS, BY PROVINCE

Province	2009	2010	2011 ^r	2012 ^r	2013 ^r	2014 ^r	2015 ^r	2016 ^r	2017 ^r	2018 ^r	2019 ^p
Canada	1,230	1,280	1,330	1,380	1,420	1,440	1,480	1,500	1,470	1,480	1,530
British Columbia	1,260	1,280	1,320	1,440	1,490	1,570	1,690	1,660	1,670	1,710	1,760
Alberta	1,500	1,570	1,700	1,770	1,760	1,880	1,820	1,920	1,740	1,730	1,770
Saskatchewan	1,350	1,450	1,520	1,480	1,350	1,390	1,480	1,460	1,450	1,390	1,460
Manitoba	1,180	1,120	1,210	1,290	1,310	1,280	1,340	1,450	1,420	1,360	1,430
Ontario	1,290	1,360	1,380	1,400	1,450	1,460	1,510	1,540	1,510	1,530	1,570
Quebec	1,060	1,110	1,170	1,220	1,260	1,250	1,250	1,280	1,290	1,300	1,360

% change from previous year											
Province	2009	2010	2011 ^r	2012 ^r	2013 ^r	2014 ^r	2015 ^r	2016 ^r	2017 ^r	2018 ^r	2019 ^p
Canada	1.9	3.9	3.7	3.7	2.7	2.0	2.2	1.7	-2.4	1.0	3.6
British Columbia	4.7	0.9	3.3	9.6	3.4	5.0	7.8	-1.8	0.6	2.0	2.8
Alberta	1.6	4.9	7.9	4.2	-0.5	6.7	-3.0	5.3	-9.5	-0.3	2.0
Saskatchewan	15.0	7.2	5.2	-3.2	-8.2	2.9	6.0	-1.1	-0.5	-4.1	4.7
Manitoba	4.4	-5.1	7.9	6.5	1.4	-2.2	5.3	8.0	-2.0	-4.6	5.3
Ontario	0.2	5.1	1.6	1.0	3.8	0.7	3.5	1.7	-1.6	1.4	2.5
Quebec	3.6	4.5	5.1	4.8	2.8	-0.3	0.0	2.0	0.5	0.9	5.0

^r Revised^p Preliminary

Source: BC Stats

TABLE 17. HIGH TECHNOLOGY SECTOR WAGES AND SALARIES FOR SELECTED U.S. STATES¹

State	Value (\$ Cdn million) ²										
	2009 ^r	2010 ^r	2011 ^r	2012 ^r	2013 ^r	2014 ^r	2015 ^r	2016 ^r	2017 ^r	2018 ^r	2019 ^p
USA	730,827	682,551	694,676	745,561	796,861	904,812	1,115,024	1,191,243	1,231,055	1,323,672	1,447,293
California	151,565	145,639	150,042	169,269	182,850	212,324	270,624	291,839	311,925	343,705	376,029
Texas	55,695	51,364	52,940	56,778	61,669	69,939	84,563	88,777	91,259	97,906	109,348
New York	41,596	39,481	40,706	43,826	46,565	53,915	67,581	72,040	72,515	78,106	85,934
Florida	26,824	24,420	24,420	25,600	27,271	30,862	37,991	42,066	44,093	47,039	52,579
Massachusetts	34,077	33,338	33,586	35,917	38,257	43,778	54,488	58,700	61,809	66,563	73,655
Washington	30,673	28,818	30,389	33,152	35,694	42,023	49,848	55,319	58,061	66,609	74,933
Virginia	33,698	31,545	31,487	32,216	33,186	35,684	43,443	46,001	46,528	48,635	52,640
Pennsylvania	26,426	24,011	23,755	25,241	26,315	29,047	35,199	37,385	38,119	40,811	45,719
Illinois	24,761	22,685	23,143	25,173	26,749	30,296	38,383	39,336	39,144	41,046	43,619
North Carolina	18,106	16,934	17,315	18,453	19,732	22,234	27,821	30,163	31,171	34,561	36,367
Georgia	18,552	17,089	17,384	18,533	19,653	22,008	26,771	29,675	30,950	31,913	34,433
New Jersey	30,054	27,177	26,771	27,905	29,558	32,914	39,381	41,114	40,156	41,735	44,898
Michigan	15,612	14,583	15,341	16,503	17,911	20,371	26,661	28,989	29,411	30,231	31,648
Ohio	16,708	15,324	15,682	15,870	16,749	18,642	22,487	24,210	24,270	25,096	27,297
Colorado	19,158	17,591	17,920	18,800	20,203	23,101	27,601	29,444	30,718	32,763	37,426
Maryland	21,427	20,033	19,965	20,933	21,506	23,670	28,220	30,111	30,462	32,159	35,047
Arizona	13,139	12,121	12,576	13,271	14,250	15,798	18,958	20,087	20,234	22,005	24,307
Minnesota	13,350	12,445	12,644	13,071	14,263	15,938	19,513	20,519	20,519	21,122	22,409
Missouri	11,020	9,761	9,685	10,581	11,349	12,942	15,622	16,452	16,722	17,697	19,037
Indiana	9,886	9,289	9,186	9,459	10,227	11,029	13,627	14,213	14,421	14,937	16,006
Other States	118,499	108,903	109,740	115,008	122,905	138,300	166,245	174,803	178,569	189,032	203,961

State	% change from previous year										
	2009 ^r	2010 ^r	2011 ^r	2012 ^r	2013 ^r	2014 ^r	2015 ^r	2016 ^r	2017 ^r	2018 ^r	2019 ^p
USA	3.7	-6.6	1.8	7.3	6.9	13.5	23.2	6.8	3.3	7.5	9.3
California	3.4	-3.9	3.0	12.8	8.0	16.1	27.5	7.8	6.9	10.2	9.4
Texas	1.9	-7.8	3.1	7.2	8.6	13.4	20.9	5.0	2.8	7.3	11.7
New York	4.5	-5.1	3.1	7.7	6.2	15.8	25.3	6.6	0.7	7.7	10.0
Florida	3.4	-9.0	0.0	4.8	6.5	13.2	23.1	10.7	4.8	6.7	11.8
Massachusetts	3.7	-2.2	0.7	6.9	6.5	14.4	24.5	7.7	5.3	7.7	10.7
Washington	7.0	-6.0	5.4	9.1	7.7	17.7	18.6	11.0	5.0	14.7	12.5
Virginia	9.0	-6.4	-0.2	2.3	3.0	7.5	21.7	5.9	1.1	4.5	8.2
Pennsylvania	6.8	-9.1	-1.1	6.3	4.3	10.4	21.2	6.2	2.0	7.1	12.0
Illinois	1.2	-8.4	2.0	8.8	6.3	13.3	26.7	2.5	-0.5	4.9	6.3
North Carolina	6.0	-6.5	2.3	6.6	6.9	12.7	25.1	8.4	3.3	10.9	5.2
Georgia	3.5	-7.9	1.7	6.6	6.0	12.0	21.6	10.8	4.3	3.1	7.9
New Jersey	1.5	-9.6	-1.5	4.2	5.9	11.4	19.6	4.4	-2.3	3.9	7.6
Michigan	-8.8	-6.6	5.2	7.6	8.5	13.7	30.9	8.7	1.5	2.8	4.7
Ohio	1.3	-8.3	2.3	1.2	5.5	11.3	20.6	7.7	0.2	3.4	8.8
Colorado	4.8	-8.2	1.9	4.9	7.5	14.3	19.5	6.7	4.3	6.7	14.2
Maryland	10.7	-6.5	-0.3	4.8	2.7	10.1	19.2	6.7	1.2	5.6	9.0
Arizona	3.1	-7.8	3.8	5.5	7.4	10.9	20.0	6.0	0.7	8.7	10.5
Minnesota	1.6	-6.8	1.6	3.4	9.1	11.7	22.4	5.2	0.0	2.9	6.1
Missouri	7.7	-11.4	-0.8	9.3	7.3	14.0	20.7	5.3	1.6	5.8	7.6
Indiana	2.2	-6.0	-1.1	3.0	8.1	7.8	23.6	4.3	1.5	3.6	7.2
Other States	3.7	-8.1	0.8	4.8	6.9	12.5	20.2	5.1	2.2	5.9	7.9

1. Top 20 states by employment in 2019.

2. Figures converted from U.S. dollar data using an average annual exchange rate.

^r Revised

^p Preliminary

Source: BC Stats

TABLE 18. HIGH TECHNOLOGY SECTOR AVERAGE WEEKLY EARNINGS FOR SELECTED U.S. STATES¹

State	Value (\$ Cdn) ²										
	2009 ^r	2010 ^r	2011 ^r	2012 ^r	2013 ^r	2014 ^r	2015 ^r	2016 ^r	2017 ^r	2018 ^r	2019 ^p
USA	1,809	1,707	1,703	1,794	1,888	2,109	2,536	2,668	2,731	2,858	3,030
California	2,186	2,106	2,117	2,324	2,454	2,781	3,437	3,598	3,846	4,116	4,335
Texas	1,804	1,686	1,684	1,746	1,841	2,038	2,428	2,560	2,602	2,682	2,842
New York	1,855	1,744	1,739	1,820	1,913	2,181	2,659	2,810	2,775	2,917	3,160
Florida	1,482	1,379	1,373	1,441	1,507	1,662	1,991	2,126	2,142	2,210	2,352
Massachusetts	2,165	2,124	2,107	2,195	2,298	2,586	3,128	3,292	3,372	3,528	3,758
Washington	2,047	1,923	1,943	2,044	2,164	2,504	2,911	3,159	3,292	3,642	3,884
Virginia	2,013	1,889	1,875	1,924	2,018	2,219	2,647	2,773	2,761	2,828	3,008
Pennsylvania	1,726	1,603	1,571	1,646	1,720	1,900	2,275	2,378	2,412	2,512	2,719
Illinois	1,749	1,635	1,638	1,744	1,837	2,040	2,506	2,561	2,571	2,674	2,809
North Carolina	1,668	1,580	1,558	1,615	1,700	1,859	2,223	2,321	2,338	2,474	2,574
Georgia	1,693	1,569	1,580	1,631	1,694	1,838	2,164	2,340	2,336	2,402	2,540
New Jersey	2,173	2,023	2,016	2,126	2,260	2,503	2,992	3,094	3,088	3,148	3,329
Michigan	1,600	1,460	1,465	1,496	1,567	1,715	2,088	2,204	2,296	2,330	2,420
Ohio	1,474	1,364	1,351	1,387	1,448	1,601	1,895	2,002	1,992	2,031	2,152
Colorado	1,915	1,801	1,771	1,837	1,926	2,153	2,505	2,618	2,687	2,740	2,999
Maryland	1,944	1,816	1,796	1,888	1,950	2,149	2,547	2,691	2,685	2,763	2,935
Arizona	1,723	1,619	1,625	1,680	1,753	1,939	2,269	2,386	2,345	2,408	2,520
Minnesota	1,639	1,547	1,544	1,577	1,695	1,870	2,252	2,340	2,325	2,378	2,529
Missouri	1,636	1,519	1,495	1,560	1,607	1,772	2,106	2,179	2,170	2,254	2,372
Indiana	1,518	1,435	1,432	1,446	1,548	1,662	2,008	2,076	2,107	2,184	2,276

State	% change from previous year										
	2009 ^r	2010 ^r	2011 ^r	2012 ^r	2013 ^r	2014 ^r	2015 ^r	2016 ^r	2017 ^r	2018 ^r	2019 ^p
USA	8.4	-5.7	-0.3	5.4	5.3	11.7	20.2	5.2	2.3	4.7	6.0
California	8.9	-3.7	0.5	9.8	5.6	13.3	23.6	4.7	6.9	7.0	5.3
Texas	7.4	-6.5	-0.2	3.7	5.4	10.7	19.1	5.4	1.7	3.0	6.0
New York	7.6	-6.0	-0.3	4.6	5.1	14.0	21.9	5.7	-1.3	5.1	8.3
Florida	9.5	-6.9	-0.5	5.0	4.6	10.2	19.8	6.8	0.7	3.2	6.5
Massachusetts	6.8	-1.9	-0.8	4.2	4.7	12.5	20.9	5.2	2.4	4.6	6.5
Washington	8.7	-6.0	1.0	5.2	5.9	15.7	16.2	8.5	4.2	10.6	6.6
Virginia	10.1	-6.1	-0.8	2.6	4.9	10.0	19.3	4.8	-0.4	2.4	6.4
Pennsylvania	10.3	-7.1	-2.0	4.8	4.5	10.5	19.7	4.5	1.4	4.2	8.2
Illinois	7.0	-6.5	0.2	6.5	5.3	11.1	22.8	2.2	0.4	4.0	5.1
North Carolina	9.7	-5.3	-1.4	3.7	5.2	9.4	19.5	4.4	0.7	5.8	4.0
Georgia	7.3	-7.3	0.7	3.2	3.8	8.5	17.7	8.1	-0.1	2.8	5.7
New Jersey	7.8	-6.9	-0.3	5.4	6.3	10.8	19.5	3.4	-0.2	2.0	5.7
Michigan	1.4	-8.8	0.4	2.1	4.7	9.4	21.8	5.6	4.2	1.5	3.9
Ohio	5.7	-7.5	-0.9	2.6	4.4	10.5	18.4	5.6	-0.5	1.9	6.0
Colorado	7.7	-6.0	-1.7	3.7	4.9	11.8	16.3	4.5	2.6	2.0	9.4
Maryland	10.6	-6.6	-1.1	5.1	3.3	10.2	18.6	5.6	-0.2	2.9	6.2
Arizona	9.3	-6.0	0.4	3.4	4.4	10.6	17.0	5.2	-1.7	2.7	4.6
Minnesota	8.4	-5.6	-0.2	2.1	7.5	10.4	20.4	3.9	-0.6	2.3	6.3
Missouri	10.0	-7.1	-1.6	4.4	3.0	10.3	18.9	3.5	-0.4	3.9	5.3
Indiana	6.7	-5.5	-0.2	1.0	7.1	7.3	20.8	3.4	1.5	3.7	4.2

1. Top 20 states by employment in 2019.

2. Figures converted from U.S. dollar data using an average annual exchange rate.

^r Revised

^p Preliminary

Source: BC Stats

TABLE 19. HIGH TECHNOLOGY SECTOR BUSINESS COUNTS,¹ BY DEVELOPMENT REGION AND REGIONAL DISTRICT

Development Region		2016			2017			2018			2019		
Regional District		Mfg	Se'vice	Total	Mfg	Se'vice	Total	Mfg	Se'vice	Total	Mfg	Se'vice	Total
Vancouver Island/Coast		104	1,436	1,540	105	1,454	1,559	106	1,495	1,601	98	1,532	1,630
23	Alberni-Clayoquot	2	25	27	2	26	28	1	28	29	1	26	27
17	Capital	60	895	955	59	921	980	60	952	1,012	59	982	1,041
45	Central Coast	0	3	3	0	2	2	0	2	2	0	2	2
26	Comox Valley	7	92	99	10	98	108	9	97	106	9	105	114
19	Cowichan Valley	8	101	109	10	102	112	10	111	121	9	115	124
43	Mount Waddington	1	11	12	0	9	9	1	8	9	0	7	7
21	Nanaimo	16	237	253	15	231	246	14	234	248	11	231	242
27	qathet	1	19	20	1	17	18	1	15	16	1	14	15
24	Strathcona	9	53	62	8	48	56	10	48	58	8	50	58
Mainland/Southwest		524	6,365	6,889	514	6,653	7,167	531	6,904	7,435	526	7,111	7,637
09	Fraser Valley	29	251	280	27	284	311	31	315	346	35	320	355
15	Metro Vancouver	490	5,969	6,459	481	6,210	6,691	495	6,439	6,934	486	6,642	7,128
31	Squamish-Lillooet	2	83	85	4	98	102	3	90	93	3	84	87
29	Sunshine Coast	3	62	65	2	61	63	2	60	62	2	65	67
Thompson/Okanagan		63	759	822	63	827	890	58	828	886	54	858	912
35	Central Okanagan	34	341	375	32	379	411	30	377	407	28	394	422
39	Columbia-Shuswap	1	62	63	1	72	73	0	82	82	0	78	78
37	North Okanagan	8	100	108	10	106	116	9	105	114	7	117	124
07	Okanagan-Similkameen	9	90	99	9	99	108	8	95	103	8	99	107
33	Thompson-Nicola	11	166	177	11	171	182	11	169	180	11	170	181
Kootenay		12	213	225	10	224	234	10	233	243	10	230	240
03	Central Kootenay	4	97	101	5	102	107	3	101	104	3	95	98
01	East Kootenay	3	85	88	1	86	87	1	91	92	1	89	90
05	Kootenay Boundary	5	31	36	4	36	40	6	41	47	6	46	52
Cariboo		14	139	153	14	140	154	13	146	159	11	139	150
41	Cariboo	4	46	50	4	45	49	4	42	46	3	45	48
53	Fraser-Fort George	10	93	103	10	95	105	9	104	113	8	94	102
North Coast		2	64	66	2	67	69	2	70	72	2	74	76
49	Kitimat-Stikine	1	44	45	1	48	49	1	49	50	1	54	55
47	Skeena-Queen Charlotte	1	20	21	1	19	20	1	21	22	1	20	21
Nechako		0	52	52	0	42	42	2	40	42	1	43	44
51	Bulkley-Nechako	0	52	52	0	42	42	2	40	42	1	42	43
57	Stikine	0	0	0	0	0	0	0	0	0	0	1	1
Northeast		4	181	185	3	168	171	3	173	176	3	174	177
55	Peace River	3	167	170	3	155	158	3	160	163	3	159	162
59	Northern Rockies	1	14	15	0	13	13	0	13	13	0	15	15
Total²		726	9,510	10,236	711	9,870	10,581	733	10,208	10,941	711	10,341	11,052

1. Businesses with zero employees are not included in these figures.

2. Figures do not add to totals because some establishments did not have geographic codes.

Note that there is likely a slight data break between 2016 and 2017 due to the change in NAICS code 519130 Internet Broadcasting and Web Search Portals. This code no longer includes internet publishing activities. As the data cannot be corrected to be consistent throughout the entire time series, figures for 2017 onward may be slightly lower than those for years prior to 2017.

Source: BC Stats

**TABLE 20. HIGH TECHNOLOGY SECTOR BUSINESS COUNTS,¹
BY DEVELOPMENT REGION AND REGIONAL DISTRICT BY BUSINESS SIZE, 2019**

Number of businesses, by number of employees																															
Region	1-4			5-9			10-19			20-49			50-99			100-199			200-499			500-999			1,000-1,499			1,500 Plus			Total
	Mfg	Se'vice	Total	Mfg	Se'vice	Total	Mfg	Se'vice	Total	Mfg	Se'vice	Total	Mfg	Se'vice	Total	Mfg	Se'vice	Total	Mfg	Se'vice	Total	Mfg	Se'vice	Total	Mfg	Se'vice	Total	Mfg	Se'vice	Total	
Vancouver Island/Coast	1,087	197	188	101	35	14	6	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,630	
23 Alberni-Clayoquot	21	2	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27	
17 Capital	672	124	124	73	30	12	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,041	
45 Central Coast	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2		
26 Comox Valley	83	17	7	6	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	114		
19 Cowichan Valley	95	16	8	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	124		
43 Mount Waddington	4	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7		
21 Nanaimo	164	24	36	13	3	1	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	242		
27 qathet	9	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15		
24 Strathcona	37	9	8	2	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	58		
Mainland/Southwest	4,979	1,006	707	545	215	104	57	14	3	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7,637		
09 Fraser Valley	246	61	31	13	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	355		
15 Metro Vancouver	4,621	925	664	525	208	104	57	14	3	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7,128		
31 Squamish-Lillooet	55	16	9	4	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	87		
29 Sunshine Coast	57	4	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	67		
Thompson/Okanagan	594	129	102	59	13	9	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	912		
35 Central Okanagan	268	58	45	34	9	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	422		
39 Columbia-Shuswap	57	11	8	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	78		
37 North Okanagan	85	18	13	6	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	124		
07 Okanagan-Similkameen	77	11	13	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	107		
33 Thompson-Nicola	107	31	23	14	1	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	181		
Kootenay	163	36	22	12	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	240		
03 Central Kootenay	67	18	6	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	98		
01 East Kootenay	64	11	10	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	90		
05 Kootenay Boundary	32	7	6	2	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	52		
Cariboo	81	28	20	18	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	150		
41 Cariboo	28	11	8	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48		
53 Fraser-Fort George	53	17	12	17	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	102		
North Coast	42	15	8	8	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	76		
49 Kitimat-Stikine	29	10	6	7	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	55		
47 Skeena-Queen Charlotte	13	5	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21		
Nechako	28	11	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44		
51 Bulkley-Nechako	28	10	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	43		
57 Stikine	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1		
Northeast	112	22	25	13	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	177		
55 Peace River	105	17	24	11	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	162		
59 Northern Rockies	7	5	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15		
Total²	7,203	1,476	1,093	770	281	132	70	17	3	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11,052		

1. Businesses with zero employees are not included in these figures.

2. Figures do not add to totals because some establishments did not have geographic codes.

Source: BC Stats

TABLE 21. BRITISH COLUMBIA HIGH TECHNOLOGY SECTOR BUSINESS COUNTS,¹ BY INDUSTRY

Industry	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Manufacturing Industries	751	722	702	719	755	714	730	726	711	733	711
Chemicals and Pharmaceuticals	52	48	45	45	51	53	58	60	60	62	65
Computer and Electronic Products	231	221	211	223	231	215	209	219	201	195	198
Aerospace	39	34	33	39	42	46	48	51	50	48	44
Medical Equipment	308	300	294	290	297	270	274	257	256	281	269
Other Manufacturing	121	119	119	122	134	130	141	139	144	147	135
Service Industries	8,152	8,163	8,055	8,291	8,983	9,006	9,175	9,510	9,870	10,208	10,341
Motion picture production & post production ²	771	770	775	781	866	804	816	875	926	959	977
Telecommunications	287	282	261	280	287	302	271	294	680	731	720
Engineering services	1,761	1,760	1,718	1,775	1,877	1,827	1,818	1,838	1,819	1,820	1,812
Computer and related services ³	3,271	3,298	3,246	3,331	3,678	3,705	3,888	4,055	4,070	4,270	4,400
Other services	2,062	2,053	2,055	2,124	2,275	2,368	2,382	2,448	2,375	2,428	2,432
High Technology Sector	8,903	8,885	8,757	9,010	9,738	9,720	9,905	10,236	10,581	10,941	11,052

	% change from previous year										
Industry	2009	2010	2011	2012	2013	2014 ⁴	2015	2016	2017	2018	2019
Manufacturing Industries	-2.7	-3.9	-2.8	2.4	5.0	na	2.2	-0.5	-2.1	3.1	-3.0
Chemicals and Pharmaceuticals	-3.7	-7.7	-6.3	0.0	13.3	na	9.4	3.4	0.0	3.3	4.8
Computer and Electronic Products	-4.9	-4.3	-4.5	5.7	3.6	na	-2.8	4.8	-8.2	-3.0	1.5
Aerospace	0.0	-12.8	-2.9	18.2	7.7	na	4.3	6.3	-2.0	-4.0	-8.3
Medical Equipment	0.0	-2.6	-2.0	-1.4	2.4	na	1.5	-6.2	-0.4	9.8	-4.3
Other Manufacturing	-5.5	-1.7	0.0	2.5	9.8	na	8.5	-1.4	3.6	2.1	-8.2
Service Industries	1.1	0.1	-1.3	2.9	8.3	na	1.9	3.7	3.8	3.4	1.3
Motion picture production & post production	-6.7	-0.1	0.6	0.8	10.9	na	1.5	7.2	5.8	3.6	1.9
Telecommunications	-2.0	-1.7	-7.4	7.3	2.5	na	-10.3	8.5	131.3	7.5	-1.5
Engineering services	-1.9	-0.1	-2.4	3.3	5.7	na	-0.5	1.1	-1.0	0.1	-0.4
Computer and related services	2.8	0.8	-1.6	2.6	10.4	na	4.9	4.3	0.4	4.9	3.0
Other services	5.0	-0.4	0.1	3.4	7.1	na	0.6	2.8	-3.0	2.2	0.2
High Technology Sector	0.8	-0.2	-1.4	2.9	8.1	na	1.9	3.3	3.4	3.4	1.0

1. Businesses with zero employees are not included in these figures.

2. Note that Statistics Canada data for British Columbia's film industry are understated. Efforts are under way by Statistics Canada to better capture the true nature of the industry.

3. There is likely a slight data break between 2016 and 2017 due to the change in NAICS code 519130 Internet Broadcasting and Web Search Portals. This code no longer includes internet publishing activities. As the data cannot be corrected to be consistent throughout the entire time series, figures for 2017 onward may be slightly lower than those for years prior to 2017. The percent change from 2017 to 2018 should be used with caution as it is likely an underestimate of the actual rate of growth.

4. Note that there was a methodological change in 2014 that caused a data break, such that data prior to 2014 are not directly comparable to data from 2014 onward. Therefore, a percent change for 2013-2014 cannot be calculated.

Source: BC Stats and Statistics Canada

TABLE 22. BRITISH COLUMBIA HIGH TECHNOLOGY SECTOR BUSINESS COUNTS, BY INDUSTRY AND BUSINESS SIZE, 2019

Industry	Number of businesses, by number of employees										Subtotal	None ¹	Total
	1-4	5-9	10-19	20-49	50-99	100-199	200-499	500-999	1,000-1,499	1,500 ^{Plus}			
Manufacturing Industries	306	142	105	88	36	19	12	3	0	0	711	578	1,289
Chemicals and Pharmaceuticals	16	10	16	11	6	3	1	2	0	0	65	41	106
Computer and Electronic Products	74	37	27	29	18	8	5	0	0	0	198	175	373
Aerospace	20	9	6	4	0	2	3	0	0	0	44	63	107
Medical Equipment	139	64	38	20	4	4	0	0	0	0	269	175	444
Other Manufacturing	57	22	18	24	8	2	3	1	0	0	135	124	259
Service Industries	6,897	1,334	988	682	245	113	58	14	3	7	10,341	18,952	29,293
Motion picture production & post production ²	802	65	42	29	15	9	9	6	0	0	977	3,078	4,055
Telecommunications	305	189	149	50	9	7	4	1	1	5	720	303	1,023
Engineering services	1,146	236	166	164	68	18	14	0	0	0	1,812	2,852	4,664
Computer and related services	3,033	517	382	270	114	51	25	5	1	2	4,400	7,748	12,148
Other services	1,611	327	249	169	39	28	6	2	1	0	2,432	4,971	7,403
Total for sector	7,203	1,476	1,093	770	281	132	70	17	3	7	11,052	19,530	30,582
Total for all Industries	116,705	39,173	25,664	16,283	5,341	2,065	925	203	75	98	206,532	449,657	656,189

1. Businesses in this category do not maintain an employee payroll, but may have a workforce consisting of contracted workers or family members. Note that there have been methodological changes to Statistics Canada's Business Register, which is the source of business count data, that have resulted in a substantial changes in the number of businesses with no employees. Figures from earlier editions of the Profile report should not be compared with those presented here.

2. Note that Statistics Canada data for British Columbia's film industry are understated. Efforts are under way by Statistics Canada to better capture the true nature of the industry.

Source: BC Stats and Statistics Canada

TABLE 23. HIGH TECHNOLOGY SECTOR BUSINESS COUNTS,¹ BY PROVINCE AND INDUSTRY, 2019

Industry	BC	Alber'ta	Saskatchewan	Manitoba	Ontario	Quebec	Canada
Manufacturing Industries	711	517	77	110	2,104	1,227	4,924
Chemicals and Pharmaceuticals	65	43	9	11	182	151	480
Computer and Electronic Products	198	144	13	23	753	400	1,580
Aerospace	44	13	0	12	138	80	300
Medical Equipment	269	207	38	41	585	321	1,527
Other Manufacturing	135	110	17	23	446	275	1,037
Service Industries	10,341	12,133	1,290	1,138	34,320	13,395	75,535
Motion picture production & post production ²	977	143	24	74	1,743	1,100	4,175
Telecommunications	720	602	166	141	2,116	1,052	5,249
Engineering services	1,812	3,314	223	178	4,030	1,660	11,926
Computer and related services	4,400	3,784	367	455	21,948	7,516	39,323
Other services	2,432	4,290	510	290	4,483	2,067	14,862
Total for sector	11,052	12,650	1,367	1,248	36,424	14,622	80,459
Total for all Industries	206,532	175,385	43,417	42,547	484,399	268,797	1,311,397

1. Businesses with zero employees are not included in these figures.

2. Note that Statistics Canada data for British Columbia's film industry are understated and data for other provinces could be also be understated, or may be overstated. Efforts are under way by Statistics Canada to better capture the true nature of the industry.

Source: BC Stats and Statistics Canada

TABLE 24. BRITISH COLUMBIA DOMESTIC EXPORTS OF HIGH TECHNOLOGY GOODS, BY DESTINATION AND MODE OF TRANSPORT

		Value (\$ million) ¹										
Destination	Mode of Transport ²	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
United States	Land	399.1	348.0	360.9	386.0	390.4	420.0	522.8	500.8	479.7	539.6	564.5
	Sea	0.0	0.0	0.2	0.0	0.3	2.8	0.0	0.0	0.2	0.2	0.0
	Air	187.0	190.7	182.7	226.3	247.0	281.8	312.2	268.1	302.2	309.7	292.9
	Total	586.1	538.7	543.8	612.3	637.7	704.6	835.0	768.9	782.1	849.6	857.5
Pacific Rim	Land	0.5	0.6	0.2	9.1	12.8	1.4	0.5	1.4	0.8	2.1	6.0
	Sea	7.6	9.5	6.0	15.7	26.2	31.2	24.5	23.6	12.5	13.7	4.0
	Air	76.3	97.3	97.5	98.3	110.7	122.8	151.0	171.4	168.7	209.7	185.4
	Total	84.3	107.4	103.7	123.1	149.7	155.4	176.1	196.4	182.1	225.5	195.5
European Union	Land	0.7	0.4	0.3	0.2	0.1	0.1	0.0	0.1	0.2	0.1	0.0
	Sea	19.8	6.4	8.7	8.3	7.4	11.3	6.9	18.9	10.5	18.8	5.9
	Air	84.6	115.4	112.2	115.3	119.2	123.2	133.1	148.1	129.3	153.0	151.3
	Total	105.0	122.2	121.2	123.9	126.7	134.5	140.0	167.2	139.9	171.9	157.2
All Other Countries	Land	3.7	2.2	1.5	4.8	1.8	2.7	51.1	3.9	1.4	0.9	5.7
	Sea	3.3	12.5	22.4	21.4	24.6	24.7	51.9	15.8	10.0	8.5	13.8
	Air	82.7	98.3	118.8	116.0	99.0	129.3	136.1	206.6	206.6	192.1	226.8
	Total	89.7	113.1	142.7	142.1	125.5	156.7	239.1	226.3	218.1	201.6	246.3
Total	Land	403.9	351.2	362.9	400.2	405.2	424.1	574.5	506.1	482.1	542.7	576.3
	Sea	30.6	28.5	37.2	45.4	58.5	70.0	83.4	58.4	33.2	41.3	23.7
	Air	430.6	501.7	511.2	555.9	575.9	657.1	732.4	794.2	806.9	864.6	856.5
	Total	865.1	881.4	911.3	1,001.4	1,039.5	1,151.2	1,390.2	1,358.7	1,322.2	1,448.6	1,456.5

		% of Exports to Destination ³										
Destination	Mode of Transport	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
United States	Land	68.1	64.6	66.4	63.0	61.2	59.6	62.6	65.1	61.3	63.5	65.8
	Sea	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
	Air	31.9	35.4	33.6	37.0	38.7	40.0	37.4	34.9	38.6	36.5	34.2
Pacific Rim	Land	0.6	0.6	0.2	7.4	8.6	0.9	0.3	0.7	0.4	0.9	3.1
	Sea	9.0	8.9	5.8	12.7	17.5	20.1	13.9	12.0	6.9	6.1	2.0
	Air	90.4	90.6	94.0	79.9	74.0	79.0	85.8	87.3	92.7	93.0	94.9
European Union	Land	0.7	0.3	0.2	0.2	0.1	0.1	0.0	0.0	0.1	0.1	0.0
	Sea	18.8	5.2	7.1	6.7	5.8	8.4	5.0	11.3	7.5	10.9	3.8
	Air	80.5	94.4	92.6	93.1	94.1	91.5	95.0	88.6	92.4	89.0	96.2
All Other Countries	Land	4.1	2.0	1.0	3.4	1.5	1.7	21.4	1.7	0.7	0.5	2.3
	Sea	3.7	11.1	15.7	15.0	19.6	15.8	21.7	7.0	4.6	4.2	5.6
	Air	92.2	87.0	83.3	81.6	78.9	82.5	56.9	91.3	94.7	95.3	92.1
Total	Land	46.7	39.8	39.8	40.0	39.0	36.8	41.3	37.3	36.5	37.5	39.6
	Sea	3.5	3.2	4.1	4.5	5.6	6.1	6.0	4.3	2.5	2.8	1.6
	Air	49.8	56.9	56.1	55.5	55.4	57.1	52.7	58.5	61.0	59.7	58.8

1. Totals may not equal the sum of Land, Sea and Air due to the fact that some respondents did not fill in the survey completely.
2. Shipments by land to overseas markets represent the export of B.C. produced high technology products transshipped through U.S. Ports such as Seattle or Portland.
3. Percentages may not add to 100 due to rounding.

^P Preliminary

Source: BC Stats

TABLE 25. TOP 25 BRITISH COLUMBIA HIGH TECHNOLOGY EXPORT COMMODITIES, 2019^P

HS Code	Commodity Description ¹	Value (\$'000,000)	% Total Exports
88033000	Aircraft parts nes	288.8	19.8
88023000	Aircraft nes of an unladen weight > 2,000 kg but not exceeding 15,000 kg	144.7	9.9
85258020	Digital cameras	126.8	8.7
90189000	Instruments and appliances used in medical or veterinary sciences, nes	111.4	7.7
85258010	Television cameras	88.2	6.1
90328900	Automatic regulating or controlling instruments and apparatus, nes	86.0	5.9
85258030	Video camera recorders	53.0	3.6
90213900	Artificial parts of the body, nes	45.0	3.1
90158000	Surveying, hydrographic, oceanographic, meteorological or geophysical inst nes	39.9	2.7
28444019	Radioactive elements & isotopes and compounds, nes	28.1	1.9
85176200	Machines for reception, conversion, transmission, regeneration of voice, images and other data	27.9	1.9
90278000	Instruments and apparatus for physical or chemical analysis, nes	22.7	1.6
88032000	Aircraft under-carriages and parts thereof	21.1	1.4
85176900	Apparatus for trans/reception of voice/image/other data,incl. for communication in wired/wireless network, nes	20.3	1.4
90275000	Instruments and apparatus using optical radiations (UV, visible, IR), nes	17.6	1.2
85269200	Radio remote control apparatus	17.0	1.2
84715000	Process units, o/t 8471.41/.49, w/n cntg in same housing storage, input, output units	16.9	1.2
84714900	Other automatic data processing machines, presented in the form of systems	16.8	1.2
90181900	Electro-diagnostic apparatus, nes	16.0	1.1
84705000	Cash registers	14.8	1.0
90301000	Instruments and apparatus for measuring or detecting ionising radiations	13.6	0.9
84733000	Parts and accessories of automatic data processing machines & units thereof	11.7	0.8
85269100	Radio navigational aid apparatus	11.1	0.8
84714100	Other automatic data processing machines,with at least cpu, input and output units, other than portable	10.5	0.7
85234911	Optical media, recorded, prepackaged software, for adpm, reproducing phenomenon other than sound/image	8.7	0.6
Subtotal		1,258.8	86.4
	All Other High Technology Commodities	197.7	13.6
Total		1,456.5	100.0

HS code = Harmonized System commodity code; nes=Not Elsewhere Specified

1. Commodity descriptions are drawn from the approved Harmonized System coding manual. They contain some abbreviations that have been left in the original form in this table.

^P Preliminary

Source: BC Stats and Statistics Canada

TABLE 26. TOP 25 BRITISH COLUMBIA HIGH TECHNOLOGY IMPORT COMMODITIES, 2019^P

HS Code	Commodity Description ¹	Value (\$000,000)	% Total Exports
8517120030	Telephones, for cellular networks	997.9	13.1
8517620090	Machines for r/c/t or regeneration voice, images or data, incl switching & routing app, nes	693.4	9.1
8471300000	Portable automatic data processing machines, <= 10 kg, with cpu, keyboard and display	633.8	8.4
8802400016	Airplanes and other aircraft, passenger, of an unladen weight > 15,000 kg, new	462.7	6.1
8471500090	Processing units, other than 8471.41/.49, whether or not containing: storage/input/output unit,o/t CRT, nes	331.4	4.4
3002150000	Immunological products, put up in measured doses/forms/packings, for retail sale	315.6	4.2
8803300000	Parts of airplanes or helicopters nes	307.4	4.1
8411910020	Parts of turbo-jets or turbo-propellers for aircraft	286.3	3.8
3004900079	Medicaments, nes, for human use, in dosage	242.8	3.2
8528723300	Television receivers, colour, high definition, with flat panel screen, nes	159.2	2.1
8443990090	Other parts and accessories of printing machinery, nes	136.8	1.8
8525800050	Digital cameras and video camera recorders	116.8	1.5
8542310000	Processors and controllers, whether or not combined with memories, converters, logic circuits, amplifiers, etc.	106.2	1.4
8517700000	Parts of tel sets & apparatus for transmission/reception voice/image/data,other than 84.43/85.25/85.27/85.28 ²	90.8	1.2
8803200000	Under-carriages and parts thereof, for aircrafts	89.8	1.2
8528520000	Monitors, nes, connecting to and used with data processing machines of 84.71	81.3	1.1
3002120019	Human antisera and other human blood fractions, nes	81.1	1.1
8523510000	Solid-state non-volatile storage devices	72.6	1.0
8544700000	Optical fibre cables, made up of individually sheathed fibres	64.1	0.8
8473309000	Parts & access (o/t printed circuit assy) of the machines of heading 84.71, nes ³	60.4	0.8
3002200090	Vaccines, nes, for human medicine	59.1	0.8
8542390000	Electronic integrated circuits, nes	56.6	0.7
8471700013	Magnetic disc drives for hard magnetic disks, other than in form of system	56.6	0.7
8471410090	Other ADPM, with CPU, input and output units, whether or not combined, other than with CRT, nes	55.7	0.7
8411120010	Turbo-jets, for aircraft turbines, of a thrust exceeding 25 kN	55.1	0.7
Subtotal		5,613.5	74.0
	All Other High Technology Commodities	1,975.6	26.0
Total		7,589.1	100.0

HS code = Harmonized System commodity code; nes=Not Elsewhere Specified

1. Commodity descriptions are drawn from the approved Harmonized System coding manual. They contain some abbreviations that have been left in the original form in this table.
2. Refers to facsimile machines, transmission/reception apparatus for radio/TV broadcasting.
3. Refers to automatic data processing machines, magnetic or optical readers, etc.

^P Preliminary

Source: BC Stats

TABLE 27. BRITISH COLUMBIA DOMESTIC EXPORTS OF HIGH TECHNOLOGY GOODS AND TOTAL GOODS, BY DESTINATION

	Value (\$ 000,000)										
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
High Technology Exports											
United States	586.1	538.7	543.8	612.3	637.7	704.6	835.0	768.9	782.1	849.6	857.5
Mexico	6.2	7.3	6.3	10.6	5.5	3.0	40.9	7.2	6.0	7.0	6.3
United Kingdom	20.1	23.5	27.2	22.1	16.2	18.3	46.6	13.5	15.7	23.5	20.4
European Union	105.0	122.2	121.2	123.9	126.7	134.5	140.0	167.2	139.9	171.9	157.2
France	6.0	6.3	6.5	5.2	8.0	10.8	15.7	20.9	24.5	30.3	42.9
Germany	26.5	28.7	30.0	35.0	31.2	30.3	32.3	28.1	27.4	48.2	24.6
Italy	26.7	33.7	26.6	20.2	22.0	29.9	30.0	32.8	31.8	30.2	32.2
Netherlands	12.6	15.6	14.4	16.6	28.3	34.4	33.1	39.0	28.4	38.3	31.5
Pacific Rim	84.3	107.4	103.7	123.1	149.7	155.4	176.1	196.4	182.1	225.5	195.5
Hong Kong	14.7	20.9	19.1	17.3	14.8	18.5	17.7	20.4	24.1	24.2	35.0
Mainland China	13.8	22.5	20.3	21.8	26.3	31.7	33.7	39.2	37.5	42.1	37.9
Japan	11.2	10.0	10.8	23.9	22.2	25.2	26.2	34.2	30.7	31.5	29.6
South Korea	8.8	7.8	12.3	13.8	14.3	11.0	11.6	20.4	15.1	15.1	13.2
Taiwan	2.8	4.2	7.5	6.0	8.4	4.3	8.8	31.6	13.4	11.9	14.4
All Other Countries	63.4	82.2	109.2	109.4	103.8	135.4	151.7	205.5	196.5	171.1	219.6
Total	865.1	881.4	911.3	1,001.4	1,039.5	1,151.2	1,390.2	1,358.7	1,322.2	1,448.6	1,456.5
Total Exports											
United States	12,920.2	13,252.1	14,005.4	14,031.5	15,524.4	18,050.1	18,811.9	20,892.4	22,289.4	22,726.2	21,972.3
Mexico	162.1	192.3	156.1	101.2	124.6	111.3	182.2	95.0	251.6	198.0	179.7
United Kingdom	266.2	293.7	417.5	328.4	336.5	383.6	397.6	410.0	411.7	501.1	467.5
European Union	1,424.0	1,729.7	1,903.8	1,464.9	1,234.4	1,207.8	1,097.6	1,250.2	1,714.4	2,009.5	1,722.4
France	116.8	98.8	108.6	75.3	71.0	90.6	94.4	105.8	113.9	126.6	130.7
Germany	234.0	379.2	280.9	247.9	224.1	251.8	258.7	231.9	365.6	338.6	364.9
Italy	342.6	451.8	515.2	326.8	280.0	183.3	156.1	147.9	156.7	145.3	136.0
Netherlands	438.3	442.3	619.5	520.8	301.4	274.1	242.2	242.7	350.0	663.1	501.5
Pacific Rim	9,128.1	11,569.4	14,022.6	13,651.4	14,331.2	14,183.5	13,046.9	13,476.8	15,989.3	17,823.9	16,142.2
Hong Kong	210.0	238.2	260.5	218.6	201.1	249.9	185.3	198.0	220.6	247.3	190.1
Mainland China	2,501.4	3,837.1	4,802.4	5,752.3	6,600.6	6,387.5	5,724.8	5,639.1	6,374.1	6,723.1	6,479.9
Japan	3,551.0	4,193.2	4,642.8	4,139.2	4,050.9	3,665.5	3,617.2	3,728.8	4,503.0	5,081.2	4,537.3
South Korea	1,664.1	1,883.7	2,725.4	1,891.4	1,816.2	2,087.8	1,806.9	2,134.5	2,879.4	2,940.5	2,636.7
Taiwan	463.1	493.8	723.6	655.5	599.8	534.7	555.8	620.0	690.3	956.5	825.6
All Other Countries	1,339.7	1,609.0	2,166.1	1,906.7	1,870.4	1,896.2	1,960.9	2,298.1	2,584.1	3,081.5	2,965.1
Total	25,240.3	28,646.1	32,671.5	31,484.0	33,421.5	35,832.5	35,497.0	38,422.5	43,240.5	46,340.2	43,449.3

	% change from previous year										
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
High Technology Exports											
United States	-5.1	-8.1	0.9	12.6	4.1	10.5	18.5	-7.9	1.7	8.6	0.9
Mexico	-7.9	17.2	-13.7	68.8	-48.7	-45.9	1282.8	-82.3	-17.3	16.5	-9.7
United Kingdom	-17.5	17.3	15.6	-19.0	-26.4	12.9	153.8	-70.9	15.7	50.0	-13.1
European Union	-36.8	16.3	-0.8	2.2	2.2	6.2	4.1	19.4	-16.3	22.8	-8.5
France	-8.0	4.6	2.8	-20.0	53.3	35.7	45.1	33.2	17.4	23.7	41.4
Germany	-66.7	8.2	4.6	16.6	-10.9	-2.9	6.7	-13.1	-2.3	75.7	-49.0
Italy	15.0	26.4	-20.9	-24.3	9.0	36.1	0.3	9.3	-3.1	-5.0	6.7
Netherlands	9.3	23.4	-7.6	15.0	70.7	21.8	-3.9	17.9	-27.2	34.6	-17.6
Pacific Rim	-16.7	27.4	-3.5	18.8	21.6	3.8	13.3	11.5	-7.3	23.9	-13.3
Hong Kong	70.1	41.6	-8.4	-9.5	-14.7	25.7	-4.5	15.3	18.2	0.4	44.5
Mainland China	-36.0	63.0	-9.8	7.6	20.3	20.9	6.3	16.3	-4.5	12.2	-9.9
Japan	-52.2	-11.0	7.9	122.1	-7.2	13.4	3.9	30.9	-10.4	2.8	-6.3
South Korea	-38.3	-11.7	58.4	12.1	4.0	-23.1	5.7	75.3	-26.1	0.2	-12.5
Taiwan	-53.9	50.0	78.2	-20.2	41.6	-49.2	106.4	257.4	-57.6	-11.1	21.2
All Other Countries	-8.1	29.7	32.8	0.2	-5.2	30.5	12.0	35.5	-4.4	-12.9	28.3
Total Growth	-12.2	1.9	3.4	9.9	3.8	10.8	20.8	-2.3	-2.7	9.6	0.5
Total Exports											
United States	-26.5	2.6	5.7	0.2	10.6	16.3	4.2	11.1	6.7	2.0	-3.3
Mexico	-52.8	18.6	-18.8	-35.2	23.1	-10.7	63.7	-47.8	164.7	-21.3	-9.2
United Kingdom	-34.3	10.3	42.2	-21.3	2.4	14.0	3.7	3.1	0.4	21.7	-6.7
European Union	-35.7	21.5	10.1	-23.1	-15.7	-2.2	-9.1	13.9	37.1	17.2	-14.3
France	-42.0	-15.5	9.9	-30.6	-5.8	27.7	4.2	12.1	7.6	11.2	3.3
Germany	-54.7	62.1	-25.9	-11.7	-9.6	12.4	2.7	-10.3	57.6	-7.4	7.8
Italy	-29.4	31.9	14.0	-36.6	-14.3	-34.5	-14.9	-5.2	5.9	-7.3	-6.4
Netherlands	-8.1	0.9	40.0	-15.9	-42.1	-9.0	-11.7	0.2	44.2	89.5	-24.4
Pacific Rim	-14.4	26.7	21.2	-2.6	5.0	-1.0	-8.0	3.3	18.6	11.5	-9.4
Hong Kong	-11.7	13.4	9.3	-16.1	-8.0	24.3	-25.8	6.9	11.4	12.1	-23.1
Mainland China	27.5	53.4	25.2	19.8	14.7	-3.2	-10.4	-1.5	13.0	5.5	-3.6
Japan	-29.3	18.1	10.7	-10.8	-2.1	-9.5	-1.3	3.1	20.8	12.8	-10.7
South Korea	-15.1	13.2	44.7	-30.6	-4.0	15.0	-13.5	18.1	34.9	2.1	-10.3
Taiwan	-22.6	6.6	46.5	-9.4	-8.5	-10.9	3.9	11.5	11.3	38.6	-13.7
All Other Countries	-30.0	20.1	34.6	-12.0	-1.9	1.4	3.4	17.2	12.4	19.2	-3.8
Total Growth	-23.8	13.5	14.1	-3.6	6.2	7.2	-0.9	8.2	12.5	7.2	-6.2

^P Preliminary

Source: BC Stats and Statistics Canada

TABLE 28. BRITISH COLUMBIA IMPORTS OF HIGH TECHNOLOGY GOODS, BY COUNTRY OF ORIGIN

	Value (\$ 000,000)										
	2009	2010	2011	2012	2013	2014	2015	2016	2017 ^r	2018 ^r	2019 ^p
United States	1,305.1	1,491.2	1,436.8	1,579.5	1,759.1	1,800.2	2,203.3	2,075.7	2,136.0	2,315.1	2,238.8
Mexico	455.0	645.6	630.2	553.7	531.5	538.0	538.3	545.8	556.1	582.8	631.5
United Kingdom	129.5	140.2	142.6	111.2	105.9	99.1	127.9	126.2	138.6	148.5	167.2
European Union	374.5	441.5	426.5	485.4	525.6	482.7	575.8	554.4	598.6	684.3	785.6
France	75.7	98.0	83.6	81.5	105.0	68.4	165.8	75.7	82.3	94.4	133.0
Germany	107.6	109.9	127.1	175.4	181.2	175.8	162.3	214.4	223.5	246.0	265.5
Italy	20.7	33.2	27.2	31.1	36.8	38.8	35.9	36.4	33.6	37.7	39.1
Netherlands	30.6	36.1	33.1	19.0	18.2	19.8	22.8	23.6	23.4	22.6	24.3
Pacific Rim	1,768.5	2,316.0	2,483.7	2,506.6	2,325.7	2,407.4	2,759.6	2,859.9	3,167.0	3,408.5	3,385.2
Hong Kong	11.2	10.3	4.3	3.7	2.9	4.7	4.3	2.8	4.6	4.0	3.7
Mainland China	1,041.7	1,433.6	1,580.7	1,698.3	1,490.1	1,679.2	1,901.9	1,928.4	2,245.8	2,414.4	2,313.2
Japan	191.0	232.7	224.3	237.5	209.4	187.1	195.9	188.7	181.7	200.7	197.3
South Korea	129.6	157.4	140.9	82.0	165.7	95.5	94.5	75.9	80.6	154.1	121.0
Taiwan	104.0	148.4	226.4	163.1	163.6	132.1	160.7	155.9	168.2	161.8	177.8
All Other Countries	215.5	275.6	222.7	258.6	292.7	269.4	287.7	334.7	330.5	348.2	380.8
Total Value	4,248.2	5,310.2	5,342.5	5,495.0	5,540.5	5,596.8	6,492.7	6,496.7	6,926.7	7,487.4	7,589.1
	% change from previous year										
	2009	2010	2011	2012	2013	2014	2015	2016	2017 ^r	2018 ^r	2019 ^p
United States	-18.9	14.3	-3.6	9.9	11.4	2.3	22.4	-5.8	2.9	8.4	-3.3
Mexico	-16.3	41.9	-2.4	-12.1	-4.0	1.2	0.1	1.4	1.9	4.8	8.4
United Kingdom	13.5	8.3	1.7	-22.0	-4.8	-6.3	29.0	-1.3	9.9	7.1	12.6
European Union	-3.1	17.9	-3.4	13.8	8.3	-8.2	19.3	-3.7	8.0	14.3	14.8
France	-7.1	29.4	-14.6	-2.6	28.8	-34.8	142.2	-54.3	8.7	14.7	41.0
Germany	-16.6	2.1	15.7	37.9	3.3	-3.0	-7.6	32.0	4.3	10.1	7.9
Italy	22.9	60.3	-18.1	14.3	18.2	5.6	-7.6	1.3	-7.7	12.2	3.9
Netherlands	0.1	18.0	-8.3	-42.6	-4.3	9.1	14.8	3.4	-0.6	-3.5	7.3
Pacific Rim	-14.1	31.0	7.2	0.9	-7.2	3.5	14.6	3.6	10.7	7.6	-0.7
Hong Kong	-10.3	-7.7	-58.1	-13.4	-22.8	61.1	-7.2	-35.7	64.3	-11.5	-8.7
Mainland China	-6.1	37.6	10.3	7.4	-12.3	12.7	13.3	1.4	16.5	7.5	-4.2
Japan	-28.2	21.8	-3.6	5.9	-11.9	-10.6	4.7	-3.7	-3.7	10.5	-1.7
South Korea	-9.0	21.4	-10.5	-41.8	101.9	-42.4	-1.0	-19.7	6.1	91.2	-21.5
Taiwan	-24.8	42.6	52.6	-28.0	0.3	-19.2	21.6	-3.0	7.9	-3.8	9.9
All Other Countries	-16.6	27.9	-19.2	16.1	13.2	-7.9	6.8	16.3	-1.3	5.4	9.4
Total Growth	-14.6	25.0	0.6	2.9	0.8	1.0	16.0	0.1	6.6	8.1	1.4

^r Revised^p Preliminary

Source: BC Stats

TABLE 29. BRITISH COLUMBIA BALANCE OF TRADE IN HIGH TECHNOLOGY GOODS, BY COUNTRY

	Balance (\$ 000,000)										
	2009	2010	2011	2012	2013	2014	2015	2016	2017 ^r	2018 ^r	2019 ^p
United States	-719.0	-952.5	-890.6	-967.2	-1,121.4	-1,095.6	-1,368.3	-1,306.8	-1,353.8	-1,465.5	-1,381.3
Mexico	-448.1	-638.0	-622.4	-542.0	-523.4	-533.1	-494.6	-531.7	-546.7	-570.7	-620.9
United Kingdom	-103.0	-112.4	-110.8	-85.0	-83.6	-54.3	-64.2	-15.1	-110.4	-114.9	-136.0
European Union	-256.5	-309.5	-279.0	-325.2	-352.7	-277.6	-364.4	-295.3	-352.3	-394.5	-539.3
France	-67.8	-91.1	-74.6	-73.9	-95.1	-54.4	-142.8	-45.3	-44.1	-52.3	-83.5
Germany	-78.1	-77.9	-93.1	-128.7	-123.7	-103.1	-96.9	-143.2	-148.9	-123.8	-192.8
Italy	6.1	0.6	-0.4	-10.8	-14.1	-8.7	-5.0	-3.2	0.4	-7.0	-5.9
Netherlands	-17.1	-18.7	-14.3	0.4	20.1	33.9	35.0	47.4	34.7	33.8	23.9
Pacific Rim	-1,649.1	-2,177.9	-2,313.0	-2,333.0	-2,128.5	-2,174.8	-2,489.8	-2,540.5	-2,895.9	-3,062.7	-3,077.0
Hong Kong	6.9	16.2	28.0	23.8	17.3	20.7	23.6	26.2	24.9	26.2	44.7
Mainland China	-1,022.7	-1,405.5	-1,550.6	-1,669.2	-1,455.9	-1,640.3	-1,860.0	-1,882.4	-2,200.0	-2,356.5	-2,262.3
Japan	-177.1	-220.5	-211.5	-210.6	-180.2	-148.3	-145.9	-129.2	-129.2	-144.8	-143.0
South Korea	-118.5	-145.6	-125.0	-67.1	-150.3	-80.6	-79.8	-53.3	-61.6	-135.6	-105.4
Taiwan	-100.5	-142.1	-217.9	-156.8	-154.4	-126.2	-148.9	-121.9	-151.3	-145.6	-160.3
All Other Countries	-63.6	-160.4	-66.8	-111.8	-108.4	-86.8	-77.2	-44.6	-43.0	-82.5	-88.6
Total	-3,239.2	-4,350.7	-4,282.6	-4,364.2	-4,318.0	-4,222.2	-4,858.4	-4,734.0	-5,302.1	-5,690.9	-5,843.1

Note: The trade balance is the net of total exports minus total imports. Total exports include re-exports, whereas domestic exports are shipments of goods produced within Canada only (in the case of tables in this report, within B.C. only).

^r Revised

^p Preliminary

Source: BC Stats

TABLE 30. BRITISH COLUMBIA DOMESTIC EXPORTS OF HIGH TECHNOLOGY GOODS, BY COMMODITY GROUP

	Value (\$ 000,000)										
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
Biotechnology	3.5	3.1	2.5	3.3	2.9	3.1	5.8	2.7	4.9	4.2	7.4
Life Sciences	149.2	159.8	166.7	157.8	183.5	204.8	247.5	240.9	257.2	257.0	270.7
Opto-Electronics	48.3	39.1	41.6	34.0	40.1	46.5	46.5	57.0	58.0	47.8	62.3
Computers and Telecommunications	394.4	406.6	377.1	389.7	394.5	438.1	506.6	479.0	489.7	523.7	466.8
Electronics	34.7	5.7	12.5	29.3	21.3	23.9	23.0	27.0	24.3	46.8	28.8
Computer Integrated Manufacturing	89.8	99.9	119.8	134.3	109.3	91.9	115.9	147.0	136.8	116.4	119.5
Material Design	1.4	1.4	1.1	3.6	3.8	2.6	2.2	3.7	4.4	4.7	3.7
Aerospace	141.3	164.1	185.4	247.1	281.2	335.9	435.6	394.4	337.7	437.4	481.4
Weapons and Nuclear	2.7	1.9	4.5	2.3	3.0	4.5	7.1	6.9	9.1	10.6	15.9
Total	865.1	881.4	911.3	1,001.4	1,039.5	1,151.2	1,390.2	1,358.7	1,322.2	1,448.6	1,456.5

	% change from previous year										
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
Biotechnology	22.1	-10.1	-18.6	30.8	-12.9	6.5	87.7	-52.8	79.8	-15.5	78.7
Life Sciences	8.0	7.1	4.3	-5.3	16.3	11.6	20.9	-2.7	6.8	-0.1	5.4
Opto-Electronics	-61.2	-19.0	6.4	-18.4	18.1	15.9	0.1	22.4	1.9	-17.7	30.4
Computers and Telecommunications	-3.0	3.1	-7.2	3.3	1.2	11.1	15.6	-5.5	2.2	7.0	-10.9
Electronics	192.0	-83.6	118.7	135.1	-27.2	12.1	-3.8	17.4	-9.9	92.4	-38.5
Computer Integrated Manufacturing	-18.2	11.2	20.0	12.1	-18.7	-15.9	26.1	26.9	-7.0	-14.9	2.7
Material Design	-8.9	-0.9	-18.1	224.9	3.6	-30.5	-16.4	68.8	19.9	5.3	-20.5
Aerospace	-25.4	16.1	13.0	33.3	13.8	19.5	29.7	-9.5	-14.4	29.5	10.1
Weapons and Nuclear	473.1	-31.2	142.5	-48.5	27.7	52.4	57.2	-2.5	31.1	17.2	49.2
Total	-12.2	1.9	3.4	9.9	3.8	10.8	20.8	-2.3	-2.7	9.6	0.5

^P Preliminary

Source: BC Stats

TABLE 31. BRITISH COLUMBIA IMPORTS OF HIGH TECHNOLOGY GOODS, BY COMMODITY GROUP

	Value (\$ 000,000)										
	2009	2010	2011	2012	2013	2014	2015	2016	2017 ^r	2018 ^r	2019 ^p
Biotechnology	100.9	138.7	157.0	186.8	241.5	257.0	248.1	297.6	345.8	389.8	450.3
Life Sciences	602.3	695.3	651.6	729.6	698.7	688.5	701.2	773.3	764.6	805.0	888.1
Opto-Electronics	285.7	371.9	331.6	271.7	258.3	268.1	260.1	254.8	275.1	268.1	256.1
Computers and Telecommunications	2,346.9	2,925.5	3,120.9	3,196.8	2,849.4	3,003.4	3,281.2	3,441.9	3,717.6	3,991.6	4,015.4
Electronics	269.7	379.5	345.6	323.5	378.9	322.6	297.3	314.6	322.7	350.5	314.6
Computer Integrated Manufacturing	143.7	174.4	191.2	180.6	178.9	191.4	210.4	205.7	202.4	212.8	203.2
Material Design	21.4	25.9	45.8	48.4	50.7	54.6	52.6	69.4	77.5	74.2	71.7
Aerospace	457.5	580.3	473.2	534.5	861.5	796.2	1,419.7	1,111.8	1,196.5	1,374.0	1,366.4
Weapons and Nuclear	20.0	18.7	25.6	23.2	22.6	14.9	22.1	27.6	24.4	21.4	23.3
Total	4,248.2	5,310.2	5,342.5	5,495.0	5,540.5	5,596.8	6,492.7	6,496.7	6,926.7	7,487.4	7,589.1

	% change from previous year										
	2009	2010	2011	2012	2013	2014	2015	2016	2017 ^r	2018 ^r	2019 ^p
Biotechnology	18.8	37.5	13.2	19.0	29.3	6.4	-3.5	20.0	16.2	12.7	15.5
Life Sciences	-0.2	15.4	-6.3	12.0	-4.2	-1.4	1.8	10.3	-1.1	5.3	10.3
Opto-Electronics	-29.2	30.1	-10.8	-18.1	-4.9	3.8	-3.0	-2.1	8.0	-2.5	-4.5
Computers and Telecommunications	-16.7	24.7	6.7	2.4	-10.9	5.4	9.2	4.9	8.0	7.4	0.6
Electronics	-3.1	40.7	-8.9	-6.4	17.2	-14.9	-7.9	5.8	2.6	8.6	-10.2
Computer Integrated Manufacturing	-3.6	21.3	9.7	-5.5	-0.9	7.0	9.9	-2.2	-1.6	5.1	-4.5
Material Design	-26.2	20.8	76.6	5.8	4.7	7.7	-3.6	31.8	11.7	-4.3	-3.4
Aerospace	-22.2	26.9	-18.5	13.0	61.2	-7.6	78.3	-21.7	7.6	14.8	-0.6
Weapons and Nuclear	8.9	-6.5	37.3	-9.7	-2.6	-34.0	48.6	24.9	-11.7	-12.2	8.7
Total	-14.6	25.0	0.6	2.9	0.8	1.0	16.0	0.1	6.6	8.1	1.4

^r Revised^p Preliminary

Source: BC Stats

TABLE 32. BRITISH COLUMBIA BALANCE OF TRADE IN HIGH TECHNOLOGY GOODS, BY COMMODITY GROUP

	Balance (\$ 000,000)										
	2009	2010	2011	2012	2013	2014	2015	2016	2017 ^r	2018 ^r	2019 ^p
Biotechnology	-97.4	-135.6	-154.4	-183.5	-238.6	-253.9	-242.3	-294.9	-340.8	-385.6	-442.6
Life Sciences	-449.0	-531.2	-479.1	-566.6	-509.4	-478.8	-447.6	-526.8	-500.9	-538.4	-610.4
Opto-Electronics	-233.7	-330.0	-286.6	-236.0	-214.3	-219.7	-211.6	-196.3	-215.0	-214.9	-189.1
Computers and Telecommunications	-1,923.7	-2,483.6	-2,688.6	-2,766.3	-2,412.1	-2,502.0	-2,695.2	-2,880.5	-3,148.2	-3,358.4	-3,465.5
Electronics	-228.1	-367.0	-324.2	-287.4	-352.1	-292.4	-266.3	-276.5	-290.9	-295.0	-273.8
Computer Integrated Manufacturing	-51.6	-71.9	-68.9	-44.3	-67.4	-95.7	-90.8	-55.7	-61.6	-92.1	-78.0
Material Design	-19.9	-24.3	-44.6	-44.6	-46.8	-51.6	-50.1	-65.6	-73.0	-69.3	-67.9
Aerospace	-219.2	-390.7	-215.5	-214.9	-458.1	-317.9	-839.7	-417.2	-656.4	-726.8	-709.0
Weapons and Nuclear	-16.7	-16.5	-20.7	-20.6	-19.3	-10.1	-15.0	-20.6	-15.3	-10.4	-6.7
Total	-3,239.2	-4,350.7	-4,282.6	-4,364.2	-4,318.0	-4,222.2	-4,858.4	-4,734.0	-5,302.1	-5,690.9	-5,843.1

Note: The trade balance is the net of *total* exports minus total imports. Total exports include re-exports, whereas *domestic* exports are shipments of goods produced within Canada only (in the case of tables in this report, within B.C. only).

^r Revised

^p Preliminary

Source: BC Stats

TABLE 33. B.C. DOMESTIC EXPORTS OF HIGH TECHNOLOGY GOODS TO THE UNITED STATES, BY COMMODITY GROUP

	Value (\$ 000,000)										
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
Biotechnology	1.0	0.8	0.4	0.2	0.0	0.1	0.4	0.3	2.4	2.1	5.1
Life Sciences	93.9	91.1	94.9	97.0	117.6	133.7	177.7	170.1	182.1	181.1	194.0
Opto-Electronics	14.1	14.0	18.3	13.0	16.6	20.1	19.5	23.9	31.8	18.0	23.2
Computers and Telecommunications	280.6	259.7	232.1	246.1	235.9	248.1	303.7	251.9	238.8	247.0	227.5
Electronics	31.3	1.2	2.8	7.3	6.7	6.6	10.6	9.0	14.6	30.6	12.8
Computer Integrated Manufacturing	47.4	50.0	58.3	58.6	52.1	61.2	84.8	109.4	101.9	86.6	78.1
Material Design	0.9	0.7	0.8	3.3	3.5	2.1	2.0	3.2	3.7	4.1	3.2
Aerospace	116.0	119.9	134.1	185.3	202.9	230.7	233.1	197.1	200.9	273.9	305.8
Weapons and Nuclear	0.9	1.3	2.2	1.5	2.3	1.9	3.2	4.2	6.0	6.2	7.7
Total	586.1	538.7	543.8	612.3	637.7	704.6	835.0	768.9	782.1	849.6	857.5

	% change from previous year										
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
Biotechnology	254.5	-21.5	-48.5	-58.9	-82.5	97.9	541.5	-29.3	837.8	-12.4	142.7
Life Sciences	21.6	-3.0	4.2	2.3	21.2	13.7	32.9	-4.3	7.1	-0.6	7.2
Opto-Electronics	-43.9	-0.5	30.3	-28.7	27.2	21.1	-3.1	22.8	32.8	-43.3	28.8
Computers and Telecommunications	-2.8	-7.5	-10.6	6.0	-4.1	5.2	22.4	-17.1	-5.2	3.4	-7.9
Electronics	547.9	-96.0	126.1	159.4	-8.2	-2.2	60.8	-15.0	62.1	109.9	-58.3
Computer Integrated Manufacturing	-27.6	5.5	16.4	0.6	-11.0	17.4	38.5	28.9	-6.8	-15.0	-9.8
Material Design	16.0	-19.0	5.7	333.5	6.5	-38.9	-5.3	58.1	16.5	10.2	-21.1
Aerospace	-25.1	3.4	11.8	38.2	9.5	13.7	1.0	-15.4	1.9	36.3	11.7
Weapons and Nuclear	217.7	49.5	73.1	-33.3	54.4	-17.1	66.0	32.4	43.0	3.5	24.2
Total	-5.1	-8.1	0.9	12.6	4.1	10.5	18.5	-7.9	1.7	8.6	0.9

^P Preliminary

Source: BC Stats

TABLE 34. B.C. IMPORTS OF HIGH TECHNOLOGY GOODS FROM THE UNITED STATES, BY COMMODITY GROUP

	Value (\$ 000,000)										
	2009	2010	2011	2012	2013	2014	2015	2016	2017 ^r	2018 ^r	2019 ^p
Biotechnology	28.4	37.9	48.5	56.3	80.2	81.8	94.5	108.1	123.2	136.1	123.0
Life Sciences	288.1	312.9	306.8	352.2	324.4	333.9	329.6	332.9	314.1	326.7	346.5
Opto-Electronics	20.7	36.7	38.9	13.7	12.8	13.3	22.7	20.9	21.0	22.5	22.7
Computers and Telecommunications	525.8	537.1	558.0	621.1	525.9	544.4	526.5	571.3	581.0	593.7	595.2
Electronics	84.8	125.3	98.9	123.4	126.6	131.3	114.5	118.9	119.4	138.8	112.5
Computer Integrated Manufacturing	73.4	87.3	85.6	77.3	70.6	83.4	93.1	96.1	75.5	77.9	74.7
Material Design	15.2	14.6	21.6	24.6	25.0	25.0	24.5	30.7	37.0	34.4	34.1
Aerospace	257.5	329.4	261.4	298.4	579.7	580.0	987.9	783.2	853.5	974.6	917.4
Weapons and Nuclear	11.1	10.0	17.1	12.4	13.9	7.1	9.9	13.6	11.2	10.4	12.8
Total	1,305.1	1,491.2	1,436.8	1,579.5	1,759.1	1,800.2	2,203.3	2,075.7	2,136.0	2,315.1	2,238.8

	% change from previous year										
	2009	2010	2011	2012	2013	2014	2015	2016	2017 ^r	2018 ^r	2019 ^p
Biotechnology	17.2	33.2	28.1	16.0	42.4	1.9	15.6	14.4	14.0	10.5	-9.7
Life Sciences	14.7	8.6	-1.9	14.8	-7.9	2.9	-1.3	1.0	-5.7	4.0	6.1
Opto-Electronics	-48.0	77.4	6.0	-64.6	-7.1	4.4	70.5	-8.1	0.8	6.7	0.9
Computers and Telecommunications	-23.4	2.2	3.9	11.3	-15.3	3.5	-3.3	8.5	1.7	2.2	0.2
Electronics	-12.7	47.7	-21.0	24.8	2.6	3.7	-12.8	3.8	0.4	16.3	-18.9
Computer Integrated Manufacturing	-4.5	18.9	-1.9	-9.7	-8.7	18.1	11.7	3.2	-21.4	3.2	-4.2
Material Design	-24.8	-4.0	47.3	14.3	1.7	-0.2	-1.9	25.0	20.5	-7.1	-0.8
Aerospace	-36.3	27.9	-20.6	14.2	94.3	0.1	70.3	-20.7	9.0	14.2	-5.9
Weapons and Nuclear	10.0	-9.6	70.2	-27.6	12.6	-49.3	40.1	37.7	-17.4	-7.6	23.6
Total	-18.9	14.3	-3.6	9.9	11.4	2.3	22.4	-5.8	2.9	8.4	-3.3

^r Revised^p Preliminary

Source: BC Stats

TABLE 35. B.C. BALANCE OF TRADE IN HIGH TECHNOLOGY GOODS WITH THE UNITED STATES, BY COMMODITY GROUP

	Balance (\$ 000,000)										
	2009	2010	2011	2012	2013	2014	2015	2016	2017 ^r	2018 ^r	2019 ^p
Biotechnology	-27.4	-37.1	-48.1	-56.2	-80.2	-81.7	-94.1	-107.9	-120.8	-134.0	-117.9
Life Sciences	-194.2	-221.8	-212.0	-255.1	-206.8	-200.2	-151.8	-162.9	-132.0	-145.6	-152.4
Opto-Electronics	-6.6	-22.6	-20.6	-0.7	3.8	6.8	-3.3	3.0	10.7	-4.4	0.6
Computers and Telecommunications	-245.1	-277.4	-325.9	-375.0	-290.0	-296.3	-222.8	-319.4	-342.2	-346.8	-367.7
Electronics	-53.5	-124.0	-96.1	-116.1	-119.9	-124.8	-104.0	-109.9	-104.8	-108.2	-99.8
Computer Integrated Manufacturing	-26.0	-37.3	-27.4	-18.7	-18.4	-22.1	-8.3	13.3	26.4	8.7	3.4
Material Design	-14.3	-13.9	-20.8	-21.4	-21.6	-22.9	-22.5	-27.5	-33.2	-30.2	-30.8
Aerospace	-141.6	-209.5	-124.9	-113.1	-376.8	-349.3	-754.8	-586.1	-652.7	-700.7	-611.6
Weapons and Nuclear	-10.2	-8.7	-14.8	-10.9	-11.6	-5.1	-6.7	-9.4	-5.2	-4.2	-5.1
Total	-719.0	-952.5	-890.6	-967.2	-1,121.4	-1,095.6	-1,368.3	-1,306.8	-1,353.8	-1,465.5	-1,381.3

Note: The trade balance is the net of *total* exports minus total imports. Total exports include re-exports, whereas *domestic* exports are shipments of goods produced within Canada only (in the case of tables in this report, within B.C. only).

^r Revised

^p Preliminary

Source: BC Stats

TABLE 36. B.C. DOMESTIC EXPORTS OF HIGH TECHNOLOGY GOODS TO THE PACIFIC RIM, BY COMMODITY GROUP

	Value (\$ 000,000)										
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
Biotechnology	0.2	0.1	0.1	0.2	0.2	0.3	0.4	0.1	0.3	0.9	2.0
Life Sciences	12.2	17.9	19.1	18.4	23.3	26.8	34.7	31.6	29.7	27.7	24.8
Opto-Electronics	5.4	8.6	7.5	6.4	9.5	10.3	12.4	17.5	11.9	11.0	16.4
Computers and Telecommunications	45.4	58.6	53.8	51.1	58.3	67.2	72.7	76.7	100.0	102.1	89.3
Electronics	1.4	1.5	0.9	11.3	2.9	3.1	1.5	9.4	1.2	1.2	1.1
Computer Integrated Manufacturing	11.9	12.3	16.9	26.6	20.5	16.1	13.9	14.4	18.4	13.5	19.3
Material Design	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.3	0.4	0.2	0.3
Aerospace	6.1	8.1	5.2	8.9	34.7	31.2	40.1	45.9	20.0	68.0	40.6
Weapons and Nuclear	1.7	0.1	0.0	0.1	0.1	0.3	0.4	0.5	0.2	0.9	1.8
Total	84.3	107.4	103.7	123.1	149.7	155.4	176.1	196.4	182.1	225.5	195.5

	% change from previous year										
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
Biotechnology	28.0	-28.4	6.3	30.3	17.7	13.2	64.4	-80.9	224.4	249.1	119.2
Life Sciences	-7.7	47.1	6.4	-3.4	26.6	14.9	29.3	-8.9	-6.0	-6.6	-10.7
Opto-Electronics	-12.1	60.1	-12.9	-14.4	48.9	8.5	19.8	41.7	-32.3	-7.6	49.7
Computers and Telecommunications	8.6	29.2	-8.1	-5.2	14.2	15.3	8.2	5.5	30.3	2.2	-12.6
Electronics	-74.5	10.8	-41.1	1173.4	-74.5	8.8	-51.6	520.0	-87.4	-1.7	-5.4
Computer Integrated Manufacturing	-25.2	3.4	37.1	57.6	-23.0	-21.4	-13.9	3.8	28.1	-26.7	42.7
Material Design	-6.2	29.2	-33.6	126.8	-37.0	-44.3	4.6	351.9	44.1	-49.7	30.6
Aerospace	-67.0	32.7	-35.3	69.0	290.8	-10.0	28.5	14.6	-56.4	239.9	-40.4
Weapons and Nuclear	1493.3	-92.4	-65.8	165.4	9.2	141.1	17.2	33.0	-53.5	270.9	108.2
Total	-16.7	27.4	-3.5	18.8	21.6	3.8	13.3	11.5	-7.3	23.9	-13.3

^P Preliminary

Source: BC Stats

TABLE 37. B.C. IMPORTS OF HIGH TECHNOLOGY GOODS FROM THE PACIFIC RIM, BY COMMODITY GROUP

	Value (\$ 000,000)										
	2009	2010	2011	2012	2013	2014	2015	2016	2017 ^r	2018 ^r	2019 ^p
Biotechnology	1.2	1.2	5.2	1.8	1.9	2.3	2.9	5.0	6.8	9.5	13.0
Life Sciences	48.9	72.3	68.7	71.0	62.8	74.4	82.1	92.5	99.3	110.2	117.0
Opto-Electronics	65.5	106.4	106.4	97.0	105.0	108.3	111.7	111.4	116.6	110.6	105.7
Computers and Telecommunications	1,449.3	1,856.2	2,016.4	2,085.3	1,857.1	1,995.6	2,298.1	2,391.7	2,672.7	2,886.9	2,863.0
Electronics	141.1	204.2	196.6	149.9	200.6	134.0	134.9	142.8	146.5	154.0	147.4
Computer Integrated Manufacturing	34.1	46.4	54.5	59.8	56.0	56.1	62.2	58.8	67.9	74.0	66.6
Material Design	2.3	3.1	5.8	4.9	4.0	4.6	6.7	6.8	8.5	7.3	8.2
Aerospace	24.7	24.5	27.8	35.3	36.3	29.5	57.1	45.0	43.1	52.2	61.2
Weapons and Nuclear	1.5	1.6	2.3	1.7	2.0	2.6	4.0	5.9	5.6	3.7	3.0
Total	1,768.5	2,316.0	2,483.7	2,506.6	2,325.7	2,407.4	2,759.6	2,859.9	3,167.0	3,408.5	3,385.2

	% change from previous year										
	2009	2010	2011	2012	2013	2014	2015	2016	2017 ^r	2018 ^r	2019 ^p
Biotechnology	47.4	-1.3	329.0	-66.0	8.4	18.2	27.8	70.9	36.0	40.3	37.0
Life Sciences	-17.2	47.8	-5.0	3.4	-11.6	18.4	10.4	12.7	7.3	11.0	6.2
Opto-Electronics	-30.8	62.4	0.0	-8.8	8.3	3.2	3.2	-0.3	4.7	-5.1	-4.5
Computers and Telecommunications	-14.5	28.1	8.6	3.4	-10.9	7.5	15.2	4.1	11.7	8.0	-0.8
Electronics	1.4	44.7	-3.7	-23.8	33.8	-33.2	0.7	5.8	2.7	5.1	-4.2
Computer Integrated Manufacturing	-14.8	36.4	17.3	9.7	-6.2	0.1	10.8	-5.4	15.4	9.0	-10.0
Material Design	-23.0	37.1	84.0	-15.3	-17.1	14.6	44.1	2.5	24.5	-13.8	11.8
Aerospace	-6.5	-0.9	13.5	27.0	2.9	-18.8	93.6	-21.1	-4.2	21.0	17.2
Weapons and Nuclear	-15.9	9.8	41.4	-25.4	15.4	35.3	51.3	47.7	-5.5	-33.9	-19.0
Total	-14.1	31.0	7.2	0.9	-7.2	3.5	14.6	3.6	10.7	7.6	-0.7

^r Revised^p Preliminary

Source: BC Stats

TABLE 38. B.C. BALANCE OF TRADE IN HIGH TECHNOLOGY GOODS WITH THE PACIFIC RIM, BY COMMODITY GROUP

	Balance (\$ 000,000)										
	2009	2010	2011	2012	2013	2014	2015	2016	2017 ^r	2018 ^r	2019 ^p
Biotechnology	-1.0	-1.1	-5.1	-1.6	-1.7	-2.0	-2.5	-4.9	-6.5	-8.6	-10.9
Life Sciences	-35.2	-52.8	-46.6	-50.6	-36.6	-45.5	-44.4	-58.0	-67.0	-78.1	-89.9
Opto-Electronics	-59.7	-96.8	-96.4	-89.4	-93.6	-96.8	-98.2	-93.4	-104.0	-97.9	-87.4
Computers and Telecommunications	-1,396.0	-1,788.1	-1,944.1	-2,019.3	-1,787.7	-1,912.3	-2,200.8	-2,299.1	-2,554.8	-2,760.3	-2,751.7
Electronics	-134.4	-197.6	-188.3	-133.3	-193.2	-125.5	-127.3	-123.5	-138.8	-146.0	-137.8
Computer Integrated Manufacturing	-21.3	-32.6	-37.0	-32.5	-34.8	-38.1	-46.4	-43.2	-48.2	-58.1	-43.8
Material Design	-2.1	-2.9	-5.6	-4.7	-3.9	-4.6	-6.5	-6.5	-8.1	-7.0	-7.9
Aerospace	0.3	-4.5	12.2	0.0	24.8	52.4	40.1	93.6	36.9	95.9	53.6
Weapons and Nuclear	0.4	-1.5	-2.1	-1.6	-1.8	-2.3	-3.6	-5.4	-5.3	-2.6	-1.2
Total	-1,649.1	-2,177.9	-2,313.0	-2,333.0	-2,128.5	-2,174.8	-2,489.8	-2,540.5	-2,895.9	-3,062.7	-3,077.0

Note: The trade balance is the net of *total* exports minus total imports. Total exports include re-exports, whereas *domestic* exports are shipments of goods produced within Canada only (in the case of tables in this report, within B.C. only).

^r Revised

^p Preliminary

Source: BC Stats

TABLE 39. B.C. DOMESTIC EXPORTS OF HIGH TECHNOLOGY GOODS TO MAINLAND CHINA, BY COMMODITY GROUP

	Value (\$ 000,000)										
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
Biotechnology	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.7	1.9
Life Sciences	3.2	8.3	7.4	7.9	8.6	12.1	12.0	9.7	7.2	6.7	5.7
Opto-Electronics	2.3	1.0	0.9	1.1	0.9	3.6	4.5	9.5	3.6	3.4	8.0
Computers and Telecommunications	5.1	9.9	7.2	8.7	12.7	11.9	12.6	13.5	19.5	17.4	12.6
Electronics	0.5	0.5	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.3	0.2
Computer Integrated Manufacturing	2.0	2.2	4.0	3.3	2.8	3.7	4.0	5.7	6.2	4.0	7.7
Material Design	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0
Aerospace	0.8	0.5	0.5	0.6	0.9	0.2	0.3	0.3	0.6	8.8	0.5
Weapons and Nuclear	0.0	0.0	0.0	0.1	0.1	0.0	0.2	0.3	0.1	0.7	1.3
Total	13.8	22.5	20.3	21.8	26.3	31.7	33.7	39.2	37.5	42.1	37.9

	% change from previous year										
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
Biotechnology	-	-69.5	-100.0	-	19.0	82.0	-86.2	-100.0	-	646.2	182.6
Life Sciences	-56.9	159.8	-11.2	7.0	9.5	40.9	-0.7	-19.3	-26.1	-7.2	-14.0
Opto-Electronics	185.5	-53.5	-12.9	16.4	-16.8	303.4	27.5	108.3	-61.6	-5.5	132.0
Computers and Telecommunications	-30.2	95.2	-27.1	20.5	45.9	-6.1	5.4	7.3	44.2	-10.9	-27.5
Electronics	-81.2	3.4	-51.9	-38.8	22.4	-30.7	-9.4	-1.4	-21.2	305.8	-37.9
Computer Integrated Manufacturing	-5.1	9.4	83.1	-17.1	-15.0	31.3	7.8	42.0	8.0	-34.4	90.7
Material Design	-	-	-16.2	394.0	-99.7	-100.0	-	788.9	88.0	-59.6	-100.0
Aerospace	-51.2	-29.5	-2.6	12.4	56.1	-79.1	47.1	24.4	81.6	1295.4	-94.3
Weapons and Nuclear	-	-100.0	-	-	88.4	-66.0	313.3	115.4	-66.3	492.3	95.4
Total	-36.0	63.0	-9.8	7.6	20.3	20.9	6.3	16.3	-4.5	12.2	-9.9

^P Preliminary

Source: BC Stats

TABLE 40. B.C. IMPORTS OF HIGH TECHNOLOGY GOODS FROM MAINLAND CHINA, BY COMMODITY GROUP

	Value (\$ 000,000)										
	2009	2010	2011	2012	2013	2014	2015	2016	2017 ^r	2018 ^r	2019 ^p
Biotechnology	0.3	0.6	0.6	0.7	0.7	0.8	0.7	0.9	1.2	2.0	2.6
Life Sciences	12.5	20.9	16.1	22.3	18.2	22.1	29.0	31.2	34.1	34.5	34.5
Opto-Electronics	47.3	75.6	78.5	64.9	78.0	78.8	70.6	76.7	81.6	75.0	69.5
Computers and Telecommunications	954.8	1,295.6	1,446.9	1,567.0	1,346.2	1,529.2	1,738.1	1,752.0	2,050.9	2,220.4	2,121.7
Electronics	11.5	19.8	15.6	20.2	22.5	22.5	22.7	23.8	28.9	32.8	27.6
Computer Integrated Manufacturing	9.2	12.2	11.3	11.6	13.3	13.8	16.7	17.1	19.1	20.0	17.6
Material Design	1.1	1.7	3.5	3.5	3.0	3.2	4.1	3.1	4.3	4.0	4.3
Aerospace	4.2	6.0	7.0	7.1	7.1	7.3	17.8	18.7	21.3	23.4	33.6
Weapons and Nuclear	0.8	1.1	1.2	1.1	1.1	1.3	2.3	4.7	4.4	2.6	1.9
Total	1,041.7	1,433.6	1,580.7	1,698.3	1,490.1	1,679.2	1,901.9	1,928.4	2,245.8	2,414.4	2,313.2

	% change from previous year										
	2009	2010	2011	2012	2013	2014	2015	2016	2017 ^r	2018 ^r	2019 ^p
Biotechnology	24.0	69.7	-0.3	16.0	13.2	9.4	-13.4	33.7	27.3	63.5	32.9
Life Sciences	-5.0	67.4	-23.0	38.7	-18.5	21.9	31.0	7.8	9.1	1.1	0.0
Opto-Electronics	-32.4	59.8	3.8	-17.3	20.1	1.1	-10.5	8.7	6.3	-8.1	-7.4
Computers and Telecommunications	-4.7	35.7	11.7	8.3	-14.1	13.6	13.7	0.8	17.1	8.3	-4.4
Electronics	1.3	72.9	-21.0	29.4	11.3	0.0	0.6	5.0	21.5	13.4	-15.7
Computer Integrated Manufacturing	23.5	33.0	-7.6	2.3	15.0	3.7	20.9	2.7	11.3	4.8	-12.1
Material Design	-24.4	51.7	104.2	-0.6	-14.4	7.2	27.5	-24.0	38.2	-7.9	8.5
Aerospace	77.4	43.5	16.2	0.9	-0.4	3.8	142.9	5.3	13.7	9.8	43.7
Weapons and Nuclear	-22.1	40.3	5.2	-10.5	7.1	15.0	75.7	102.0	-5.5	-41.9	-26.7
Total	-6.1	37.6	10.3	7.4	-12.3	12.7	13.3	1.4	16.5	7.5	-4.2

^r Revised^p Preliminary

Source: BC Stats

TABLE 41. B.C. BALANCE OF TRADE IN HIGH TECHNOLOGY GOODS WITH MAINLAND CHINA, BY COMMODITY GROUP

	Balance (\$ 000,000)										
	2009	2010	2011	2012	2013	2014	2015	2016	2017 ^r	2018 ^r	2019 ^p
Biotechnology	-12.4	-20.8	-16.1	-22.2	-18.1	-22.1	-29.0	-31.2	-34.0	-33.8	-32.5
Life Sciences	-43.8	-66.5	-68.9	-55.6	-67.7	-65.8	-57.3	-65.6	-73.4	-65.1	-62.7
Opto-Electronics	-952.3	-1,294.4	-1,445.8	-1,565.8	-1,345.3	-1,525.1	-1,733.5	-1,742.5	-2,047.0	-2,216.9	-2,113.3
Computers and Telecommunications	-4.1	-8.0	-5.2	-8.8	-7.5	-8.6	-6.3	-7.7	-6.5	-11.1	-12.1
Electronics	-6.8	-10.6	-7.7	-8.9	-11.4	-11.7	-14.2	-14.8	-17.3	-18.2	-15.4
Computer Integrated Manufacturing	1.2	1.5	0.6	0.1	0.0	1.5	0.1	2.9	2.1	1.2	6.2
Material Design	-4.2	-6.0	-7.0	-7.0	-7.1	-7.3	-17.8	-18.7	-21.2	-23.2	-33.6
Aerospace	0.0	-0.1	-0.1	-0.4	1.8	-0.3	-1.5	-4.0	-1.6	11.8	2.5
Weapons and Nuclear	-0.8	-1.1	-1.1	-1.0	-1.0	-1.3	-2.2	-4.3	-4.3	-1.8	-0.5
Total	-1,022.7	-1,405.5	-1,550.6	-1,669.2	-1,455.9	-1,640.3	-1,860.0	-1,882.4	-2,200.0	-2,356.5	-2,262.3

Note: The trade balance is the net of *total* exports minus total imports. Total exports include re-exports, whereas *domestic* exports are shipments of goods produced within Canada only (in the case of tables in this report, within B.C. only).

^r Revised

^p Preliminary

Source: BC Stats

TABLE 42. B.C. DOMESTIC EXPORTS OF HIGH TECHNOLOGY GOODS TO JAPAN, BY COMMODITY GROUP

	Value (\$ 000,000)										
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
Biotechnology	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Life Sciences	1.3	0.7	0.7	2.8	6.8	7.0	11.5	10.3	12.1	11.4	11.9
Opto-Electronics	0.4	0.7	1.1	1.5	1.7	1.1	1.1	1.6	1.8	1.1	1.2
Computers and Telecommunications	8.5	7.8	7.3	6.6	7.3	9.6	8.5	11.0	12.2	12.8	7.7
Electronics	0.0	0.0	0.1	10.5	1.8	2.2	0.1	8.3	0.1	0.1	0.0
Computer Integrated Manufacturing	0.9	0.6	1.1	1.0	2.7	1.0	1.0	0.9	2.2	1.0	0.6
Material Design	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0
Aerospace	0.1	0.2	0.5	1.5	1.7	4.2	3.8	2.0	2.1	5.1	7.6
Weapons and Nuclear	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.4
Total	11.2	10.0	10.8	23.9	22.2	25.2	26.2	34.2	30.7	31.5	29.6

	% change from previous year										
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
Biotechnology	77.5	-100.0	-	-	-	-	-	-100.0	-	118.4	-42.6
Life Sciences	43.9	-47.4	6.3	302.3	140.1	2.0	64.9	-10.5	17.2	-5.7	4.6
Opto-Electronics	-54.6	78.3	63.4	33.1	16.0	-39.4	3.3	48.1	14.0	-40.6	9.6
Computers and Telecommunications	-10.4	-8.1	-6.9	-8.8	9.7	31.5	-11.1	29.4	11.1	4.9	-39.7
Electronics	-95.1	-45.0	267.7	12647.2	-82.4	19.3	-94.0	6259.6	-98.6	-47.3	-21.3
Computer Integrated Manufacturing	-29.5	-38.2	91.8	-8.8	171.5	-62.8	3.0	-14.6	149.1	-56.2	-33.9
Material Design	118.9	-14.9	-63.9	173.7	105.0	-43.3	-71.3	1101.6	-18.7	-4.8	-25.9
Aerospace	-99.2	149.7	122.7	206.1	18.8	145.1	-9.8	-48.1	6.4	140.3	49.3
Weapons and Nuclear	-	-	-	-100.0	-	492.9	-39.6	10.7	-59.8	79.1	665.3
Total	-52.2	-11.0	7.9	122.1	-7.2	13.4	3.9	30.9	-10.4	2.8	-6.3

^P Preliminary

Source: BC Stats

TABLE 43. B.C. IMPORTS OF HIGH TECHNOLOGY GOODS FROM JAPAN, BY COMMODITY GROUP

	Value (\$ 000,000)										
	2009	2010	2011	2012	2013	2014	2015	2016	2017 ^r	2018 ^r	2019 ^p
Biotechnology	0.2	0.3	0.3	0.4	0.5	0.6	0.5	0.7	2.0	4.2	5.8
Life Sciences	19.6	22.6	23.2	24.5	22.6	26.4	23.1	25.3	24.2	27.6	31.0
Opto-Electronics	4.6	9.2	5.7	5.9	6.4	5.4	5.7	7.7	6.6	7.2	6.4
Computers and Telecommunications	119.7	141.2	130.8	135.2	109.1	94.6	94.9	95.9	89.8	94.4	93.2
Electronics	14.1	22.6	18.8	17.9	20.7	15.3	15.7	17.5	14.5	15.4	17.4
Computer Integrated Manufacturing	15.5	22.2	29.0	32.0	27.7	28.6	29.0	25.0	29.8	32.9	26.2
Material Design	0.7	0.7	0.6	0.7	0.4	0.5	1.7	2.0	2.9	2.2	2.3
Aerospace	16.4	13.6	15.5	20.6	21.5	15.0	24.4	14.2	11.4	16.5	14.7
Weapons and Nuclear	0.2	0.3	0.3	0.3	0.4	0.7	0.9	0.5	0.4	0.4	0.3
Total	191.0	232.7	224.3	237.5	209.4	187.1	195.9	188.7	181.7	200.7	197.3

	% change from previous year										
	2009	2010	2011	2012	2013	2014	2015	2016	2017 ^r	2018 ^r	2019 ^p
Biotechnology	62.9	29.8	17.9	28.7	17.3	5.6	-2.7	36.7	177.0	104.3	38.2
Life Sciences	-25.7	15.0	2.9	5.6	-7.8	16.9	-12.7	9.6	-4.3	14.3	12.1
Opto-Electronics	-32.9	98.2	-37.4	2.9	8.0	-15.3	5.6	34.6	-14.2	9.8	-10.8
Computers and Telecommunications	-30.4	17.9	-7.3	3.4	-19.3	-13.4	0.4	1.0	-6.3	5.1	-1.3
Electronics	-21.5	60.7	-17.2	-4.6	15.6	-26.0	2.4	11.5	-16.8	5.8	13.0
Computer Integrated Manufacturing	-28.2	43.3	30.7	10.2	-13.3	3.2	1.4	-13.9	19.4	10.3	-20.5
Material Design	-32.8	3.1	-18.1	16.1	-37.8	20.2	239.1	18.8	44.9	-23.1	5.8
Aerospace	-16.3	-17.0	14.0	32.4	4.7	-30.1	62.0	-41.7	-19.7	44.3	-10.6
Weapons and Nuclear	-47.0	49.7	12.7	-4.7	15.5	85.6	32.5	-48.8	-17.4	-7.4	-13.4
Total	-28.2	21.8	-3.6	5.9	-11.9	-10.6	4.7	-3.7	-3.7	10.5	-1.7

^r Revised^p Preliminary

Source: BC Stats

TABLE 44. B.C. BALANCE OF TRADE IN HIGH TECHNOLOGY GOODS WITH JAPAN, BY COMMODITY GROUP

	Balance (\$ 000,000)										
	2009	2010	2011	2012	2013	2014	2015	2016	2017 ^r	2018 ^r	2019 ^p
Biotechnology	-19.6	-22.6	-23.2	-24.5	-22.6	-26.4	-23.1	-25.3	-24.2	-27.6	-30.9
Life Sciences	-2.7	-8.0	-4.7	-2.9	0.6	2.1	6.3	3.1	6.2	4.5	5.9
Opto-Electronics	-119.3	-140.5	-129.6	-133.1	-105.8	-93.5	-93.7	-94.1	-87.9	-93.1	-92.0
Computers and Telecommunications	-5.2	-14.6	-11.0	-11.0	-12.6	-4.3	-5.7	-4.7	-0.3	0.5	-7.5
Electronics	-14.6	-21.0	-28.0	-21.2	-25.4	-26.1	-28.7	-14.9	-29.3	-32.8	-26.0
Computer Integrated Manufacturing	0.3	-0.1	0.5	0.4	2.4	0.6	0.1	-1.0	-0.4	-1.1	-1.4
Material Design	-16.4	-13.6	-15.5	-20.5	-21.5	-15.0	-24.3	-14.1	-11.3	-16.4	-14.7
Aerospace	0.5	0.3	0.4	2.8	5.1	14.9	23.7	22.5	20.0	25.4	28.9
Weapons and Nuclear	-0.1	-0.3	-0.3	-0.3	-0.4	-0.6	-0.9	-0.4	-0.4	-0.3	0.1
Total	-177.1	-220.5	-211.5	-210.6	-180.2	-148.3	-145.9	-129.2	-129.2	-144.8	-143.0

Note: The trade balance is the net of *total* exports minus total imports. Total exports include re-exports, whereas *domestic* exports are shipments of goods produced within Canada only (in the case of tables in this report, within B.C. only).

^r Revised

^p Preliminary

Source: BC Stats

TABLE 45. B.C. DOMESTIC EXPORTS OF HIGH TECHNOLOGY GOODS TO THE EUROPEAN UNION, BY COMMODITY GROUP

	Value (\$ 000,000)										
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
Biotechnology	0.7	0.7	0.5	0.4	0.7	0.7	1.9	1.6	1.4	0.5	0.2
Life Sciences	28.4	38.3	32.1	25.6	25.6	31.8	27.1	29.0	29.9	35.4	35.2
Opto-Electronics	20.9	7.4	5.6	3.0	2.9	5.6	4.9	4.6	4.2	5.7	6.9
Computers and Telecommunications	37.2	47.0	50.2	48.4	61.4	71.6	75.4	88.7	80.3	102.8	79.1
Electronics	0.3	0.2	0.5	5.0	2.3	4.0	5.0	4.2	0.8	1.2	1.8
Computer Integrated Manufacturing	7.7	12.9	14.3	19.9	15.5	5.1	6.2	6.3	5.8	5.9	6.1
Material Design	0.2	0.4	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1
Aerospace	9.5	15.1	17.3	21.3	18.1	14.9	19.2	32.0	17.1	20.2	27.0
Weapons and Nuclear	0.1	0.2	0.5	0.1	0.1	0.8	0.5	0.6	0.2	0.1	0.7
Total	105.0	122.2	121.2	123.9	126.7	134.5	140.0	167.2	139.9	171.9	157.2

	% change from previous year										
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
Biotechnology	87.7	10.7	-28.3	-16.8	48.2	11.2	156.0	-12.8	-11.5	-67.4	-58.9
Life Sciences	8.4	35.0	-16.2	-20.2	-0.1	24.2	-14.8	7.0	3.3	18.3	-0.6
Opto-Electronics	-74.8	-64.8	-24.0	-47.1	-0.8	91.5	-12.9	-5.6	-9.5	35.4	21.2
Computers and Telecommunications	-6.9	26.4	6.8	-3.5	26.9	16.5	5.3	17.8	-9.5	28.0	-23.0
Electronics	-21.7	-32.1	144.0	818.9	-54.3	74.9	23.5	-14.7	-80.8	46.9	50.8
Computer Integrated Manufacturing	-8.7	66.6	10.8	39.4	-22.2	-67.0	21.1	1.5	-8.4	3.3	3.3
Material Design	-59.3	103.9	-68.6	-27.2	-67.4	-6.9	46.9	179.4	-27.8	-9.3	60.4
Aerospace	32.3	58.3	14.6	23.4	-15.2	-17.6	28.6	67.0	-46.5	17.8	33.8
Weapons and Nuclear	-12.4	157.4	156.9	-78.0	1.7	581.4	-39.0	16.4	-56.4	-41.6	417.0
Total	-36.8	16.3	-0.8	2.2	2.2	6.2	4.1	19.4	-16.3	22.8	-8.5

Note: EU membership as of February 1, 2020

^P Preliminary

Source: BC Stats Note:

TABLE 46. B.C. IMPORTS OF HIGH TECHNOLOGY GOODS FROM THE EUROPEAN UNION, BY COMMODITY GROUP

	Value (\$ 000,000)										
	2009	2010	2011	2012	2013	2014	2015	2016	2017 ^r	2018 ^r	2019 ^p
Biotechnology	44.2	53.2	68.7	61.1	74.5	82.1	77.1	109.3	124.6	153.0	211.5
Life Sciences	152.3	180.2	152.4	170.8	172.1	159.1	152.0	170.3	183.7	189.8	202.0
Opto-Electronics	5.2	7.6	9.3	6.3	6.5	7.9	8.1	8.5	8.3	11.2	12.9
Computers and Telecommunications	73.0	80.5	80.3	81.3	75.3	77.3	75.2	85.6	93.2	110.1	99.7
Electronics	9.1	12.1	16.6	14.3	15.2	18.7	18.2	20.9	22.0	22.7	20.6
Computer Integrated Manufacturing	22.6	23.2	31.2	26.1	35.7	33.3	31.8	34.9	41.0	41.2	43.9
Material Design	1.3	1.3	1.9	3.5	2.7	2.4	2.1	4.0	2.5	3.5	3.2
Aerospace	62.6	80.8	62.6	117.1	140.5	99.4	206.5	117.0	118.3	148.1	187.3
Weapons and Nuclear	4.4	2.7	3.5	4.8	3.1	2.6	4.8	4.0	4.9	4.7	4.5
Total	374.5	441.5	426.5	485.4	525.6	482.7	575.8	554.4	598.6	684.3	785.6

	% change from previous year										
	2009	2010	2011	2012	2013	2014	2015	2016	2017 ^r	2018 ^r	2019 ^p
Biotechnology	-10.5	20.2	29.3	-11.1	21.9	10.2	-6.1	41.7	14.0	22.8	38.2
Life Sciences	0.1	18.3	-15.4	12.1	0.8	-7.6	-4.4	12.1	7.9	3.3	6.4
Opto-Electronics	-65.3	48.1	22.4	-32.5	3.7	20.3	3.5	4.0	-2.4	35.9	15.0
Computers and Telecommunications	-14.9	10.3	-0.3	1.3	-7.4	2.6	-2.6	13.7	8.9	18.2	-9.4
Electronics	-22.2	32.7	37.9	-14.0	6.1	23.3	-2.7	14.8	5.4	3.0	-9.2
Computer Integrated Manufacturing	10.1	2.8	34.5	-16.2	36.6	-6.6	-4.7	9.8	17.5	0.4	6.5
Material Design	-56.7	-0.3	49.2	85.6	-24.1	-8.6	-12.7	86.1	-37.1	39.9	-7.9
Aerospace	36.6	29.0	-22.6	87.2	20.0	-29.3	107.7	-43.3	1.1	25.2	26.5
Weapons and Nuclear	27.1	-38.2	31.5	34.9	-35.0	-17.7	87.0	-16.9	24.2	-5.3	-3.4
Total	-3.1	17.9	-3.4	13.8	8.3	-8.2	19.3	-3.7	8.0	14.3	14.8

Note: EU membership as of February 1, 2020

^r Revised

^p Preliminary

Source: BC Stats

TABLE 47. B.C. BALANCE OF TRADE IN HIGH TECHNOLOGY GOODS WITH THE EUROPEAN UNION, BY COMMODITY GROUP

	Balance (\$ 000,000)										
	2009	2010	2011	2012	2013	2014	2015	2016	2017 ^r	2018 ^r	2019 ^p
Biotechnology	-43.5	-52.4	-68.2	-60.7	-73.9	-81.4	-75.3	-107.7	-123.2	-152.6	-211.3
Life Sciences	-123.2	-140.7	-119.9	-144.6	-146.2	-126.8	-124.4	-140.9	-153.2	-152.2	-164.9
Opto-Electronics	18.5	0.3	-3.6	-3.1	-2.6	-2.0	-2.9	-3.2	-3.8	-4.0	-5.5
Computers and Telecommunications	-34.4	-29.6	-13.1	-21.6	0.1	20.5	30.1	36.3	14.3	30.6	-1.0
Electronics	-8.6	-11.7	-15.7	-8.8	-12.4	-14.4	-12.2	-16.3	-20.7	-20.5	-16.7
Computer Integrated Manufacturing	-14.7	-10.0	-16.3	-5.9	-19.6	-27.7	-25.1	-28.4	-33.7	-34.4	-37.3
Material Design	-1.1	-0.9	-1.8	-3.4	-2.6	-2.4	-2.1	-3.8	-2.4	-3.4	-3.1
Aerospace	-45.5	-62.3	-37.7	-72.6	-92.6	-41.9	-148.2	-27.8	-24.9	-53.6	-96.4
Weapons and Nuclear	-3.8	-2.2	-2.8	-4.5	-2.9	-1.6	-4.3	-3.4	-4.7	-4.5	-3.1
Total	-256.5	-309.5	-279.0	-325.2	-352.7	-277.6	-364.4	-295.3	-352.3	-394.5	-539.3

Note: EU membership as of February 1, 2020

Note: The trade balance is the net of *total* exports minus total imports. Total exports include re-exports, whereas *domestic* exports are shipments of goods produced within Canada only (in the case of tables in this report, within B.C. only).

^r Revised

^p Preliminary

Source: BC Stats

TABLE 48. DOMESTIC EXPORTS OF HIGH TECHNOLOGY GOODS BY PROVINCE

Value (\$ millions)											
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
British Columbia	865.1	881.4	911.3	1,001.4	1,039.5	1,151.2	1,390.2	1,358.7	1,322.2	1,448.6	1,456.5
Alberta	652.0	699.5	687.3	708.4	864.2	893.1	984.2	880.5	907.2	1,111.0	1,181.7
Saskatchewan	21.9	22.6	35.6	38.0	28.0	41.1	59.0	82.9	50.4	60.1	38.1
Manitoba	669.7	601.4	602.2	610.0	652.7	756.6	857.5	841.3	915.2	841.1	833.6
Ontario	10,877.8	9,815.4	8,760.1	8,798.8	8,112.5	8,840.7	10,324.3	10,647.6	10,697.7	10,547.7	11,151.1
Quebec	11,964.7	10,579.3	10,764.3	10,678.8	12,021.3	15,278.2	16,922.1	15,410.7	16,024.3	17,991.0	19,206.8
Canada	25,313.6	22,893.0	22,013.2	22,399.3	23,016.2	27,288.7	30,910.1	29,601.3	30,385.8	32,542.1	34,363.1

% change from previous year											
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
British Columbia	-12.2	1.9	3.4	9.9	3.8	10.8	20.8	-2.3	-2.7	9.6	0.5
Alberta	-26.8	7.3	-1.7	3.1	22.0	3.3	10.2	-10.5	3.0	22.5	6.4
Saskatchewan	-24.6	3.2	57.4	7.0	-26.4	46.9	43.4	40.6	-39.2	19.3	-36.6
Manitoba	21.6	-10.2	0.1	1.3	7.0	15.9	13.3	-1.9	8.8	-8.1	-0.9
Ontario	-5.6	-9.8	-10.8	0.4	-7.8	9.0	16.8	3.1	0.5	-1.4	5.7
Quebec	-9.0	-11.6	1.7	-0.8	12.6	27.1	10.8	-8.9	4.0	12.3	6.8
Canada	-7.5	-9.6	-3.8	1.8	2.8	18.6	13.3	-4.2	2.7	7.1	5.6

High Technology Share of Total Domestic Exports (%)											
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 ^P
British Columbia	3.4	3.1	2.8	3.2	3.1	3.2	3.9	3.5	3.1	3.1	3.4
Alberta	0.9	0.9	0.7	0.7	0.8	0.7	1.1	1.1	0.9	0.9	1.0
Saskatchewan	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1
Manitoba	6.3	5.9	5.2	5.4	5.2	5.6	6.2	6.3	6.6	5.4	5.3
Ontario	8.7	6.7	5.6	5.4	4.9	5.0	5.2	5.2	5.4	5.2	5.3
Quebec	21.2	18.3	17.3	17.1	18.5	20.5	21.1	19.7	19.3	19.9	21.1
Canada	7.6	6.1	5.3	5.2	5.2	5.5	6.4	6.3	6.1	6.0	6.3

Note that high technology exports for Canada and the provinces are based on high tech definitions developed for British Columbia. If these definitions were derived specifically for any of those regions, they might differ slightly.

^P Preliminary

Source: BC Stats

TABLE 49. IMPORTS OF HIGH TECHNOLOGY GOODS, CANADA AND BRITISH COLUMBIA

Value (\$ millions)											
	2009	2010	2011	2012	2013	2014	2015	2016	2017 ^r	2018 ^r	2019 ^p
British Columbia	4,248.2	5,310.2	5,342.5	5,495.0	5,540.5	5,596.8	6,492.7	6,496.7	6,926.7	7,487.4	7,589.1
Canada	47,902.0	51,062.5	53,583.0	52,988.5	56,228.9	57,838.7	64,634.4	63,295.5	66,663.7	72,498.4	74,895.9
% change from previous year											
	2009	2010	2011	2012	2013	2014	2015	2016	2017 ^r	2018 ^r	2019 ^p
British Columbia	-14.6	25.0	0.6	2.9	0.8	1.0	16.0	0.1	6.6	8.1	1.4
Canada	-9.2	6.6	4.9	-1.1	6.1	2.9	11.7	-2.1	5.3	8.8	3.3

Note that high technology exports for Canada are based on high tech definitions developed for British Columbia. If these definitions were derived specifically for Canada, they might differ slightly.

^r Revised

^p Preliminary

Source: BC Stats

TABLE 50. EXPORTS OF HIGH TECHNOLOGY SERVICES

BRITISH COLUMBIA											
Value (\$ millions)											
	2009	2010	2011	2012	2013	2014	2015	2016	2017 ^r	2018 ^r	2019 ^p
Computer-Related	1,123	1,105	1,173	1,299	1,162	1,357	1,251	1,467	1,575	1,737	1,780
Professional, Scientific and Technical	1,442	1,277	1,308	1,524	1,815	1,932	2,003	1,948	2,037	2,197	2,282
Other Services	573	529	588	629	606	1,029	1,179	1,733	1,806	1,858	2,025
Total	3,138	2,911	3,070	3,452	3,583	4,318	4,433	5,148	5,418	5,793	6,087
% change from previous year											
	2009	2010	2011	2012	2013	2014	2015	2016	2017 ^r	2018 ^r	2019 ^p
Computer-Related	7.2	-1.6	6.2	10.7	-10.6	16.8	-7.8	17.2	7.3	10.3	2.5
Professional, Scientific and Technical	7.1	-11.4	2.4	16.5	19.1	6.4	3.7	-2.7	4.6	7.9	3.8
Other Services	-3.0	-7.8	11.2	7.0	-3.6	69.6	14.6	47.0	4.2	2.9	9.0
Total	5.1	-7.2	5.4	12.5	3.8	20.5	2.7	16.1	5.2	6.9	5.1
CANADA											
Value (\$ millions)											
	2009	2010	2011	2012	2013	2014	2015	2016	2017 ^r	2018 ^r	2019 ^p
Computer-Related	8,846	8,232	9,218	9,779	8,426	9,147	8,899	10,320	12,229	16,554	16,973
Professional, Scientific and Technical	9,974	9,933	9,856	11,306	12,914	13,544	12,685	12,345	12,061	13,173	13,669
Other Services	2,238	2,367	2,963	3,197	3,351	3,562	4,066	5,250	5,817	6,145	6,582
Total	21,058	20,531	22,037	24,282	24,690	26,253	25,650	27,916	30,108	35,871	37,224
% change from previous year											
	2009	2010	2011	2012	2013	2014	2015	2016	2017 ^r	2018 ^r	2019 ^p
Computer-Related	8.3	-6.9	12.0	6.1	-13.8	8.6	-2.7	16.0	18.5	35.4	2.5
Professional, Scientific and Technical	3.4	-0.4	-0.8	14.7	14.2	4.9	-6.3	-2.7	-2.3	9.2	3.8
Other Services	-8.2	5.8	25.2	7.9	4.8	6.3	14.1	29.1	10.8	5.6	7.1
Total	4.0	-2.5	7.3	10.2	1.7	6.3	-2.3	8.8	7.9	19.1	3.8

^r Revised^p Preliminary

Source: BC Stats

TABLE 51. IMPORTS OF HIGH TECHNOLOGY SERVICES

BRITISH COLUMBIA											
Value (\$ millions)											
	2009	2010	2011	2012	2013	2014	2015	2016	2017 ^r	2018 ^r	2019 ^p
Computer-Related	514	498	537	486	467	564	578	640	681	743	782
Professional, Scientific and Technical	406	372	330	390	332	389	424	406	420	446	470
Other Services	162	193	248	264	259	293	320	288	304	293	297
Total	1,081	1,063	1,115	1,140	1,058	1,246	1,322	1,334	1,405	1,482	1,549
% change from previous year											
	2009	2010	2011	2012	2013	2014	2015	2016	2017 ^r	2018 ^r	2019 ^p
Computer-Related	13.8	-3.0	7.9	-9.6	-3.8	20.6	2.6	10.6	6.4	9.2	5.3
Professional, Scientific and Technical	1.5	-8.3	-11.2	18.1	-14.7	17.1	8.8	-4.2	3.5	6.1	5.5
Other Services	29.7	19.1	28.4	6.5	-2.1	13.5	9.2	-10.0	5.6	-3.6	1.1
Total	10.8	-1.7	4.9	2.2	-7.1	17.7	6.1	0.9	5.4	5.5	4.5
CANADA											
Value (\$ millions)											
	2009	2010	2011	2012	2013	2014	2015	2016	2017 ^r	2018 ^r	2019 ^p
Computer-Related	6,113	5,915	5,952	6,462	6,344	7,621	7,659	8,609	9,820	13,376	14,144
Professional, Scientific and Technical	6,269	5,469	5,034	5,743	6,912	7,434	7,467	6,205	6,141	7,795	8,316
Other Services	1,371	1,579	2,325	2,206	2,233	2,141	2,475	2,236	2,443	2,444	2,458
Total	13,752	12,962	13,311	14,411	15,489	17,195	17,601	17,050	18,404	23,614	24,918
% change from previous year											
	2009	2010	2011	2012	2013	2014	2015	2016	2017 ^r	2018 ^r	2019 ^p
Computer-Related	12.8	-3.2	0.6	8.6	-1.8	20.1	0.5	12.4	14.1	36.2	5.7
Professional, Scientific and Technical	-4.0	-12.8	-7.9	14.1	20.3	7.6	0.4	-16.9	-1.0	26.9	6.7
Other Services	24.1	15.1	47.3	-5.1	1.2	-4.1	15.6	-9.7	9.3	0.0	0.6
Total	5.4	-5.7	2.7	8.3	7.5	11.0	2.4	-3.1	7.9	28.3	5.5

^r Revised^p Preliminary

Source: BC Stats

TABLE 52. UNITED STATES HIGH TECHNOLOGY TRADE

Value (\$ millions)											
	2009	2010	2011	2012	2013	2014	2015	2016	2017 ^r	2018 ^r	2019 ^p
Domestic Exports	192,902.4	207,318.3	213,039.3	225,953.7	237,035.0	250,106.8	257,819.4	257,107.5	256,565.0	266,082.2	257,727.2
Re-Exports	51,826.1	65,992.3	74,682.3	79,029.6	82,699.1	86,371.7	85,309.1	88,127.9	97,233.3	102,494.4	106,460.7
Imports	300,681.0	354,252.9	386,439.0	396,229.8	401,143.9	422,134.0	434,967.6	429,160.9	464,472.7	496,009.9	496,561.0
Balance of Trade	-55,952.5	-80,942.4	-98,717.4	-91,246.5	-81,409.9	-85,655.4	-91,839.1	-83,925.4	-110,674.5	-127,433.3	-132,373.1
% change from previous year											
	2009	2010	2011	2012	2013	2014	2015	2016	2017 ^r	2018 ^r	2019 ^p
Domestic Exports	-13.7	7.5	2.8	6.1	4.9	5.5	3.1	-0.3	-0.2	3.7	-3.1
Re-Exports	-1.0	27.3	13.2	5.8	4.6	4.4	-1.2	3.3	10.3	5.4	3.9
Imports	-9.3	17.8	9.1	2.5	1.2	5.2	3.0	-1.3	8.2	6.8	0.1
Balance of Trade	0.7	44.7	22.0	-7.6	-10.8	5.2	7.2	-8.6	31.9	15.1	3.9

^r Revised^p Preliminary

Source: United States Department of Commerce

TABLE 53. HIGH TECHNOLOGY TRADE COMPARISON: UNITED STATES VS. CANADA AND B.C. (IN CANADIAN \$)

Value (\$ Cdn millions)											
	2009	2010	2011	2012	2013	2014	2015	2016	2017 ^r	2018 ^r	2019 ^p
Domestic Exports											
United States*	220,204.9	213,561.3	210,750.8	225,810.2	244,178.5	276,304.8	329,695.9	340,825.6	333,006.4	344,864.7	334,035.9
British Columbia	865.1	881.4	911.3	1,001.4	1,039.5	1,151.2	1,390.2	1,358.7	1,322.2	1,448.6	1,456.5
Canada	25,313.6	22,893.0	22,013.2	22,399.3	23,016.2	27,288.7	30,910.1	29,601.3	30,385.8	32,542.1	34,363.1
Imports											
United States*	343,237.9	364,920.6	382,287.8	395,978.2	413,233.2	466,351.3	556,230.5	568,902.1	602,858.5	642,870.2	643,584.4
British Columbia	4,248.2	5,310.2	5,342.5	5,495.0	5,540.5	5,596.8	6,492.7	6,496.7	6,926.7	7,487.4	7,589.1
Canada	47,902.0	51,062.5	53,583.0	52,988.5	56,228.9	57,838.7	64,634.4	63,295.5	66,663.7	72,498.4	74,895.9
% change from previous year											
	2009	2010	2011	2012	2013	2014	2015	2016	2017 ^r	2018 ^r	2019 ^p
Domestic Exports											
United States	-7.7	-3.0	-1.3	7.1	8.1	13.2	19.3	3.4	-2.3	3.6	-3.1
British Columbia	-12.2	1.9	3.4	9.9	3.8	10.8	20.8	-2.3	-2.7	9.6	0.5
Canada	-7.5	-9.6	-3.8	1.8	2.8	18.6	13.3	-4.2	2.7	7.1	5.6
Imports											
United States	-2.9	6.3	4.8	3.6	4.4	12.9	19.3	2.3	6.0	6.6	0.1
British Columbia	-14.6	25.0	0.6	2.9	0.8	1.0	16.0	0.1	6.6	8.1	1.4
Canada	-9.2	6.6	4.9	-1.1	6.1	2.9	11.7	-2.1	5.3	8.8	3.3

* Converted from U.S. dollars using an average annual exchange rate.

^r Revised

^p Preliminary

Source: BC Stats and United States Department of Commerce

TABLE 54. UNITED STATES DOMESTIC EXPORTS OF HIGH TECHNOLOGY GOODS, BY COMMODITY GROUP

	Value (\$ US millions)										
	2009	2010	2011	2012	2013	2014	2015	2016	2017 ^r	2018 ^r	2019 ^p
Biotechnology	12,149.8	11,335.9	9,174.3	9,835.2	10,833.5	13,675.7	16,558.7	17,444.8	18,431.1	20,247.6	21,791.7
Life Sciences	22,468.1	24,298.8	25,611.6	27,454.6	27,762.7	26,265.5	24,939.1	23,825.3	23,949.7	24,818.9	25,375.3
Opto-Electronics	3,403.8	5,145.0	4,911.3	4,072.7	3,836.6	3,669.6	3,546.1	3,320.8	3,574.3	4,053.4	3,658.2
Computers and Telecommunications	37,502.3	39,746.4	42,034.9	42,781.0	42,767.2	43,256.4	42,677.1	40,196.9	39,948.4	38,831.5	35,851.0
Electronics	25,026.8	30,532.5	28,805.6	26,639.9	26,595.2	28,304.5	28,582.9	28,693.9	27,596.7	27,068.9	27,586.5
Computer Integrated Manufacturing	7,314.0	14,034.1	12,503.6	12,392.1	12,908.4	13,704.2	14,339.5	14,749.0	18,136.1	18,149.0	15,565.4
Material Design	1,479.1	1,857.3	1,832.0	1,864.5	1,694.5	1,705.2	1,819.6	1,933.3	2,360.6	2,472.7	2,501.3
Aerospace	78,940.9	75,730.6	83,716.0	96,646.5	105,683.8	115,342.4	120,766.7	122,141.7	117,749.3	125,835.2	119,882.6
Weapons and Nuclear	4,617.5	4,637.7	4,449.9	4,267.2	4,952.9	4,183.4	4,589.7	4,801.8	4,818.7	4,605.1	5,515.0
Total	192,902.4	207,318.3	213,039.3	225,953.7	237,035.0	250,106.8	257,819.4	257,107.5	256,565.0	266,082.2	257,727.2
	% change from previous year										
	2009	2010	2011	2012	2013	2014	2015	2016	2017 ^r	2018 ^r	2019 ^p
Biotechnology	29.7	-6.7	-19.1	7.2	10.2	26.2	21.1	5.4	5.7	9.9	7.6
Life Sciences	0.5	8.1	5.4	7.2	1.1	-5.4	-5.0	-4.5	0.5	3.6	2.2
Opto-Electronics	-18.5	51.2	-4.5	-17.1	-5.8	-4.4	-3.4	-6.4	7.6	13.4	-9.7
Computers and Telecommunications	-21.9	6.0	5.8	1.8	0.0	1.1	-1.3	-5.8	-0.6	-2.8	-7.7
Electronics	-31.4	22.0	-5.7	-7.5	-0.2	6.4	1.0	0.4	-3.8	-1.9	1.9
Computer Integrated Manufacturing	-28.9	91.9	-10.9	-0.9	4.2	6.2	4.6	2.9	23.0	0.1	-14.2
Material Design	-13.2	25.6	-1.4	1.8	-9.1	0.6	6.7	6.2	22.1	4.7	1.2
Aerospace	-9.2	-4.1	10.5	15.4	9.4	9.1	4.7	1.1	-3.6	6.9	-4.7
Weapons and Nuclear	13.8	0.4	-4.0	-4.1	16.1	-15.5	9.7	4.6	0.4	-4.4	19.8
Total	-13.7	7.5	2.8	6.1	4.9	5.5	3.1	-0.3	-0.2	3.7	-3.1

^r Revised^p Preliminary

Source: United States Department of Commerce

TABLE 55. UNITED STATES IMPORTS OF HIGH TECHNOLOGY GOODS, BY COMMODITY GROUP

	Value (\$ US millions)										
	2009	2010	2011	2012	2013	2014	2015	2016	2017 ^r	2018 ^r	2019 ^p
Biotechnology	5,635.0	7,609.7	11,718.1	11,458.0	11,137.6	13,608.4	17,213.5	20,333.6	26,539.7	37,121.3	45,191.9
Life Sciences	38,083.0	41,835.5	45,832.4	44,287.4	43,476.9	44,748.5	48,521.6	46,433.3	45,682.9	49,973.0	54,698.7
Opto-Electronics	23,290.9	25,933.7	26,108.8	26,392.6	22,916.6	24,884.3	26,834.6	25,400.3	22,991.6	21,183.3	23,585.4
Computers and Telecommunications	169,862.5	205,037.7	212,127.4	219,501.5	223,887.8	230,407.0	236,156.8	233,960.5	259,339.9	269,338.3	247,566.5
Electronics	20,900.1	27,706.1	34,038.6	33,874.5	35,950.4	36,611.7	35,695.7	37,617.1	41,156.0	43,413.2	41,860.3
Computer Integrated Manufacturing	6,689.1	9,301.4	14,393.4	13,939.1	12,147.2	14,429.3	12,267.8	11,500.8	13,750.1	14,808.3	17,095.3
Material Design	1,505.2	1,995.5	2,232.0	2,120.7	2,185.3	2,201.8	2,532.2	2,479.8	2,839.3	3,197.9	2,874.5
Aerospace	29,646.3	29,129.3	34,850.1	39,360.1	45,077.1	51,411.4	52,604.1	47,994.0	49,574.2	53,977.7	60,709.8
Weapons and Nuclear	5,068.9	5,704.0	5,138.2	5,295.9	4,365.1	3,831.6	3,141.3	3,441.5	2,599.0	2,996.8	2,978.6
Total	300,681.0	354,252.9	386,439.0	396,229.8	401,143.9	422,134.0	434,967.6	429,160.9	464,472.7	496,009.9	496,561.0
	% change from previous year										
	2009	2010	2011	2012	2013	2014	2015	2016	2017 ^r	2018 ^r	2019 ^p
Biotechnology	-2.1	35.0	54.0	-2.2	-2.8	22.2	26.5	18.1	30.5	39.9	21.7
Life Sciences	-4.6	9.9	9.6	-3.4	-1.8	2.9	8.4	-4.3	-1.6	9.4	9.5
Opto-Electronics	-8.9	11.3	0.7	1.1	-13.2	8.6	7.8	-5.3	-9.5	-7.9	11.3
Computers and Telecommunications	-6.6	20.7	3.5	3.5	2.0	2.9	2.5	-0.9	10.8	3.9	-8.1
Electronics	-18.5	32.6	22.9	-0.5	6.1	1.8	-2.5	5.4	9.4	5.5	-3.6
Computer Integrated Manufacturing	-33.7	39.1	54.7	-3.2	-12.9	18.8	-15.0	-6.3	19.6	7.7	15.4
Material Design	-33.2	32.6	11.8	-5.0	3.0	0.8	15.0	-2.1	14.5	12.6	-10.1
Aerospace	-15.4	-1.7	19.6	12.9	14.5	14.1	2.3	-8.8	3.3	8.9	12.5
Weapons and Nuclear	-4.4	12.5	-9.9	3.1	-17.6	-12.2	-18.0	9.6	-24.5	15.3	-0.6
Total	-9.3	17.8	9.1	2.5	1.2	5.2	3.0	-1.3	8.2	6.8	0.1

^r Revised^p Preliminary

Source: United States Department of Commerce

TABLE 56. UNITED STATES BALANCE OF TRADE IN HIGH TECHNOLOGY GOODS, BY COMMODITY GROUP

	Balance (\$ US millions)										
	2009	2010	2011	2012	2013	2014	2015	2016	2017 ^r	2018 ^r	2019 ^p
Biotechnology	6,645.5	4,099.6	-2,456.7	-1,510.0	80.6	668.1	-72.6	-2,371.9	-7,525.7	-15,667.6	-20,807.0
Life Sciences	-12,815.8	-13,998.0	-16,532.1	-12,717.2	-11,267.9	-13,834.7	-18,582.9	-17,495.9	-16,089.6	-19,013.1	-22,925.0
Opto-Electronics	-18,799.1	-19,731.0	-20,073.0	-21,190.9	-17,799.3	-19,926.3	-22,110.2	-20,866.3	-18,239.9	-15,809.1	-18,680.1
Computers and Telecommunications	-103,184.5	-127,297.5	-122,545.6	-128,062.5	-131,341.9	-134,973.8	-141,314.1	-140,775.7	-164,895.3	-173,083.0	-155,975.6
Electronics	16,366.4	18,355.7	9,328.6	7,340.9	5,848.2	6,417.8	6,324.1	5,421.5	5,082.8	2,605.8	5,774.8
Computer Integrated Manufacturing	1,670.4	6,522.0	-141.7	-1.8	2,354.5	1,127.3	3,789.8	4,942.4	6,377.9	5,401.5	445.4
Material Design	213.9	174.1	-55.7	83.3	-109.3	-51.0	-251.7	-88.3	-17.3	-194.1	121.2
Aerospace	54,316.4	51,934.6	54,349.4	65,682.8	70,133.3	74,474.6	78,725.3	85,814.4	82,294.3	86,579.3	77,017.0
Weapons and Nuclear	-365.6	-1,001.8	-590.7	-871.0	692.0	442.6	1,653.3	1,494.5	2,338.2	1,747.0	2,656.3
Total	-55,952.5	-80,942.4	-98,717.4	-91,246.5	-81,409.9	-85,655.4	-91,839.1	-83,925.4	-110,674.5	-127,433.3	-132,373.1

Note: The trade balance is the net of *total* exports minus total imports. Total exports include re-exports, whereas *domestic* exports are shipments of goods produced within the United States only.

^r Revised

^p Preliminary

Source: United States Department of Commerce

TABLE 57. UNITED STATES DOMESTIC EXPORTS OF HIGH TECHNOLOGY GOODS, BY DESTINATION

	Value (\$ US millions)										
	2009	2010	2011	2012	2013	2014	2015	2016	2017 ^r	2018 ^r	2019 ^p
Canada	14,381.6	15,412.8	16,568.5	16,044.6	16,184.2	17,133.6	16,702.1	15,711.1	16,558.2	17,959.9	17,492.8
Mexico	8,944.1	10,127.0	10,479.8	12,326.5	14,289.9	14,288.0	16,793.6	14,440.8	13,896.1	12,727.5	11,681.9
United Kingdom	11,561.8	10,310.5	11,886.0	11,198.3	11,309.8	12,338.8	13,440.6	14,408.3	12,084.0	14,359.4	12,076.4
European Union	50,703.6	46,706.0	45,423.3	44,524.2	46,254.5	48,543.6	51,486.2	52,222.7	56,443.6	62,263.8	63,308.5
Germany	15,394.4	14,889.4	11,752.8	11,314.3	10,959.2	11,814.6	11,868.1	10,986.9	12,381.2	14,880.6	15,821.1
France	10,397.7	9,308.0	9,178.0	9,376.1	9,441.9	9,261.5	10,303.3	11,454.4	13,164.7	14,306.5	13,674.3
Ireland	3,110.4	2,470.3	2,209.9	2,059.4	1,333.0	2,143.5	2,675.9	3,582.4	4,575.5	4,270.0	2,385.2
Pacific Rim	66,230.4	83,501.5	82,077.2	86,221.3	92,058.0	96,142.7	102,450.5	100,518.6	101,332.0	103,590.9	94,537.7
Mainland China	14,180.0	17,745.3	16,574.4	17,862.6	23,978.7	25,651.9	28,520.6	28,035.3	29,964.0	33,569.0	27,519.3
Japan	12,456.9	13,482.2	13,742.8	17,019.6	15,442.6	15,155.7	14,758.6	15,522.5	15,406.9	16,177.5	16,708.6
South Korea	7,342.4	10,278.7	10,525.5	11,724.5	10,334.8	10,753.1	12,281.3	12,476.3	13,825.6	12,576.1	10,676.7
Taiwan	5,736.8	8,933.5	7,305.7	6,716.2	7,906.5	8,872.0	10,706.3	11,314.5	9,758.0	9,020.9	10,062.7
Malaysia	4,927.3	6,795.0	6,478.5	5,426.0	5,608.6	5,754.2	5,469.5	4,869.9	5,147.2	4,184.7	3,746.5
All Other Countries	41,081.0	41,260.4	46,604.4	55,638.8	56,938.5	61,660.1	56,946.4	59,806.0	56,251.0	55,180.6	58,629.7
Total Value	192,902.4	207,318.3	213,039.3	225,953.7	237,035.0	250,106.8	257,819.4	257,107.5	256,565.0	266,082.2	257,727.2

	% change from previous year										
	2009	2010	2011	2012	2013	2014	2015	2016	2017 ^r	2018 ^r	2019 ^p
Canada	-15.6	7.2	7.5	-3.2	0.9	5.9	-2.5	-5.9	5.4	8.5	-2.6
Mexico	-16.2	13.2	3.5	17.6	15.9	0.0	17.5	-14.0	-3.8	-8.4	-8.2
United Kingdom	-4.9	-10.8	15.3	-5.8	1.0	9.1	8.9	7.2	-16.1	18.8	-15.9
European Union	-6.7	-7.9	-2.7	-2.0	3.9	4.9	6.1	1.4	8.1	10.3	1.7
Germany	1.9	-3.3	-21.1	-3.7	-3.1	7.8	0.5	-7.4	12.7	20.2	6.3
France	7.5	-10.5	-1.4	2.2	0.7	-1.9	11.2	11.2	14.9	8.7	-4.4
Ireland	-13.3	-20.6	-10.5	-6.8	-35.3	60.8	24.8	33.9	27.7	-6.7	-44.1
Pacific Rim	-21.0	26.1	-1.7	5.0	6.8	4.4	6.6	-1.9	0.8	2.2	-8.7
Mainland China	-11.0	25.1	-6.6	7.8	34.2	7.0	11.2	-1.7	6.9	12.0	-18.0
Japan	-23.2	8.2	1.9	23.8	-9.3	-1.9	-2.6	5.2	-0.7	5.0	3.3
South Korea	-21.5	40.0	2.4	11.4	-11.9	4.0	14.2	1.6	10.8	-9.0	-15.1
Taiwan	-35.7	55.7	-18.2	-8.1	17.7	12.2	20.7	5.7	-13.8	-7.6	11.5
Malaysia	-26.7	37.9	-4.7	-16.2	3.4	2.6	-4.9	-11.0	5.7	-18.7	-10.5
All Other Countries	-9.5	0.4	13.0	19.4	2.3	8.3	-7.6	5.0	-5.9	-1.9	6.3
Total Growth	-13.7	7.5	2.8	6.1	4.9	5.5	3.1	-0.3	-0.2	3.7	-3.1

^r Revised^p Preliminary

Source: United States Department of Commerce

TABLE 58. UNITED STATES IMPORTS OF HIGH TECHNOLOGY GOODS, BY COUNTRY OF ORIGIN

	Value (\$ US millions)										
	2009	2010	2011	2012	2013	2014	2015	2016	2017 ^r	2018 ^r	2019 ^p
Canada	14,262.9	12,863.7	13,531.7	14,091.5	14,319.7	16,020.4	15,799.8	14,748.8	14,723.5	15,511.2	16,877.9
Mexico	39,722.0	48,733.0	47,788.3	49,626.3	47,840.8	45,652.7	52,571.3	53,135.1	53,761.3	60,112.3	60,927.9
United Kingdom	9,272.6	9,531.6	10,113.3	10,936.8	8,785.5	9,302.0	12,049.9	8,375.4	7,613.4	9,607.4	11,565.6
European Union	50,947.3	56,072.0	65,413.4	63,176.4	65,618.2	70,501.8	70,719.3	71,394.9	78,089.1	89,935.1	103,940.1
Germany	10,400.7	10,099.7	12,688.5	13,568.9	14,921.9	17,399.4	17,889.2	16,645.1	18,346.6	22,048.8	24,996.7
France	10,176.7	10,434.5	11,205.8	11,475.7	12,772.7	12,908.2	13,138.8	12,502.1	13,589.1	13,410.8	17,167.0
Ireland	14,451.2	17,505.9	21,701.1	18,912.7	18,460.0	17,803.3	18,895.5	21,762.4	23,869.4	27,391.6	28,617.5
Pacific Rim	171,163.0	209,322.3	228,695.3	235,429.8	241,162.3	256,946.7	262,580.2	261,332.2	290,550.8	300,594.0	280,637.2
Mainland China	89,698.6	115,631.0	129,498.2	141,212.8	145,939.1	154,879.4	155,190.8	147,787.5	170,949.4	173,346.4	136,669.3
Japan	19,869.3	23,314.0	25,617.5	25,081.5	23,382.5	23,569.6	21,982.7	21,176.6	21,686.9	22,990.3	24,154.3
South Korea	15,234.0	17,433.5	17,543.8	13,955.9	15,969.8	16,775.1	15,636.2	17,629.2	17,597.3	19,473.0	18,371.9
Taiwan	12,130.7	15,380.9	18,704.0	15,140.7	14,473.0	15,332.7	14,175.0	14,206.6	15,381.9	16,729.1	23,963.3
Malaysia	14,900.4	15,248.2	14,103.7	14,542.0	16,002.6	18,637.7	21,944.5	25,194.6	25,230.6	25,863.7	25,888.2
All Other Countries	15,313.1	17,730.4	20,897.0	22,968.9	23,417.3	23,710.3	21,247.0	20,174.3	19,734.7	20,249.9	22,612.4
Total Value	300,681.0	354,252.9	386,439.0	396,229.8	401,143.9	422,134.0	434,967.6	429,160.9	464,472.7	496,009.9	496,561.0
	% change from previous year										
	2009	2010	2011	2012	2013	2014	2015	2016	2017 ^r	2018 ^r	2019 ^p
Canada	-14.2	-9.8	5.2	4.1	1.6	11.9	-1.4	-6.7	-0.2	5.3	8.8
Mexico	-1.5	22.7	-1.9	3.8	-3.6	-4.6	15.2	1.1	1.2	11.8	1.4
United Kingdom	-14.0	2.8	6.1	8.1	-19.7	5.9	29.5	-30.5	-9.1	26.2	20.4
European Union	-12.4	10.1	16.7	-3.4	3.9	7.4	0.3	1.0	9.4	15.2	15.6
Germany	-10.6	-2.9	25.6	6.9	10.0	16.6	2.8	-7.0	10.2	20.2	13.4
France	-15.4	2.5	7.4	2.4	11.3	1.1	1.8	-4.8	8.7	-1.3	28.0
Ireland	-18.3	21.1	24.0	-12.8	-2.4	-3.6	6.1	15.2	9.7	14.8	4.5
Pacific Rim	-10.6	22.3	9.3	2.9	2.4	6.5	2.2	-0.5	11.2	3.5	-6.6
Mainland China	-1.9	28.9	12.0	9.0	3.3	6.1	0.2	-4.8	15.7	1.4	-21.2
Japan	-25.6	17.3	9.9	-2.1	-6.8	0.8	-6.7	-3.7	2.4	6.0	5.1
South Korea	-7.1	14.4	0.6	-20.5	14.4	5.0	-6.8	12.7	-0.2	10.7	-5.7
Taiwan	-12.0	26.8	21.6	-19.1	-4.4	5.9	-7.6	0.2	8.3	8.8	43.2
Malaysia	-25.9	2.3	-7.5	3.1	10.0	16.5	17.7	14.8	0.1	2.5	0.1
All Other Countries	9.4	15.8	17.9	9.9	2.0	1.3	-10.4	-5.0	-2.2	2.6	11.7
Total Growth	-9.3	17.8	9.1	2.5	1.2	5.2	3.0	-1.3	8.2	6.8	0.1

^r Revised^p Preliminary

Source: United States Department of Commerce

TABLE 59. UNITED STATES BALANCE OF TRADE IN HIGH TECHNOLOGY GOODS, BY COUNTRY

	Balance (\$ US millions)										
	2009	2010	2011	2012	2013	2014	2015	2016	2017 ^r	2018 ^r	2019 ^p
Canada	9,569.2	15,184.8	17,119.7	15,232.7	15,576.6	15,053.8	14,094.4	13,648.6	15,626.7	16,879.3	14,390.3
Mexico	-19,093.2	-21,489.2	-15,833.6	-16,379.1	-12,243.8	-9,210.6	-12,265.3	-13,827.8	-14,343.1	-18,389.0	-19,240.7
United Kingdom	3,709.0	2,534.6	3,890.5	2,645.6	4,839.4	5,771.7	4,155.3	8,707.6	7,556.5	8,009.3	4,074.1
European Union	6,212.9	-1,969.6	-12,131.7	-9,816.0	-9,841.2	-11,155.3	-8,972.7	-8,390.2	-9,228.2	-13,776.2	-24,953.3
Germany	6,467.1	6,490.6	868.7	-382.4	-2,023.7	-3,284.0	-3,655.6	-2,989.0	-2,853.0	-3,775.9	-5,463.3
France	1,369.9	179.7	-743.4	-217.3	-1,314.7	-1,773.4	-813.3	1,443.6	2,221.1	3,737.8	219.1
Ireland	-10,935.1	-14,708.0	-19,216.0	-16,497.2	-16,779.6	-15,000.1	-15,648.5	-17,684.3	-18,922.4	-22,462.1	-25,541.4
Pacific Rim	-90,659.7	-109,335.5	-129,519.3	-129,960.9	-128,287.9	-138,543.9	-137,486.6	-136,190.8	-161,183.8	-169,251.4	-157,317.3
Mainland China	-72,493.3	-94,202.3	-109,312.0	-119,079.5	-116,889.1	-124,013.5	-121,056.7	-114,380.3	-135,095.4	-134,044.5	-102,756.6
Japan	-5,657.7	-7,761.7	-9,859.4	-5,628.0	-5,713.8	-6,154.5	-5,131.2	-3,218.0	-3,911.2	-4,176.0	-4,655.1
South Korea	-7,132.8	-6,398.5	-6,218.0	-1,095.0	-4,410.5	-4,982.3	-2,453.7	-4,030.8	-1,888.3	-5,560.9	-6,331.6
Taiwan	-5,106.0	-4,889.7	-9,875.6	-6,528.3	-4,820.6	-4,613.0	-1,846.8	-1,333.3	-4,118.4	-5,855.0	-12,395.2
Malaysia	-8,694.9	-6,790.6	-6,053.3	-7,477.3	-8,817.0	-11,134.8	-14,717.3	-18,191.6	-18,121.1	-19,690.2	-20,249.4
All Other Countries	34,309.2	34,132.5	37,757.1	47,031.2	48,547.1	52,428.9	48,635.8	52,127.2	50,897.3	49,094.7	50,673.8
Total Value	-55,952.5	-80,942.4	-98,717.4	-91,246.5	-81,409.9	-85,655.4	-91,839.1	-83,925.4	-110,674.5	-127,433.3	-132,373.1

Note: The trade balance is the net of *total* exports minus total imports. Total exports include re-exports, whereas *domestic* exports are shipments of goods produced within the United States only.

^r Revised

^p Preliminary

Source: United States Department of Commerce

5. Appendix A: Defining the High Technology Sector

5.1. How was the sector definition derived?

In 1995, BC Stats and the Science and Technology Division of the Ministry of Employment and Investment developed a definition of the high technology sector that focused on standard industries that produce high technology goods and services as their ultimate outputs. The definition looked at the high tech outputs of various standard industries (industries defined in the Canadian Standard Industrial Classification—SIC), their level of research activity, their representation in existing lists of high tech companies and the opinions of an expert panel drawn from government, university and the private sector.¹⁹ The SIC data series has since been discontinued and the North American Industry Classification System (NAICS) has been implemented in its place.

The adoption of NAICS-based industry definitions made it necessary to revisit the definition on which the high tech estimates were based, since many of the industry groupings previously used were no longer available. During 2001, in consultation with industry stakeholders, BC Stats developed a new definition of the high technology sector that was based on the NAICS industry categories. The process of developing the criteria for including or excluding specific industries in the definition was similar to that of the original SIC-based definition as commodity lists, research activities and company lists were once again examined. In addition, since an accepted SIC-based definition was already available, an SIC to NAICS concordance was used as a starting point.²⁰

¹⁹ The complete methodology is presented in Lawrance, J. and Miller, S. *Defining the British Columbia High Technology/Knowledge Sector*. (1996). BC Stats, Ministry of Government Services, and Ministry of Employment and Investment, Government of British Columbia.

²⁰ A more detailed discussion of the methodology is presented in Miller, S. and Adams, S. *Defining the British Columbia High Technology Sector Using NAICS*. (2001). BC Stats, Ministry of Management Services, Government of British Columbia.

The definition originally chosen (based on theoretical considerations) proved to be only a starting point, as much of the information required to compile high technology statistics was not available at the required level of detail. A working definition, based on availability of data, was adopted in order to prepare the estimates presented in the Profile report.

In 2005, that definition was expanded further to include various communications technologies. The new industries added to the existing definition were determined through a review of literature pertaining to high technology definitions in use elsewhere, particularly those from the American Electronics Association (whose definition has been widely used by institutions around the world) and Industry Canada.²¹ The definition has been further tweaked to incorporate NAICS changes. Every five years NAICS is revised to reflect the emergence of new or expanded industries and often this includes industries in the realm of high technology.

5.2. Are all high tech companies included?

It is recognized that there are some drawbacks to the industry-based definition employed here. The first is that NAICS does not fully recognize industries of the “new economy.” As a result, new products and services are often grouped in an industry that primarily produces similar but distinctly different products and services.

Second, it is difficult to capture the full breadth of high technology or knowledge-intensive activity in the economy through NAICS-based definitions. Innovation is not unique to a specific group of industries, rather it can be found throughout the whole economy. Some firms on the “leading edge” will be missed if they are classified in industries that, in aggregate, fail to show high tech characteristics. On the other hand, it is impossible to remove those firms that lag behind the norm in an industry.

The industries included in the definition adopted for this profile represent the core of the high technology sector. While it is certainly true that examples of creativity and innovation can be found in every industry, this definition, with its industry focus, includes only those industries where high technology activity is concentrated.

²¹ Platzer, M., Novak, C.A. and Kazmierczak, M.F. (February 2003). *Defining the High-Tech Industry*. American Electronics Association.

E. Wayne Clendenning & Associates (May 2000). *Comparison and Reconciliation of SIC and NAICS Industry Codes Used to Define Knowledge-Based Industries (KBIs)*. Industry Canada.

5.3. Exactly which industries are included?

The following table lists the industries that are defined, for the purpose of this report, to constitute the high technology sector.

INDUSTRIES IN THE HIGH TECHNOLOGY SECTOR

NAICS	Industry Description
Manufacturing Industries	
325189	Other Basic Inorganic Chemicals
325410	Pharmaceutical and Medicine
333310	Commercial and Service Industry
334110	Computer and Peripheral
334210	Telephone Apparatus
334220	Radio, Television Broadcasting & Wireless Communications Equipment
334290	Other Communications Equipment
334310	Audio and Video Equipment
334410	Semiconductor and Other Electronic Components
334511	Navigational and Guidance Instruments
334512	Measuring, Medical and Controlling Devices
334610	Manufacturing and Reproducing Magnetic and Optical Media
335315	Switchgear and Switchboard, and Relay and Industrial Control Apparatus
335920	Communication and Energy Wire and Cable
335990	All Other Electrical Equipment and Component
336410	Aerospace Products and Parts
339110	Medical Equipment and Supplies
Service Industries	
511211	Software Publishers (Except Video Game Publishers)

NAICS	Industry Description
511212	Video Game Publishers
512110	Motion Picture and Video Production
512190	Post-Production and Other Motion Picture and Video Industries
515210	Pay and Specialty Television
517310	Wired and Wireless Telecommunications Carriers (Except Satellite)
517410	Satellite Telecommunications
517911	Telecommunications Resellers
517919	All Other Telecommunications
518210	Data Processing, Hosting and Related Services
519130	Internet Broadcasting, and Web Search Portals
541330	Engineering
541360	Geophysical Surveying and Mapping Services
541370	Surveying and Mapping (Except Geophysical) Services
541380	Testing Laboratories
541514	Computer Systems Design and Related (Except Video Game Design and Development)
541515	Video Game Design and Development Services
541620	Environmental Consulting
541690	Other Scientific and Technical Consulting
541710	Research and Development in Physical, Engineering and Life Sciences
541720	Research and Development in the Social Sciences and Humanities

Note: For the purposes of this report, the manufacturing NAICS industries are grouped together as "Manufacturing." For services, Engineering (541330) is reported as a separate industry. The other industries are aggregated into groups to maintain confidentiality requirements and still allow for some detailed reporting. Software Publishing includes 511211 and 511212. Other computer and Related Services includes 518210, 519130, 541514 and 541515. The remaining 541 NAICS codes are grouped into a category called "Other Services." The 517 NAICS codes and 515210 are covered under a single "Telecommunications and Related" classification and 512110 and 512190 are grouped under "Motion Picture Production and Post-Production."

5.4. High Technology Industries

Manufacturing

325189 Other Basic Inorganic Chemicals

Comprises establishments engaged in the manufacture of high tech inorganic chemicals such as enriched uranium and radioactive isotopes.

325410 Pharmaceuticals and Medicine

Consists of firms engaged in the manufacture of drugs, medicines and related products for human or animal use, including cutting edge products developed through considerable research efforts.

333310 Commercial and Service Industry Machinery

Contains establishments that manufacture machinery for use in commercial and service industries, including high tech optical instruments and photographic equipment.

334110 Computers and Peripheral Equipment

Comprises establishments primarily engaged in the manufacture of computers and peripheral computer equipment such as storage devices, CD-ROM and DVD drives, optical readers and scanners, etc.

334210 Telephone Apparatus

Contains firms that manufacture wired telephone and data communications equipment, including cordless telephones, facsimile equipment, local area network (LAN) equipment, etc.

334220 Radio and Television Broadcasting and Wireless Communications Equipment

Consists of firms primarily engaged in manufacturing radio and television broadcast and wireless communications equipment, including satellites, GPS (global positioning system) and pagers.

334290 Other Communications Equipment

Comprises establishments engaged in the manufacture of other types of communications equipment, such as traffic signals, fire detection and alarm systems, remote control units, intercom systems, etc.

334310 Audio and Visual Equipment

Establishments engaged in manufacturing electronic audio and video equipment such as compact disc and DVD players, televisions, etc.

334410 Semiconductor and Other Electronic Components

Consists of firms engaged in the manufacture of semiconductor devices and other electronic components such as circuit boards, microprocessor chips and other computer parts, fibre-optic connectors, etc.

334511 Navigational and Guidance Instruments

Comprises establishments primarily engaged in navigational and guidance instruments such as air traffic control radar systems, sonar, etc.

334512 Measuring, Medical and Controlling Devices

Establishments engaged mainly in the manufacture of equipment such as high tech medical devices, laboratory analytical and testing instruments, industrial process control instruments, etc.

334610 Manufacturing and Reproducing Magnetic and Optical Media

Contains establishments primarily engaged in manufacturing magnetic and optical media such as compact discs, computer software, etc.

335315 Switchgear and Switchboard, and Relay and Industrial Control Apparatus

Comprises establishments engaged in manufacturing electrical switchgear and protective equipment, including high tech switching devices.

335920 Communication and Energy Wire and Cable

Consists of firms engaged in the manufacture of communications and energy wire and cable such as high tech fibre-optic cable.

335990 All Other Electrical Equipment and Components

Comprises establishments engaged in manufacturing electrical equipment and components, including fuel cells.

336410 Aerospace Products and Parts

Establishments engaged in manufacturing aircraft, missiles, space vehicles, etc.

339110 Medical Equipment and Supplies

Contains firms that manufacture medical equipment and supplies, including high tech laboratory and dental equipment.

Services

511211 Software Publishers (Except Video Game Publishers)

Establishments engaged in producing and distributing computer software, not including video games.

511212 Video Game Publishers

Establishments engaged in producing and distributing video games.

512110 Motion Picture and Video Production

Comprises firms engaged in producing motion pictures, videos, television programs and commercials.

512190 Post-Production and Other Motion Picture and Video Industries

Consists of establishments engaged in providing post-production services and services to the motion picture and video industries, including high tech special effects and animation.

515210 Pay and Specialty Television

Establishments engaged in broadcasting television programs on specialty cable networks, pay television or satellite networks.

517310 Wired and Wireless Telecommunications Carriers (Except Satellite)

Consists of establishments engaged in providing telecommunications and video entertainment services either to customers' homes or to mobile devices over network facilities they operate.

517410 Satellite Telecommunications

Contains firms engaged in operating and maintaining satellite telecommunications facilities.

517911 Telecommunications Resellers

Comprises establishments primarily engaged in providing telecommunications and/or video entertainment services over network facilities operated by others.

517919 All Other Telecommunications

Comprises establishments primarily engaged in providing operating telecommunications networks or providing telecommunication services not elsewhere classified.

518210 Data Processing, Hosting and Related

Consists of firms engaged in providing hosting or data processing services.

519130 Internet Broadcasting and Web Search Portals

Comprises firms primarily engaged in broadcasting content on the Internet, or in operating web search portals.

541330 Engineering

Comprises establishments engaged in engineering activities in design, development and utilization of machines, instruments, systems, etc.

541360 Geophysical Surveying and Mapping Services

Establishments engaged in gathering, interpreting and mapping geophysical data.

541370 Surveying and Mapping (Except Geophysical) Services

Contains firms engaged in providing surveying and mapping services of the surface of the earth, including the sea floor.

541380 Testing Laboratories

Consists of establishments engaged in providing physical, chemical and other analytical testing services.

541514 Computer Systems Design and Related (Except Video Game Design and Development)

Establishments that provide expertise in the field of information technologies through writing and supporting computer software, and computer systems design and maintenance, with the exception of video games.

541515 Video Game Design and Development

Establishments primarily engaged in designing and developing video games without publishing them.

541620 Environmental Consulting

Comprises establishments primarily engaged in providing consulting services on environmental issues, using a staff of scientists, engineers and other technicians.

541690 Other Scientific and Technical Consulting

Consists of firms engaged in providing advice and assistance on scientific and technical issues (other than environmental issues).

541710 and 541720 Scientific Research and Development

Establishments engaged in research and experimental development in areas such as biotechnology, computers, physics, mathematics, etc.

6. Appendix B: Defining High Technology Commodities

6.1. Defining high technology commodities

Developing a definitive list of what commodities should be considered high technology is a difficult exercise. Leading technologies are continually evolving and what is considered high technology today may be classified as low tech tomorrow. As a result, the definition of high technology commodities must necessarily change over time. This means that data regarding high technology trade from 2009 may contain commodities that are no longer included in the 2019 definition. However, this does not mean that the data cannot be compared over time. It is still valid to look at growth rates over that period as long as it is clear that the rates represent growth in the changing definition of high technology, rather than a static basket of goods.²²

The commodity list used by BC Stats to define high technology goods is based on the U.S. Bureau of the Census' advanced technology products (ATP) list.²³ To be considered advanced technology, a commodity code has to meet certain criteria. It must contain products whose technology is from a recognized high technology field, the products must represent the leading edge of that field and they must comprise a significant portion of all goods in the classification code.

The list of American commodity codes from the ATP list was matched against the equivalent Canadian codes. In many cases the codes matched exactly and no further effort needed to be expended. However, in other cases there was not an exact match, particularly for exports, which are coded to only eight digits. For these commodity groups, further analysis was undertaken using available data from the U.S. Bureau of the Census and Statistics Canada to determine whether or not the majority of these codes were high technology (as defined by the ATP list). If it was judged that this was not the case, the commodity was excluded from the high tech definition. While this may result in some high technology products being excluded from the definition, it should be balanced to

²² One technical limitation that may cause difficulty in temporal comparisons is when there are changes to the definition of Harmonized System codes. When this occurs, there may be a resulting unintended change to the high technology commodity definition. This is due to the fact that the code may now include or exclude commodities that it did not previously, such that these goods can no longer be separated out (or perhaps can be more finely defined, so that low technology commodities that previously had to be included can now be expunged from the definition). However, these changes are usually small and should not have a significant impact on the data.

²³ For a discussion of the development and content of this list, see: McGuckin, R. H., Abbott, T. A., Herrick, P. and Norfolk, L. (1991). *Measuring Advanced-Technology Products Trade: A New Approach*. U.S. Bureau of the Census.

some extent by those commodity classifications that, although they are mainly high technology, still include some low tech goods. Since the ATP list itself is defined using classification codes, this kind of trade-off is already present in the definition. No exact measure of high technology trade is possible to achieve since high technology is subjective to begin with, but this definition should be in line with what most people would agree is high technology.

Note that a commodity need not be produced by one of the industries included in the industry-based high technology definition in order to be considered a high technology product. Some industries not included in the high tech definition, because they mainly manufacture low technology goods, may also manufacture some high technology products. Conversely, it is possible for those industries classified as high technology to also manufacture some products that are considered low tech.

6.2. Calculating B.C. consumed imports

At this time, Statistics Canada does not produce data on imports by province of consumption, rather, only by province of clearance. An estimate of B.C. consumed imports was derived using the consumption of Canadian imports of those commodities by the B.C. economy and applying this ratio to total Canadian imports.

6.3. Data source

Data for trade in goods are supplied by Statistics Canada and the United States Bureau of the Census.

6.4 Commodity groups

The U.S. Bureau of the Census has defined ten fields involving advanced or high technology commodities. Each field represents a large number of products and processes that are considered to be on the leading edge. These fields have been used to classify exports and imports in this report.

Aerospace

Technological developments in this field include advances that allow planes to fly further, faster, higher, to use less fuel and to have quieter engines. Many of the advances have been adapted to military applications, such as vertical take-off aircraft and aircraft that require shorter distances for takeoff and landings.

Biotechnology

Biotechnology covers recent developments in recombinant deoxyribonucleic acid (DNA) research and genetic engineering. Obvious examples include drugs, enzymes and other therapeutic items. Common applications include agricultural production and the use of microorganisms for the production of drugs and other complex molecules.

Computer and Telecommunications

This field covers technological advances affecting both computers and telecommunications hardware products. The primary advances in this field are in developing hardware that can process information more quickly. Important breakthroughs are expected in the areas of artificial intelligence and parallel processing.

Computer Integrated Manufacturing

This field includes developments in robotics and numerically controlled (NC) machines. These products have a significant impact on industrial automation. Robots and NC machines perform increasingly sophisticated operations through developments in sensory and visual capabilities of machines. With these breakthroughs, the manufacturing processes have increased in flexibility and require less human intervention to operate and maintain production machinery. Many of the new automation technologies are made possible because of breakthroughs in the application and development of faster, smaller components.

Electronics

The miniaturization of electronic components is the most important recent technological advance in the field of electronics. Some technologies included are integrated circuits; semiconductors, such as transistors and diodes; and new developments in surface mounting of electronic components, such as capacitors and resistors.

Life Sciences (Medical)

This field encompasses the application of scientific advances to medical sciences. Nuclear resonance imaging, echo cardiographs and total-patient monitoring systems are examples of products developed from recent technological advances in this field. Also, recent increases in the strength of materials and reductions in their weight have led to improved internally-implemented fixation devices and prostheses.

Materials Design

Materials design includes the newest methods of production for products that already exist in the market as well as the development of new products. Recent examples of technological advancements include high temperature superconductors, advanced polymers that expand the areas of plastic use and new ultra-clear glass that allows fibre-optic cable to be used for long distance communication.

Nuclear Technology

This field covers developments in nuclear power production and primary nuclear reactors. It includes newly designed reactor components that improve the safety and efficiency of nuclear power plants. It also includes developments in the creation and packaging of nuclear fuel, and the application of atomic physics to other areas of science.

Opto-Electronics

Opto-electronics is generally defined as the expanded development and application of the laser. Also included are recent advances in photoelectric cells and diodes, photographic and other imaging equipment, and fibre-optic cables.

Weapons

This field covers all advanced methods used for the development, guidance, and control of weapons intended for national or personal protection and deterrence. Many of the developments in this area are the result of breakthroughs in computers and telecommunications as well as aerospace technologies.



BCStats

BC Stats is the provincial government's leader in statistical and economic research, information and analysis essential for evidence-based decision-making. BC Stats, the central statistics agency of government, is excited to be taking a lead role in the strategic understanding of data sources and analysis across government. The goal is to increase overall business intelligence—information decision makers can use. As part of this goal, BC Stats is also developing an organizational performance measurement program. For more information, please contact James Prouten.



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