



# Sectoral Profile

## Professional, scientific and technical services

NAICS 54

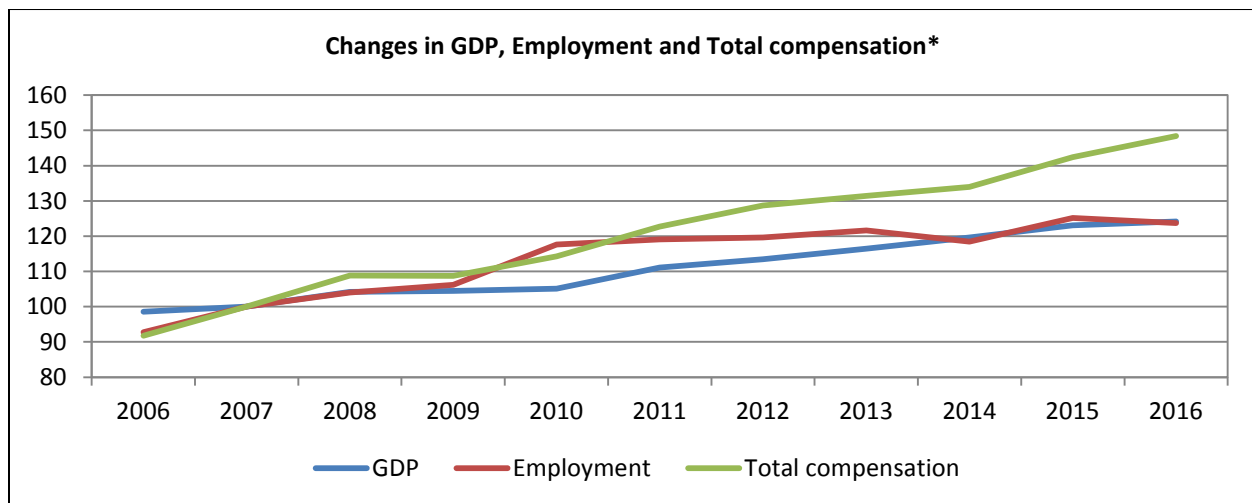
Quebec

2018-2020\*



- The industry is subdivided in nine different activity sectors, and over half of jobs are in Computer systems design, and Architecture, Engineering, Surveying, and Design services
- Dynamics in the industry are closely tied to infrastructure work, government development policies and business investment

Professional, scientific and technical services include a wide range of activities. A specificity of this industry is that it is linked to its workers' skills: we sell knowledge and know-how to companies and individuals



Data are expressed as indices with 2007 = 100

Sources: Statistics Canada, GDP – CANSIM 379-0030, Employment – LFS, Total Compensation – 383-0031

Employment growth has been very high since the early 2000s such that in 2016 the workforce was 60% higher. Over half of this growth occurred during the last decade, despite a recession during this period. The momentum was particularly strong in consulting services, computer systems design, architecture and engineering services, legal services, and accounting, bookkeeping services and tax preparation services.

\* This document is the result of analyses performed using information available as at April 5, 2018.

## Computer systems design and related services

Over the next three years, almost 75% of expected employment gains in professional services will originate from computer systems design and related services. With 31% of the labour force, it is the most important segment of the services group. Its development has been, and continues to be driven by the popularity of digital media, the Internet, and by technological innovation. During the 2018-2020 period, growth will continue at a healthy pace. Besides the continuous development in well-known activities, gains are also expected in the following fields:

- Artificial intelligence and algorithms: Montréal has become the global centre for this field owing to a large concentration of researchers and students, and the most significant electronic companies that set up shop in the city, investing to support multidisciplinary teams (programmers, engineers, analysts, mathematicians, etc.) in the field
- Automation of basic services : transform information features for consumers or users of help desk , like online tech support or call centre functions, with algorithms that get better with deep learning
- Data: it is the basic food of algorithms and artificial intelligence: the more you have, the easier it is to foster a speedy machine learning – this segment is expected to flourish over the coming years
- Shared A.I. knowledge: at the moment, machine learning follows a process established by a selection of algorithms – the idea is to establish a connection that would allow machines to share the knowledge
- Cybersecurity : to better protect electronic transactions, accounts, personal or client information, networks used by connected objects, an access point which is often under-defended – think about 3D printers where patented schemas can be dormant in the machine’s memory
- Mobile applications : smartphones and tablets are the main tools to access the Internet, more than computers
- Platform optimization: harmonization of systems and applications, specialized and personalized tools, interface between driver and car, etc.
- Transformational technologies: ongoing search for innovations that will redefine the way things work.

The Quebec government’s “*Plan d’action en économie numérique*” [Digital Economy Action Plan] becomes more defined with each announcement made towards an industry requirement. The main objective remains the same, to facilitate and accelerate the transition of businesses to the new digital era through five areas of development:

- Foster innovation through technologies and data
- Accelerate the transformation of businesses and the adoption of e-commerce
- Strengthen the ICT sector’s position as a world leader
- Develop the required digital skills
- Ensure an attractive business environment that is conducive to the deployment of digital technology.

## Architectural, engineering, surveying and design services

They account for nearly one quarter of jobs in professional, scientific and technical services. Over the past decade, this group of services has benefitted immensely from the increase of spending and investments in Quebec. All sectors contributed: the strong growth in mining development; the construction and improvement of business establishments; public and road infrastructure programs; changes in residential tenure, with condominiums overtaking single-family homes; and the many commercial developments competing with suburban shopping centres and traditional shopping areas.

The future looks like this: several infrastructure projects are in the planning stage or being prepared for implementation after the Champlain Bridge and the Turcot interchange completion, there is growth in the mining industry, and many investments by the Quebec Government involving school and hospital upgrades and his 10-year plan for modernizing road infrastructures. However, we believe that this demand will soon reach its peak and not much room is left for growth in the coming years.

### **Accounting services**

Accounting services have become very popular over the last decade. An important part of the expansion came with companies outsourcing in-house expertise to specialized firms. Businesses still make up the majority of clients, but we see diversification here with the growth among individuals and households, governments, non-profit organizations and public establishments, as well as the export of services.

Changes can also be observed in the breakdown of purchased services. We see now more bookkeeping, financial statement compilation and payroll services, while a few years ago, there were more audits of financial statements. The management consulting function is also slightly more significant, i.e. some competition with the advisory services component of the business services industry. It involves forensic accounting, accountability and transparency, development of business and investments, the need to ensure a thorough cash flow monitoring, and fraud prevention.

Demand will continue during the 2018-2020 horizon and lead to employment growth.

### **Legal services**

There is a need to be better informed and represented in areas of international law, business law, international trade, mining law, ethics, governance, and so forth. Notaries' primary fields of practice also saw a rise in demand: real estate law and personal, family and estate law; given the aging of Quebec's population, this is not surprising. Growth is expected over the next few years.

### **Advertising, public relations**

This segment encompasses more than the world of traditional advertising. It includes agencies that specialize in advertising on the Internet, which have become very popular since the implementation of auction spaces, as well as marketing and public relations. Several Quebec enterprises have made their mark abroad. Multinationals in the field have understood this are consulting locally to gather information on the Quebec distinctiveness, or, even better, they are doing business with a local firm for a customized message. Digital strategies are popular and the transfer of spending to the digital world has accelerated over the past few years.

## Sectoral Dynamics for Regions

Québec 2018-2020	In the Economic Regions	AAGR
Annual average growth: 1.6%  Gain of approx.: 16,400 positions  Yearly dynamics: 2018: ↗ 2019: ↗ 2020: ↗	Côte-Nord / Nord-du-Québec	2.2%
	Abitibi-Témiscamingue	1.9%
	<b>QUÉBEC</b>	1.6%
	Montréal CMA	1.6%
	Lanaudière	1.5%
	Montréal	1.5%
	Estrie	1.4%
	Laurentides	1.4%
	Capitale-Nationale	1.2%
	Mauricie	1.2%
	Centre-du-Québec	1.1%
	Gaspésie-Les-Îles	1.0%
	Bas-Saint-Laurent	1.0%
	Chaudière-Appalaches	0.8%
	Outaouais	0.6%
Saguenay-Lac-Saint-Jean	0.4%	

n/a: not applicable

Source: 2018–2020 Sectoral Outlook annual exercise

Labour Market Analysis Directorate, Service Canada – Quebec Region, April 5, 2018.

The following occupations in the professional, scientific and technical services industry are the most likely to be affected by the anticipated activity in the various sub-sectors (according to the occupation by industry matrix):

- 1111 Financial auditors and accountants
- 2171 Information systems analysts and consultants
- 4112 Lawyers and Quebec notaries
- 2174 Computer programmers and interactive media developers
- 1311 Accounting technicians and bookkeepers
- 5241 Graphic designers and illustrators
- 2131 Civil engineers
- 5125 Translators, terminologists and interpreters
- 1122 Professional occupations in business management consulting
- 1242 Legal administrative assistants
- 1431 Accounting and related clerks
- 0213 Computer and information systems managers
- 2253 Drafting technologists and technicians
- 2281 Computer network technicians
- 1123 Professional occupations in advertising, marketing and public relations
- 2151 Architects
- 2132 Mechanical engineers
- 2282 User support technicians
- 2173 Software engineers and designers
- 2133 Electrical and electronics engineers

- 5242 Interior designers and interior decorators
- 2147 Computer engineers (except software engineers and designers)
- 0124 Advertising, marketing and public relations managers
- 2231 Civil engineering technologists and technicians
- 4163 Business development officers and marketing researchers and consultants.

## SIZE AND DISTRIBUTION OF AND CHANGES IN EMPLOYMENT IN THE INDUSTRY IN QUEBEC

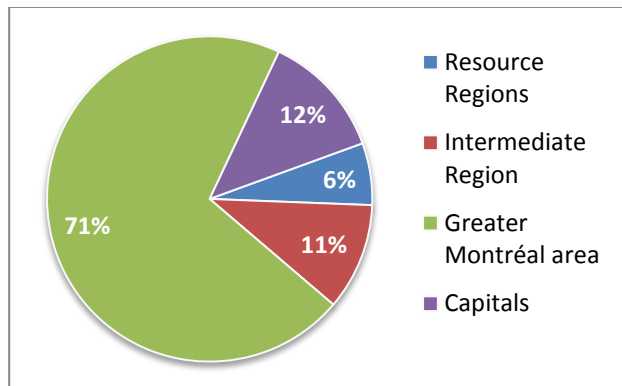
	Employment 2015–2017 Average			10-year Change in Employment	
	Employment In thousands	Provincial distribution	Regional employment share	In thousands	as a %
<b>All of Quebec</b>	<b>318.6</b>	<b>100.0%</b>	<b>7.7%</b>	<b>81.9</b>	<b>34.6%</b>
<b>Resource Regions</b>					
Abitibi-Témiscamingue	2.7	0.8%	3.7%	0.5	21.2%
Bas-Saint-Laurent	3.5	1.1%	4.1%	1.1	45.8%
Côte-Nord / Nord-du-Québec	1.6	0.5%	3.0%	0.5	41.2%
Gaspésie-Îles-de-la-Madeleine	x	x	x	x	x
Saguenay-Lac-Saint-Jean	6.6	2.1%	5.1%	1.8	36.8%
<b>Intermediate Regions</b>					
Centre-du-Québec	4.4	1.4%	3.6%	0.4	10.1%
Chaudière-Appalaches	10.1	3.2%	4.7%	2.6	34.2%
Estrie	9.8	3.1%	6.4%	4.3	76.6%
Mauricie	6.1	1.9%	5.1%	1.7	40.0%
<b>Greater Montréal area</b>					
Lanaudière	14.2	4.4%	5.6%	2.7	23.2%
Laurentides	18.8	5.9%	6.1%	4.9	35.5%
Laval	17.0	5.3%	8.0%	3.4	24.9%
Montérégie	61.2	19.2%	7.8%	18.3	42.7%
Montréal	120.3	37.7%	12.0%	26.8	28.6%
<b>Capitals</b>					
Capitale-Nationale	30.8	9.7%	7.6%	10.2	49.8%
Outaouais	10.3	3.2%	5.2%	2.5	31.4%

x: confidential data, fewer than 1,500 people employed in this region

Source: Historical estimates based on Statistics Canada's Labour Force Survey

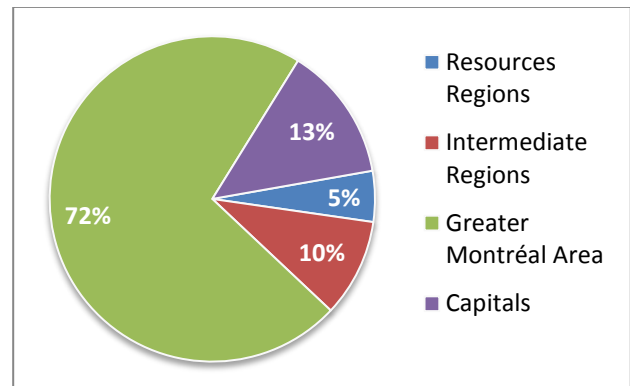
## SOME CHARACTERISTICS OF THE INDUSTRY IN QUÉBEC

**Establishment distribution by Region**



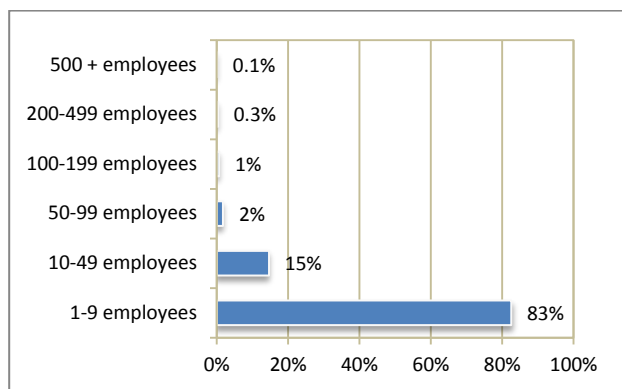
Source: Statistics Canada, Establishment Counts by Economic Region, industry, and Employee Size Ranges, December 2015

**Employment distribution by Region**



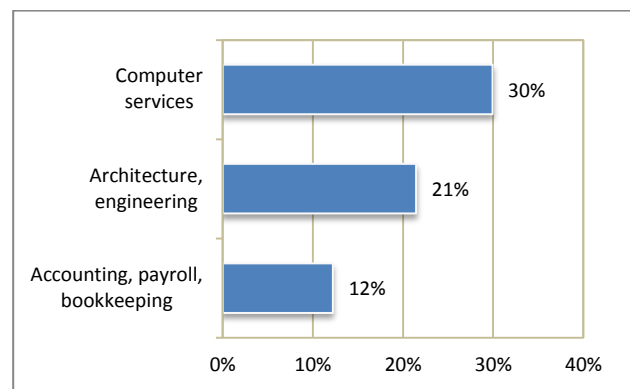
Source: Statistics Canada, Labour Force Survey; based on average employment in 2014-2016

**Size of establishment**



Source: Statistics Canada, Establishment Counts by Economic Region, industry, and Employee Size Ranges, December 2015

**Employment by industry segment**



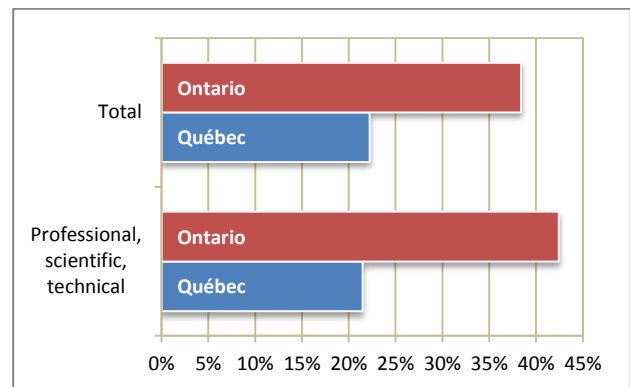
Source: Statistics Canada, Survey of Employment, Payrolls and Hours; based on average employment in 2014-2016

**Self-employed jobs compared to Total employment**

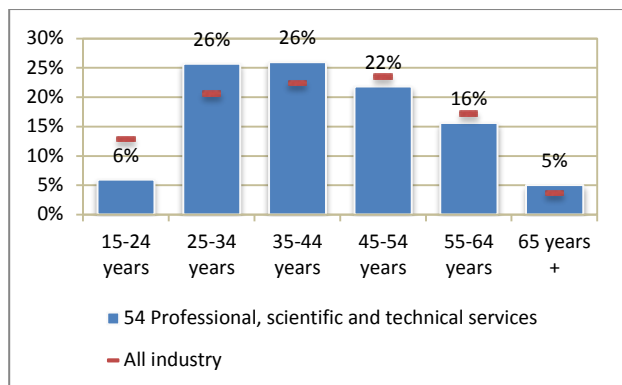
All Industries & Service Sector	8 %
<i>Professional, scientific and technical services</i>	19 %
Legal services	18 %
Accounting, tax preparation, bookkeeping and payroll	27 %
Specialized design services	66 %
Management, scientific and technical consulting services	41 %
Computer systems design	7 %
Advertising, public relations	22 %

Source: Statistics Canada, CANSIM 383-0031 Labour statistics, based on average employment in 2014-2016

**Share of total employment and industry in Canada**



Source: Statistics Canada, Survey of Employment, Payrolls and Hours; based on average employment in 2014-2016

**Employed Labour Force Aged 15 Years and Over**

Source: Statistics Canada, 2016 Census, special tabulation for ESDC

**Employment distribution by skill type**

National Occupational Classification	
0. Management	11%
1. Business, finance and administration	29%
2. Natural and applied sciences and related	32%
3. Health	2%
4. Education, law and social, community and government services	10%
5. Art, culture, recreation and sport	9%
6. Sales and service	4%
7. Trades, transport and equipment operators	2%
8. Natural resources, agriculture and related production	0%
9. Manufacturing and utilities	1%

Source: Statistics Canada, 2016 Census, special tabulation for ESDC

**FOR MORE INFORMATION**

- Job Bank (Canada) – [Job Market Trends and News](#): Information on job, skills and local labour market trends is important for making career decisions. In addition, information on wages, labour supply, labour demand and other factors helps employers recruit, train and retain workers and make business and investment decisions.
- North American Industry Classification System (NAICS) Canada 2012: Professional, scientific and technical services [NAICS 54](#)

**Note:** In preparing this document, the authors have taken care to provide clients with labour market information that is timely and accurate at the time of publication. Since labour market conditions are dynamic, some of the information presented here may have changed since this document was published. Users are encouraged to also refer to other sources for additional information on the local economy and labour market. Information contained in this document does not necessarily reflect official policies of Employment and Social Development Canada.

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**For further information,** please contact the LMI team at:

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