



Professional, Scientific and Technical Services

(NAICS 54)

Top Trends

Industry Information

- Professional, scientific and technical services is made up of nine sub-industries, and six of them employ more than a thousand workers. The largest sub-industry is Legal Services. There are 2,070 workers in this sub-industry which makes up 19% of the industry workforce
- From 2006 to 2016, eight out of the nine sub-industries saw growth in employment. Computer systems design and related services saw the largest increase in employment, growing by 560 workers (53.8%) from 2006 to 2016
- Professional, scientific and technical services median income is \$57,314 above the average seen across all industries at \$53,880
- Scientific research and development services had the largest growth in income, increasing by \$19,179 (31%). This growth brings it to a new average of \$81,200

Employment Trends

- From 2006 to 2016 Professional, scientific, and technical services saw strong growth in employment increasing by 1,920 workers (21%)
- The industry grew the fastest from 2006 to 2011, growing by 16%. From 2011 to 2016 the sector grew by only 5% locally, slower than the rate seen across Ontario at 12%
- The unemployment rate in Professional, scientific, and technical services has remained consistently low over the last 10 years. In 2015 it reached its lowest point at 2.5%
- The industry is expected to continue to see strong growth locally. It is forecast to grow by 6.3% from 2018 to 2023

Workforce Characteristics

- Professional, scientific and technical services has a slightly older workforce. 28% of workers are older than 55 compared to only 23% for all industries
- Professional, scientific and technical services has a highly skilled workforce as nearly half (49%) have a university level education

Businesses Information

- There are 4,798 Professional, scientific and technical services businesses in Hamilton. The majority are self-employed (69%)
- The industry is dominated by small businesses. 80% of businesses with employees have less than 10 people, higher than the share seen across all industries at 74%

Occupational Information

- Many of the top employed occupations in Professional, scientific and technical services grew in employment from 2011 to 2016. Most also have low unemployment rates
- Lawyers is the most employed occupation in the industry with 810 workers, followed by Financial auditors and accountants with 630 workers
- The occupations that grew the most are Other customer and information services representatives, 135 workers (386%), and Professional occupations in business management consulting, 155 workers (62%)

Job Postings

- Financial sales representatives had the most job postings in the industry, 151 postings
- In 2017 the job postings nearly doubled in Professional, scientific and technical services. This is in line with the growth seen in the local economy in 2017

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Section 1: Industry Information

TABLE 1. Employed by Sub-Industry Professional, Scientific, Technical Services (3-Digit NAICS), 2016, Place-of-Work, Hamilton (Census Division)

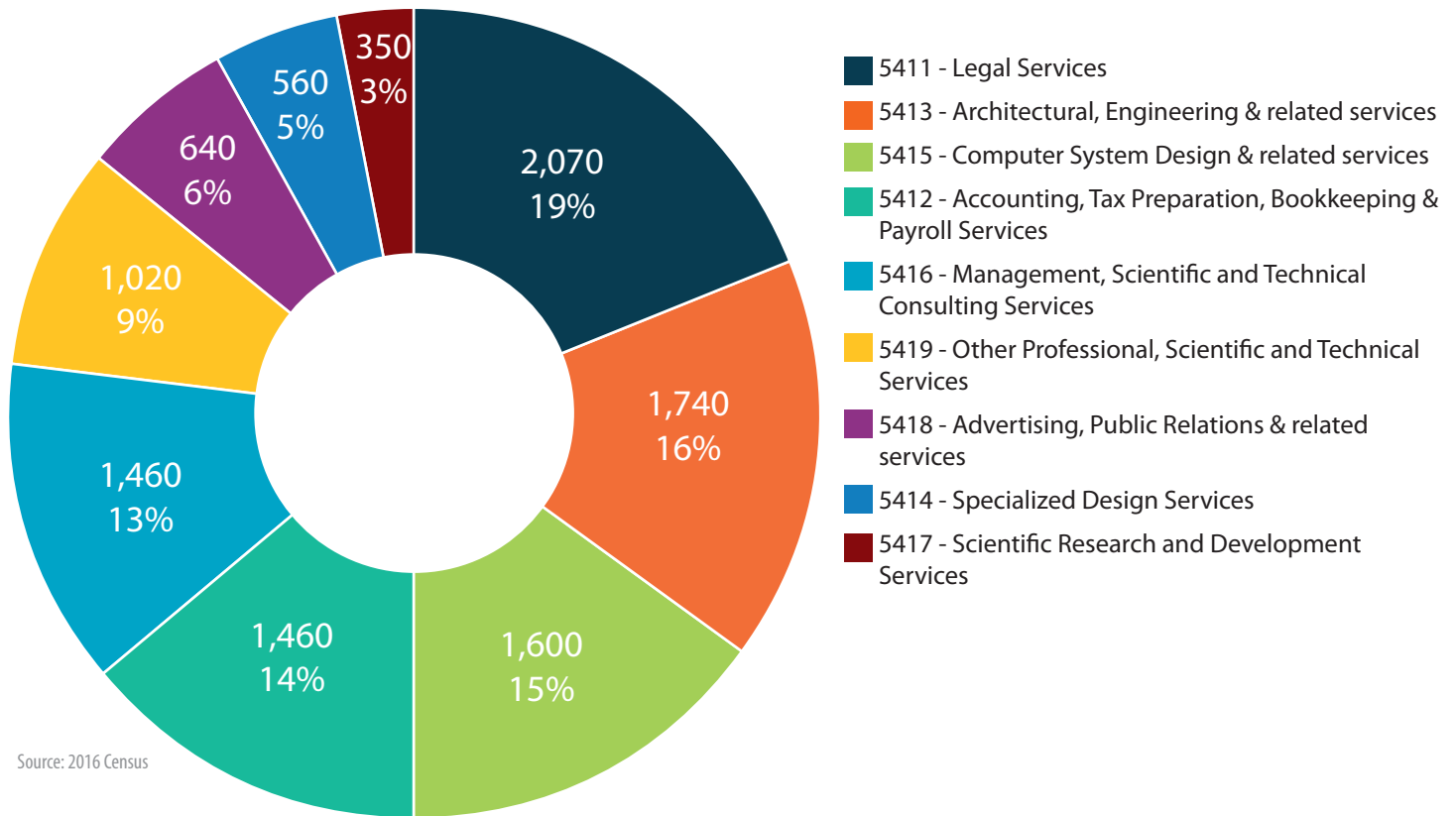


TABLE 2. Change in Employment by Professional, Scientific, and Technical Services Sub-Industry (3-digit NAICS), 2016, Place-of-Work, Hamilton (Census Division)

	2006	2011	2016	06 to 16 Total Change	06 to 16 % Change	11 to 16 Total Change	11 to 16 % Change
5411 Legal services	1925	2100	2070	145	7.5%	-30	-1.4%
5412 Accounting, tax preparation, bookkeeping and payroll services	1600	1450	1460	-140	-8.8%	10	0.7%
5413 Architectural, engineering and related services	1595	1705	1740	145	9.1%	35	2.1%
5414 Specialized design services	430	600	560	130	30.2%	-40	-6.7%
5415 Computer systems design and related services	1040	1195	1600	560	53.8%	405	33.9%
5416 Management, scientific and technical consulting services	910	1410	1460	550	60.4%	50	3.5%
5417 Scientific research and development services	195	310	350	155	79.5%	40	12.9%
5418 Advertising and related services	520	475	640	120	23.1%	165	34.7%
5419 Other professional, scientific and technical services	760	1115	1020	260	34.2%	-95	-8.5%

Source: 2006 Census; 2011 National Household Survey; 2016 Census

Note: Green indicates increases and red indicates decreases in employment.

TABLE 3. Income by Professional, Scientific, and Technical Services Sub-Industry (3-digit NAICS), 2011 to 2016, Hamilton (Census Division)

	2011	2016	Change	% Change
All Industries	\$49,103	\$53,880	\$4,777	10%
541 Professional, scientific and technical services	\$54,064	\$57,314	\$3,250	6%
5411 Legal services	\$51,232	\$57,119	\$5,887	11%
5412 Accounting, tax preparation, bookkeeping and payroll services	\$46,005	\$50,862	\$4,857	11%
5413 Architectural, engineering and related services	\$64,053	\$63,328	-\$725	-1%
5414 Specialized design services	\$28,210	\$34,422	\$6,212	22%
5415 Computer systems design and related services	\$61,725	\$65,686	\$3,961	6%
5416 Management, scientific and technical consulting services	\$59,912	\$58,041	-\$1,871	-3%
5417 Scientific research and development services	\$62,021	\$81,200	\$19,179	31%
5418 Advertising, public relations, and related services	\$47,256	\$50,805	\$3,549	8%
5419 Other professional, scientific and technical services	\$45,096	\$39,852	-\$5,244	-12%

Source: 2011 National Household Survey; 2016 Census

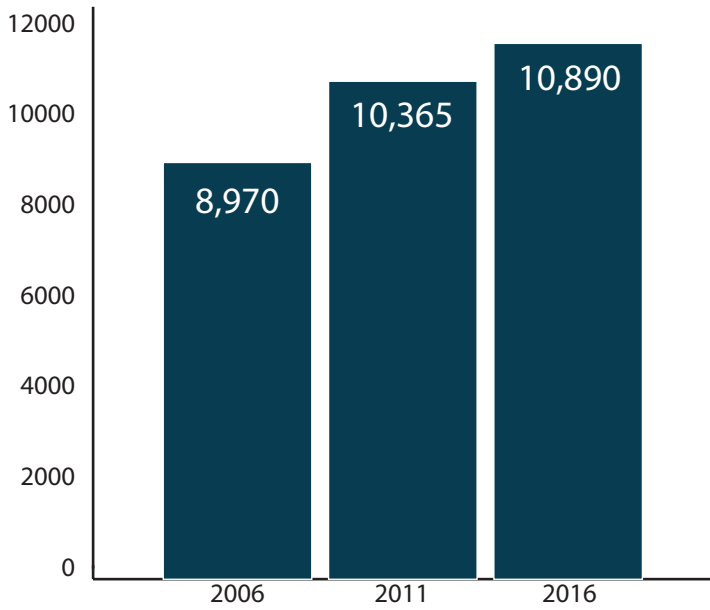
Note: Green indicates increases, and red indicates decreases in income.

Summary

- Professional, scientific and technical services is made up of nine sub-industries. Six of them employ more than a thousand workers
- The largest sub-industry is Legal services. There are 2,070 workers in the sub-industry which makes up 19% of the industries workforce. This is followed by Architectural, engineering and related services where 1,740 people are employed making up 16% of the industry workforce
- From 2006 to 2016 eight out of the nine sub-industries saw growth in employment. Accounting, tax preparation, bookkeeping and payroll services is the only sub-industry to decline, decreasing by 140 workers. With 1,460 workers it is still a large sub-industry and over the last five years it actually grew slightly by 10 workers
- Computer systems design and related services saw the largest increase in employment, growing by 560 workers (53.8%) from 2006 to 2016
- Scientific research and development services had the largest growth rate, increasing by 79.5% (155 workers) from 2006 to 2016
- Professional, scientific and technical services median income is \$57,314 above the average seen across all industries at \$53,880
- The industry saw income grow 6% from 2011 to 2016, below the average growth seen for all industries (10%). The industry rate was weighed down by the decline seen in Other professional, scientific and technical services which saw income decline by 12%
- Scientific research and development services had the largest growth in income, increasing by \$19,179 (31%), bringing it to the new average of \$81,200

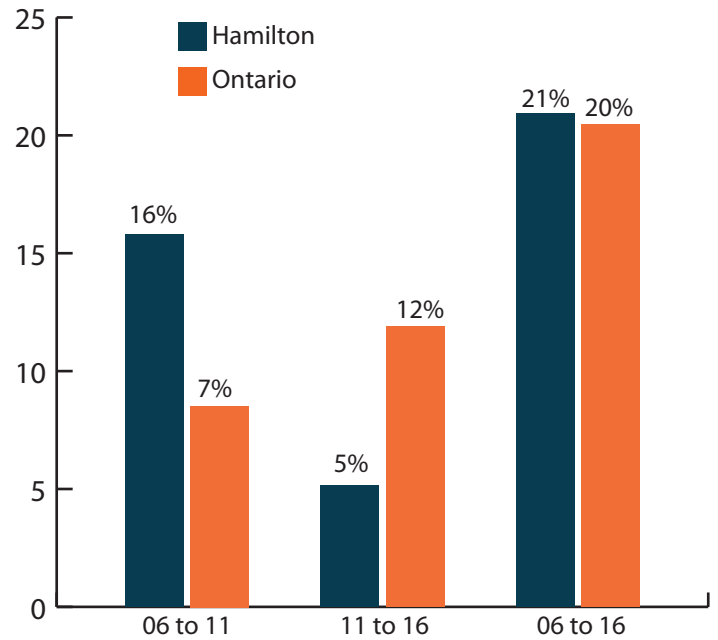
Section 2: Employment Trends

TABLE 4. Total Employment, Professional, Scientific, Technical Services 2006-2016, Place-of-Work, Hamilton (Census Division)



Source: 2006 Census; 2011 National Household Survey; 2016 Census

TABLE 5. Percentage Change in Professional, Scientific, Technical Services, 2006 to 2016, Place-of-Work, Ontario vs Hamilton (Census Division)

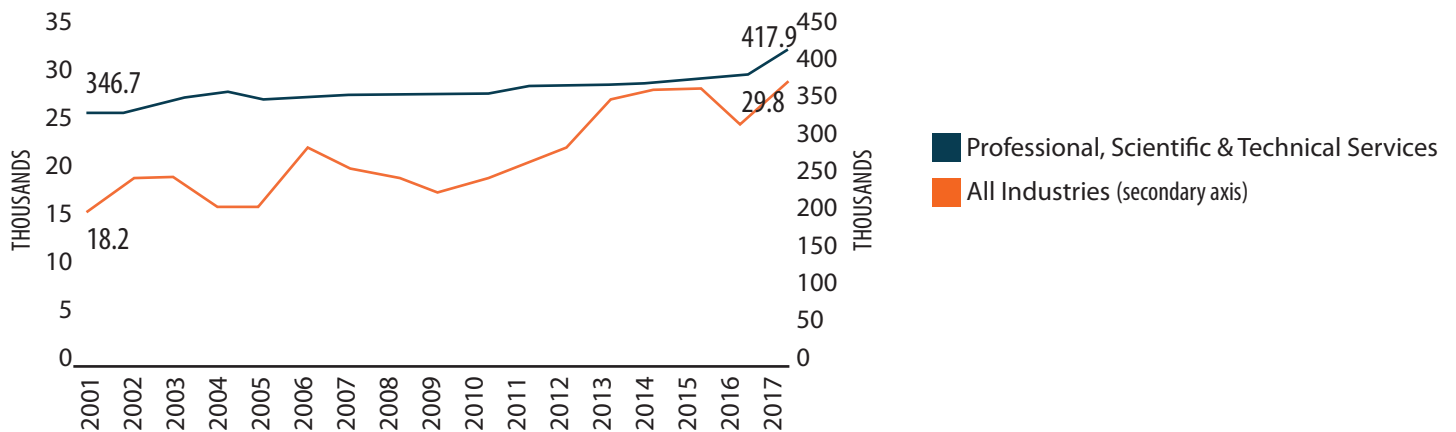


Source: 2006 Census; 2011 National Household Survey; 2016 Census

Long-term Trends in Employment

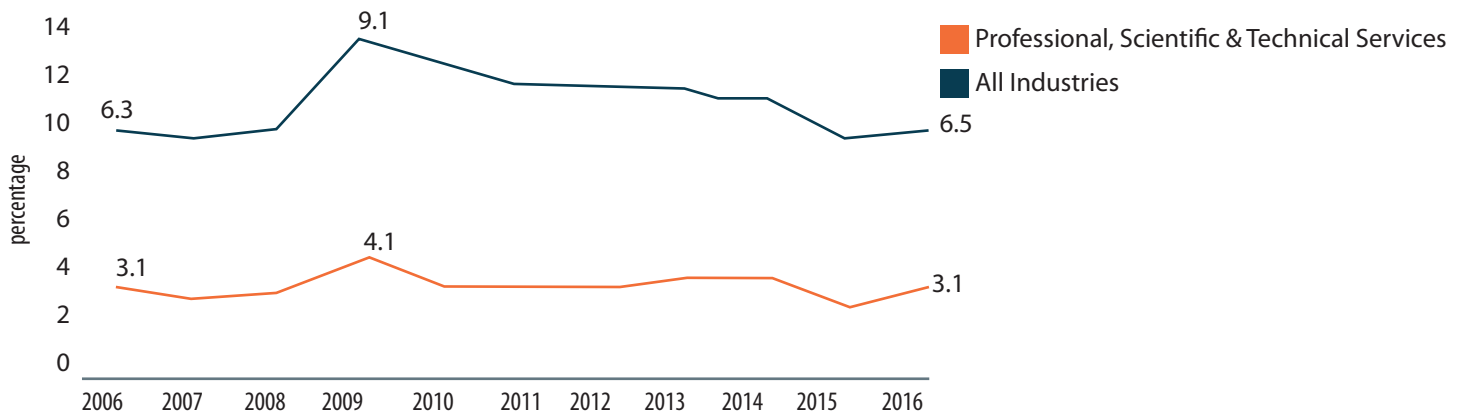
The following two tables use Labour Force Survey (LFS) data. Using LFS you are able to see long term trends and identify any annual fluctuations. Combining data sources gives a more complete picture. It should be noted that LFS uses Hamilton Census Metropolitan Area as the geography which includes Burlington and Grimsby. The Census uses Hamilton Census Division which excludes these two cities. This means employment numbers will be slightly higher using LFS data.

TABLE 6. Total Employment, Professional, Scientific, Technical Services 2001 to 2017, Hamilton (Census Metropolitan Area)



Source: Labour Force Survey

TABLE 7. Unemployment Rate in Professional, Scientific, Technical Services, 2006 to 2016, Ontario



Source: Labour Force Survey

Note: This data was only available for Ontario. The industrial make-up of Ontario and Hamilton is similar. So this still gives useful information to understand the trends in the industry.

Future Trends

The following table uses EMSI Analyst data. This is used to provide a forecast for the sector. It uses Hamilton Census Division data, similar to the Census data.

TABLE 8. Future Employment in Professional, Scientific, Technical Services, 2018 to 2023, Place-of-Work, Hamilton (Census Division)

Region	2018 Jobs	2023 Jobs	Change	% Change
Hamilton	13,654	14,515	861	6.3%
Ontario	585,996	630,980	44,984	7.7%
Canada	1,355,415	1,446,380	90,965	6.7%

Source: EMSI Analyst

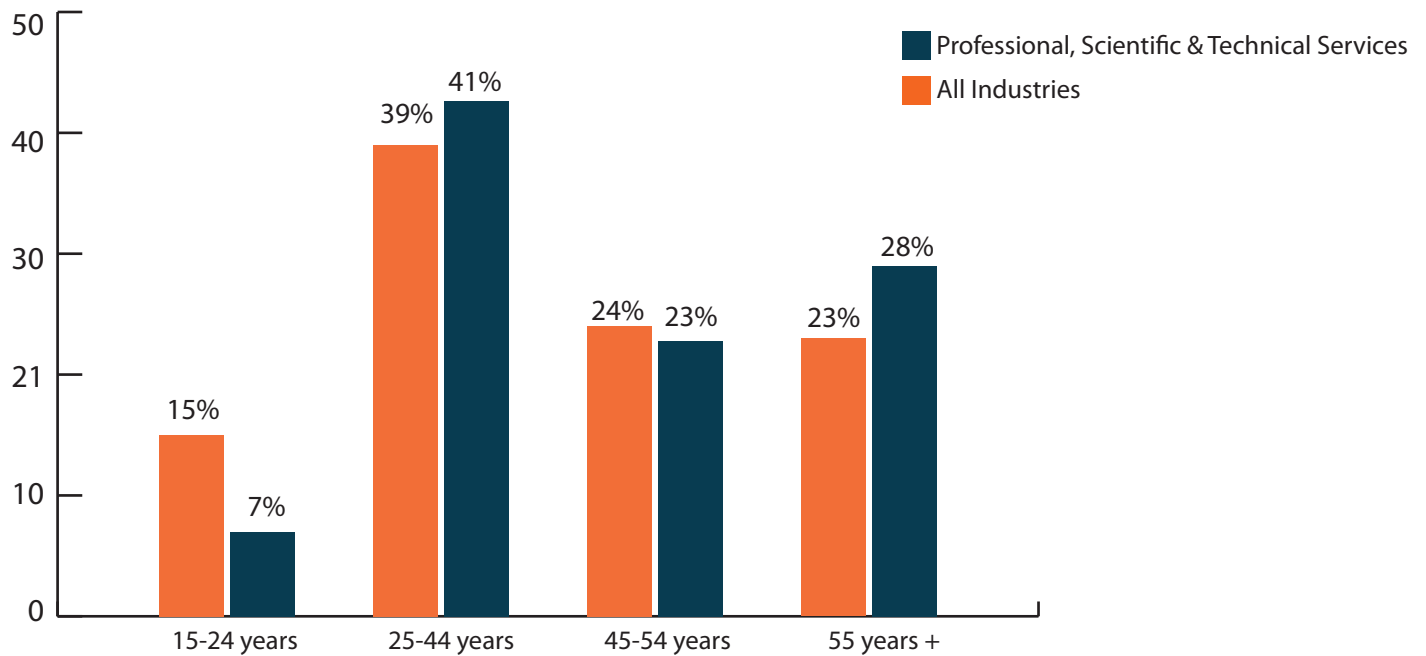
Summary

- From 2006 to 2016 Professional, scientific, and technical services saw strong growth in employment increasing by 1,920 workers (21%)
- Over the last five years Professional, scientific and technical services growth in employment slowed. The industry grew the fastest from 2006 to 2011, growing by 16%. From 2011 to 2016 the sector grew by only 5% locally, slower than the rate seen across Ontario at 12%
- The unemployment rate in Professional, scientific, and technical services has remained consistently low over the last 10 years. In 2015 it reached its lowest point at 2.5%
- The industry is expected to continue to see strong growth locally. It is forecast to grow by 6.3% from 2018 to 2023

Section 3: Workforce Characteristics

Age

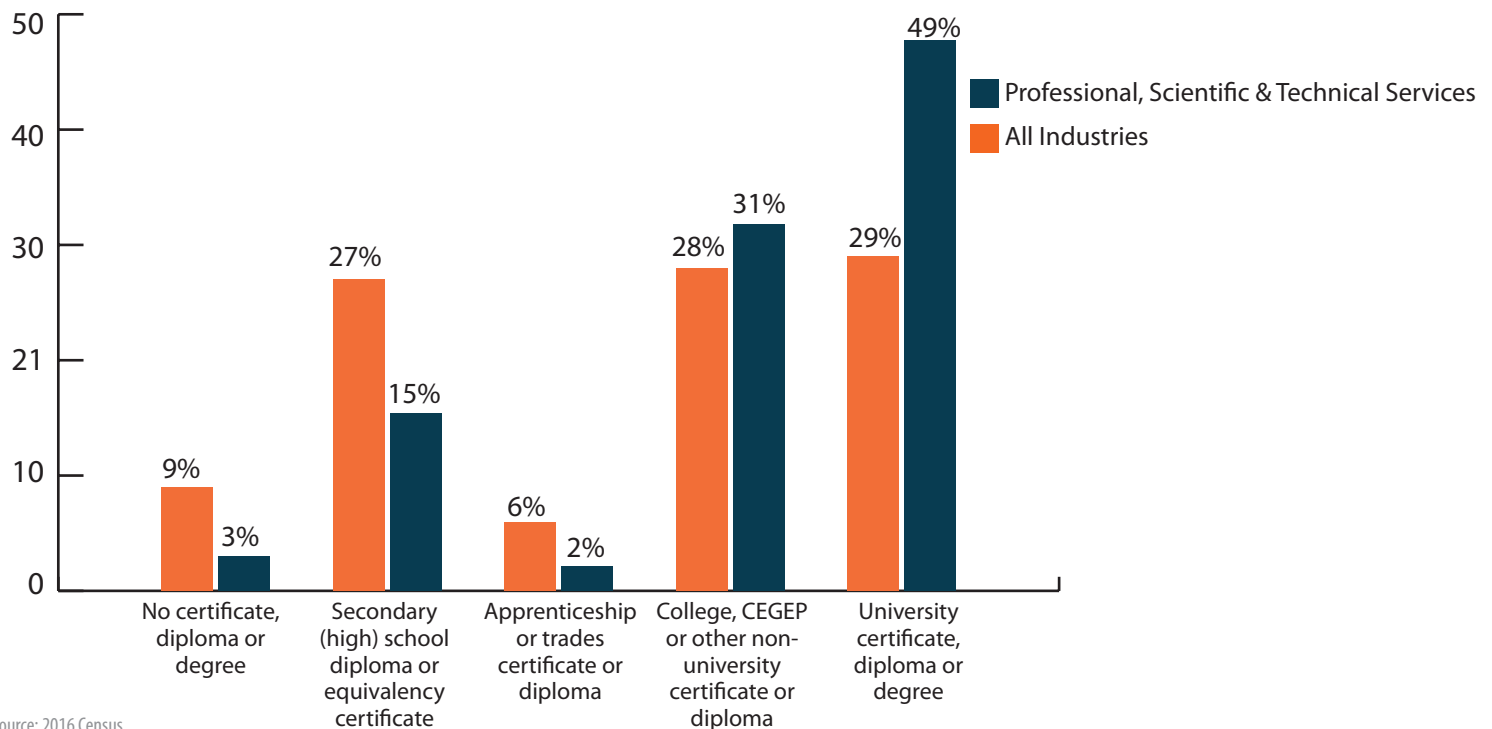
TABLE 9. Age Breakdown, Professional, Scientific and Technical Services vs All Industries, 2016, Place-of-Work, Hamilton (Census Division)



Source: 2016 Census

Education

TABLE 10. Educational breakdown, Professional, Scientific and Technical Services vs All Industries, 2016, Place-of-Work, Hamilton (Census Division)



Source: 2016 Census

Skill Level

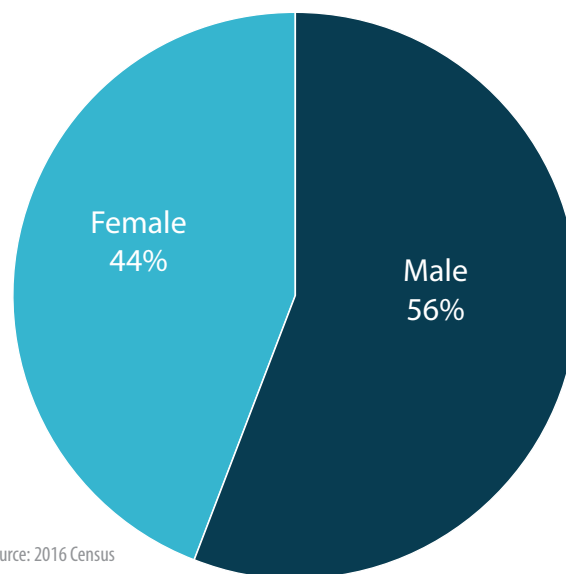
TABLE 11. Occupations by Skill Level, 2006 to 2016, Place-of-Work, Hamilton (Census Division)

Skill Level	Professional, Scientific, and Technical Services			All Industries (2016)
	2006	2011	2016	
A – Occupations usually require university education	49%	49%	50%	30%
B – Occupations usually require college education or apprenticeship training	35%	38%	37%	30%
C – Occupations usually require secondary school and/or occupation-specific training	15%	11%	12%	27%
D – On-the-job training is usually provided for occupations	2%	1%	1%	13%

Source: 2006 Census; 2011 National Household Survey; 2016 Census

Gender

TABLE 12. Employment by Gender in Professional, Scientific and Technical Services, 2016, Hamilton (Census Division)



Source: 2016 Census

Summary

- Professional, scientific and technical services has a slightly older workforce. Twenty-eight percent of workers are older than 55 compared to only 23% for all industries. Likewise only 7% are between the ages of 15 to 24, well below the average seen for all industries at 15%
- Professional, scientific and technical services has a highly skilled workforce as nearly half (49%) have a university level education. This matches the share of jobs with skill level A (50%)
- There have not been major changes to the skill level composition of the industry. The only change is skill level C which decreased slightly from 15% in 2006 to 12% in 2016
- There are slightly more males (56%) than females (44%) that work in Professional, scientific and technical services

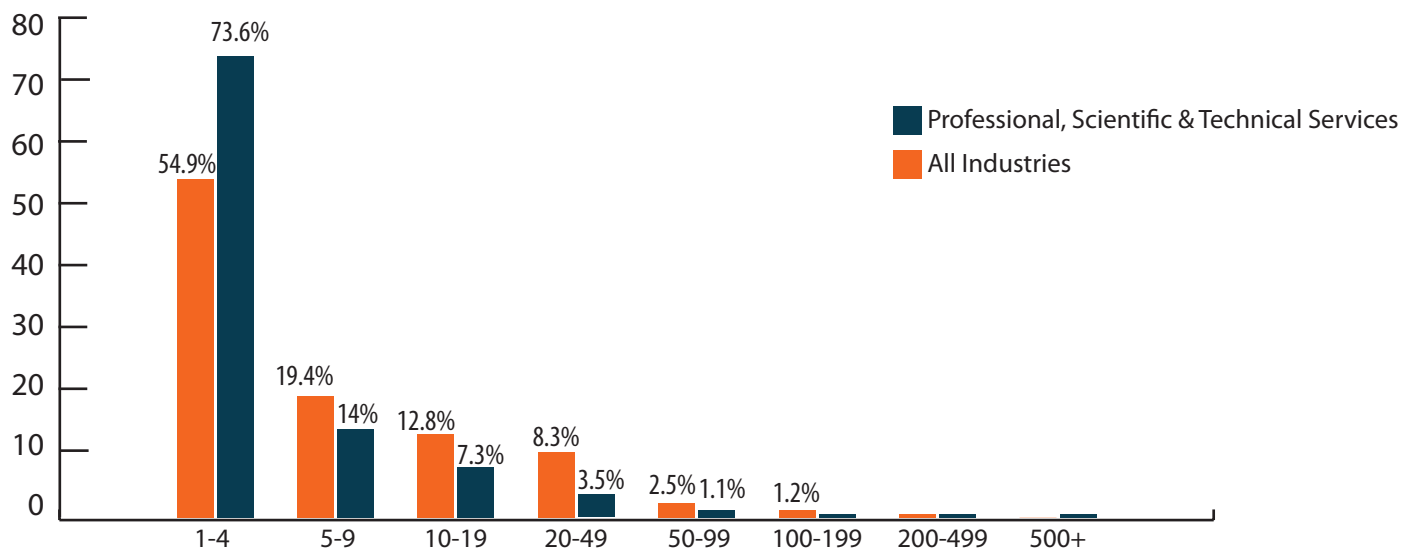
Section 4: Businesses Information

TABLE 13. Numbers of Employers by Employee Size Range, Professional, Scientific, Technical Services vs All Industries, 2017 December, Hamilton (Census Division)

	All Industries	541 - Professional, scientific and technical services
Total Businesses	47,819	4,798
Without employees	32,645	3,330
Total with employees	15,174	1,468

Source: Canadian Business Counts Data

TABLE 14. Share of Employers by Employee Size Range, Professional, Scientific, Technical Services vs. All Industries, 2017 December, Hamilton (Census Division)



Source: Canadian Business Counts Data

Summary

- There are 4,798 Professional, scientific and technical services businesses in Hamilton. The majority are self-employed (69%)
- Professional, scientific, and technical services is dominated by small businesses. Seventy-four percent of businesses with employees employ between 1-4 people, which is above the share seen across industries, 55%. In fact, 80% of businesses have less than 10 people

Section 5: Occupational Information

TABLE 15. Top 20 Occupations in Professional, Scientific, Technical Services, 2016, Place-of-Work, Hamilton (Census Division)

Occupations	# of People Employed	Change from 2011 to 2016	% Change from 2011 to 2016	Unemployment Rate (%)	Median Income (\$)
4112 Lawyers and Quebec notaries	810	0	0%	8.8	43,348
1111 Financial auditors and accountants	630	70	13%	1.1	76,817
1242 Legal administrative assistants	520	-40	-7%	2.1	67,322
1311 Accounting technicians and bookkeepers	460	15	3%	3.7	50,314
4211 Paralegal and related occupations	360	-45	-11%	4.3	65,352
5241 Graphic designers and illustrators	330	0	0%	2.2	101,218
2174 Computer programmers and interactive media developers	320	95	42%	4.9	86,416
1122 Professional occupations in business management consulting	300	115	62%	2.6	44,494
1221 Administrative officers	290	80	38%	3.6	80,296
2171 Information systems analysts and consultants	280	-70	-20%	2.8	42,924
1431 Accounting and related clerks	270	35	15%	1.6	109,859
0013 Senior managers - financial, communications and other business services	260	55	27%	6.5	43,809
1241 Administrative assistants	240	-5	-2%	3.6	59,021
2131 Civil engineers	220	40	22%	4	44,844
2132 Mechanical engineers	190	30	19%	3.2	45,916
1411 General office support workers	190	-10	-5%	6.8	19,504
4163 Business development officers and marketing researchers and consultants	180	0	0%	3.9	36,965
6552 Other customer and information services representatives	170	135	386%	2.3	51,469
3213 Animal health technologists and veterinary technicians	170	-15	-8%	5.7	53,429
5221 Photographers	160	-10	-6%	3.8	77,826

Source: 2011 National Household Survey; 2016 Census

Note1: The unemployment rate in Hamilton during 2016 was **7.0%** if you include all workers including persons aged 15 years and over who never worked for pay or self-employment or last worked for pay or self-employment prior to 2015. It is **4.8%** if these workers are not included.

Note2: **Green** indicates increases, and **red** indicates decreases in employment.

TABLE 16. Top 10 Growing Occupations, 2011 to 2016, Place-of-Work, Hamilton (Census Division)

Occupations	2011	2016	Difference	% Change
6552 Other customer and information services representatives	35	170	135	386%
1122 Professional occupations in business management consulting	185	300	115	62%
2174 Computer programmers and interactive media developers	225	320	95	42%
1221 Administrative officers	210	290	80	38%
1111 Financial auditors and accountants	560	630	70	13%
0124 Advertising, marketing and public relations managers	60	120	60	100%
0013 Senior managers - financial, communications and other business services	205	260	55	27%
0125 Other business services managers	10	60	50	500%
0111 Financial managers	45	90	45	100%
1123 Professional occupations in advertising, marketing and public relations	105	150	45	43%

Source: 2011 National Household Survey; 2016 Census | Note: Green indicates increases in employment.

TABLE 17. Top 10 Declining Occupations, 2011 to 2016, Place-of-Work, Hamilton (Census Division)

Occupations	2011	2016	Difference	% Change
0621 Retail and wholesale trade managers	100	0	-100	-100%
2171 Information systems analysts and consultants	350	280	-70	-20%
0711 Construction managers	60	0	-60	-100%
1222 Executive assistants	80	20	-60	-75%
3114 Veterinarians	170	110	-60	-35%
1422 Data entry clerks	85	30	-55	-65%
6411 Sales and account representatives - wholesale trade (non-technical)	155	100	-55	-35%
2281 Computer network technicians	150	100	-50	-33%
4211 Paralegal and related occupations	405	360	-45	-11%
1242 Legal administrative assistants	560	520	-40	-7%

Source: 2011 National Household Survey; 2016 Census

Note: Red indicates decreases in employment.

TABLE 18. Top 5 Entry Level Jobs (Skill Level C), 2016, Place-of-Work, Hamilton (Census Division)

Occupation	2011	2016	Difference	% Change
1431 Accounting and related clerks	235	270	35	15%
1411 General office support workers	200	190	-10	-5%
6552 Other customer and information services representatives	35	170	135	386%
1414 Receptionists	175	140	-35	-20%
6411 Sales and account representatives - wholesale trade (non-technical)	155	100	-55	-35%

Source: 2011 National Household Survey; 2016 Census | Note: Green indicates increases, and red indicates decreases in employment.

TABLE 19. Top Growing Entry Level Jobs (Skill Level C), 2016, Place-of-Work, Hamilton (Census Division)

Occupations	2011	2016	Change	% Change
6552 Other customer and information services representatives	35	170	135	386%
1431 Accounting and related clerks	235	270	35	15%
1513 Couriers, messengers and door-to-door distributors	0	30	30	N/A
1434 Banking, insurance and other financial clerks	0	20	20	N/A
7522 Public works maintenance equipment operators and related workers	0	20	20	N/A

Source: 2011 National Household Survey; 2016 Census

Note: Green indicates increases in employment.

TABLE 20. Top Declining Entry Level Jobs (Skill Level C), 2016, Place-of-Work, Hamilton (Census Division)

Occupations	2011	2016	Change	% Change
6411 Sales and account representatives - wholesale trade (non-technical)	155	100	-55	-35%
1422 Data entry clerks	85	30	-55	-65%
1414 Receptionists	175	140	-35	-20%
6541 Security guards and related security service occupations	40	10	-30	-75%
1432 Payroll administrators	35	20	-15	-43%

Source: 2011 National Household Survey; 2016 Census

Note: Red indicates decreases in employment.

Summary

- Table 15 shows the most employed occupations in Professional, scientific, and technical services. Most occupations show growth in employment from 2011 to 2016 and have low unemployment rates
- Lawyers is the most employed occupation in the industry with 810 workers, followed by Financial auditors and accountants with 630 workers
- Table 16 and 17 show the top growing and declining occupations. The occupations that grew the most are Other customer and information services representatives, 135 workers (386%), and Professional occupations in business management consulting, 155 workers (62%)
- Tables 18 to 20 highlight entry level positions. The top growing entry level occupations are Service representatives and other customer and personal services occupations, 135 workers (386%), and Distribution, tracking and scheduling co-ordination occupations, 35 workers (15%)
- The entry level jobs that are declining are Sales and account representatives - wholesale trade (non-technical), and Data entry clerks, both declining by 55 workers from 2011 to 2016

Section 6: Job Postings

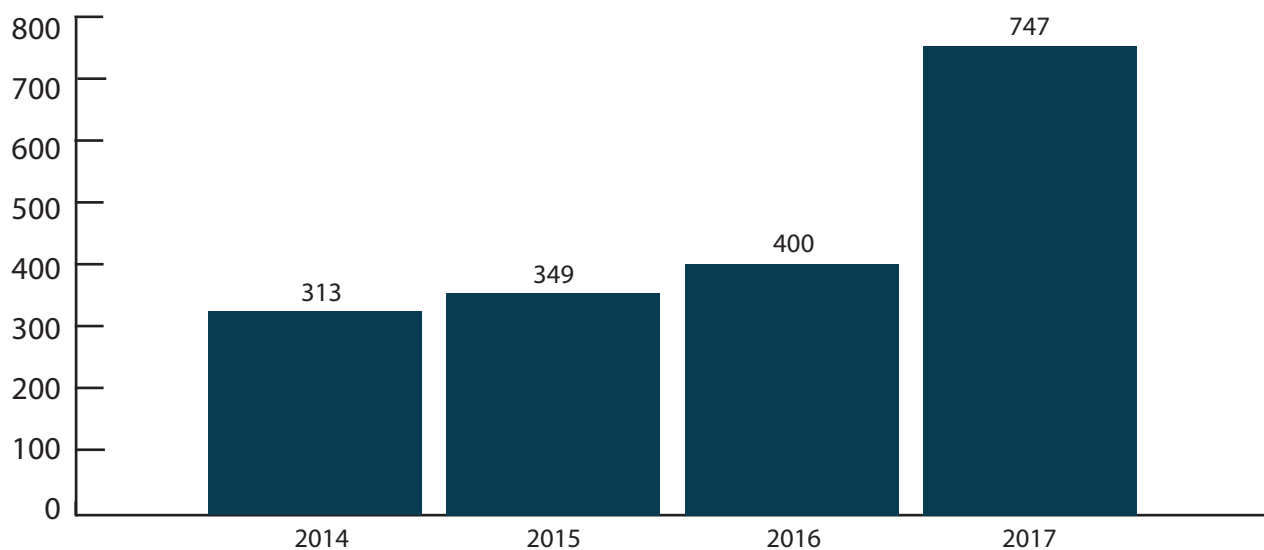
TABLE 21. Top 10 Job Postings in Professional, Scientific, Technical Services, 2017, Hamilton (Census Division)

Occupations	Job Postings
6235 - Financial sales representatives	151
1000 - Business, finance and administration (unidentified sub-category)	96
6552 - Other customer and information services representatives	56
6000 - Sales and service (unidentified sub-category)	42
0601 - Corporate sales managers	25
0621 - Retail and wholesale trade managers	19
1111 - Financial auditors and accountants	18
6623 - Other sales related occupations	17
0111 - Financial managers	11
0125 - Other business services managers	11

Source: Vicinity Data

Note: The following list does not include all job postings available in Professional, Scientific and Technical Services. Many postings do not list the industry therefore the program (Vicinity Data) is not able to account for these postings.

TABLE 22. Job Postings in Professional, Scientific, Technical Services, 2014-2017, Vicinity Jobs



Source: Vicinity Jobs

Summary

- Financial sales representatives had the most job postings in the industry, 151 postings. This is followed by Business, finance and administration with 96 postings
- The number of postings in Professional, scientific, and technical services has increased every year since 2014. In 2017 the postings nearly doubled. This is in line with the growth seen in the local economy in 2017