

## Service bulletin

# Surveying and Mapping Services

2012



### Highlights

- Operating revenues in the surveying and mapping industry increased by 11.9% to \$3.0 billion in 2012. This was the best performance in the industry since its previous peak of \$2.9 billion in 2008.
- The operating expenses grew 12.0% in 2012, while the operating profit margin decreased slightly to 12.5%.
- More than half (53.9%) of the industry's operating revenues were generated in Alberta, followed by Ontario (13.3%), Quebec (11.4%) and British Columbia (10.0%).
- Among these four provinces, Alberta's operating revenues grew by 17.8%. In addition, British Columbia's revenues increased by 3.8%, a much lower rate than the 17.9% recorded in 2011. Quebec's revenues increased by 1.5%. Ontario reported a decline in revenues (-2.8%).
- In 2012, the share of industry sales derived from surveying and mapping of the earth's surface accounted for 48.4% of total industry sales. Geophysical surveying services characterized by locating and measuring the extent of sub-surface resources, accounted for 44.4% of the industry's sales in 2012. Sales from the provision of other goods and services, which includes Geographic Information System (GIS) development and customization, represented the remaining sales (7.2%).

## Statistical tables

Table 1

Summary statistics for the surveying and mapping services industry, by province and territory, 2010 to 2012

	Operating revenue	Operating expenses	Salaries, wages and benefits	Operating profit margin
	millions of dollars			percent
2012 <sup>p</sup>				
Newfoundland and Labrador	F	F	F	F
Prince Edward Island	x	x	x	x
Nova Scotia	32.1	26.3	12.5	18.1
New Brunswick	13.5	11.4	5.6	15.3
Quebec	339.8	274.1	146.5	19.3
Ontario	394.7	362.7	175.9	8.1
Manitoba	35.2	28.8	11.6	18.1
Saskatchewan	143.9	114.7	57.3	20.3
Alberta	1,603.6	1,430.0	587.2	10.8
British Columbia	295.9	246.6	107.5	16.7
Territories <sup>1</sup>	x	x	x	x
<b>Canada</b>	2,972.6	2,600.4	1,147.6	12.5
2011 <sup>r</sup>				
Newfoundland and Labrador	37.6	31.0	15.7	17.7
Prince Edward Island	x	x	x	x
Nova Scotia	37.7	33.9	13.8	10.0
New Brunswick	13.6	11.8	6.5	13.0
Quebec	334.7	268.2	141.3	19.9
Ontario	406.0	356.7	170.7	12.1
Manitoba	33.5	27.7	9.7	17.2
Saskatchewan	117.8	97.0	46.0	17.6
Alberta	1,360.8	1,235.4	511.4	9.2
British Columbia	285.2	233.4	99.7	18.2
Territories <sup>1</sup>	x	x	x	x
<b>Canada</b>	2,655.3	2,320.9	1,027.0	12.6
2010 <sup>r</sup>				
Newfoundland and Labrador	39.7	33.0	18.7	16.8
Prince Edward Island	x	x	x	x
Nova Scotia	44.5	42.0	17.7	5.5
New Brunswick	14.0	12.6	7.0	9.7
Quebec	329.4	264.5	133.7	19.7
Ontario	369.6	346.5	165.9	6.3
Manitoba	28.2	24.3	9.7	13.7
Saskatchewan	90.7	79.0	37.5	12.9
Alberta	1,103.6	1,147.1	436.1	-3.9
British Columbia	241.9	204.7	94.5	15.4
Territories <sup>1</sup>	x	x	x	x
<b>Canada</b>	2,291.0	2,178.7	932.9	4.9

1. Territories include: Yukon, Northwest Territories and Nunavut.

**Note(s):** The results in this table are for firms classified under the North American Industry Classification System (NAICS) categories 541360 and 541370. See "Data sources, definitions and methodology" at the end of tables for definition of terms. Due to rounding, components may not add to total. Scaling may also affect the calculation of ratios.

**Table 2**  
**Detailed expenditures as a percentage of total operating expenses for the surveying and mapping services industry, Canada, 2010 to 2012**

	2010 <sup>r</sup>	2011 <sup>r</sup>	2012 <sup>p</sup>
	percent		
Total operating expenses	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Salaries, wages and benefits of employees	43.3	44.8	44.3
Commissions paid to non-employees	F	x	F
Professional and business services fees	2.3	2.5	2.2
Subcontract expenses	4.6	5.7	8.3
Charges for services provided by head offices	1.3	1.4	1.2
Cost of goods sold	11.2	13.4	12.6
Office supplies	1.6	1.5	1.2
Rental and leasing	5.3	4.9	5.5
Repair and maintenance	3.8	3.8	4.0
Insurance	1.1	1.1	F
Advertising, marketing and promotions	F	1.0	F
Travel, meals and entertainment	2.4	3.1	2.9
Utilities and telecommunications expenses	1.2	1.1	1.0
Property and business taxes, licences and permits	F	F	F
Royalties, rights, licensing and franchise fees	F	x	F
Delivery, warehousing, postage and courier	F	F	F
Financial services fees	F	F	F
Amortization and depreciation of tangible and intangible assets	12.5	8.5	9.3
Bad debts	F	F	F
All other expenses	6.5	5.5	3.9

**Note(s):** The results in this table are for firms classified under the North American Industry Classification System (NAICS) categories 541360 and 541370. Data presented in this table are from the surveyed portion only. The survey portion excludes the smallest firms in terms of revenues earned. These firms account for a relatively small portion of total industry revenues and are not included in the estimates of this table. See "Data sources, definitions and methodology" at the end of tables for definition of terms. Due to rounding, components may not add to total. Scaling may also affect the calculation of ratios.

**Table 3**  
**Sales by type of client for the surveying and mapping services industry, Canada, 2010 to 2012**

	percent
<b>Clients in Canada</b>	
2012 <sup>p</sup>	93.2
2011 <sup>r</sup>	92.0
2010 <sup>r</sup>	90.0
Individuals and households	
2012 <sup>p</sup>	8.2
2011 <sup>r</sup>	8.5
2010 <sup>r</sup>	9.5
Governments, not-for-profit organizations and public institutions	
2012 <sup>p</sup>	7.6
2011 <sup>r</sup>	8.0
2010 <sup>r</sup>	7.8
Business sector	
2012 <sup>p</sup>	77.3
2011 <sup>r</sup>	75.6
2010 <sup>r</sup>	72.7
<b>Clients outside Canada</b>	
2012 <sup>p</sup>	6.8
2011 <sup>r</sup>	8.0
2010 <sup>r</sup>	10.0

**Note(s):** The results in this table are for firms classified under the North American Industry Classification System (NAICS) categories 541360 and 541370. Data presented in this table are from the surveyed portion only. The survey portion excludes the smallest firms in terms of revenues earned. These firms account for a relatively small portion of total industry revenues and are not included in the estimates of this table. See "Data sources, definitions and methodology" at the end of tables for definition of terms. Due to rounding, components may not add to total. Scaling may also affect the calculation of ratios.

**Table 4**  
**Sales by type of goods and services for the surveying and mapping services industry, 2010 to 2012**

	2010 <sup>r</sup>	2011 <sup>r</sup>	2012 <sup>p</sup>
	percent		
<b>Geophysical surveying and mapping services</b>	<b>37.1</b>	<b>41.0</b>	<b>44.4</b>
Geophysical services and geophysical borehole logging surveys	30.1	34.4	36.7
Geophysical data sales	7.0	6.5	7.6
<b>Non-geophysical surveying and mapping services</b>	<b>57.4</b>	<b>51.3</b>	<b>48.4</b>
Geospatial photo, image and data acquisition, processing and interpretation	6.1	5.9	5.1
Topographic, planimetric, hydrographic and bathymetric surveying and mapping services	10.8	11.4	9.3
Boundary, property line and cadastral surveying and mapping, subdivision layout and design and construction surveying	35.4	31.7	31.4
Geodetic surveying, ground control support, thematic and orthophoto mapping and aeronautical and nautical charting	5.2	2.4	2.6
<b>Other goods and services</b>	<b>5.5</b>	<b>7.7</b>	<b>7.2</b>
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

**Note(s):** The results in this table are for firms classified under the North American Industry Classification System (NAICS) categories 541360 and 541370. Data presented in this table are from the surveyed portion only. The survey portion excludes the smallest firms in terms of revenues earned. These firms account for a relatively small portion of total industry revenues and are not included in the estimates of this table. See "Data sources, definitions and methodology" at the end of tables for definition of terms. Due to rounding, components may not add to total. Scaling may also affect the calculation of ratios.

## Data sources, definitions and methodology

### Description

This annual sample survey collects data required to produce economic statistics for the Surveying and Mapping Services industry in Canada.

Data collected from businesses are aggregated with information from other sources to produce official estimates of national and provincial economic production for this industry.

Survey estimates are made available to businesses, governments, investors, associations, and the public. The data are used to monitor industry growth, measure performance, and make comparisons to other data sources to better understand this industry.

### Target population

The target population consists of all establishments classified to the Surveying and Mapping Services industry (NAICS 541360 and 541370) according to the North American Industry Classification System (NAICS) during the reference year. This industry comprises establishments primarily engaged in gathering, interpreting and mapping geophysical data. These establishments often specialize in locating and measuring the extent of subsurface resources such as oil, gas and minerals. These establishments are also engaged in providing surveying and mapping services of the surface of the earth, including sea floor.

### Industry structure

Under the North American Industrial Classification System (NAICS), the Surveying and Mapping Services industry consists of Geophysical Surveying and Mapping Services (541360) and Surveying and Mapping (except Geophysical) Services (541370).

### **Geophysical surveying and mapping services – 541360**

This industry group comprises establishments primarily engaged in gathering, interpreting and mapping geophysical data. These establishments often specialize in locating and measuring the extent of subsurface resources, such as oil, gas and minerals, but they may also conduct surveys for engineering purposes. A variety of surveying techniques are used, including seismic, magnetic, gravity, electrical and electromagnetic, radioactive and remote sensing, depending on the purpose of the survey.

### **Surveying and mapping (except geophysical) services – 541370**

This industry group comprises establishments primarily engaged in providing surveying and mapping services of the surface of the earth, including the sea floor. These services may include surveying and mapping of areas above or below the surface of the earth, such as the creation of view easements or segregating rights in parcels of land by creating underground utility easements. Examples of activities are: cadastral and topographic surveying and mapping services; control surveying services, such as geodesy and Global Positioning System (GPS) surveying; cartographic surveying services, including photogrammetric mapping; geographic information system (GIS) base mapping and quality control services; and geospatial mapping services.

Data users who wish to learn more about NAICS, its underlying principles, and many of the other statistical concepts discussed in this brief summary, are referred to the Introduction section of the Statistics Canada publication “North American Industry Classification System: Canada 2007” (catalogue no. 12-501-X).

### **Sampling**

This is a sample survey with a cross-sectional design.

The frame is the list of establishments from which the portion eligible for sampling is determined and the sample is taken. The frame provides basic information about each firm including address, industry classification, and information from administrative data sources. The frame is maintained by Statistics Canada's Business Register Division and is updated using administrative data.

The basic objective of the survey is to produce estimates for the whole industry - incorporated and unincorporated businesses. The data come from two different sources: a sample of all businesses with revenue above or equal to a certain threshold (note: the threshold varies between surveys and sometimes between industries and provinces in the same survey) for which either survey or administrative data may be used; and administrative data only for businesses with revenue below the specified threshold. It should be noted that only financial information is available from businesses below the threshold; e.g., revenue, and expenses such as depreciation and salaries, wages and benefits. Detailed characteristics are collected only for surveyed establishments.

Prior to the selection of a random sample, establishments are classified into homogeneous groups (i.e., groups with the same NAICS codes and same province or territory). Quality requirements are targeted, and then each group is divided into sub-groups called strata: take-all, must-take, and take-some.

The take-all stratum represents the largest firms in terms of performance (based on revenue) in an industry. The must-take stratum is comprised of units selected based on complex structural characteristics (multi-establishment, multi-legal, multi-NAICS, or multi-province enterprises). All take-all and must-take firms are selected to the sample. Units in the take-some strata are subject to simple random sampling.

The effective sample size for reference year 2012 was 581 collection entities.

## Definitions

Estimates for the most recent year are preliminary. Preliminary data are subject to revision.

**Operating revenue** excludes investment income, capital gains, extraordinary gains and other non-recurring items.

**Operating expenses** exclude write-offs, capital losses, extraordinary losses, interest on borrowing, and other non-recurring items.

**Operating profit margin** is derived as follows: operating revenue minus operating expenses, expressed as a percentage of operating revenue. The derived figure excludes corporation income tax paid by incorporated businesses and individual income tax paid by unincorporated businesses. For unincorporated businesses, operating profit margin includes unpaid remuneration to partners and proprietors, which is not recorded as salaries, wages and benefits. Therefore the profit estimate will be higher in industries where unincorporated proprietorships and partnerships are significant contributors.

**Salaries, wages and benefits** include vacation pay and commissions for all employees for whom a T4 slip was completed. This category also includes the employer portion of employee benefits for items such as Canada/Québec Pension Plan or Employment Insurance premiums. Salaries and wages do not include working owners' dividends nor do they include the remuneration of owners of unincorporated business. Therefore the relative level of salaries, wages and benefits will be lower in industries where unincorporated businesses are significant contributors.

## Quality evaluation

Prior to dissemination, combined survey results are analyzed for comparability; in general, this includes a detailed review of individual responses (especially for the largest companies), general economic conditions, historic trends, and comparisons with other data sources.

## Disclosure control

Statistics Canada is prohibited by law from releasing any information it collects which could identify any person, business, or organization, unless consent has been given by the respondent or as permitted by the Statistics Act. Various confidentiality rules are applied to all data that are released or published to prevent the publication or disclosure of any information deemed confidential. If necessary, data are suppressed to prevent direct or residual disclosure of identifiable data.

## Data accuracy

Of the units contributing to the estimate, the (weighted) response rate was 90.1%. CVs were calculated for each estimate and are available upon request.

## Related products

### Selected CANSIM tables from Statistics Canada

360-0006	Surveying and mapping services, summary statistics, by North American Industry Classification System (NAICS), annual (75 series)
360-0016	Surveying and mapping services, operating expenses, by North American Industry Classification System (NAICS), annual (percent) (21 series)
360-0017	Surveying and mapping services, sales by type of client based on the North American Industry Classification System (NAICS), annual (percent) (5 series)

### Survey(s)

Definitions, data sources and methods: survey number 4715 - Annual Survey of Service Industries: Surveying and Mapping

Release date: December 2013

#### Symbols

The following standard symbols are used in Statistics Canada publications:

.	not available for any reference period
..	not available for a specific reference period
...	not applicable
0	true zero or a value rounded to zero
0 <sup>s</sup>	value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded
P	preliminary
r	revised
x	suppressed to meet the confidentiality requirements of the <i>Statistics Act</i>
E	use with caution
F	too unreliable to be published
*	significantly different from reference category ( $p < 0.05$ )

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