

Spending on research and development, 2015 (intentions)

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Canada's gross domestic expenditures on research and development (GERD) are expected to decline for a third consecutive year, down 0.7% from 2014 to \$31.6 billion in 2015.

Table 1
Research and development spending intentions, by performing sector

	2014	2015	2014 to 2015
	millions of dollars		% change
Total, performing sectors	31,825	31,604	-0.7
Business enterprises	15,877	15,462	-2.6
Higher education	12,860	12,988	1.0
Federal government	2,602	2,679	3.0
Provincial governments and provincial research organizations	326	317	-2.8
Private non-profit	160	158	-1.2

Note(s): Components may not add up to totals because of rounding.

Source(s): CANSIM table [358-0001](#).

Performing sectors decrease their spending on research and development

In 2015, all performing sectors anticipate declines in research and development (R&D) spending, except for the higher education and federal government sectors, which expect to increase their R&D expenditures. The business enterprise sector is forecast to spend \$15.5 billion on R&D, down 2.6% from the previous year. This sector has historically been the largest performing sector of GERD. Although the sector is expected to account for 48.9% of GERD in 2015, it has recorded annual declines in R&D expenditures in recent years.

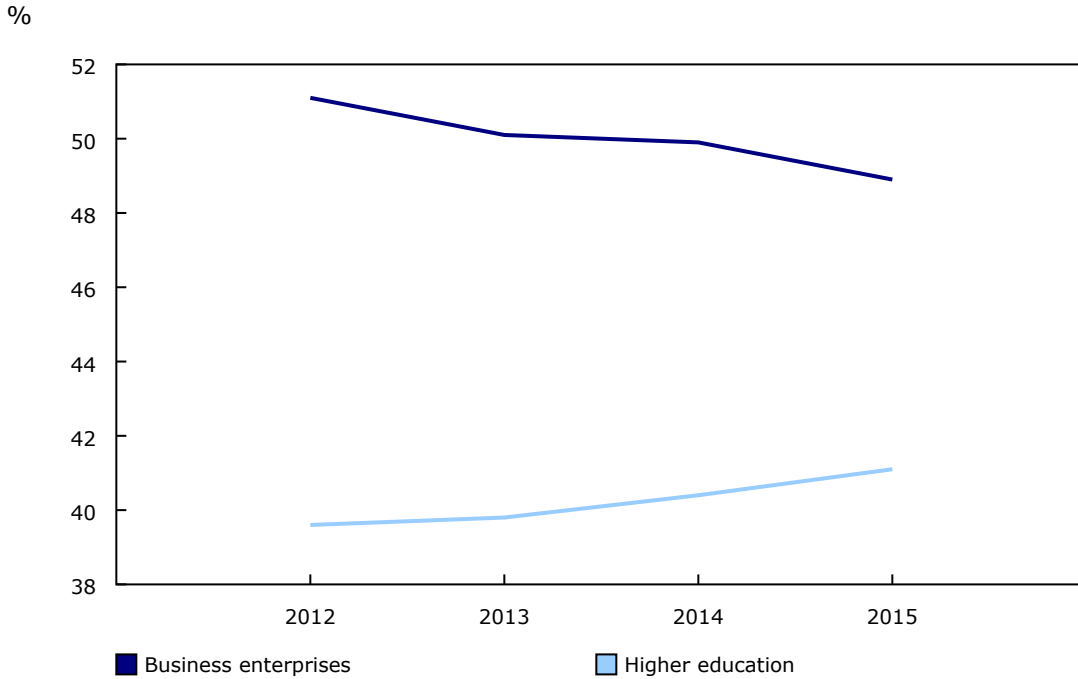
The higher education sector—the second largest GERD performing sector—anticipates spending \$13.0 billion in R&D, up 1.0% from 2014. In 2015, this sector is expected to account for 41.1% of GERD among performing sectors.

Overall, the business enterprise and higher education sectors are expected to perform 90.0% of R&D expenditures in 2015.

The federal government sector expects to increase its R&D spending by 3.0% to \$2.7 billion.



Chart 1
R&D¹ expenditures by the two largest performing sectors as a percentage of GERD²



1. Research and development.
2. Gross domestic expenditures on research and development.
Source(s): CANSIM table [358-0001](#).

Research and development expenditures by funding sector

The business enterprise sector is expected to decrease its R&D funding by 2.8% from 2014 to \$14.0 billion in 2015. Despite the decrease in funding, the sector remains the largest funder of R&D in Canada, accounting for 44.4% of total R&D funding.

The next largest funding sectors, higher education and federal government, are anticipated to represent 20.2% and 19.6% of total R&D funding in 2015 respectively.

The higher education sector is expected to increase R&D funding by 1.0% to \$6.4 billion, while the federal government sector anticipates an increase of 1.8% to \$6.2 billion.

Table 2
Research and development spending intentions, by funding sector

	2014	2015	2014 to 2015
	millions of dollars		% change
Total, funding sectors	31,825	31,604	-0.7
Business enterprises	14,445	14,042	-2.8
Higher education	6,311	6,374	1.0
Federal government	6,087	6,199	1.8
Foreign	1,914	1,907	-0.4
Provincial governments and provincial research organizations	1,889	1,891	0.1
Private non-profit	1,180	1,191	0.9

Note(s): Components may not add up to totals because of rounding.

Source(s): CANSIM table [358-0001](#).

Lower spending on research and development in the natural sciences and engineering field

R&D expenditures in natural sciences and engineering are expected to be \$28.3 billion in 2015, down 0.8% from 2014. This is the third consecutive annual decrease in R&D spending in this science field. The decrease is largely attributable to lower spending by the business enterprise sector. It should be noted that all R&D expenditures in the business enterprise sector—the largest performing R&D sector—are undertaken in the natural sciences and engineering field.

R&D spending in social sciences and humanities are expected to be virtually unchanged at \$3.3 billion in 2015 compared with 2014. More than 90% of R&D expenditures in this science field are performed by the higher education sector.

Ontario leads research and development spending in 2013

Data on the provincial distribution of GERD are only available up to 2013. Ontario spent \$14.1 billion on R&D activities in 2013, representing 44.0% of all R&D expenditures in Canada. The business enterprise sector accounted for 49.7% or \$7.0 billion of expenditures in Ontario, followed by the higher education sector (\$5.3 billion), which represented 37.4% of the province's R&D expenditures.

Quebec again recorded the second largest share of R&D expenditures in 2013, accounting for 26.2% (\$8.4 billion) of R&D expenditures in Canada. The business enterprise sector (\$4.7 billion) and higher education sector (\$3.3 billion) together represented more than 95% of Quebec's R&D spending in 2013.

Alberta spent \$3.6 billion in R&D expenditures in 2013. Over 90% of the expenditures were in the natural sciences and engineering field.

The business enterprise sector was the largest R&D funder in Ontario, Quebec, the western provinces and the territories. The higher education sector funded the most R&D in the Atlantic provinces, except for Prince Edward Island, where the federal government sector was the largest funder.

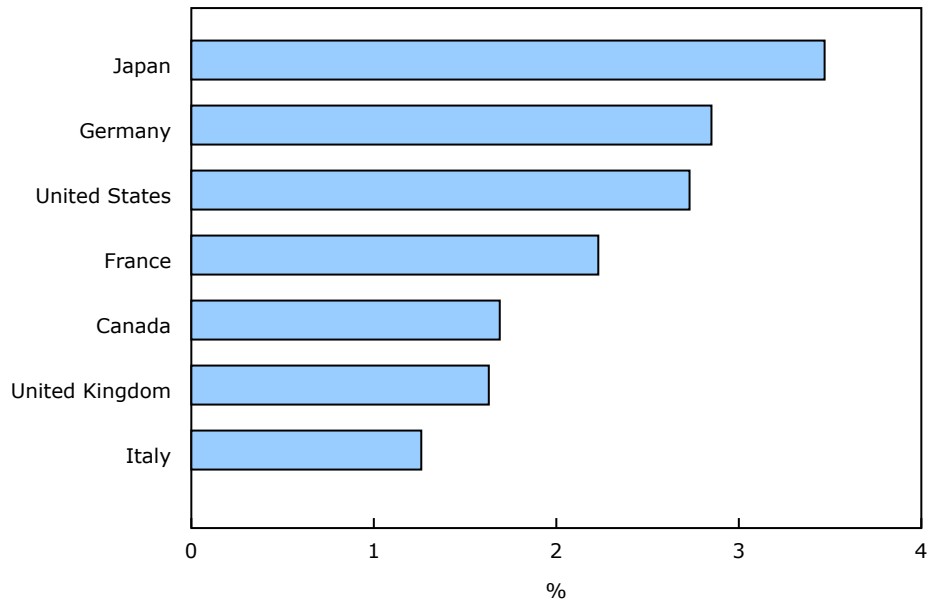
Canada's research and development performance: An international perspective for 2013

Internationally, a country's GERD as a percentage of its gross domestic product (GDP) are considered an indicator of the country's degree of R&D intensity and are a commonly used summary statistic in international comparisons. This statistic is also compared with GERD and GDP per capita as it is influenced by a nation's economic and demographic structure, as well as its propensity to perform R&D in certain sectors.

The Organisation for Economic Co-operation and Development (OECD) publishes international statistics on R&D as part of its Main Science and Technology Indicators. According to the OECD's most recently published data, the OECD average ratio of GERD to GDP in 2013 was 2.36. Israel had the highest ratio at 4.21, followed by South Korea at 4.15 and Japan at 3.47.

In 2013, Canada's ratio of R&D spending as a percentage of GDP was 1.69, down from 1.79 in 2012. Among G7 countries, Canada ranked fifth in 2013, and its ratio of GERD to GDP was lower than in the United States (2.73).

Chart 2
Gross domestic expenditures in R&D¹ as a percentage of GDP,² by G7 country, 2013



1. Research and development.

2. Gross domestic product.

Source(s): Statistics Canada, CANSIM tables [358-0001](#), [380-0064](#) and [380-0102](#); Organisation for Economic Co-operation and Development, Main Science and Technology Indicators, Volume 2015/1.

Note to readers

Data for gross domestic expenditures on research and development (GERD) are available in current and constant dollars for both performing and funding sectors by science type, province, territory and region in CANSIM table 358-0001. Revised time-use coefficients have been applied to Statistic's Canada higher education research and development model, starting with the 2012 reference year. Data from previous years for the higher education sector are not comparable. GERD data prior to 2012 should be used with caution.

GERD data presented in this release are performance based and correspond to the sum of intramural research and development (R&D) expenditures reported by performing sectors. Funding sector data are derived from the source of funds indicated by the performing sectors. As a result, GERD funding sector values will not equal funding data collected and released by individual sectors.

This release on R&D spending presents actual expenditures for 2013, preliminary data for 2014 and intentions data for 2015 at the national level. Data for the provincial government performing sector are currently modelled and based on results from the 2010 Provincial Scientific Activities Survey. However, this release includes 2013 data on R&D activities performed by the provincial government of Quebec, as the province conducted its own survey and provided the information to Statistics Canada. Provincial research organization data are collected through a Statistics Canada survey.

There are six GERD performing sectors in Canada: business enterprises, private non-profit, higher education, federal government, provincial governments and provincial research organizations. The funding sectors are the same as the performing sectors, but also include the foreign sector.

Provincial and territorial expenditures are assigned to the province or territory in which the performing organization is located. Provincial and territorial funding sector expenditures represent R&D funding distributed in a province or territory. The funds do not necessarily originate from within the province.

Available in CANSIM: table [358-0001](#).

Definitions, data sources and methods: survey number [5198](#).

The publication *Gross Domestic Expenditures on Research and Development in Canada (GERD), the Provinces and Territories (88-221-X)* will soon be available. This publication includes national estimates for 2005 to 2015 and provincial estimates for 2009 to 2013.

For more information, or to enquire about the concepts, methods or data quality of this release, contact us (toll-free 1-800-263-1136; 514-283-8300; infostats@statcan.gc.ca) or Media Relations (613-951-4636; mediahotline@statcan.gc.ca).