

Table RD-5

International comparisons of gross domestic expenditures on R&D and R&D share of gross domestic product, by region, country, or economy: 2019 or most recent year

(Millions of U.S. PPP dollars and percent)

Region, country, or economy	GERD (PPP US\$millions)	GERD-to-GDP ratio (percent)
North America		
United States (2019) ^a	668,351.2	3.13
Canada (2019)	30,312.7	1.59
Mexico (2019)	7,407.7	0.28
Central America and Caribbean		
Ecuador (2014)	827.1	0.44
Cuba (2011)	582.7	0.27
South America		
Brazil (2018)	36,315.5	1.16
Argentina (2019)	4,811.5	0.46
Colombia (2019)	2,514.2	0.32
Chile (2018)	1,623.4	0.35
Europe		
Germany (2019)	148,149.8	3.19
France (2019)	73,286.5	2.20
United Kingdom (2019)	56,935.7	1.76
Italy (2019)	39,279.4	1.47
Spain (2019)	24,874.2	1.25
Netherlands (2019)	22,609.4	2.18
Sweden (2019)	19,269.0	3.39
Belgium (2019)	19,938.2	3.17
Switzerland (2017)	18,565.6	3.18
Poland (2019)	17,164.1	1.32
Austria (2019)	16,297.4	3.13
Denmark (2019)	10,216.2	2.91
Czechia (2019)	8,911.2	1.94
Finland (2019)	7,956.4	2.79
Norway (2019)	7,869.4	2.15
Ireland (2019)	5,420.0	1.23
Portugal (2019)	5,303.8	1.40
Hungary (2019)	4,902.5	1.48
Greece (2019)	4,218.3	1.27
Romania (2019)	2,995.1	0.48
Ukraine (2018)	2,514.8	0.47
Slovenia (2019)	1,761.2	2.05
Slovakia (2019)	1,468.6	0.83
Bulgaria (2018)	1,199.8	0.76
Serbia (2018)	1,127.9	0.92
Belarus (2018)	1,108.1	0.60
Croatia (2018)	1,114.0	0.97
Lithuania (2018)	1,078.5	1.00
Luxembourg (2019)	849.5	1.13
Estonia (2019)	830.0	1.61
Iceland (2019)	503.7	2.33
Middle East		
Turkey (2019)	24,243.4	1.06
Israel (2019)	18,740.6	4.93
Saudi Arabia (2013)	13,696.0	0.82

Table RD-5

International comparisons of gross domestic expenditures on R&D and R&D share of gross domestic product, by region, country, or economy: 2019 or most recent year

(Millions of U.S. PPP dollars and percent)

Region, country, or economy	GERD (PPP US\$millions)	GERD-to-GDP ratio (percent)
Iran (2017)	9,736.2	0.83
United Arab Emirates (2018)	8,439.6	1.28
Qatar (2018)	1,369.6	0.51
Africa		
Egypt (2018)	8,289.3	0.72
South Africa (2017)	6,025.6	0.83
Algeria (2017)	2,595.8	0.54
Morocco (2010)	1,485.1	0.71
Nigeria (2007)	829.5	0.13
Tunisia (2018)	766.2	0.60
Kenya (2010)	763.6	0.79
Ethiopia (2017)	590.2	0.27
Tanzania (2013)	531.7	0.51
Central Asia		
Russia (2019)	44,500.5	1.04
Kazakhstan (2018)	558.3	0.12
South Asia		
India (2018)	58,721.4	0.65
Pakistan (2017)	2,245.4	0.24
East and Southeast Asia		
China (2019)	525,693.4	2.23
Japan (2019)	173,267.1	3.20
South Korea (2019)	102,521.4	4.64
Taiwan (2019)	44,014.3	3.49
Thailand (2017)	12,078.4	1.00
Singapore (2018)	10,530.5	1.84
Malaysia (2018)	9,250.0	1.04
Indonesia (2018)	7,051.4	0.23
Vietnam (2017)	3,565.6	0.53
Philippines (2015)	1,150.9	0.16
Australia and Oceania		
Australia (2017)	22,376.2	1.79
New Zealand (2019)	3,159.4	1.41
Selected country groups		
European Union (2019) ^b	440,336.6	2.12
OECD (2019)	1,564,092.2	2.48
G20 countries (2019)	2,227,506.2	2.09

GDP = gross domestic product; GERD = gross domestic expenditure on R&D; G20 = Group of Twenty; OECD = Organisation for Economic Co-operation and Development; PPP = purchasing power parity.

^a Data for U.S. GERD differ slightly from the U.S. total R&D data tabulated earlier in this report. For better consistency with international standards, U.S. GERD includes federal capital funding for federal intramural and nonprofit R&D, in addition to what is reported as U.S. total R&D.

^b Data for the European Union (EU) include the 27 EU member countries.

Note(s):

Year of data is listed in parentheses. Foreign currencies are converted to dollars through PPPs. Countries in this table have an annual GERD of \$500 million or more. Countries are grouped according to the regions described by *The World Factbook* (CIA 2021). Data for Israel are civilian R&D only. See sources below for GERD statistics on additional countries.

Source(s):

National Center for Science and Engineering Statistics, National Patterns of R&D Resources (2019–20 edition); Organisation for Economic Co-operation and Development, *Main Science and Technology Indicators* (September 2021 edition); United Nations Educational, Scientific and Cultural Organization, Institute for Statistics, Science Technology and Innovation data set (March 2021 release).

Science and Engineering Indicators