

Table RD-14

Business expenditures for R&D, by selected countries and top R&D performing industries: 2018 or most recent year

(Millions of U.S. PPP dollars and percent of total business enterprise)

Industry	ISIC, Rev.4		United States (2018)	France (2017)	Germany (2018)	United Kingdom (2018)	China (2018)	Japan (2018)	South Korea (2018)
	Section	Division							
Millions of U.S. PPP dollars									
Total business enterprise	A - U	1 - 99	441,036	42,895	97,872	36,644	360,369	137,230	79,511
Manufacturing	C	10 - 33	274,075	20,869	83,583	14,293	326,664	118,750	70,643
Chemicals and chemical products		20	9,545	1,315	5,692	563	23,941	8,070	4,109
Pharmaceuticals, medicinal chemical and botanical products		21	74,592	1,079	7,094	658	13,741	13,545	1,825
Computer, electronic, and optical products		26	83,697	4,886	11,240	1,692	59,214	26,708	41,075
Motor vehicles, trailers, and semi-trailers		29	25,586	3,124	36,753	4,475	31,040	35,775	9,748
Other transport equipment		30	27,044	3,780	2,753	2,543	9,482	1,219	911
Air and spacecraft and related machinery		303	24,291	3,412	2,317	2,301	NA	792	414
Total services	G - U	45 - 99	164,122	20,823	13,700	21,571	NA	16,448	7,202
Information and communication	J	58 - 63	110,272	5,881	4,891	5,684	NA	5,795	3,552
Publishing activities		58	32,770	1,522	NA	195	NA	15	2,348
Software publishing		582	32,639	1,499	NA	82	NA	NA	2,286
Computer programming, consultancy, and related activities		62	15,923	2,829	4,510	3,206	NA	2,855	476
Professional, scientific, and technical activities	M	69 - 75	28,937	11,087	7,568	11,832	NA	9,069	1,904
Scientific research and development		72	20,185	5,038	4,150	8,284	NA	8,407	796
Percent of total business enterprise									
Total business enterprise	A - U	1 - 99	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Manufacturing	C	10 - 33	62.1	48.7	85.4	39.0	90.6	86.5	88.8
Chemicals and chemical products		20	2.2	3.1	5.8	1.5	6.6	5.9	5.2
Pharmaceuticals, medicinal chemical and botanical products		21	16.9	2.5	7.2	1.8	3.8	9.9	2.3
Computer, electronic, and optical products		26	19.0	11.4	11.5	4.6	16.4	19.5	51.7
Motor vehicles, trailers, and semi-trailers		29	5.8	7.3	37.6	12.2	8.6	26.1	12.3
Other transport equipment		30	6.1	8.8	2.8	6.9	2.6	0.9	1.1
Air and spacecraft and related machinery		303	5.5	8.0	2.4	6.3	NA	0.6	0.5
Total services	G - U	45 - 99	37.2	48.5	14.0	58.9	NA	12.0	9.1
Information and communication	J	58 - 63	25.0	13.7	5.0	15.5	NA	4.2	4.5
Publishing activities		58	7.4	3.5	NA	0.5	NA	0.0	3.0
Software publishing		582	7.4	3.5	NA	0.2	NA	NA	2.9
Computer programming, consultancy, and related activities		62	3.6	6.6	4.6	8.7	NA	2.1	0.6
Professional, scientific, and technical activities	M	69 - 75	6.6	25.8	7.7	32.3	NA	6.6	2.4
Scientific research and development		72	4.6	11.7	4.2	22.6	NA	6.1	1.0

NA = not available.

ISIC, Rev.4 = International Standard Industrial Classification, 4th Revision; PPP = purchasing power parity.

Note(s):

Detail may not add to total because of rounding. Industry classifications for all countries are based on main activity. The U.S. business R&D data are from the U.S. Business Research and Development survey 2018 (crosswalked to the ISIC, Rev.4, classifications). In general, the table includes industries with annual R&D expenditures of \$10 billion or more (i.e., each country's largest R&D performers). See the Organisation for Economic Co-operation and Development's Analytical Business Enterprise Research and Development database for a more detailed set of industries by country.

Source(s):

National Center for Science and Engineering Statistics, Business Research and Development Survey (BRDS); Organisation for Economic Co-operation and Development, Analytical Business Enterprise Research and Development (ANBERD) database, <http://www.oecd.org/sti/inno/anberdanalyticalbusinessenterpriseresearchanddevelopmentdatabase.htm>, accessed 22 December 2021.

Science and Engineering Indicators