

TABLE 30

Foreign R&D paid for by the company and others and performed by the company, by type of R&D and selected industry, and location: 2019

(Millions of U.S. dollars)

Industry and location	NAICS code	Total foreign R&D performance	Research (basic and applied)		Development	
All locations						
All industries	21-23, 31-33, 42-81	104,464		17,066		87,398
Manufacturing industries	31-33	64,351		11,824		52,527
Chemicals	325	18,568		4,650		13,918
Pharmaceuticals and medicines	3254	15,868		4,033		11,835
Computer and electronic products	334	25,452	i	3,132	i	22,320
Semiconductor and other electronic components	3344	13,007	i	1,490	i	11,517
Nonmanufacturing industries	21-23, 42-81	40,113		5,242		34,871
Information	51	19,051		1,614		17,437
Software publishers	5112	6,949		754		6,195
Professional, scientific, and technical services	54	14,790		3,198		11,592
Scientific research and development services	5417	9,006	i	2,449	i	6,558
Africa						
All industries	21-23, 31-33, 42-81	372		63	i	309
Manufacturing industries	31-33	187		58	i	130
Chemicals	325	89		23		67
Pharmaceuticals and medicines	3254	64		17		47
Computer and electronic products	334	3		0 - 4		0 - 4
Semiconductor and other electronic components	3344	*		*		0
Nonmanufacturing industries	21-23, 42-81	184	i	5		179
Information	51	47		2		44
Software publishers	5112	13		1		11
Professional, scientific, and technical services	54	98	i	3		95
Scientific research and development services	5417	85	i	2		83
Asia and Pacific						
All industries	21-23, 31-33, 42-81	32,458		4,504		27,954
Manufacturing industries	31-33	20,057		3,437		16,620
Chemicals	325	3,881		934		2,947
Pharmaceuticals and medicines	3254	3,077		785		2,292
Computer and electronic products	334	9,987		1,259	i	8,727
Semiconductor and other electronic components	3344	5,304		660	i	4,644
Nonmanufacturing industries	21-23, 42-81	12,401		1,067		11,334
Information	51	6,289		528		5,762
Software publishers	5112	2,649		256		2,393
Professional, scientific, and technical services	54	3,740	i	455		3,285
Scientific research and development services	5417	1,856	i	193		1,664
Canada						
All industries	21-23, 31-33, 42-81	6,862		1,200		5,661
Manufacturing industries	31-33	3,610		634		2,975
Chemicals	325	789		169		620
Pharmaceuticals and medicines	3254	684		154		530
Computer and electronic products	334	1,764		254		1,510
Semiconductor and other electronic components	3344	665		47		618
Nonmanufacturing industries	21-23, 42-81	3,252		566		2,686
Information	51	1,877		200		1,677
Software publishers	5112	1,015		102		913
Professional, scientific, and technical services	54	1,003		325		678
Scientific research and development services	5417	491		256		235

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Europe							
All industries	21-23, 31-33, 42-81	48,764		8,298		40,465	
Manufacturing industries	31-33	29,930		6,126		23,804	
Chemicals	325	12,252		3,093		9,160	
Pharmaceuticals and medicines	3254	10,829		2,725		8,104	
Computer and electronic products	334	7,089		1,001	i	6,088	i
Semiconductor and other electronic components	3344	2,660		317	i	2,343	i
Nonmanufacturing industries	21-23, 42-81	18,834		2,172		16,662	i
Information	51	9,063		724		8,339	
Software publishers	5112	2,718		329		2,389	
Professional, scientific, and technical services	54	6,802		1,178		5,624	i
Scientific research and development services	5417	4,941	i	917		4,024	i
Latin America and OWH							
All industries	21-23, 31-33, 42-81	5,407	i	795		4,613	i
Manufacturing industries	31-33	3,613		717		2,896	i
Chemicals	325	1,051		254		798	
Pharmaceuticals and medicines	3254	839		217		622	
Computer and electronic products	334	1,257	i	128	i	1,129	i
Semiconductor and other electronic components	3344	450		68	i	382	i
Nonmanufacturing industries	21-23, 42-81	1,795	i	78		1,717	i
Information	51	354		27		327	
Software publishers	5112	53		0 - 12		41 - 54	
Professional, scientific, and technical services	54	1,241	i	44	i	1,197	i
Scientific research and development services	5417	355	i	11		345	i
Middle East							
All industries	21-23, 31-33, 42-81	6,342		703	i	5,639	i
Manufacturing industries	31-33	4,120		449	i	3,671	i
Chemicals	325	388		132		256	
Pharmaceuticals and medicines	3254	295		116		179	
Computer and electronic products	334	3,091		257	i	2,835	i
Semiconductor and other electronic components	3344	2,207		202	i	2,005	i
Nonmanufacturing industries	21-23, 42-81	2,223		254		1,968	i
Information	51	1,371		128		1,242	
Software publishers	5112	476		57		419	
Professional, scientific, and technical services	54	566		112		454	i
Scientific research and development services	5417	81	i	5		76	i
Puerto Rico ^a							
All industries	21-23, 31-33, 42-81	539	i	73		466	i
Manufacturing industries	31-33	516	i	68		448	i
Chemicals	325	103		42		61	
Pharmaceuticals and medicines	3254	67		15		52	
Computer and electronic products	334	250 - 413	i	0 - 27	i	224 - 387	i
Semiconductor and other electronic components	3344	3		*	i	2	i
Nonmanufacturing industries	21-23, 42-81	23		5		18	i
Information	51	0 - 18		0 - 6	i	0 - 18	i
Software publishers	5112	0 - 6		0 - 6		*	
Professional, scientific, and technical services	54	5 - 24		0 - 6		0 - 19	i

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Scientific research and development services	5417	6	0 - 6	0 - 7 i

* = amount < \$500,000; i = > 50% of the estimate is a combination of imputation and reweighting to account for nonresponse.

NAICS = 2012 North American Industry Classification System; OWH = Other Western Hemisphere.

^a Puerto Rico is not included in the U.S. total due to its classification as a U.S. territory.

Note(s):

Detail within a select location may not add to total because of rounding. Sum of locations do not equal all locations due to the undistributed portion not being published. Industry classification is based on the dominant business code for domestic R&D performance, where available. For companies that did not report business codes, the classification used for sampling was assigned. Beginning in survey year 2018, statistics are representative of companies located in the United States that performed or funded \$50,000 or more of R&D and also performed foreign R&D. This change has affected the comparability of these estimates with estimates published for years prior to 2018. An estimate range may be displayed in place of a single estimate to avoid disclosing operations of individual companies.

Source(s):

National Center for Science and Engineering Statistics and Census Bureau, Business Enterprise Research and Development Survey, 2019.