

TABLE 24

## Foreign R&amp;D paid for by the company and others and performed by the company, by type of R&amp;D and selected industry and location: 2016

(Millions of U.S. dollars)

Industry	NAICS code and location	Total foreign R&D performance	Research (basic and applied)	Development
All locations				
All industries	21-23, 31-33, 42-81	77,146	17,430	59,716
Manufacturing industries	31-33	52,689	12,910	39,779
Chemicals	325	12,313	3,944	8,369
Pharmaceuticals and medicines	3254	9,914	2,984	6,930
Computer and electronic products	334	20,791	5,830	14,961
Semiconductors and other electronic components	3344	10,304	2,118	8,186
Nonmanufacturing industries	21-23, 42-81	24,457	4,520	19,937
Information	51	13,384	1,805	11,580
Software publishers	5112	8,693	1,392	7,301
Professional, scientific, and technical services	54	9,176	2,446	6,730
Scientific research and development services	5417	5,412	1,545	3,867
Africa				
All industries	21-23, 31-33, 42-81	251	33	218
Manufacturing industries	31-33	101	25	76
Chemicals	325	47	19	28
Pharmaceuticals and medicines	3254	35	11	23
Computer and electronic products	334	17	1	16
Semiconductors and other electronic components	3344	5	*	5
Nonmanufacturing industries	21-23, 42-81	150	8	142
Information	51	74	2	72
Software publishers	5112	D	1	D
Professional, scientific, and technical services	54	74	6	68
Scientific research and development services	5417	66	6	61
Asia and Pacific				
All industries	21-23, 31-33, 42-81	23,581	5,018	18,563
Manufacturing industries	31-33	16,240	3,883	12,356
Chemicals	325	2,475	792	1,683
Pharmaceuticals and medicines	3254	1,974	671	1,303
Computer and electronic products	334	8,739	2,365	6,374
Semiconductors and other electronic components	3344	4,923	942	3,981
Nonmanufacturing industries	21-23, 42-81	7,342	1,135	6,207
Information	51	4,224	640	3,584
Software publishers	5112	3,237	551	2,686
Professional, scientific, and technical services	54	2,446	474	1,971
Scientific research and development services	5417	1,411	195	1,216
Canada				
All industries	21-23, 31-33, 42-81	4,734	1,107	3,627
Manufacturing industries	31-33	2,848	699	2,149
Chemicals	325	544	152	392
Pharmaceuticals and medicines	3254	474	124	349
Computer and electronic products	334	1,541	430	1,111
Semiconductors and other electronic components	3344	557	85	472
Nonmanufacturing industries	21-23, 42-81	1,886	407	1,478
Information	51	1,078	118	960
Software publishers	5112	832	79	753
Professional, scientific, and technical services	54	688	268	419
Scientific research and development services	5417	291	199	92
Europe				

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Industry	NAICS code and location	Total foreign R&D performance	Research (basic and applied)	Development
All industries	21-23, 31-33, 42-81	38,500	8,774	29,726
Manufacturing industries	31-33	26,346	6,385	19,961
Chemicals	325	8,313	2,602	5,711
Pharmaceuticals and medicines	3254	6,841	2,007	4,834
Computer and electronic products	334	6,548	1,908	4,640
Semiconductors and other electronic components	3344	2,970	709	2,261
Nonmanufacturing industries	21-23, 42-81	12,153	2,389	9,764
Information	51	6,798	835	5,962
Software publishers	5112	3,853	616	3,237
Professional, scientific, and technical services	54	4,528	1,383	3,145
Scientific research and development services	5417	3,351	1,067	2,285
Latin America and OWH				
All industries	21-23, 31-33, 42-81	3,908	1,080	2,828
Manufacturing industries	31-33	3,348	964	2,384
Chemicals	325	658	271	388
Pharmaceuticals and medicines	3254	409	118	292
Computer and electronic products	334	1,212	421	791
Semiconductors and other electronic components	3344	306	79	226
Nonmanufacturing industries	21-23, 42-81	561	116	445
Information	51	188	14	175
Software publishers	5112	D	D	95
Professional, scientific, and technical services	54	332	98	234
Scientific research and development services	5417	232	63	169
Middle East				
All industries	21-23, 31-33, 42-81	3,886	883	3,003
Manufacturing industries	31-33	2,643	661	1,982
Chemicals	325	158	55	102
Pharmaceuticals and medicines	3254	130	42	87
Computer and electronic products	334	2,203	568	1,635
Semiconductors and other electronic components	3344	1,435	280	1,156
Nonmanufacturing industries	21-23, 42-81	1,243	222	1,021
Information	51	817	126	691
Software publishers	5112	D	D	430
Professional, scientific, and technical services	54	374	68	306
Scientific research and development services	5417	53	12	42
Puerto Rico <sup>a</sup>				
All industries	21-23, 31-33, 42-81	159	55	104
Manufacturing industries	31-33	141	D	D
Chemicals	325	74	45	29
Pharmaceuticals and medicines	3254	32	D	D
Computer and electronic products	334	3	1	3
Semiconductors and other electronic components	3344	3	1	3
Nonmanufacturing industries	21-23, 42-81	18	D	D
Information	51	D	D	D
Software publishers	5112	*	0	*
Professional, scientific, and technical services	54	D	D	*
Scientific research and development services	5417	D	D	*

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\* = amount < \$500,000; D = data withheld to avoid disclosing operations of individual companies; 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.

<sup>a</sup> 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. Statistics are representative of companies located in the United States that performed foreign R&D.

**Source(s)**

National Science Foundation, National Center for Science and Engineering Statistics, and U.S. Census Bureau, Business R&D and Innovation Survey, 2016.