

TABLE 11. Domestic R&D paid for by the company and others and performed by the company, as a percent of domestic net sales, by industry and company size: 2011

Industry and company size	NAICS code	Domestic R&D (US\$millions)	Percent of domestic sales
All industries	21–23, 31–33, 42–81	294,093	3.2
Manufacturing industries	31–33	201,361	3.9
Food	311	4,399	0.8
Beverage and tobacco products	312	D	D
Textile, apparel, and leather products	313–316	634	1.2
Wood products	321	211	0.8
Paper	322	1,346	1.3
Printing and related support activities	323	175	0.7
Petroleum and coal products	324	D	D
Chemicals	325	55,324	4.8
Basic chemicals	3251	D	D
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	798	0.5
Pesticide, fertilizer, and other agricultural chemical	3253	D	D
Pharmaceuticals and medicines	3254	45,949	11.8
Soap, cleaning compound, and toilet preparation	3256	2,477	2.8
Paint, coating, adhesive, and other chemicals	3255, 3259	1,281	1.9
Plastics and rubber products	326	2,280	1.4
Nonmetallic mineral products	327	1,179	2.3
Primary metals	331	655	0.4
Fabricated metal products	332	1,853	1.6
Machinery	333	14,709	3.8
Agricultural implement	33311	1,277	3.6
Semiconductor machinery	333295	2,359	15.3
Engine, turbine, and power transmission equipment	3336	4,292	3.6
Other machinery	other 333	6,781	3.1
Computer and electronic products	334	62,704	9.9
Communications equipment	3342	12,655	11.6
Semiconductor and other electronic components	3344	24,100	16.5
Navigational, measuring, electromedical, and control instruments	3345	16,094	8.4
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	4,379	9.8
Search, detection, navigation, guidance, aeronautical, and nautical systems and instruments	334511	7,935	9.2
Other measuring and controlling device	other 3345	3,781	6.3
Other computer and electronic products	other 334	9,855	5.3
Electrical equipment, appliances, and components	335	3,595	3.3
Transportation equipment	336	40,880	4.8
Motor vehicles, bodies, trailers, and parts	3361, 3362, 3363	D	D
Aerospace products and parts	3364	26,054 i	11.3
Aircraft, aircraft engine, and aircraft parts	336411–13	24,808 i	11.6
Guided missile, space vehicle, and related parts	336414–15, 336419	1,246	7.2
Military armored vehicle, tank, and tank component	336992	30	2.1
Other transportation equipment	other 336	D	D
Furniture and related products	337	319	1.0
Miscellaneous manufacturing	339	D	D
Medical equipment and supplies	3391	6,686	2.2
Other miscellaneous manufacturing	3399	D	D
Nonmanufacturing industries	21–23, 42–81	92,731	2.3
Mining, extraction, and support activities	21	2,733	0.5
Utilities	22	386	0.1
Wholesale trade	42	1,668 i	0.9
Electronic shopping and electronic auctions	454111–12	949 i	2.3
Transportation and warehousing	48–49	81	0.1
Information	51	41,865	4.6
Publishing	511	28,435	9.2
Newspaper, periodical, book, and directory publishers	5111	470	2.9
Software publishers	5112	27,965	9.5

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Telecommunications	517	2,157	0.5
Data processing, hosting, and related services	518	4,285	11.0
Other information	other 51	6,988	6.5
Finance and insurance	52	3,457	0.4
Real estate and rental and leasing	53	395	4.5
Lessors of nonfinancial intangible assets (except copyrighted works)	533	324	12.7
Other real estate and rental and leasing	other 53	71	1.1
Professional, scientific, and technical services	54	38,219	8.6
Architectural, engineering, and related services	5413	3,774	4.0
Computer systems design and related services	5415	13,259	7.8
Scientific research and development services	5417	15,301	24.4
Biotechnology research and development	541711	6,017	42.3
Physical, engineering, and life sciences (except biotechnology) research and development	541712	8,667	18.3
Social sciences and humanities research and development	541720	616	61.0
Other professional, scientific, and technical services	other 54	5,885	5.0
Health care services	621-23	741	1.5
Other nonmanufacturing	23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81	2,239	0.6
All companies (number of domestic employees)	-	294,093	3.2
Small companies ^a			
5-499	-	56,793	5.0
5-99	-	31,310	6.9
5-49	-	21,842	7.7
5-9	-	4,202	11.6
10-24	-	6,779	6.6
25-49	-	10,861	7.5
50-99	-	9,468	5.6
100-249	-	12,528	4.2
250-499	-	12,955	3.3
Medium and large companies			
500-999	-	10,027	2.6
1,000-4,999	-	50,485	4.3
5,000-9,999	-	24,951	2.4
10,000-24,999	-	49,214	2.5
25,000 or more	-	102,623	3.0

D = data withheld to avoid disclosing operations of individual companies; i = value > 50% of the estimate is a combination of imputation and reweighting to account for nonresponse.

NAICS = 2007 North American Industry Classification System.

^a Upper bound based on U.S. Small Business Administration's definition of a small business; Business R&D and Innovation Survey does not include companies with fewer than five domestic employees.

NOTES: Detail may not add to total because of rounding. Industry classification based on dominant business code for domestic R&D performance where available. For companies that did not report business codes, classification used for sampling was assigned. Statistics are representative of companies located in the United States that performed or funded R&D.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics and U.S. Census Bureau, Business R&D and Innovation Survey, 2011.