

TABLE 70

Domestic R&D paid for by the company and others and performed by the company, depreciation, capital expenditures, and adjusted domestic R&D, by industry and company size: 2015

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

Industry and company size	NAICS code	Domestic R&D paid for by the company and others	Depreciation		Capital expenditures related to R&D	Adjusted domestic R&D paid for by the company and others	Change	
							Amount	Percent
All industries	21-23, 31-33, 42-81	355,821	12,433		23,923	367,312	11,490	3.2
Manufacturing industries	31-33	236,132	9,080		14,782	241,834	5,702	2.4
Food	311	4,838	213	i	371	4,997	158	3.3
Beverage and tobacco products	312	1,002	46		73	1,029	27	2.7
Textile, apparel, and leather products	313-16	748	17		43	773	26	3.4
Wood products	321	195	2		19	212	17	8.8
Paper	322	766	8	i	174	932	166	21.7
Printing and related support activities	323	196	9	i	61	249	53	26.8
Petroleum and coal products	324	214	8		44	250	36	16.8
Chemicals	325	68,196	3,022		3,997	69,171	975	1.4
Basic chemicals	3251	3,042	252		422	3,211	169	5.6
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	1,201	78		147	1,271	70	5.8
Pesticide, fertilizer, and other agricultural chemicals	3253	D	D		200	D	D	D
Pharmaceuticals and medicines	3254	58,675	2,346		2,965	59,293	619	1.1
Soap, cleaning compound, and toilet preparation	3256	1,398	D		212	D	D	D
Paint, coating, adhesive, and other chemicals	3255, 3259	D	49		52	D	3	D
Plastics and rubber products	326	2,541	61		479	2,960	419	16.5
Nonmetallic mineral products	327	1,259	55	i	298	1,502	244	19.4
Primary metals	331	628	29		135	734	106	16.9
Fabricated metal products	332	2,261	37	i	169	2,394	133	5.9
Machinery	333	13,426	493		619	13,552	126	0.9
Agricultural implement	33311	1,531	53		63	1,540	10	0.6
Semiconductor machinery	333242	3,214	203		52	3,063	-151	-4.7
Engine, turbine, and power transmission equipment	3336	2,535	107		68	2,496	-39	-1.5
Other machinery	other 333	6,146	129		436	6,453	306	5.0
Computer and electronic products	334	72,110	3,534		5,456	74,032	1,923	2.7
Communications equipment	3342	19,424	1,056		1,592	19,960	536	2.8
Semiconductor and other electronic components	3344	30,451	1,635		2,510	31,327	876	2.9
Navigational, measuring, electromedical, and control instruments	3345	14,128	316		603	14,416	288	2.0
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	2,758	76		185	2,867	109	4.0
Search, detection, navigation, guidance, aeronautical, and nautical system and instrument	334511	7,360	137		206	7,429	69	0.9
Other measuring and controlling device	other 3345	4,011	103		212	4,120	109	2.7
Other computer and electronic products	other 334	8,106	527		750	8,329	223	2.8
Electrical equipment, appliances, and components	335	4,335	123		283	4,496	160	3.7
Transportation equipment	336	49,274	861		1,805	50,218	944	1.9
Motor vehicles, bodies, trailers, and parts	3361-63	19,078	585		1,089	19,581	504	2.6
Aerospace products and parts	3364	27,464	222		597	27,840	375	1.4

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								Amount	Percent
Aircraft, aircraft engine, and aircraft parts	336411-13	25,817		221		595	26,191	i 374	1.5
Guided missile, space vehicle, and related parts	336414-15, 336419	1,647	i	1	i	2	1,649	i 1	0.1
Military armored vehicle, tank, and tank component	336992	16		*		2	17	1	8.9
Other transportation	other 336	2,716		54	i	117	2,779	i 63	2.3
Furniture and related products	337	452		8		52	497	i 44	9.8
Miscellaneous	339	13,690		556		701	13,836	146	1.1
Medical equipment and supplies	3391	11,382		486		606	11,501	120	1.1
Other miscellaneous manufacturing	3399	2,309	i	70	i	96	2,334	i 26	1.1
Nonmanufacturing industries	21-23, 42-81	119,690		3,353		9,141	125,478	5,788	4.8
Mining, quarrying, oil and gas extraction, and support activities	21	4,012		103		1,298	5,207	i 1,195	29.8
Utilities	22	480		142		519	857	i 377	78.5
Wholesale trade	42	1,768	i	78	i	375	2,066	i 298	16.8
Electronic shopping and electronic auctions	454111-12	1,533	i	187	i	156	1,502	i -31	-2.0
Transportation and warehousing	48-49	403		10		144	538	i 135	33.4
Information	51	65,513		1,816		3,325	67,022	1,509	2.3
Publishing	511	33,346		743		1,433	34,035	690	2.1
Newspaper, periodical, book, and directory publishers	5111	98	i	6	i	25	117	i 19	19.2
Software publishers	5112	33,248		737		1,408	33,919	671	2.0
Telecommunications	517	3,607		35	i	485	4,057	i 451	12.5
Data processing, hosting, and related services	518	9,416		224		769	9,961	545	5.8
Other information	other 51	19,144		815		639	18,968	-177	-0.9
Finance and insurance	52	5,366		48		536	5,854	i 488	9.1
Real estate and rental and leasing	53	301		7		42	337	i 35	11.8
Lessors of nonfinancial intangible assets (except copyrighted works)	533	68		1		2	69	1	0.8
Other real estate and rental and leasing	other 53	233		6		40	268	i 35	14.9
Professional, scientific, and technical services	54	38,626		937		2,368	40,057	i 1,431	3.7
Architectural, engineering, and related services	5413	4,128	i	33	i	52	4,148	i 19	0.5
Computer systems design and related services	5415	14,333		412		1,472	15,393	1,060	7.4
Scientific research and development services	5417	16,329		354		569	16,543	i 214	1.3
Research and development in biotechnology	541711	5,693	i	86		271	5,877	i 184	3.2
Research and development in the physical, engineering, and life sciences (except biotechnology)	541712	9,931		259		290	9,962	31	0.3
Research and development in the social sciences and humanities	541720	705		9		8	704	-1	-0.1
Other professional, scientific, and technical services	other 54	3,835		138	i	275	3,972	i 137	3.6
Health care services	621-23	758	i	15	i	132	875	i 117	15.4

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									Amount	Percent		
Other nonmanufacturing	23, 44–45 (excluding 454111–12), 55–56, 624, 71–72, 81	930	11		246	i	1,164	i	235	i	25.3	
All companies (number of domestic employees)	–	355,821	12,433		23,923		367,312		11,490		3.2	
Micro companies ^a												
5–9	–	2,988	i	66	i	208	i	3,130	i	141	i	4.7
Small companies												
10–19	–	5,680	i	153	i	883	i	6,410	i	730	i	12.9
20–49	–	10,249	i	265	i	563	i	10,547	i	298	i	2.9
Medium companies												
50–99	–	11,509		284	i	683		11,909		400	i	3.5
100–249	–	13,602		323		1,004	i	14,284		681	i	5.0
Large companies												
250–499	–	13,553		498		1,321	i	14,376		823	i	6.1
500–999	–	15,217		519		1,300		15,998		781	i	5.1
1,000–4,999	–	58,094		2,162		4,038		59,970		1,876		3.2
5,000–9,999	–	38,838		1,527		3,146		40,456		1,618		4.2
10,000–24,999	–	59,328		2,507		3,575		60,396	i	1,068		1.8
25,000 or more	–	126,763		4,128		7,201		129,835		3,072		2.4

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

NAICS = 2012 North American Industry Classification System.

^a The Business R&D and Innovation Survey (BRDIS) did not include companies with fewer than 5 domestic employees.

Note(s):

Detail may not add to total because of rounding. 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 or funded R&D. To enable comparisons between U.S. BRDIS statistics and those of other nations, in this table an internationally comparable adjusted domestic R&D estimate is calculated by subtracting depreciation relating to R&D operations, which was *included* in U.S. BRDIS domestic R&D, and adding capital expenditures relating to R&D operations, which was *excluded* from U.S. BRDIS domestic R&D.

Source(s):

National Center for Science and Engineering Statistics and Census Bureau, Business R&D and Innovation Survey, 2015.