

TABLE 62

R&D costs paid for by the company and others projected for 2016, by industry and company size: 2015

(Millions of U.S. dollars)

Industry and company size	NAICS code	Projected worldwide R&D cost			Projected domestic R&D cost						Projected foreign R&D cost paid for by the company
		Paid for by company	Paid for by others	Total	Paid for by company			Paid for by others			
					Total	Purchased and collaborative R&D	R&D performed by the company	Total	U.S. government	Non-U.S. government sources	
All industries	21-23, 31-33, 42-81	433,478	73,844	347,502	37,878		309,624	59,333	26,156	33,177	85,977
Manufacturing industries	31-33	302,611	49,510	237,432	32,867		204,565	40,902	20,328	20,574	65,179
Food	311	6,080	228	4,832	120		4,712	224	1	223	1,248
Beverages and tobacco products	312	1,782	106	1,005	140		865	105	D	D	778
Textiles, apparel, and leather products	313-16	907	45	835	30		805	40	26	14	72
Wood products	321	201	9	198	9	i	188	8	*	7	4
Paper	322	892	4	776	7	i	769	3	*	3	116
Printing and related support activities	323	205	10	203	22	i	181	7	1	6	3
Petroleum and coal products	324	278	13	217	30		187	13	1	11	61
Chemicals	325	110,687	14,452	90,383	25,572		64,811	10,107	248	9,859	20,304
Basic chemicals	3251	3,314	223	2,634	179		2,455	217	D	D	680
Resins, synthetic rubber, and artificial synthetic fibers and filaments	3252	1,894	35	1,300	58	i	1,242	32	*	32	594
Pesticides, fertilizers, and other agricultural chemicals	3253	2,358	D	1,809	119		1,689	D	3	D	550
Pharmaceuticals and medicines	3254	99,853	13,612	81,837	25,082		56,755	9,371	214	9,156	18,016
Soaps, cleaning compounds, and toilet preparations	3256	1,600	152	1,433	115		1,318	119	*	119	167
Paints, coatings, adhesives, and other chemicals	3255, 3259	1,667	D	1,370	18		1,352	D	D	D	296
Plastics and rubber products	326	2,975	203	2,579	29	i	2,550	201	10	191	396
Nonmetallic mineral products	327	1,561	25	1,339	28	i	1,311	24	8	16	222
Primary metals	331	763	42	663	80	i	583	42	13	29	100
Fabricated metal products	332	2,450	242	2,191	53	i	2,138	163	12	150	259
Machinery	333	15,754	1,136	12,605	497		12,108	954	266	688	3,150
Agricultural implements	33311	2,465	20	1,870	187		1,682	16	3	12	596
Semiconductor machinery	333242	3,541	440	2,975	6	i	2,970	322	78	245	566
Engine, turbine, and power transmission equipment	3336	2,585	173	2,201	12	i	2,189	173	59	114	384
Other machinery	other 333	7,163	503	5,558	291		5,267	443	125	317	1,605
Computer and electronic products	334	90,103	8,689	66,743	1,839	i	64,904	8,246	4,147	4,099	23,360
Communications equipment	3342	25,736	1,520	21,755	1,045	i	20,710	1,470	834	637	3,981
Semiconductors and other electronic components	3344	41,312	1,947	28,216	340		27,877	1,834	42	1,791	13,096
Navigational, measuring, electromedical, and control instruments	3345	11,676	4,984	9,056	248		8,808	4,801	3,253	1,549	2,619
Electromedical, electrotherapeutic, and irradiation apparatuses	334510, 334517	3,039	181	2,224	58	i	2,166	178	18	160	815
Search, detection, navigation, guidance, aeronautical, and nautical systems and instruments	334511	3,476	4,575	2,905	104		2,801	4,415	3,184	1,231	571
Other measuring and controlling devices	other 3345	5,160	228	3,927	87	i	3,840	208	50	158	1,233
Other computer and electronic products	other 334	11,380	239	7,715	206		7,509	141	19	122	3,664
Electrical equipment, appliances, and components	335	6,003	1,541	4,508	140	i	4,368	1,505	159	1,345	1,494

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					Total	Purchased and collaborative R&D	R&D performed by the company	Total	U.S. government	Non-U.S. government sources		
Transportation equipment	336	43,105	22,399	32,410	3,595	i	28,816	18,942	15,364	i	3,578	10,695
Automobiles, bodies, trailers, and parts	3361-63	28,213	2,915	19,280	2,153	i	17,128	2,332	206	i	2,126	8,933
Aerospace products and parts	3364	13,281	18,178	11,642	1,409		10,233	15,309	13,894	i	1,415	1,640
Aircraft, aircraft engines, and aircraft parts	336411-13	12,723	16,959	11,083	1,292		9,791	14,095	12,700	i	1,395	1,640
Guided missiles, space vehicles, and related parts	336414-15, 336419	559	1,219	559	117		442	1,214	1,194	i	20	0
Military armored vehicles, tanks, and tank components	336992	6	17	5	*		5	17	7		10	1
Other transportation	other 336	1,604	1,289	1,483	33		1,450	1,284	1,257		27	121
Furniture and related products	337	503	10	467	29		438	9	7	i	2	36
Miscellaneous manufacturing	339	18,361	356	15,479	647		14,831	310	D		D	2,883
Medical equipment and supplies	3391	14,537	205	12,362	542		11,820	172	34		138	2,176
Other miscellaneous manufacturing	3399	3,824	150	3,117	105		3,012	138	D		D	707
Nonmanufacturing industries	21-23, 42-81	130,867	24,334	110,070	5,010		105,059	18,431	5,828		12,603	20,797
Mining, extraction, and support activities	21	3,467	680	3,200	193		3,007	523	1	i	522	267
Utilities	22	751	54	750	295		455	53	48		5	2
Wholesale trade	42	1,874	102	1,841	78	i	1,763	100	3		98	33
Electronic shopping and electronic auctions	454111-12	2,096	19	D	*	i	D	16	0		16	D
Transportation and warehousing	48-49	461	*	447	10		437	*	0		*	14
Information	51	84,578	1,031	69,368	1,866		67,503	974	50		924	15,210
Publishing	511	45,849	837	34,851	1,260		33,591	791	19		772	10,998
Newspaper, periodical, book, and directory publishers	5111	94	*	87	8	i	79	*	*	i	*	6
Software publishers	5112	45,755	837	34,763	1,251		33,512	791	19		772	10,992
Telecommunications	517	3,850	75	3,765	203		3,562	69	5	i	64	85
Data processing, hosting, and related services	518	11,853	99	10,619	221		10,398	94	26		68	1,234
Other information	other 51	23,027	20	20,134	182	i	19,952	20	0		20	2,893
Finance and insurance	52	6,776	65	5,731	714		5,017	60	0		60	1,045
Real estate and rental and leasing	53	343	1	331	1		330	1	0		1	13
Lessors of nonfinancial intangible assets (except copyrighted works)	533	85	0	D	*	i	D	0	0		0	D
Other real estate and rental and leasing	other 53	259	1	D	1		D	1	0		1	D
Professional, scientific, and technical services	54	28,796	21,993	25,220	1,746	i	23,474	16,379	5,705		10,674	3,576
Architectural, engineering, and related services	5413	2,459	2,103	2,421	124	i	2,297	1,961	1,652		309	38
Computer systems design and related services	5415	16,793	2,004	13,859	185		13,674	1,766	614	i	1,152	2,934
Scientific research and development services	5417	6,172	17,355	5,876	1,405	i	4,471	12,134	3,202		8,932	295
Biotechnology research and development	541711	2,889	5,472	2,701	799	i	1,902	4,002	475		3,527	188
Physical, engineering, and life sciences (except biotechnology) research and development	541712	3,268	11,048	3,160	604	i	2,555	7,410	2,077		5,332	108

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Social sciences and humanities research and development	541720	15	i	835		15	i	2	i	13	i	722	649		72		0	
Other professional, scientific, and technical services	other 54	3,373	i	532		3,064	i	32	i	3,032	i	519	237		282		309	i
Health care services	621-23	480	i	304	i	475	i	23	i	451	i	239	3	i	236	i	5	
Other nonmanufacturing	23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81	1,244	i	85		D		84	i	D		84	17	i	67		D	
All companies (number of domestic employees)	-	433,478		73,844		347,502		37,878		309,624		59,333	26,156		33,177		85,977	
Micro companies <sup>a</sup>																		
5-9	-	2,935	i	1,121	i	2,664	i	421	i	2,242	i	1,039	416	i	622	i	272	i
Small companies																		
10-19	-	6,210	i	1,500	i	6,000	i	1,042		4,959	i	1,311	331	i	980	i	210	
20-49	-	10,860	i	2,604	i	10,340	i	1,526		8,813	i	2,209	920		1,289	i	521	
Medium companies																		
50-99	-	12,075		3,427		11,465		1,698	i	9,767	i	3,127	585		2,542		610	
100-249	-	16,162		3,131		14,391		2,410		11,981		2,641	1,141		1,500		1,771	
Large companies																		
250-499	-	15,248		2,108		13,376		1,252		12,124		1,884	518		1,366		1,872	
500-999	-	17,790		2,526	i	15,023		1,003		14,020		2,151	210		1,941	i	2,767	
1,000-4,999	-	74,697		12,066		57,942		3,598		54,344		9,344	1,842	i	7,501		16,754	
5,000-9,999	-	45,596		6,740		35,937		3,889		32,048		4,617	978		3,639		9,659	
10,000-24,999	-	74,090		14,845		60,024	i	10,722	i	49,302		11,713	4,275		7,438		14,066	
25,000 or more	-	157,816		23,776		120,341		10,318		110,022	i	19,297	14,939		4,358		37,475	

\* = amount &lt; \$500,000; D = data withheld to avoid disclosing operations of individual companies; i = &gt; 50% of the estimate is a combination of imputation and reweighting to account for nonresponse.

NAICS = 2012 North American Industry Classification System.

<sup>a</sup> Business R&D and Innovation Survey does not include companies with fewer than five 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&amp;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&amp;D.

**Source(s)**

National Science Foundation, National Center for Science and Engineering Statistics, and U.S. Census Bureau, Business R&amp;D and Innovation Survey, 2015.