

TABLE 59. R&D costs paid for by the company and others projected for 2013, by industry and company size: 2012  
(Millions of U.S. dollars)

Industry and company size	NAICS code	Projected worldwide R&D cost		Projected domestic R&D cost						
		Paid for by the company	Paid for by others	Paid for by the company			Paid for by others			Projected foreign R&D cost paid for by the company
				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	368,452	72,387	293,315	31,262	262,053 i	61,583	35,552 i	26,031	75,138
Manufacturing industries	31-33	260,143	48,220	200,643	24,509	176,134	43,521 i	27,354 i	16,167	59,500
Food	311	5,706	201	4,680	420	4,260	191	11	180	1,027
Beverage and tobacco products	312	1,720	106	876	78	797	106	0	106	844
Textile, apparel, and leather products	313-16	679 i	25	627 i	21 i	605 i	24	6	18	53
Wood products	321	472 i	8	467 i	25 i	442 i	8	1	7	5
Paper	322	941	9	842	9	833	9	* i	9	99
Printing and related support activities	323	315 i	3 i	278 i	38 i	240 i	3 i	* i	3 i	38
Petroleum and coal products	324	1,013	29	928	185	743	21	0	21	85
Chemicals	325	85,639	9,893	67,764	15,042	52,722 i	8,086	428 i	7,659	17,875
Basic chemicals	3251	3,618	396 i	2,850	236	2,615	376 i	305 i	71 i	768
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	1,219	189	907	76	831	102	4	98	311
Pesticide, fertilizer, and other agricultural chemical	3253	1,598	D	1,372	43	1,329	D	1 i	D	225
Pharmaceuticals and medicines	3254	74,146	8,952	58,827	14,390 i	44,437 i	7,266	96	7,170	15,319
Soap, cleaning compound, and toilet preparation	3256	3,616	4 i	2,611	251	2,360	4 i	*	3 i	1,005
Paint, coating, adhesive, and other chemicals	3255, 3259	1,442	D	1,196	46	1,150	D	21 i	D	246
Plastics and rubber products	326	4,343	230 i	3,441	244	3,197	199 i	15 i	184 i	902
Nonmetallic mineral products	327	1,004	40	896	317	579 i	38	27	12	108
Primary metals	331	874	59	781	142 i	638 i	55	8	47	93
Fabricated metal products	332	2,057 i	128 i	1,910 i	96 i	1,814 i	126 i	42 i	83 i	147
Machinery	333	17,923	1,365	13,759	1,025	12,734	1,168	535	633	4,164
Agricultural implement	33311	2,531	57	1,802	274	1,528	47	4	43	729
Semiconductor machinery	333295	2,858	91	2,248	57	2,191	91	3	87	609
Engine, turbine, and power transmission equipment	3336	5,128	928	3,826	501	3,325	761	517	244	1,302
Other machinery	other 333	7,407	289	5,884	193	5,690	269	11 i	258	1,523
Computer and electronic products	334	84,605	9,114	63,334	2,000 i	61,335 i	8,517	5,149	3,368	21,271
Communications equipment	3342	19,521	1,459 i	14,546	568 i	13,978 i	1,387 i	844 i	543	4,975
Semiconductor and other electronic components	3344	37,881	1,463	26,938 i	737	26,201 i	1,283	117	1,166	10,943
Navigational, measuring, electromedical, and control instruments	3345	13,672	5,852	11,142	372 i	10,770 i	5,605	4,158	1,447	2,530 i
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	4,826	199	4,207	200 i	4,008	191	29	162	619
Search, detection, navigation, guidance, aeronautical, and nautical system and instrument	334511	3,293 i	5,394	2,873	51	2,823 i	5,163	4,047	1,116	420 i
Other measuring and controlling device	other 3345	5,552	258 i	4,061	121 i	3,940	252 i	81 i	170 i	1,491
Other computer and electronic products	other 334	13,531 i	341 i	10,708 i	323 i	10,385 i	243 i	31 i	212 i	2,823
Electrical equipment, appliances, and components	335	4,868	205	3,482	155	3,327	182	46 i	136	1,386
Transportation equipment	336	33,003	26,309 i	23,765	3,806	19,959	24,311 i	21,056 i	3,256	9,238
Automobiles, bodies, trailers, and parts	3361-63	24,274	D	15,530	2,815	12,715	D	D	D	8,744

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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	
Aerospace products and parts	3364	7,554	22,426 i	7,119	960	6,159	21,253 i	20,132 i	1,121	435
Aircraft, aircraft engine, and aircraft parts	336411-13	7,011	21,447 i	6,582	877	5,705	20,274 i	19,176 i	1,098	429
Guided missile, space vehicle, and related parts	336414-15, 336419	543	979	537	83	454	979	956	23	6
Military armored vehicle, tank, and tank component	336992	16	4	16	1 i	15 i	4	2	2	0
Other transportation	other 336	1,160	D	1,100	30	1,070	D	D	D	59
Furniture and related products	337	424	*	395	35 i	360 i	*	0	*	29
Miscellaneous manufacturing	339	14,558	494	12,419	870	11,549 i	476	31	445	2,139
Medical equipment and supplies	3391	11,283 i	428	9,641	726	8,915 i	413	25	387	1,642 i
Other miscellaneous manufacturing	3399	3,275	66	2,778	144	2,634	63 i	6 i	58 i	497
Nonmanufacturing industries	21-23, 42-81	108,310	24,167	92,672 i	6,753 i	85,919 i	18,061	8,198	9,863	15,638
Mining, extraction, and support activities	21	3,196	489	2,869	261	2,608	382	3 i	379	326 i
Utilities	22	505	111	486	248	238	111	106	5	19
Wholesale trade	42	2,050 i	232 i	1,964 i	225 i	1,739 i	228 i	5 i	223 i	85 i
Electronic shopping and electronic auctions	454111-12	2,952	0	D	2 i	D	0	0	0	D
Transportation and warehousing	48-49	158 i	*	144 i	21	123 i	*	*	0	14 i
Information	51	62,512	945	52,790	2,524 i	50,266 i	897	174	722	9,722
Publishing	511	39,546	700	31,971	1,486	30,486 i	664	113	552	7,575
Newspaper, periodical, book, and directory publishers	5111	213 i	1 i	205 i	50 i	155 i	1 i	* i	* i	8 i
Software publishers	5112	39,333	699	31,766	1,436	30,331 i	664	112	551	7,567
Telecommunications	517	3,115 i	60	3,024 i	188 i	2,836 i	60	* i	60	91
Data processing, hosting, and related services	518	5,693	136	5,001	148 i	4,853	125 i	58 i	67 i	692
Other information	other 51	14,158 i	50 i	12,794 i	702 i	12,092 i	48 i	4 i	44 i	1,364 i
Finance and insurance	52	4,837	15	3,709	87	3,622	15	0	15	1,128
Real estate and rental and leasing	53	447 i	2	399 i	15	384 i	2	2	0	48
Lessors of nonfinancial intangible assets (except copyrighted works)	533	425 i	2	377 i	14	363 i	2	2	0	48
Other real estate and rental and leasing	other 53	22 i	0	22 i	1 i	21 i	0	0	0	* i
Professional, scientific, and technical services	54	29,826 i	21,319	26,972 i	3,196 i	23,776 i	15,451	7,197	8,254	2,854
Architectural, engineering, and related services	5413	1,301 i	1,803 i	1,244 i	78 i	1,166 i	1,795 i	1,354 i	441 i	57
Computer systems design and related services	5415	14,807 i	2,287	13,003 i	561 i	12,442 i	2,219	1,797 i	421 i	1,805
Scientific research and development services	5417	9,862	16,146	9,279	2,415	6,864	10,455	3,319	7,136	582
Biotechnology research and development	541711	6,678	5,079	6,432	1,943	4,489	D	256	D	246
Physical, engineering, and life sciences (except biotechnology) research and development	541712	3,158	10,330	2,822	472 i	2,350	6,274	2,480 i	3,794	336
Social sciences and humanities research and development	541720	26 i	737	26 i	1 i	24 i	D	582	D	0
Other professional, scientific, and technical services	other 54	3,857	1,083	3,446	142 i	3,304 i	983	728	255	410
Health care services	621-23	361 i	307 i	359 i	50 i	309 i	233 i	58 i	175 i	2

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Other nonmanufacturing	23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81	1,465 i	747	D	123	D	742	653	89	D
All companies (number of domestic employees)		368,452	72,387	293,315	31,262	262,053 i	61,583	35,552 i	26,031	75,138
Small companies <sup>a</sup>										
5-499		53,041 i	12,492 i	48,483 i	6,392	42,091 i	10,945 i	5,205 i	5,740 i	4,557
5-99		26,462 i	7,547 i	24,988 i	3,792 i	21,196 i	6,347 i	3,329 i	3,019 i	1,474
5-49		17,089 i	5,255 i	16,365 i	2,575 i	13,791 i	4,379 i	2,310 i	2,069 i	723
5-9		2,834 i	1,230 i	2,742 i	537 i	2,205 i	999 i	481 i	518 i	92 i
10-24		6,537 i	2,295 i	6,326 i	1,132 i	5,194 i	1,870 i	955 i	915 i	211
25-49		7,718 i	1,730	7,298 i	906 i	6,392 i	1,510	874	636 i	421
50-99		9,373	2,291 i	8,622 i	1,217	7,405 i	1,968 i	1,019 i	950 i	750
100-249		13,810	3,037	12,180	1,402	10,778	2,804	1,401 i	1,403	1,630
250-499		12,769	1,909	11,316	1,198 i	10,118	1,793	475	1,318	1,453
Medium and large companies										
500-999		14,180	1,436	12,446	1,130	11,316	1,332	288	1,044	1,735
1,000-4,999		62,277	11,813	48,652	4,616 i	44,036	9,517	2,085	7,432	13,625
5,000-9,999		35,264	11,247	26,048	1,977	24,072	6,942	1,026	5,917	9,215
10,000-24,999		64,697 i	7,776	53,188 i	7,201 i	45,987 i	6,733	3,555	3,177	11,509
25,000 or more		138,993	27,623 i	104,497	9,946	94,551 i	26,114 i	23,394 i	2,721	34,496

\* = 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 = 2007 North American Industry Classification System.

<sup>a</sup> The upper bound is based on the U.S. Small Business Administration's definition of a small business; the 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. The 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.

SOURCE: National Science Foundation, National Center for Science and Engineering Statistics, and U.S. Census Bureau, Business R&D and Innovation Survey, 2012.