

TABLE 4. Worldwide, domestic, and foreign R&D paid for by the company and others and performed by the company, by source of funds, industry, and company size: 2011  
(Millions of U.S. dollars)

Industry and company size	NAICS code	Worldwide R&D performance			Domestic R&D performance			Foreign R&D performance		
		Total	Paid for by company	Paid for by others	Total	Paid for by company	Paid for by others	Total	Paid for by company	Paid for by others
All industries	21–23, 31–33, 42–81	363,323	303,806	59,517	294,093	238,768	55,324	69,231	65,038	4,193
Manufacturing industries	31–33	253,231	213,911	39,320	201,361	163,340	38,021	51,870	50,571	1,299
Food	311	5,597	5,399	198	4,399	4,204	196	1,197	1,195	2
Beverage and tobacco products	312	D	1,509	D	D	684	D	825	825	0
Textile, apparel, and leather products	313–316	683	648	34	634	600	34	48	48	*
Wood products	321	212	203	9	211	202	9	1	1	0
Paper	322	1,725	1,703	23	1,346	1,323	23	380	380	0
Printing and related support activities	323	207	206	1	175	174	1	32	32	0
Petroleum and coal products	324	1,271	D	D	D	1,025	D	D	D	D
Chemicals	325	71,718	66,154	5,563	55,324	49,988	5,337	16,393	16,167	226
Basic chemicals	3251	5,162	D	D	D	3,674	D	D	D	D
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	1,117	1,104	13	798	787	12	319	318	1
Pesticide, fertilizer, and other agricultural chemical	3253	2,049	D	D	D	703	D	D	D	D
Pharmaceuticals and medicines	3254	58,528	53,477	5,051	45,949	41,111	4,838	12,578	12,365	213
Soap, cleaning compound, and toilet preparation	3256	3,387	3,381	6	2,477	2,471	6	910	910	0
Paint, coating, adhesive, and other chemicals	3255, 3259	1,475	1,436	40	1,281	1,242	40	194	194	*
Plastics and rubber products	326	2,641	2,329	312 i	2,280	1,973	307 i	362	356	6 i
Nonmetallic mineral products	327	1,431	1,398	34	1,179	1,145	33	253	252	*
Primary metals	331	764	699	65	655	591	64	108	108	1
Fabricated metal products	332	1,990	1,875	115	1,853	1,738	115	137	137	*
Machinery	333	18,234	16,942	1,292	14,709	13,578	1,131	3,524	3,364	161
Agricultural implement	33311	1,570	1,546	24	1,277	1,255	22	293	291	2
Semiconductor machinery	333295	2,735	2,591	144	2,359	2,220	139	376	371	5
Engine, turbine, and power transmission equipment	3336	D	D	D	4,292	3,599	693	D	D	D
Other machinery	other 333	D	D	D	6,781	6,503	278	D	D	D
Computer and electronic products	334	79,998	70,637	9,361	62,704	53,664	9,040	17,294	16,973	321
Communications equipment	3342	15,549	13,680	1,868 i	12,655	10,796	1,858 i	2,894	2,884	10
Semiconductor and other electronic components	3344	32,015	30,697	1,318	24,100	22,855	1,245	7,915	7,842	73
Navigational, measuring, electromedical, and control instruments	3345	19,027	13,439	5,588	16,094	10,643	5,451	2,932	2,795	137
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	4,926	4,678	247	4,379	4,135	243	547	543	4
Search, detection, navigation, guidance, aeronautical, and nautical systems and instruments	334511	8,506	3,285	5,221	7,935	2,823	5,111	572	462	110
Other measuring and controlling device	other 3345	5,595	5,475	119	3,781	3,684	97	1,814	1,791	23
Other computer and electronic products	other 334	13,408	12,822	586	9,855	9,370	485	3,553	3,452	101
Electrical equipment, appliances, and components	335	5,299	5,119	180	3,595	3,417	178	1,704	1,702	2

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Transportation equipment	336	48,813	27,677	21,135 i	40,880	20,275	20,605 i	7,933	7,402	531
Motor vehicles, bodies, trailers, and parts	3361, 3362, 3363	D	18,499	D	D	11,737	D	D	6,762	D
Aerospace products and parts	3364	26,825	8,125	18,700 i	26,054 i	7,585	18,469 i	771	540	231
Aircraft, aircraft engine, and aircraft parts	336411-13	D	D	17,711 i	24,808 i	7,328	17,480 i	D	D	231
Guided missile, space vehicle, and related parts	336414-15, 336419	D	D	989	1,246	257	989	D	D	0
Military armored vehicle, tank, and tank component	336992	31	29	2	30	28	2	1	1	0
Other transportation equipment	other 336	D	1,024	D	D	925	D	D	100	D
Furniture and related products	337	347	346	2	319	317	2	28	28	0
Miscellaneous manufacturing	339	D	D	D	D	8,442	D	D	D	D
Medical equipment and supplies	3391	D	7,414	D	6,686	6,279	406	D	1,134	D
Other miscellaneous manufacturing	3399	D	D	D	D	2,163	D	D	D	D
Nonmanufacturing industries	21-23, 42-81	110,092	89,895	20,197	92,731	75,428	17,303	17,361	14,467	2,894
Mining, extraction, and support activities	21	2,965	2,641	324	2,733	2,425	307	232	215	17
Utilities	22	425	325	99	386	302	84	39	23	16 i
Wholesale trade	42	1,957 i	1,708 i	249	1,668 i	1,419 i	248	289 i	288 i	1
Electronic shopping and electronic auctions	454111-12	D	D	*	949 i	949 i	0	D	D	*
Transportation and warehousing	48-49	109	109	*	81	81	*	28 i	28 i	0
Information	51	51,451	50,551	900	41,865	41,014	851	9,586	9,537	49
Publishing	511	36,312	35,579	733	28,435	27,748	687	7,877	7,831	47
Newspaper, periodical, book, and directory publishers	5111	499	497	1	470	468	1	29	29	0
Software publishers	5112	35,814	35,082	732	27,965	27,280	685	7,849	7,802	47
Telecommunications	517	2,254	2,137	117	2,157	2,040	117	97	97	0
Data processing, hosting, and related services	518	4,591	4,561	29	4,285	4,257	28	306	305	1
Other information	other 51	8,293	8,273	20	6,988	6,969	19	1,305	1,304	1
Finance and insurance	52	3,950	3,804	146	3,457	3,310	146	493	493	0
Real estate and rental and leasing	53	D	D	0	395	395	0	D	D	0
Lessors of nonfinancial intangible assets (except copyrighted works)	533	365	365	0	324	324	0	41	41	0
Other real estate and rental and leasing	other 53	D	D	0	71	71	0	D	D	0
Professional, scientific, and technical services	54	44,110	26,464	17,646	38,219	23,368	14,851	5,892	3,097	2,795
Architectural, engineering, and related services	5413	D	1,916	D	3,774	1,808	1,966	D	108	D
Computer systems design and related services	5415	15,530	13,962	1,568	13,259	11,706	1,553	2,272 i	2,257 i	15
Scientific research and development services	5417	17,651	6,483	11,167	15,301	6,170	9,131	2,350	313	2,037
Biotechnology research and development	541711	6,267	4,347	1,920	6,017	4,283	1,735	250	64	185
Physical, engineering, and life sciences (except biotechnology) research and development	541712	10,766	2,119	8,647	8,667	1,871	6,797	2,099	249	1,850

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Social sciences and humanities research and development	541720	618	17 i	601	616	17 i	599	1	0	1
Other professional, scientific, and technical services	other 54	D	4,103	D	5,885	3,684	2,202	D	419	D
Health care services	621-23	D	573	D	741	558	183	D	15	D
Other nonmanufacturing	23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81	D	D	D	2,239	1,607	632	D	D	D
All companies (number of domestic employees)	-	363,323	303,806	59,517	294,093	238,768	55,324	69,231	65,038	4,193
Small companies <sup>a</sup>										
5-499	-	60,802	50,323	10,479	56,793	46,509	10,283	4,010	3,814	196
5-99	-	32,719	26,215	6,504	31,310	24,928	6,382	1,409	1,287	122
5-49	-	22,748	18,132	4,615	21,842	17,317	4,525	905	815	90
5-9	-	4,285	3,019	1,267	4,202	2,981	1,221	83	37	46
10-24	-	7,312	5,416	1,896	6,779	4,907	1,872	533	510	23
25-49	-	11,150	9,698	1,453	10,861	9,429	1,432	289	269	21
50-99	-	9,972	8,083	1,889	9,468	7,611	1,857	504	472	32
100-249	-	13,594	11,472	2,121	12,528	10,433	2,095	1,066	1,040	26
250-499	-	14,489	12,636	1,854	12,955	11,149	1,806	1,534	1,487	48
Medium and large companies										
500-999	-	11,475	10,144	1,331	10,027	8,739	1,288	1,448	1,405	43
1,000-4,999	-	63,451	55,250	8,201	50,485	42,905	7,579	12,967	12,345	622
5,000-9,999	-	32,656	23,858	8,798	24,951	18,659	6,292	7,705	5,199	2,506
10,000-24,999	-	61,773	54,770	7,003	49,214	42,585	6,630	12,559	12,185	373
25,000 or more	-	133,166	109,460	23,706 i	102,623	79,370	23,253 i	30,543	30,090	454

\* = amount < \$500,000; 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.

<sup>a</sup> 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.