

TABLE 23. Worldwide R&D paid for by the company and performed by others, by type of performer, industry, and company size: 2008
(Millions of U.S. dollars)

Industry and company size	NAICS code	Total	U.S. companies	Foreign companies	U.S. federal government	State governments	Foreign governments	U.S. universities or colleges	Foreign universities or colleges	All other	Undistributed
All industries	21-23, 31-33, 42-81	38,636	22,502	8,191	132	14	14	1,277	513	506	5,487
Manufacturing industries	31-33	29,502	18,480	7,158	112	11	7	1,104	499	237	1,894
Food	311	200	112	23	*	0	*	11	2	6	-
Beverage and tobacco products	312	157	127	18	*	*	*	8	2	0	-
Textiles, apparel, and leather products	313-316	27	11	2	0	0	*	1	D	0	-
Wood products	321	17	9	1	0	0	0	*	*	0	-
Paper	322	111	D	D	0	0	0	D	D	0	-
Printing and related support activities	323	6	0	0	0	0	0	0	0	0	-
Petroleum and coal products	324	D	D	D	0	0	0	D	1	0	-
Chemicals	325	19,550	13,281	3,901	76	3	3	869	416	153	-
Basic chemicals	3251	180	74	44	3	0	*	17	7	*	-
Resin, synthetic rubber, fibers, and filaments	3252	13	2	4	*	*	0	2	D	0	-
Pesticide, fertilizer, and other agricultural chemical	3253	176	D	D	0	0	0	29	D	3	-
Pharmaceuticals and medicines	3254	18,708	12,744	3,734	73	2	3	816	399	150	-
Soap, cleaning compound, and toilet preparation	3256	422	331	71	0	0	0	4	D	0	-
Paint, coating, adhesive, and other chemical	3255, 3259	51	D	D	*	*	0	1	D	*	-
Plastics and rubber products	326	135	74	41	*	*	0	1	1	*	-
Nonmetallic mineral products	327	202	94 i	97 i	* i	0	0	4 i	1 i	*	-
Primary metals	331	77	14	D	*	0	*	1	3	2	-
Fabricated metal products	332	81	41	2	0	0	0	1	*	0	-
Machinery	333	486	306	94	*	*	*	10	1	2	-
Agricultural implement	33311	191	D	D	0	0	0	1	0	0	-
Semiconductor machinery	333295	42	26	8	*	0	0	2 i	0	0	-
Engine, turbine, and power transmission equipment	3336	89	65	10	0	0	0	*	*	*	-
Other machinery	other 333	164	D	D	*	*	*	8	1	2	-
Computer and electronic products	334	2,484	1,382	547	1	*	1	63	38	40	-
Communications equipment	3342	707	347	275	*	0	0	2	*	0	-
Semiconductor and other electronic components	3344	839	549	113	0	0	0	2	D	*	-
Navigational, measuring, electromedical, and control instruments	3345	641	288	114	*	*	1	55	D	D	-
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	396	147	47	*	*	1	53	12	15	-
Search, detection, navigation, guidance, aeronautical, and nautical system and instruments	334511	D	117	37	*	*	*	2	D	D	-
Other measuring and controlling instruments	other 3345	D	24	30	0	0	0	*	D	0	-
Computer and peripheral equipment and other computer and electronic products	3341, 3343, 3346	297	197	45	*	0	0	4	*	D	-
Electrical equipment, appliances, and components	335	176	91	40	*	0	*	1	*	4	-
Transportation equipment	336	4,833	2,368	2,187	31	7	D	56	23	26	-
Automobiles, bodies, trailers, and parts	3361-3363	3,767	1,590	2,024	D	*	D	25	D	2	-
Aerospace products and parts	3364	1,025	D	161	D	6	3	31	D	24	-
Aircraft, aircraft engine, and aircraft parts	336411-336413	D	656	161	D	D	3	D	D	D	-
Guided missile, space vehicle, and related parts	336414, 336415, 336419	D	D	*	*	D	0	D	*	D	-

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Military armored vehicle, tank, and tank components	336992	1	1	0	0	0	0	0	0	0	-
Other transportation	other 336	41	D	2	0	1	0	*	0	0	-
Furniture and related products	337	37	18	2	0	0	0	*	0	0	-
Miscellaneous manufacturing	339	D	406	115	3	*	D	29	4	2	-
Medical equipment and supplies	3391	729	385	104	3	*	D	27	4	1	-
Other miscellaneous manufacturing	3399	D	21	10	*	0	0	2	*	*	-
Nonmanufacturing industries	21-23, 42-81	9,134	4,021	1,033	20	3	6	173	14	269	3,595
Mining, extraction, and support activities	21	539	D	D	D	0	D	D	3	0	-
Utilities	22	233	75	*	0	3	0	3	0	D	-
Construction	23	D	2	*	0	0	0	*	0	0	-
Wholesale trade	42	407	46 i	13	0	0	0	* i	0	0	-
Retail trade	44, 45	D	0	0	0	0	0	0	0	0	-
Electronic shopping and mail-order houses	4541	D	0	0	0	0	0	0	0	0	-
Other retail trade	other 44, 45	22	0	0	0	0	0	0	0	0	-
Transportation and warehousing	48, 49	46	44	2	0	0	0	*	0	0	-
Information	51	2,540	1,611	336	0	0	D	D	*	D	-
Publishing	511	1,676	892	301	0	0	0	4	*	D	-
Newspaper, periodical, book, and directory publishers	5111	7	4	1	0	0	0	0	0	0	-
Software publishers	5112	1,669	887	300	0	0	0	4	*	D	-
Telecommunications	517	D	D	*	0	0	0	D	*	0	-
Internet service providers, Web search portals, and data processing services	518	198	114	29	0	0	D	0	*	*	-
Other information	other 51	D	D	5	0	0	0	D	*	*	-
Finance and insurance	52	84	61	15	0	0	0	*	*	D	-
Real estate and rental and leasing	53	19	7	1	0	0	0	0	0	0	-
Professional, scientific, and technical services	54	4,858	1,768	355	D	*	D	81	9	5	-
Architectural, engineering, and related services	5413	346	181	3	0	*	0	3	*	0	-
Computer systems design and related services	5415	467	103	58	0	0	0	*	*	0	-
Scientific R&D services	5417	3,823	1,383	288	6	*	D	76	9	4	-
Other professional, scientific, and technical services	other 54	223	101	7	D	0	D	2	*	1	-
Health care services	621-623	163	86	70	0	0	0	2	1	0	-
Other nonmanufacturing	55, 56, 61, 624, 71, 72, 81	D	D	D	0	0	0	*	*	*	-
All companies	21-23, 31-33, 42-81	38,636	22,502	8,191	132	14	14	1,277	513	506	5,487
Small companies (number of domestic employees) ^a											-
5-499	-	8,333	2,527	710	14	3	1	120	22	70	-
5-99	-	5,109	831	276	3	*	*	45	14	13	-
5-49	-	3,708	442	133	1	*	0	28	8	3	-
5-24	-	2,412	166	51	1	0	0	8	3	1	-
25-49	-	1,296	275	82	*	*	0	20	6	3	-
50-99	-	1,401	389	143	1	*	*	18	5	10	-
100-249	-	1,933	939	259	8	2	1	D	4	D	-
250-499	-	1,291	757	175	3	* i	* i	D	4	D	-

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Medium and large companies (number of domestic employees)											
500-999	-	1,575	1,016	358	1	*	*	19	5	6	-
1,000-4,999	-	5,518	3,663	1,124	2	2	8	136	13	259	-
5,000-9,999	-	3,456	2,414	664	D	D	1	276	21	18	-
10,000-24,999	-	8,543	5,971	1,690	D	D	*	381	259	103	-
25,000 or more	-	11,211	6,911	3,645	37	1	4	346	193	50	-

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

NAICS = 2002 North American Industry Classification System.

^a Upper bound based on U.S. Small Business Administration's definition of small business; Business R&D and Innovation Survey (BRDIS) does not include companies with fewer than five domestic employees. After 2008 BRDIS sample was selected and surveyed, an error was identified that resulted in excluding 226,884 single-establishment companies with five paid employees from sample frame. Most excluded establishments were classified in industries with low R&D intensities, such as construction, retail trade, and service sectors. Based on available information for these small single-establishment companies, their contribution to 2008 R&D estimates is estimated to be negligible.

NOTES: NAICS 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. Detailed data were not collected on BRDI-1A questionnaire. Statistics are representative of companies located in 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, 2008.