

TABLE 47. Domestic R&D paid for by the company and others and performed by the company with environmental protection applications, by industry and company size: 2008

(Millions of U.S. dollars)

Industry and company size	NAICS code	Total	Funded by company	Funded by others
All industries	21–23, 31–33, 42–81	8,198	6,923	1,274
Manufacturing industries	31–33	6,812	6,197	614
Food	311	21	21	*
Beverage and tobacco products	312	4	4	0
Textiles, apparel, and leather products	313–316	37	36	1
Wood products	321	10	10	0
Paper	322	41	41	*
Printing and related support activities	323	18	18	0
Petroleum and coal products	324	D	227	D
Chemicals	325	660	646	14
Basic chemicals	3251	157	151	6
Resin, synthetic rubber, fibers, and filaments	3252	50	50	*
Pesticide, fertilizer, and other agricultural chemical	3253	24	24	0
Pharmaceuticals and medicines	3254	D	48	D
Soap, cleaning compound, and toilet preparation	3256	233	232	*
Paint, coating, adhesive, and other chemical	3255, 3259	D	141	D
Plastics and rubber products	326	131	118	12
Nonmetallic mineral products	327	151	136	15
Primary metals	331	19	19	*
Fabricated metal products	332	132	131	1
Machinery	333	1,765	1,762	3
Agricultural implements	33311	39	39	0
Semiconductor machinery	333295	3	3	*
Engine, turbine, and power transmission equipment	3336	388	388	0
Other machinery	other 333	1,335	1,332	3
Computer and electronic products	334	1,085	1,057	29
Communications equipment	3342	118	118	0
Semiconductor and other electronic components	3344	200	194	6
Navigational, measuring, electromedical, and control instruments	3345	571	557	13
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	350	339	11
Search, detection, navigation, guidance, aeronautical, and nautical system and instruments	334511	80	80	*
Other measuring and controlling instruments	other 3345	140	138	2
Computer and peripheral equipment and other computer and electronic products	3341, 3343, 3346	197	188	9
Electrical equipment, appliances, and components	335	344	342	2
Transportation equipment	336	2,053	1,534	519
Automobiles, bodies, trailers, and parts	3361–3363	1,102	1,076	26
Aerospace products and parts	3364	918	432	486
Aircraft, aircraft engine, and aircraft parts	336411–336413	D	427	D
Guided missile, space vehicle, and related parts	336414, 336415, 336419	D	4	D
Military armored vehicle, tank, and tank components	336992	*	*	*
Other transportation equipment	other 336	32	26	6
Furniture and related products	337	32	32	0
Miscellaneous manufacturing	339	D	64	D
Medical equipment and supplies	3391	9	8	*
Other miscellaneous manufacturing	3399	D	55	D
Nonmanufacturing industries	21–23, 42–81	1,386	726	660
Mining, extraction, and support activities	21	46	42	4
Utilities	22	76	64	12
Construction	23	14	14	0
Wholesale trade	42	46	19	27
Retail trade	44, 45	2	1	1
Electronic shopping and mail-order houses	4541	1	0	1
Other retail trade	other 44, 45	1	1	*
Transportation and warehousing	48, 49	2	2	*
Information	51	76	65	11

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Publishing	511	66	54	11
Newspaper, periodical, book, and directory publishers	5111	1	1	0
Software publishers	5112	65	54	11
Telecommunications	517	*	*	0
Internet service providers, Web search portals, and data processing services	518	4	4	0
Other information	other 51	6	6	0
Finance and insurance	52	* i	* i	0
Real estate and rental and leasing	53	0	*	0
Professional, scientific, and technical services	54	1,101	506	595
Architectural, engineering, and related services	5413	205	129	76
Computer systems design and related services	5415	275	179	95
Scientific R&D services	5417	558	168	390
Other professional, scientific, and technical services	other 54	63	29	34
Health care services	621-623	*	*	*
Other nonmanufacturing	55, 56, 61, 624, 71, 72, 81	22	13	9
All companies	21-23, 31-33, 42-81	8,198	6,923	1,274
Small companies (number of domestic employees) ^a				
5-499	-	1,934	1,340	594
5-99	-	1,279	726	553
5-49	-	969	492	476
5-24	-	445	278	167
25-49	-	524	214	310
50-99	-	310	233	77
100-249	-	487	455	32
250-499	-	168	159	9
Medium and large companies (number of domestic employees)				
500-999	-	215	201	14
1,000-4,999	-	1,046	990	56
5,000-9,999	-	563	517	47
10,000-24,999	-	1,838	1,794	44
25,000 or more	-	2,601	2,081	520

* = 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: 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 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.