

Appendix table 4-13

## Worldwide R&amp;D expense for R&amp;D performed by the company, by industry and company size: 2008

(Millions of U.S. dollars)

Industry and company size	NAICS code	R&D expense for R&D performed by the company		
		Worldwide	Domestic	Foreign
All industries	21-23, 31-33, 42-81	289,403	232,505	56,899
Manufacturing industries	31-33	209,660	164,386	45,274
Food	311	2,659	2,063	596
Beverage and tobacco products	312	900	777	123
Textile, apparel, and leather	313-16	1,169	802	367
Wood products	321	274	270	4
Paper manufacturing	322	1,430	1,156	274
Printing and related support activities	323	321	312	9
Petroleum and coal products	324	D	D	D
Chemicals	325	68,592	55,042	13,549
Basic chemicals	3251	5,206	4,012	1,194
Resin, synthetic rubber, fibers, and filament	3252	950	726	224
Pesticide, fertilizer, and other agricultural chemical manufacturing	3253	1,312	941	370
Pharmaceuticals and medicines	3254	55,648	45,169	10,479
Soap, cleaning compound, and toilet preparation	3256	3,064	2,099	965
Paint, coating, adhesive, and other chemicals manufacturing	3255, 3259	2,412	2,095	317
Plastics and rubber products	326	2,053	1,713	339
Nonmetallic mineral products	327	1,615	1,509	106
Primary metals	331	768	654	114
Fabricated metal products	332	2,550	2,362	188
Machinery	333	11,764	9,846	1,918
Agricultural implement manufacturing	33311	1,580	1,181	399
Semiconductor machinery manufacturing	333295	2,476	2,113	362
Engine, turbine, and power transmission equipment manufacturing	3336	1,372	1,280	92
Other machinery manufacturing	other 333	6,337	5,272	1,065
Computer and electronic products	334	68,331	52,912	15,419
Communications equipment	3342	14,423	11,484	2,939
Semiconductor and other electronic components	3344	28,490	21,588	6,902
Navigational, measuring, electromedical, and control instruments	3345	12,666	10,463	2,203
Electromedical, electrotherapeutic, and irradiation apparatus manufacturing	334510, 334517	5,731	4,896	834
Search, detection, navigation, guidance, aeronautical, and nautical system and instrument manufacturing	334511	D	2,803	D
Other measuring and controlling device manufacturing	other 3345	D	2,764	D
Computer and peripheral equipment and other computer and electronic products	3341, 3343, 3346	12,752	9,377	3,375
Electrical equipment, appliances, and components	335	4,099	2,947	1,152
Transportation equipment	336	32,835	23,039	9,796
Automobiles, bodies, trailers, and parts	3361, 3362, 3363	20,547	12,234	8,313
Aerospace products and parts	3364	11,850	10,371	1,479
Aircraft, aircraft engine, and aircraft parts manufacturing	336411-336413	D	9,698	D
Guided missile, space vehicle, and related parts manufacturing	336414, 336415, 336419	D	673	D
Military armored vehicle, tank, and tank component manufacturing	336992	25	25	0
Other transportation	other 336	413	409	3
Furniture and related products	337	504	477	27
Miscellaneous manufacturing	339	D	D	D
Medical equipment and supplies manufacturing	3391	5,940	5,179	762
Other miscellaneous manufacturing	3399	D	D	D
Nonmanufacturing industries	21-23, 42-81	79,743	68,118	11,625
Mining, extraction, and support activities	21	1,676	1,478	198

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(Millions of U.S. dollars)

Industry and company size	NAICS code	R&D expense for R&D performed by the company		
		Worldwide	Domestic	Foreign
Utilities	22	197	190	6
Construction	23	D	D	0
Wholesale trade	42	2,442	1,944	499
Retail trade	44-45	D	1,029	D
Electronic shopping and mail-order houses	4541	D	674	D
Other retail trade	other 44-45	354	354	0
Transportation and warehousing	48-49	136	134	2
Information	51	44,524	36,922	7,602
Publishing	511	34,126	27,871	6,255
Newspaper, periodical, book, and directory publishers	5111	233	205	27
Software publishers	5112	33,893	27,665	6,228
Telecommunications	517	1,776	1,601	175
Internet service providers, Web search portals, and data processing services	518	7,572	6,493	1,080
Other information	other 51	1,050	958	93
Finance and insurance	52	1,156	1,084	73
Real estate and rental and leasing	53	311	246	65
Professional, scientific, and technical services	54	23,493	20,539	2,954
Architectural, engineering, and related services	5413	1,495	1,378	117
Computer systems design and related services	5415	10,645	8,569	2,077
Scientific research and development services	5417	9,273	8,708	564
Other professional, scientific, and technical services	other 54	2,080	1,884	196
Health care services	621-23	1,033	1,032	1
Other nonmanufacturing	55-56, 61, 624, 71-72, 81	D	D	D
All companies	21-23, 31-33, 42-81	289,403	232,505	56,899
Small companies (number of employees) <sup>a</sup>				
5-499	-	50,922	46,396	4,526
5-99	-	26,682	24,890	1,792
5-49	-	18,479	17,642	836
5-24	-	10,571	10,333	238
25-49	-	7,907	7,309	598
50-99	-	8,204	7,248	956
100-249	-	14,555	12,933	1,622
250-499	-	9,684	8,572	1,112
Medium and large companies (number of employees)				
500-999	-	11,353	9,673	1,680
1,000-4,999	-	49,638	39,010	10,628
5,000-9,999	-	24,923	20,358	4,565
10,000-24,999	-	54,272	43,049	11,223
25,000 or more	-	98,297	74,020	24,277

D = data withheld to avoid disclosing operations of individual companies

BRDIS = Business R&amp;D and Innovation Survey; NAICS = 2002 North American Industry Classification System

<sup>a</sup>Upper bound based on U.S. Small Business Administration's definition of a small business; BRDIS 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&amp;D performance where available. For companies that did not report business codes, classification used for sampling was assigned.

SOURCE: National Science Foundation, National Center for Science and Engineering Statistics, and U.S. Census Bureau, Business R&amp;D and Innovation Survey, 2008.