

TABLE 5. Worldwide R&D paid for by the company and performed by the company and others and domestic R&D paid for and performed by the company, by business activity: 2008

(Millions of U.S. dollars)

Business activity	Business code ^a	Worldwide R&D	Domestic R&D
All business activities	21100-81390	328,040	232,505
Oil and gas extraction	21100	1,215	609
Coal mining	21210	55	52
Metal ore mining	21220	67	57
Nonmetallic mineral mining and quarrying	21230	129	126
Support activities for oil and gas operations	21300	914	706
Support activities for solid mineral operations	21310	*	*
Electric power generation, transmission, and distribution	22110	437	237
Natural gas distribution	22120	19	1
Water, sewage, and other systems	22130	10	7
Construction of buildings	23600	377	367
Heavy and civil engineering construction	23700	40	31
Specialty trade contractors	23800	1,123	1,065
Food	31100	2,983	2,196
Beverage	31210	605	437
Tobacco	31220	D	D
Textile mill products	31300	474	318
Apparel	31500	448	424
Leather and allied products	31600	65	56
Wood products	32100	264	216
Paper	32200	1,130	896
Printing and related support activities	32300	297	291
Petroleum and coal products	32400	1,082 i	949 i
Basic chemicals	32510	3,806	2,871
Resin, synthetic rubber, and artificial synthetic fibers and filaments	32520	1,152	889
Pesticide, fertilizer, and other agricultural chemical	32530	2,100	1,378
Pharmaceutical, medicinal, botanical, and biological products (except diagnostic)	32541	70,016	41,593
In-vitro diagnostic substances	32542	1,988	982
Soap, cleaning compound, and toilet preparation	32591	2,787	1,982
Paint, adhesive, and other chemical	32592	2,152	1,750
Plastics and rubber products	32600	2,536	2,099
Clay and glass products	32710	966 i	903 i
Cement, concrete, lime, gypsum, and other nonmetallic mineral product	32790	738	545
Iron and steel mills, ferroalloy, and steel product from purchased steel	33110	331	250
Nonferrous metals production and processing	33130	415	292
Ferrous and nonferrous foundries	33150	85	83
Fabricated metal products	33200	2,935	2,474
Farm machinery and equipment	33311	1,404	859
Construction machinery	33312	581	498
Mining machinery and equipment	33313	1,689	1,408
Oil and gas field machinery and equipment	33314	277	255 i
Semiconductor machinery	33321	2,553	2,152
Industrial machinery, except semiconductor machinery	33322	1,191	831
Commercial, service industry, temperature control, and air-flow control machinery	33330	1,110	859
Engine, turbine, and power transmission equipment	33360	2,386	1,859
Metalworking and other general purpose machinery	33390	2,039	1,394
Computers and peripheral equipment	33410	12,443	9,223
Telephone apparatus	33421	6,739	5,424
Radio and television broadcasting and wireless communications equipment	33422	5,958	4,184

TABLE 5. Worldwide R&D paid for by the company and performed by the company and others and domestic R&D paid for and performed by the company, by business activity: 2008

(Millions of U.S. dollars)

Business activity	Business code ^a	Worldwide R&D	Domestic R&D
Communication equipment, except broadcasting, wireless, and telephone apparatus	33429	2,482	1,833
Audio and video equipment	33430	773	610
Semiconductor and other electronic components	33440	29,911	22,674
Electromedical, electrotherapeutic, and irradiation apparatus	33451	3,822	2,853
Search, detection, navigation, guidance, aeronautical, and nautical system and instruments	33452	1,845	1,563
Measuring and control instruments (not listed elsewhere)	33459	3,458	2,614
Manufacturing and reproducing magnetic and optical media	33460	54	53
Electrical equipment, appliances, and components	33500	4,687	2,978
Motor vehicles	33610	18,296	8,305
Motor vehicle body and trailer	33620	70	62
Motor vehicle parts	33630	5,401	3,378
Aircraft	33641	4,053	3,915
Aircraft engine and engine parts	33642	2,433	1,612
Other aircraft parts and auxiliary equipment	33643	1,222	942
Guided missile, space vehicle, and related parts	33644	1,402	1,310
Railroad rolling stock	33651	195	146
Ship and boat building	33660	151	139
Motorcycle, bicycle, and parts	33691	199	173
Military armored vehicle, tank, and tank components	33692	107	111
All other transportation equipment	33699	176	148
Furniture and related products	33700	511	435
Medical equipment and supplies	33910	11,587	8,521
Miscellaneous manufacturing (not listed elsewhere)	33990	2,976	2,316
Merchant wholesalers, durable goods	42300	449	393
Merchant wholesalers, nondurable goods	42400	257	174
Wholesale electronic markets and agents and brokers	42500	14	12
Motor vehicle and parts dealers	44100	0	1
Electronics and appliance stores	44300	*	*
Food and beverage stores	44500	2	2
Clothing and clothing accessories stores	44800	1	8
General merchandise stores	45200	34	13
Electronic shopping and mail-order houses	45410	480	D
Nonstore retailers, except electronic shopping and mail-order houses	45490	12	1
Retail trade stores, including gasoline stations (not listed elsewhere)	45990	343	336
Air transportation	48100	D	D
Rail transportation	48200	37	37
Water transportation	48300	5	5
Truck transportation	48400	20	18
Transit and ground passenger transportation	48500	1	1
Pipeline transportation of crude oil, refined petroleum, and miscellaneous products, except natural gas	48610	0	0
Pipeline transportation of natural gas	48620	3	0
Scenic and sightseeing transportation	48700	0	0
Support activities for transportation	48800	36	30
Couriers and messengers	49200	D	D
Warehousing and storage	49300	26	30
Newspaper, periodical, book, and directory publishers (except Internet)	51110	180	156
Software publishers (except Internet)	51120	31,369	23,860
Motion picture and sound recording (except Internet)	51200	104	94
Radio and television broadcasting (except Internet)	51510	48	32
Cable and other subscription programming (except Internet)	51520	D	D
Internet publishing and broadcasting	51600	188	179
Wired telecommunications carriers	51710	673	511

TABLE 5. Worldwide R&D paid for by the company and performed by the company and others and domestic R&D paid for and performed by the company, by business activity: 2008

(Millions of U.S. dollars)

Business activity	Business code ^a	Worldwide R&D	Domestic R&D
Wireless telecommunications carriers (except satellite)	51720	532 i	294
Satellite telecommunications	51740	153	121
Cable and other program distribution	51750	367	286
Telecommunications services (not listed elsewhere)	51790	501	393
Internet service providers and Web search portals	51810	4,558	3,718 i
Data processing, hosting, and related services	51820	3,515	3,004
Information services (not listed elsewhere)	51900	898	815
Depository credit intermediation	52210	284 i	282 i
Nondepository credit intermediation	52220	3	2
Activities related to credit intermediation	52230	430	376
Securities, commodity contracts, and other financial investments and related activities	52300	389	339
Insurance carriers	52410	199	145
Agencies, brokerages, and other insurance-related activities	52420	125 i	118 i
Funds, trusts, and other financial vehicles	52500	101	101
Real estate	53100	20	19
Automotive equipment rental and leasing	53210	D	D
Consumer goods and general rental centers	53220	296	131
Commercial and industrial machinery and equipment rental and leasing	53240	101	43
Lessors of nonfinancial intangible assets	53300	80	76
Legal services	54110	D	D
Accounting, tax preparation, bookkeeping, and payroll services	54120	676	577
Architectural, engineering, and related services	54130	1,742	1,365
Specialized design services	54140	75	58
Computer systems design and related services	54150	11,476	8,384
Management, scientific, and technical consulting services	54160	1,110	884
Scientific R&D services	54170	12,656	8,464
Advertising and related services	54180	37	60
Professional, scientific, and technical services (not listed elsewhere)	54190	439	374
Management of companies and enterprises	55100	11	11
Business support services	56140	125	83
Travel arrangement and reservation services	56150	27	19
Investigation, security, and services to buildings and dwellings	56160	137	61
Office administrative, facilities, employment, and other support services	56190	1,139	1,126
Waste collection, treatment, and disposal	56210	7	7
Remediation and other waste management services	56290	*	*
Educational services	61100	202	185
Offices of physicians	62110	40	30
Offices of dentists and other health practitioners	62120	202	201
Medical and diagnostic laboratories	62150	903	781
Home health care services	62160	3	3
Outpatient care centers and other ambulatory health care services	62190	53	7
General medical and surgical hospitals	62210	13	12
Psychiatric, substance abuse, and specialty hospitals	62220	0	0
Nursing and residential care facilities	62300	15	10
Social assistance (except child day care services)	62400	8	6
Child day care services	62440	1	1
Performing arts, spectator sports, and related industries	71100	24	24
Amusement, gambling, and recreation industries	71300	138	78
Traveler accommodation services	72100	0	0
Food services and drinking places	72200	481	480
Automotive repair and maintenance	81110	307	269
Repair and maintenance, except automotive	81190	99	55

TABLE 5. Worldwide R&D paid for by the company and performed by the company and others and domestic R&D paid for and performed by the company, by business activity: 2008

(Millions of U.S. dollars)

Business activity	Business code ^a	Worldwide R&D	Domestic R&D
Personal care, death care, laundry, and other personal services	81200	37	30
Business, professional, labor, political, and similar organizations	81390	1	0
Undistributed	-	10,660	9,209

* = 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.

^aData tabulated independent of industry classification of company. Companies were asked to report their sales and R&D into one or more business codes. Business codes and descriptions based on 2002 North American Industry Classification System industry definitions.

NOTES: Detail may not add to total because of rounding. 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.