

TABLE 54. 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: 2009

(Millions of U.S. dollars)

Business activity	Business code ^a	Worldwide R&D	Domestic R&D
All business activities	21100-81390	312,444	224,920
Oil and gas extraction	21100	1,220	980
Coal mining	21210	D	D
Metal ore mining	21220	42	29
Nonmetallic mineral mining and quarrying	21230	18	13
Support activities for solid mineral operations	21310	0	0
Support activities for oil and gas operations	21320	988	881
Electric power generation, transmission, and distribution	22110	1,565	878
Natural gas distribution	22120	28	11
Water, sewage, and other systems	22130	14	11
Construction of buildings	23600	93	79
Heavy and civil engineering construction	23700	58	33
Specialty trade contractors	23800	47	46
Food	31100	4,200	3,341
Beverage	31210	564	350
Tobacco	31220	792	D
Textile mill products	31300	288	221
Textile product mills	31400	38	10
Apparel	31500	172	124
Leather and allied products	31600	111	108
Wood products	32100	577	474
Paper	32200	1,142	826
Printing and related support activities	32300	243	224
Petroleum and coal products	32400	1,051	800
Basic chemicals	32510	2,958	2,134
Resin, synthetic rubber, and artificial synthetic fibers and filaments	32520	1,460	1,022
Pesticide, fertilizer, and other agricultural chemical	32530	1,991	1,206 i
Pharmaceutical, medicinal, botanical, and biological products (except diagnostic)	32541	66,899	39,850
In-vitro diagnostic substances	32542	1,158	869
Soap, cleaning compound, and toilet preparations	32591	2,882	2,051
Paint, adhesive, and other chemical	32592	2,316	1,881
Plastics and rubber products	32600	2,859	2,180
Clay and glass products	32710	313	275
Cement, concrete, lime, gypsum, and other nonmetallic mineral product	32790	558	306
Iron and steel mills, ferroalloy, and steel product from purchased steel	33110	257	231
Nonferrous metals production and processing	33130	340	241
Ferrous and nonferrous foundries	33150	177	155
Fabricated metal products	33200	2,430	2,007
Farm machinery and equipment	33311	1,331	805
Construction machinery	33312	658	440
Mining machinery and equipment	33313	1,406	1,081
Oil and gas field machinery and equipment	33314	239	178
Semiconductor machinery	33321	1,975	1,688
Industrial machinery, except semiconductor machinery	33322	861	718
Photographic and photocopying equipment	33331	801	610
Commercial, service industry, temperature control, and air-flow control machinery	33332	964	671
Engine, turbine, and power transmission equipment	33360	1,597	1,285
Metalworking and other general purpose machinery	33390	1,632	1,252
Computers and peripheral equipment	33410	12,827	10,032
Telephone apparatus	33421	7,646	6,039
Radio and television broadcasting and wireless communications equipment	33422	5,552	3,944
Communication equipment, except broadcasting, wireless, and telephone apparatus	33429	1,359	1,020
Audio and video equipment	33430	978	634

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Semiconductor and other electronic components	33440	26,075	18,771
Electromedical, electrotherapeutic, and irradiation apparatus	33451	1,702	1,423
Search, detection, navigation, guidance, aeronautical, and nautical system and instruments	33452	3,127	2,399
Measuring and control instruments (not listed elsewhere)	33459	3,044	2,191
Manufacturing and reproducing magnetic and optical media	33460	226	164
Electrical equipment, appliances, and components	33500	4,330	3,064
Motor vehicles	33610	13,165	7,098
Motor vehicle body and trailer	33620	92	79
Motor vehicle parts	33630	4,177	2,809
Aircraft	33641	7,391	7,203
Aircraft engine and engine parts	33642	1,766	975
Other aircraft parts and auxiliary equipment	33643	1,135	881
Guided missile, space vehicle, and related parts	33644	1,176	1,033
Railroad rolling stock	33651	83	64
Ship and boat building	33660	617 i	606 i
Motorcycle, bicycle, and parts	33691	193	188
Military armored vehicle, tank, and tank components	33692	227	197
All other transportation equipment	33699	135	126
Furniture and related products	33700	497	372
Medical equipment and supplies	33910	10,619	7,467
Miscellaneous manufacturing (not listed elsewhere)	33990	2,791	2,371
Merchant wholesalers, durable goods	42300	720	543
Merchant wholesalers, nondurable goods	42400	282	234 i
Wholesale electronic markets and agents and brokers	42500	32 i	26 i
Motor vehicle and parts dealers	44100	3	2
Electronics and appliance stores	44300	10	10
Food and beverage stores	44500	5	4
Clothing and clothing accessories stores	44800	6	4
General merchandise stores	45200	5	2
Electronic shopping and mail-order houses	45410	659	588
Nonstore retailers, except electronic shopping and mail-order houses	45490	15	9
Retail trade stores, including gasoline stations (not listed elsewhere)	45990	10	9
Air transportation	48100	31	31
Rail transportation	48200	185	169
Water transportation	48300	*	*
Truck transportation	48400	19	19
Transit and ground passenger transportation	48500	2	2
Pipeline transportation of crude oil, refined petroleum, and miscellaneous products, except natural gas	48610	4	3
Pipeline transportation of natural gas	48620	25	25
Scenic and sightseeing transportation	48700	0	0
Support activities for transportation	48800	53	44
Couriers and messengers	49200	14	4
Warehousing and storage	49300	17	15
Newspaper, periodical, book, and directory publishers (except Internet)	51110	750	693
Software publishers (except Internet)	51120	26,542	20,875
Motion picture and sound recording (except Internet)	51200	137	126
Radio and television broadcasting (except Internet)	51510	72	68 i
Cable and other subscription programming (except Internet)	51520	158	117
Cable and other program distribution	51711	281	133
Broadband Internet service providers (e.g., cable, DSL)	51712	51	51
Wired telecommunications carriers (except cable and broadband Internet)	51713	D	D
Wireless telecommunications carriers (except satellite)	51720	188	85
Satellite telecommunications	51740	108	90

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Internet service providers using client-supplied telecommunications connections (e.g., dial-up, ISPs)	51791	27	23
Telecommunications services (not listed elsewhere)	51792	308	234
Data processing, hosting, and related services	51800	2,906	2,534
Internet publishing and broadcasting and Web search portals	51913	3,856	3,269
Information services (not listed elsewhere)	51919	533	439
Monetary authorities-central bank	52100	D	D
Depository credit intermediation	52210	328	180
Nondepository credit intermediation	52220	40	35
Activities related to credit intermediation	52230	413	349
Securities, commodity contracts, and other financial investments and related activities	52300	576	422
Insurance carriers	52410	714	617
Agencies, brokerages, and other insurance-related activities	52420	96	57
Funds, trusts, and other financial vehicles	52500	108	D
Real estate	53100	32	24
Automotive equipment rental and leasing	53210	21	9
Consumer goods and general rental centers	53220	300	259
Commercial and industrial machinery and equipment rental and leasing	53240	21	14
Lessors of nonfinancial intangible assets	53300	15	15
Legal services	54110	2	1
Accounting, tax preparation, bookkeeping, and payroll services	54120	D	D
Architectural, engineering, and related services	54130	1,119	978
Specialized design services	54140	76	75
Computer systems design and related services	54150	12,006	10,276
Management, scientific, and technical consulting services	54160	2,223	1,940
R&D services in social sciences and humanities	54172	103	54
R&D services in biotechnology	54173	8,263	5,432
R&D services in physical, engineering, and life sciences (except biotechnology)	54174	4,168	2,913
Advertising and related services	54180	3,163	2,902
Professional, scientific, and technical services (not listed elsewhere)	54190	1,157	965
Management of companies and enterprises	55100	40	23
Business support services	56140	217	180
Travel arrangement and reservation services	56150	31	10
Investigation, security, and services to buildings and dwellings	56160	46	21
Office administrative, facilities, employment, and other support services	56190	264	185
Waste collection, treatment, and disposal	56210	15	12
Remediation and other waste management services	56290	0	0
Educational services	61100	8	7
Offices of physicians	62110	36	30
Offices of dentists and other health practitioners	62120	9	8
Medical and diagnostic laboratories	62150	235	216
Home health care services	62160	4	3
Outpatient care centers and other ambulatory health care services	62190	34	33
General medical and surgical hospitals	62210	62 i	61 i
Psychiatric, substance abuse, and specialty hospitals	62220	0	0
Nursing and residential care facilities	62300	0	0
Social assistance (except child day care services)	62400	D	D
Performing arts, spectator sports, and related industries	71100	41	40
Amusement, gambling, and recreation industries	71300	174	125
Traveler accommodation services	72100	0	0
Food services and drinking places	72200	49	40
Automotive repair and maintenance	81110	16	16
Repair and maintenance, except automotive	81190	104	42
Personal care, death care, laundry, and other personal services	81200	35	29

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Religious, grantmaking, social advocacy, civic, and social organizations	81310	*	*
Business, professional, labor, political, and similar organizations	81390	3	*
Undistributed	-	14,716	10,808

* = 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.

DSL = digital subscriber line; ISP = internet service provider.

^a Data 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 2007 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, 2009.