

TABLE 12

Domestic R&D paid for by the company and others and performed by the company, by type of R&D, industry, and company size: 2022

(Millions of U.S. dollars)

Industry and company size	NAICS code	Total	Basic research	Applied research	Development
All industries	21–23, 31–33, 42–81	691,547	42,957	100,654	547,935
Manufacturing industries	31–33	372,459	30,875	60,512	281,072
Food	311	7,143	568	1,144	5,430
Beverage and tobacco products	312	767	99	201	466
Textile, apparel, and leather products	313–16	635	65	86	484
Wood products	321	259	17	20	221
Paper	322	1,005	131	225	649
Printing and related support activities	323	165	8	38	118
Petroleum and coal products	324	860	166	361	334
Chemicals	325	125,728	18,722	24,783	82,224
Basic chemicals	3251	2,860	412	757	1,692
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	1,493	D	D	826
Pesticide, fertilizer, and other agricultural chemicals	3253	1,193	D	D	498
Pharmaceuticals and medicines	3254	116,073	17,725	22,365	75,983
Soap, cleaning compound, and toilet preparations	3256	2,886	D	D	2,363
Paint, coating, adhesive, and other chemicals	3255, 3259	1,223	79	282	862
Plastics and rubber products	326	3,470	229	659	2,582
Nonmetallic mineral products	327	1,464	162	328	974
Primary metals	331	1,120	64	160	896
Fabricated metal products	332	3,526	259	575	2,692
Machinery	333	19,464	1,478	2,766	15,219
Agricultural implement	33311	2,287	152	224	1,910
Semiconductor machinery	333242	5,438	671	899	3,868
Engine, turbine, and power transmission equipment	3336	3,026	24	612	2,390
Other machinery	other 333	8,713	631	1,031	7,050
Computer and electronic products	334	104,718	3,797	13,089	87,832
Communications equipment	3342	11,665	433	1,184	10,048
Semiconductor and other electronic components	3344	49,330	2,070	4,642	42,617
Navigational, measuring, electromedical, and control instruments	3345	12,777	455	2,209	10,112
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	4,578	153	948	3,477
Search, detection, navigation, guidance, aeronautical, and nautical system and instruments	334511	4,146	112	598	3,436
Other measuring and controlling devices	other 3345	4,053	190	663	3,200
Other computer and electronic products	other 334	30,946	838	5,053	25,055
Electrical equipment, appliances, and components	335	7,086	281	837	5,968
Transportation equipment	336	71,259	3,984	12,258	55,017
Motor vehicles, bodies, trailers, and parts	3361–63	32,881	D	D	25,686

TABLE 12

Domestic R&D paid for by the company and others and performed by the company, by type of R&D, industry, and company size: 2022

(Millions of U.S. dollars)

Industry and company size	NAICS code	Total	Basic research	Applied research	Development
Aerospace products and parts	3364	35,356	2,050	i 6,564	26,742
Aircraft, aircraft engine, and aircraft parts	336411-13	24,571	i 1,663	i 4,254	18,655
Guided missile, space vehicle, and related parts	336414-15, 336419	10,785	387	2,310	8,087
Military armored vehicle, tank, and tank components	336992	30	1	4	24
Other transportation	other 336	2,992	D	D	2,564
Furniture and related products	337	410	23	133	i 254
Miscellaneous	339	23,382	821	2,848	19,713
Medical equipment and supplies	3391	20,394	609	2,478	17,307
Other miscellaneous manufacturing	3399	2,989	212	370	2,406
Nonmanufacturing industries	21-23, 42-81	319,088	12,082	40,143	266,863
Mining, quarrying, oil and gas extraction, and support activities	21	D	41	241	i D
Utilities	22	D	35	54	D
Wholesale trade	42	D	160	292	D
Electronic shopping and electronic auctions	454111-12	D	27	D	D
Transportation and warehousing	48-49	9,395	D	D	8,588
Information	51	182,340	4,934	11,532	165,874
Publishing	511	50,367	1,740	3,034	45,593
Newspaper, periodical, book, and directory publishers	5111	72	3	3	66
Software publishers	5112	50,295	1,737	3,031	45,527
Telecommunications	517	3,690	249	699	2,742
Data processing, hosting, and related services	518	49,407	1,814	4,091	43,501
Other information	other 51	78,876	1,130	3,707	74,038
Finance and insurance	52	17,222	657	2,938	13,627
Real estate and rental and leasing	53	2,398	i 23	812	1,562
Lessors of nonfinancial intangible assets (except copyrighted works)	533	5	i 1	i 2	i 2
Other real estate and rental and leasing	other 53	2,393	i 22	810	1,560
Professional, scientific, and technical services	54	74,773	5,500	19,573	i 49,701
Architectural, engineering, and related services	5413	3,883	290	727	2,866
Computer systems design and related services	5415	22,534	2,233	4,500	15,801
Scientific research and development services	5417	39,625	i 2,658	i 13,471	i 23,497
Research and development in nanotechnology	541713	282	24	117	141
Research and development in biotechnology (except nanobiotechnology)	541714	10,226	547	1,272	8,407
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	28,420	i 1,458	i 12,050	i 14,912
Research and development in the social sciences and humanities	541720	698	629	i 33	37
Other professional, scientific, and technical services	other 54	8,730	319	875	7,537
Health care services	621-23	2,855	323	551	1,981

TABLE 12

Domestic R&D paid for by the company and others and performed by the company, by type of R&D, industry, and company size: 2022

(Millions of U.S. dollars)

Industry and company size	NAICS code	Total	Basic research	Applied research	Development
Other nonmanufacturing	23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81	3,394	D	D	D
All companies (number of domestic employees)	-	691,547	42,957	100,654	547,935
Small companies					
10-19 ^a	-	5,277	468	1,310	3,498
20-49	-	14,695	1,188	3,701	9,807
Medium companies					
50-99	-	15,265	1,540	3,410	10,315
100-249	-	27,847	2,715	5,954	19,178
Large companies					
250-499	-	29,549	3,419	5,436	20,695
500-999	-	31,802	1,871	5,421	24,510
1,000-4,999	-	104,505	8,597	15,414	80,495
5,000-9,999	-	58,709	4,144	6,546	48,019
10,000-24,999	-	121,142	7,754	i 20,685	92,703
25,000 or more	-	282,756	11,260	32,779	238,717

D = data withheld to avoid disclosing operations of individual companies; i = more than 50% of the estimate is a combination of imputation and reweighting to account for nonresponse.

NAICS = 2017 North American Industry Classification System.

^a The Business Enterprise Research and Development Survey does not include companies with fewer than 10 domestic employees.

Note(s):

Detail may not add to total because of rounding. Industry classification is based on the dominant business code for domestic R&D performance, where available. For companies that did not report business codes, the classification used for sampling was assigned. Statistics are representative of companies located in the United States that performed or funded \$50,000 or more of R&D and are not comparable with estimates published for years prior to 2018.

Source(s):

National Center for Science and Engineering Statistics and Census Bureau, Business Enterprise Research and Development Survey, 2022.