

Table 27. Domestic R&D paid for and performed by the company, by type of R&D, industry, and company size: 2023

(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	635,478	36,926	89,755	508,797
Manufacturing industries	31–33	342,966	25,746	59,724	257,496
Food	311	5,497	342	834	4,320
Beverage and tobacco products	312	971	114	224	632
Textile, apparel, and leather products	313–16	739	68	81	589
Wood products	321	251	38	77	136
Paper	322	1,233	152	236	845
Printing and related support activities	323	327	105	35	187
Petroleum and coal products	324	956	225	415	316
Chemicals	325	124,078	15,634	30,600	77,843
Basic chemicals	3251	2,941	401	732	1,808
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	1,335	261	326	748
Pesticide, fertilizer, and other agricultural chemicals	3253	D	D	D	960
Pharmaceuticals and medicines	3254	114,225	14,608	28,364	71,253
Soap, cleaning compound, and toilet preparations	3256	2,729	59	453	2,218
Paint, coating, adhesive, and other chemicals	3255, 3259	D	D	D	856
Plastics and rubber products	326	3,035	202	559	2,274
Nonmetallic mineral products	327	1,337	205	281	852
Primary metals	331	611	74	116	421
Fabricated metal products	332	2,901	199	512	2,190
Machinery	333	20,489	1,339	2,654	16,495
Agricultural implement	33311	D	167	D	D
Semiconductor machinery	333242	D	D	D	4,556
Engine, turbine, and power transmission equipment	3336	D	D	603	3,442
Other machinery	other 333	8,446	D	D	D
Computer and electronic products	334	103,031	2,801	12,433	87,796
Communications equipment	3342	11,837	273	1,108	10,456
Semiconductor and other electronic components	3344	46,698	1,338	3,452	41,908
Navigational, measuring, electromedical, and control instruments	3345	10,912	442	2,288	8,182
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	4,174	51	1,245	2,878
Search, detection, navigation, guidance, aeronautical, and nautical system and instruments	334511	2,528	156	377	1,995
Other measuring and controlling devices	other 3345	4,210	235	666	3,309
Other computer and electronic products	other 334	33,583	748	5,585	27,250
Electrical equipment, appliances, and components	335	6,543	244	734	5,565
Transportation equipment	336	47,549	3,291	6,954	37,303
Motor vehicles, bodies, trailers, and parts	3361–63	30,450	2,606	2,622	25,222
Aerospace products and parts	3364	15,019	614	4,116	10,290
Aircraft, aircraft engine, and aircraft parts	336411–13	D	D	2,584	7,419
Guided missile, space vehicle, and related parts	336414–15, 336419	D	D	1,531	2,871
Military armored vehicle, tank, and tank components	336992	D	0	2	D
Other transportation	other 336	D	71	215	D
Furniture and related products	337	467	72	77	318
Miscellaneous	339	22,951	637	2,901	19,412
Medical equipment and supplies	3391	20,198	499	2,394	17,305
Other miscellaneous manufacturing	3399	2,752	138	507	2,107
Nonmanufacturing industries	21–23, 42–81	292,512	11,180	30,031	251,301
Mining, quarrying, oil and gas extraction, and support activities	21	D	51	137	D
Utilities	22	585	38	157	390
Wholesale trade	42	2,198	131	380	1,686
Electronic shopping and electronic auctions	454111–12	8,026	80	3,118	4,828

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Transportation and warehousing	48-49	12,253	126	312 i	11,816 i
Information	51	194,615	4,899	12,890	176,826
Publishing	511	51,517	1,525	2,830	47,162
Newspaper, periodical, book, and directory publishers	5111	12	*	1	11
Software publishers	5112	51,505	1,525	2,829	47,151
Telecommunications	517	D	228	D	D
Data processing, hosting, and related services	518	52,844	2,074	4,421	46,350
Other information	other 51	D	1,072	D	D
Finance and insurance	52	25,836	1,742	4,218	19,875
Real estate and rental and leasing	53	2,255	355	35	1,864
Lessors of nonfinancial intangible assets (except copyrighted works)	533	15 i	* i	2 i	14 r
Other real estate and rental and leasing	other 53	2,239	355	33	1,851
Professional, scientific, and technical services	54	39,426	3,105	7,960	28,361
Architectural, engineering, and related services	5413	2,839	205	481	2,153
Computer systems design and related services	5415	21,120	1,368	3,733	16,019
Scientific research and development services	5417	7,160	765	2,025	4,370
Research and development in nanotechnology	541713	238	26	37	175
Research and development in biotechnology (except nanobiotechnology)	541714	2,257	310	689	1,258
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	4,652	428	1,297	2,927
Research and development in the social sciences and humanities	541720	12	*	2	10
Other professional, scientific, and technical services	other 54	8,307	766	1,721	5,819
Health care services	621-23	D	293	426	D
Other nonmanufacturing	23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81	3,841	360	397	3,083
All companies (number of domestic employees)	-	635,478	36,926	89,755	508,797
Small companies					
10-19 ^a	-	4,698	467	1,112	3,120
20-49	-	12,354	1,156	2,870	8,328
Medium companies					
50-99	-	13,528	1,286	2,881	9,360
100-249	-	27,037	2,316	5,413	19,308
Large companies					
250-499	-	26,426	2,817	5,973	17,636
500-999	-	29,551	2,247	5,291	22,014
1,000-4,999	-	113,527	9,018	16,605	87,903
5,000-9,999	-	54,794	2,254	7,231	45,309
10,000-24,999	-	104,538	7,504	17,131	79,902
25,000 or more	-	249,027	7,861 i	25,248	215,918

* = amount < \$500,000; 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; r = relative standard error is more than 50%.

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.

Source(s):

National Center for Science and Engineering Statistics and Census Bureau, Business Enterprise Research and Development Survey, 2023.