

TABLE 28

Domestic R&D paid for and performed by the company, by type of R&D, industry, and company size: 2021

(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	527,804	32,763	69,130	425,912
Manufacturing industries	31-33	287,666	24,098	44,230	219,337
Food	311	4,963 - 4,968	409 - 415	970	3,584
Beverage and tobacco products	312	1,228	77	179	972
Textile, apparel, and leather products	313-16	818	73	90	655
Wood products	321	433 - 442	21	29	383 - 393
Paper	322	1,139	137	322	680
Printing and related support activities	323	196 - 205	0 - 9	24 - 33	164
Petroleum and coal products	324	952	266	288	398
Chemicals	325	97,097	15,468	19,049	62,580
Basic chemicals	3251	2,559	273	706	1,580
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	1,291 - 1,320	224	344	724 - 753
Pesticide, fertilizer, and other agricultural chemicals	3253	915 - 946	139 - 208	236 - 305	501
Pharmaceuticals and medicines	3254	88,524	14,599	17,210	56,715
Soap, cleaning compound, and toilet preparations	3256	2,531	97 - 138	248 - 289	2,144
Paint, coating, adhesive, and other chemicals	3255, 3259	1,242 - 1,252	66 - 94	236 - 264	885 - 914
Plastics and rubber products	326	2,961	201	546	2,214
Nonmetallic mineral products	327	1,503	247	324	932
Primary metals	331	887 - 890	29 - 32	76	781
Fabricated metal products	332	3,879	212	734	2,932
Machinery	333	16,726	1,366	2,190	13,170
Agricultural implement	33311	1,799 - 1,807	128 - 135	185 - 213	1,452 - 1,480
Semiconductor machinery	333242	5,182	600	696	3,886
Engine, turbine, and power transmission equipment	3336	1,239 - 1,246	22 - 30	174	1,043
Other machinery	other 333	8,499	601 - 615	1,106 - 1,136	6,760 - 6,789
Computer and electronic products	334	94,211	2,762	9,957	81,492
Communications equipment	3342	11,339	348	897	10,094
Semiconductor and other electronic components	3344	45,516	1,415	3,150	40,951
Navigational, measuring, electromedical, and control instruments	3345	10,014	477	2,121	7,416
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	2,837	104	1,118	1,614
Search, detection, navigation, guidance, aeronautical, and nautical system and instruments	334511	2,109	35	177	1,896
Other measuring and controlling devices	other 3345	5,068	337	826	3,905
Other computer and electronic products	other 334	27,342	521	3,789	23,032
Electrical equipment, appliances, and components	335	5,007	332	585	4,090
Transportation equipment	336	34,405	1,620	6,256	26,528
Motor vehicles, bodies, trailers, and parts	3361-63	22,754	910	4,913	16,931
Aerospace products and parts	3364	9,900	650	1,165	8,085
Aircraft, aircraft engine, and aircraft parts	336411-13	9,293	644	1,116	7,532
Guided missile, space vehicle, and related parts	336414-15, 336419	608	6	49	553
Military armored vehicle, tank, and tank components	336992	20 - 24	4	3	12 - 18

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Other transportation	other 336	1,726 - 1,731	55	176	1,494 - 1,501
Furniture and related products	337	423	34	126	263
Miscellaneous	339	20,822	820 - 832	2,470 - 2,484	17,507 - 17,527
Medical equipment and supplies	3391	18,204	642	2,187	15,375
Other miscellaneous manufacturing	3399	2,618	178 - 189	283 - 296	2,133 - 2,153
Nonmanufacturing industries	21-23, 42-81	240,138	8,664	24,899	206,575
Mining, quarrying, oil and gas extraction, and support activities	21	1,077 - 1,151	87	137	852 - 927
Utilities	22	133 - 17,961	10	0 - 1,505	0 - 17,952
Wholesale trade	42	1,661 - 1,770	173	366	1,121 - 1,232
Electronic shopping and electronic auctions	454111-12	5,931 - 24,034	175	3,999 - 5,510	247 - 19,859
Transportation and warehousing	48-49	7,198 - 7,200	102	483	6,612 - 6,616
Information	51	146,488	4,078	8,919	133,492
Publishing	511	38,521	1,294	1,964	35,263
Newspaper, periodical, book, and directory publishers	5111	81	3	6	72
Software publishers	5112	38,441	1,291	1,958	35,191
Telecommunications	517	3,736 - 3,805	218 - 295	801 - 833	2,683 - 2,706
Data processing, hosting, and related services	518	44,585	1,507	3,293	39,785
Other information	other 51	59,577 - 59,647	981 - 1,058	2,828 - 2,860	55,737 - 55,761
Finance and insurance	52	20,902	422	2,191	18,288
Real estate and rental and leasing	53	2,095 - 2,097	0 - 583	380 - 965	1,130 - 1,133
Lessors of nonfinancial intangible assets (except copyrighted works)	533	5 - 8	1	4	0 - 4
Other real estate and rental and leasing	other 53	2,087 - 2,091	0 - 582	376 - 961	1,127 - 1,133
Professional, scientific, and technical services	54	32,083	2,880	6,445	22,758
Architectural, engineering, and related services	5413	2,553	205	435	1,913
Computer systems design and related services	5415	17,188	1,541	3,158	12,489
Scientific research and development services	5417	6,123	640	1,240	4,242
Research and development in nanotechnology	541713	154	17	38	99
Research and development in biotechnology (except nanobiotechnology)	541714	1,664	95	516	1,054
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	4,266	529	668	3,069
Research and development in the social sciences and humanities	541720	38	0	18	20
Other professional, scientific, and technical services	other 54	6,218	494	1,611	4,113
Health care services	621-23	1,965 - 2,043	159	453	1,353 - 1,432
Other nonmanufacturing	23, 44-45 (excluding 454111- 12), 55-56, 624, 71-72, 81	2,501 - 3,136	0 - 582	0 - 1,524	978 - 3,118

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All companies (number of domestic employees)	-	527,804	32,763	69,130	425,912
Small companies					
10–19 ^a	-	4,258	373	926	2,958
20–49	-	12,626	1,130	2,787	8,710
Medium companies					
50–99	-	12,488	1,190	2,639	8,659
100–249	-	20,030	1,743	3,682	14,606
Large companies					
250–499	-	20,574	2,367	3,579	14,628
500–999	-	23,655	1,588	3,619	18,448
1,000–4,999	-	83,609	4,758	10,889	67,961
5,000–9,999	-	53,873	3,738	5,907	44,228
10,000–24,999	-	84,057	7,444	11,810	64,804
25,000 or more	-	212,634	8,431	23,292	180,910

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 and are not comparable with estimates published for years prior to 2018. An estimate range may be displayed in place of a single estimate to avoid disclosing operations of individual companies.

Source(s):

National Center for Science and Engineering Statistics and Census Bureau, Business Enterprise Research and Development Survey, 2021.