

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: 2020

(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	537,619	36,017	76,088	425,514
Manufacturing industries	31-33	308,445	25,963	46,771	235,711
Food	311	5,239	542	1,213	3,484
Beverage and tobacco products	312	1,177	131	214	831
Textile, apparel, and leather products	313-16	822	87	94	641
Wood products	321	187	17	29	141
Paper	322	928	131	207	590
Printing and related support activities	323	283	29	72	182
Petroleum and coal products	324	1,311 - 1,324	247	411	652 - 667
Chemicals	325	101,079	15,579	20,337	65,163
Basic chemicals	3251	2,694	290	728	1,676
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	1,234	210	292	732
Pesticide, fertilizer, and other agricultural chemicals	3253	1,060 - 1,066	194	442	423 - 431
Pharmaceuticals and medicines	3254	91,776	14,613	18,098	59,065
Soap, cleaning compound, and toilet preparation	3256	2,665	173	333	2,158
Paint, coating, adhesive, and other chemicals	3255, 3259	1,643 - 1,649	99	443	1,100 - 1,108
Plastics and rubber products	326	2,634	204	390	2,039
Nonmetallic mineral products	327	1,717	309	224	1,184
Primary metals	331	815	50	174	590
Fabricated metal products	332	3,396	197	820	2,379
Machinery	333	16,223	815	1,666	13,742
Agricultural implement	33311	1,769 - 1,811	109	99 - 143	1,560
Semiconductor machinery	333242	4,807	112	404	4,291
Engine, turbine, and power transmission equipment	3336	1,645	42	170	1,433
Other machinery	other 333	7,959 - 8,001	552	948 - 992	6,458
Computer and electronic products	334	99,535	3,268	10,619	85,648
Communications equipment	3342	12,103	580	1,092	10,431
Semiconductor and other electronic components	3344	43,181	1,343	3,246	38,592
Navigational, measuring, electromedical, and control instruments	3345	18,505	900	2,886	14,718
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	2,858	214	779	1,864
Search, detection, navigation, guidance, aeronautical, and nautical system and instrument	334511	10,586	268	1,501	8,817
Other measuring and controlling device	other 3345	5,061	418	605	4,037
Other computer and electronic products	other 334	25,747	445	3,395	21,906
Electrical equipment, appliances, and components	335	4,998	342	583	4,074
Transportation equipment	336	48,796	2,855	7,370	38,570
Motor vehicles, bodies, trailers, and parts	3361-63	23,121	992	4,225	17,904

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Aerospace products and parts	3364	22,914	1,816	2,851	18,247
Aircraft, aircraft engine, and aircraft parts	336411-13	21,291	1,806	2,829	16,656
Guided missile, space vehicle, and related parts	336414-15, 336419	1,623	10	21	1,592
Military armored vehicle, tank, and tank component	336992	11	0	*	11
Other transportation	other 336	2,750	47	294	2,408
Furniture and related products	337	496	39	99	357
Miscellaneous	339	18,791 - 18,809	1,120	2,248	15,422 - 15,441
Medical equipment and supplies	3391	16,116	882	1,898	13,337
Other miscellaneous manufacturing	3399	2,674 - 2,692	239	350	2,085 - 2,104
Nonmanufacturing industries	21-23, 42-81	229,174	10,054	29,317	189,803
Mining, quarrying, oil and gas extraction, and support activities	21	1,165	64	334	767
Utilities	22	264	30	57	177
Wholesale trade	42	1,058	118	89	852
Electronic shopping and electronic auctions	454111-12	3,840 - 19,390	20	173 - 3,504	363 - 17,304
Transportation and warehousing	48-49	4,957	179	291	4,487
Information	51	129,463	3,886	7,667	117,910
Publishing	511	35,025	1,235	1,653	32,137
Newspaper, periodical, book, and directory publishers	5111	60	*	2	58
Software publishers	5112	34,965	1,235	1,651	32,079
Telecommunications	517	3,425 - 3,437	233 - 298	775 - 827	2,363 - 2,402
Data processing, hosting, and related services	518	41,551	1,567	2,738	37,246
Other information	other 51	49,449 - 49,463	784 - 851	2,450 - 2,502	46,126 - 46,165
Finance and insurance	52	12,296	410	1,683	10,203
Real estate and rental and leasing	53	3,249	3 - 824	762 - 1,585	1,662
Lessors of nonfinancial intangible assets (except copyrighted works)	533	7	4	2	1
Other real estate and rental and leasing	other 53	3,242	0 - 821	760 - 1,583	1,660
Professional, scientific, and technical services	54	54,367	4,338	14,396	35,634
Architectural, engineering, and related services	5413	4,214	300	1,070	2,844
Computer systems design and related services	5415	17,935	1,450	3,462	13,023
Scientific research and development services	5417	25,600	1,953	8,280	15,367
Research and development in nanotechnology	541713	179	21	36	122

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Research and development in biotechnology (except nanobiotechnology)	541714	6,191	807	466	4,918
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	18,539 i	739	7,573 i	10,227 i
Research and development in the social sciences and humanities	541720	691	386	204 i	101 i
Other professional, scientific, and technical services	other 54	6,618	634	1,584	4,400
Health care services	621-23	1,477	190	534	753
Other nonmanufacturing	23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81	1,491 - 17,041	0 - 821	0 - 3,333	58 - 16,994
All companies (number of domestic employees)	-	537,619	36,017	76,088	425,514
Small companies					
10-19 ^a	-	5,047	491	1,131	3,425
20-49	-	12,994	1,336	2,834	8,824
Medium companies					
50-99	-	12,993	1,101	2,800	9,092
100-249	-	25,411	2,906	6,475	16,030
Large companies					
250-499	-	20,878	1,486	2,861	16,531
500-999	-	21,264	1,248	2,973	17,043
1,000-4,999	-	88,238	8,936	14,873	64,429
5,000-9,999	-	48,397	2,754	7,086	38,557
10,000-24,999	-	88,567	5,496	13,012 i	70,059
25,000 or more	-	213,829	10,262	22,043	181,525

* = amount < \$500,000; 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. 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, 2020.