

TABLE 40

Domestic R&D paid for by others and performed by the company, by type of R&D, industry, and company size: 2019

(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	63,989	6,324	14,333	43,332
Manufacturing industries	31-33	37,564	3,969 i	7,083	26,513
Food	311	243	17	70	155
Beverage and tobacco products	312	111 i	11 i	23 i	77 i
Textile, apparel, and leather products	313-16	31	0	22	9
Wood products	321	6	0	0	6
Paper	322	*	0 - 1	0 - 1	0
Printing and related support activities	323	0	0	0	0
Petroleum and coal products	324	103	0 - 29 i	0 - 29 i	54 - 99 i
Chemicals	325	9,775	1,878	1,572	6,324
Basic chemicals	3251	162	25	53	83
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	80	3 i	21 i	55 i
Pesticide, fertilizer, and other agricultural chemicals	3253	320 - 345	70	205 - 276	0 - 46
Pharmaceuticals and medicines	3254	8,966	1,766	1,186	6,014
Soap, cleaning compound, and toilet preparation	3256	164	12	27	125
Paint, coating, adhesive, and other chemicals	3255, 3259	56 - 84	2	8 - 79	3 - 50
Plastics and rubber products	326	85	1	15	69
Nonmetallic mineral products	327	35	2	8	26
Primary metals	331	16	5	2	9
Fabricated metal products	332	254	14	109	131
Machinery	333	1,254	32	172	1,050
Agricultural implement	33311	9	1	3	5
Semiconductor machinery	333242	604	0 - 26	8 - 111	493 - 571
Engine, turbine, and power transmission equipment	3336	205	7	13 i	185
Other machinery	other 333	436	0 - 26	43 - 148	288 - 368
Computer and electronic products	334	11,159	457	1,858	8,844
Communications equipment	3342	1,100 i	7	172 i	921 i
Semiconductor and other electronic components	3344	3,208	294	757	2,157
Navigational, measuring, electromedical, and control instruments	3345	6,650	136	894	5,621
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	225	6	27	192
Search, detection, navigation, guidance, aeronautical, and nautical system and instrument	334511	6,262	113	839	5,310
Other measuring and controlling device	other 3345	163	17	27	119
Other computer and electronic products	other 334	201	21	35	144 i
Electrical equipment, appliances, and components	335	377	17	23	337
Transportation equipment	336	13,870 i	1,505 i	3,153 i	9,211 i
Motor vehicles, bodies, trailers, and parts	3361-63	3,233 i	9 - 72	1,684 - 1,749 i	1,476
Aerospace products and parts	3364	9,458 i	1,434 i	1,342 i	6,683 i
Aircraft, aircraft engine, and aircraft parts	336411-13	8,550 i	1,431 i	1,339 i	5,780 i
Guided missile, space vehicle, and related parts	336414-15, 336419	908	3	3	903
Military armored vehicle, tank, and tank component	336992	10	0	0 - 11	0 - 11
Other transportation	other 336	1,168	0 - 63	51 - 128	1,041 - 1,054
Furniture and related products	337	2	1	1	*
Miscellaneous	339	244	6 - 35	32 - 62	172 - 204
Medical equipment and supplies	3391	202	7	33	162

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Industry and company size	NAICS code	Total	Basic research	Applied research	Development
Other miscellaneous manufacturing	3399	42	0 - 29	0 - 29	10 - 41
Nonmanufacturing industries	21-23, 42-81	26,425	2,355	7,250	16,819
Mining, quarrying, oil and gas extraction, and support activities	21	183	15	42	125
Utilities	22	38	5	6	27
Wholesale trade	42	87	14	6	68
Electronic shopping and electronic auctions	454111-12	43 - 61	* i	* i	42 - 61
Transportation and warehousing	48-49	386	0	0	386
Information	51	1,165	201	226	738
Publishing	511	572	46	102	424
Newspaper, periodical, book, and directory publishers	5111	*	*	0	0
Software publishers	5112	572	46	102	424
Telecommunications	517	33	0 - 30	0 - 30	3 - 27
Data processing, hosting, and related services	518	404	84	34	286
Other information	other 51	155	40 - 72	58 - 91	2 - 27
Finance and insurance	52	28	0	27	1
Real estate and rental and leasing	53	0	0	0	0
Lessors of nonfinancial intangible assets (except copyrighted works)	533	0	0	0	0
Other real estate and rental and leasing	other 53	0	0	0	0
Professional, scientific, and technical services	54	24,103	2,112	6,620	15,372
Architectural, engineering, and related services	5413	1,919	117	854	949
Computer systems design and related services	5415	2,651	449	914	1,288
Scientific research and development services	5417	18,403	1,515	4,720	12,168
Research and development in biotechnology	541711	5,374	717	212	4,445
Research and development in the physical, engineering, and life sciences (except biotechnology)	541712	12,291	i 378	4,288	7,626
Research and development in the social sciences and humanities	541720	738	421	221	i 97
Other professional, scientific, and technical services	other 54	1,129	31	132	966
Health care services	621-23	337	5	316	16
Other nonmanufacturing	23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81	34 - 58	3	7	23 - 48
All companies (number of domestic employees)	-	63,989	6,324	14,333	43,332
Small companies					
10-19 ^a	-	1,070	63	342	664
20-49	-	2,378	109	525	1,744
Medium companies					
50-99	-	2,529	185	638	1,707
100-249	-	3,274	408	781	2,085
Large companies					
250-499	-	3,527	267	786	i 2,474
500-999	-	2,420	168	311	1,941
1,000-4,999	-	11,196	1,764	3,296	6,137
5,000-9,999	-	6,083	436	1,929	3,718
10,000-24,999	-	13,878	i 580	i 2,817	i 10,481
25,000 or more	-	17,635	i 2,344	2,908	12,382

* = amount < \$500,000; i = > 50% of the estimate is a combination of imputation and reweighting to account for nonresponse.

NAICS = 2012 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. Beginning in survey year 2018, statistics are representative of companies located in the United States that performed or funded \$50,000 or more of R&D. This change has affected the comparability of these estimates 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, 2019.