

TABLE 11

## Domestic R&amp;D paid for by the company and others and performed by the company, by industry and company size: 2022

(Millions of U.S. dollars)

Industry	NAICS code	Company size (domestic employees)											
		All companies	10–19 <sup>a</sup>	20–49	50–99	100–249	250–499	500–999	1,000–4,999	5,000–9,999	10,000–24,999	25,000 or more	
All industries	21–23, 31–33, 42–81	691,547	5,277	14,695	15,265	27,847	29,549	31,802	104,505	58,709	121,142	282,756	
Manufacturing industries	31–33	372,459	1,443	6,255	8,144	15,265	18,084	16,736	55,943	37,857	76,649	136,083	
Food	311	7,143	1	84	97	512	1,181	r 354	663	551	2,086	1,613	i
Beverage and tobacco products	312	767	*	43	r 27	28	111	20	136	285	80	38	
Textile, apparel, and leather products	313–16	635	5	9	22	48	23	48	159	241	80	0	
Wood products	321	259	1	r 27	r 5	12	3	13	34	67	97	0	
Paper	322	1,005	2	4	1	37	21	21	184	129	313	292	
Printing and related support activities	323	165	*	3	9	25	32	6	6	i 12	72	i 0	
Petroleum and coal products	324	860	1	r 1	18	8	18	77	87	10	639	0	
Chemicals	325	125,728	726	3,217	4,313	7,881	9,680	7,104	20,929	8,557	36,516	26,806	
Basic chemicals	3251	2,860	*	116	50	230	312	203	1,006	482	461	0	
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	1,493	9	56	24	100	84	112	215	i 0	D	D	
Pesticide, fertilizer, and other agricultural chemicals	3253	1,193	2	49	40	D	23	1	587	D	D	0	
Pharmaceuticals and medicines	3254	116,073	680	2,905	4,120	7,339	9,100	6,689	18,125	7,789	34,070	25,257	
Soap, cleaning compound, and toilet preparations	3256	2,886	D	38	36	97	62	55	590	i D	596	1,145	
Paint, coating, adhesive, and other chemicals	3255, 3259	1,223	D	52	44	D	98	44	407	0	336	D	
Plastics and rubber products	326	3,470	6	65	83	208	218	279	1,080	675	622	234	
Nonmetallic mineral products	327	1,464	8	r 18	25	39	36	123	131	69	1,014	0	
Primary metals	331	1,120	10	r 25	r 53	95	39	33	252	133	439	40	
Fabricated metal products	332	3,526	70	278	495	487	393	376	937	169	321	i 0	
Machinery	333	19,464	74	714	839	835	1,103	829	2,760	3,648	5,650	3,012	
Agricultural implement	33311	2,287	20	18	58	49	29	61	207	256	D	D	
Semiconductor machinery	333242	5,438	2	i 33	64	60	42	323	728	1,734	2,452	0	
Engine, turbine, and power transmission equipment	3336	3,026	1	62	r D	24	206	40	88	427	710	D	
Other machinery	other 333	8,713	51	601	D	703	825	405	1,737	1,231	D	D	
Computer and electronic products	334	104,718	321	868	1,129	3,100	2,686	3,251	15,205	14,972	13,486	49,700	
Communications equipment	3342	11,665	38	D	116	D	D	D	2,578	2,416	0	D	
Semiconductor and other electronic components	3344	49,330	D	271	D	1,815	r 1,657	1,460	6,289	i 6,308	i 12,042	D	
Navigational, measuring, electromedical, and control instruments	3345	12,777	D	388	446	739	585	810	2,409	4,049	D	2,906	
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	4,578	36	160	171	387	224	485	350	1,772	0	995	i
Search, detection, navigation, guidance, aeronautical, and nautical system and instruments	334511	4,146	12	49	67	151	109	197	621	1,030	0	1,911	
Other measuring and controlling devices	other 3345	4,053	D	179	209	202	252	128	1,439	1,248	D	0	
Other computer and electronic products	other 334	30,946	D	D	D	D	D	D	3,929	2,198	i D	D	
Electrical equipment, appliances, and components	335	7,086	12	r 402	r 267	354	470	990	2,811	805	528	i 447	

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		All companies	10–19 <sup>a</sup>	20–49	50–99	100–249	250–499	500–999	1,000–4,999	5,000–9,999	10,000–24,999	25,000 or more
Transportation equipment	336	71,259	85 r	97	260	758	1,132	1,886	5,347	3,827	10,282	47,585
Motor vehicles, bodies, trailers, and parts	3361–63	32,881	D	D	94	520	522	795	3,698	2,078	6,570	D
Aerospace products and parts	3364	35,356	74 r	30	111	172	411	975	1,303	1,402	3,526	27,353 i
Aircraft, aircraft engine, and aircraft parts	336411–13	24,571 i	65 r	D	110	D	D	338 i	997	D	D	18,526 i
Guided missile, space vehicle, and related parts	336414–15, 336419	10,785	9 r	D	1	D	D	638	306	D	D	8,827
Military armored vehicle, tank, and tank components	336992	30	0	D	7	D	0	D	D	0	0	0
Other transportation	other 336	2,992	D	D	48	D	199	D	D	348	186	D
Furniture and related products	337	410	0	12	21	41	13	28	64	231	0	0
Miscellaneous	339	23,382	120	390	481	796	926	1,296	5,157	3,478	4,424	6,315
Medical equipment and supplies	3391	20,394	100	302	343	554	680	1,018	3,488	3,422	4,292	6,195
Other miscellaneous manufacturing	3399	2,989	19 r	87	138	242	246	279	1,669	56	132	120
Nonmanufacturing industries	21–23, 42–81	319,088	3,834	8,440	7,120	12,581	11,465	15,066	48,562	20,852	44,493	146,673
Mining, quarrying, oil and gas extraction, and support activities	21	D	* r	45 i	106 i	62 i	1 r	74 i	212 i	186 i	D	0
Utilities	22	D	55	D	0	D	D	108 i	D	D	D	D
Wholesale trade	42	D	175	269	353	498	114 i	201 i	129 i	D	D	D
Electronic shopping and electronic auctions	454111–12	D	4	13 r	36 r	D	76	114	372	D	D	D
Transportation and warehousing	48–49	9,395	2 r	0	29	33	42	35	D	2,552	4,362 i	D
Information	51	182,340	572	1,824	2,317	4,588	5,654	7,873	32,998	8,520	15,165	102,829
Publishing	511	50,367	309	774	1,102	1,747	1,332	1,761	10,556	3,765	6,025	22,995
Newspaper, periodical, book, and directory publishers	5111	72	1 r	3	10	2	58	*	0	0	0	0
Software publishers	5112	50,295	309	772	1,092	1,745	1,274	1,761	10,556	3,765	6,025	22,995
Telecommunications	517	3,690	D	D	46	D	D	D	D	36	D	D
Data processing, hosting, and related services	518	49,407	D	870	D	2,314	3,904	4,633	16,628	1,518 i	D	11,262
Other information	other 51	78,876	12 r	D	D	D	D	D	D	3,201	D	D
Finance and insurance	52	17,222	D	1,439 r	D	D	516	599	2,625	3,836 i	3,020	D
Real estate and rental and leasing	53	2,398 i	0	16	10	2	49 i	98	D	D	0	D
Lessors of nonfinancial intangible assets (except copyrighted works)	533	5 i	0	4 i	1 i	*	0	0	0	0	0	0
Other real estate and rental and leasing	other 53	2,393 i	0	12	9	1	49 i	98	D	D	0	D
Professional, scientific, and technical services	54	74,773	2,872	4,675	4,093	6,482	4,345	4,881	7,089	3,299	21,077 i	15,960
Architectural, engineering, and related services	5413	3,883	252	550	606	822	429	278	619	169	159	0
Computer systems design and related services	5415	22,534	989	1,489	1,032	1,840	1,238	2,279	2,008	1,551	4,554	5,554
Scientific research and development services	5417	39,625 i	1,110	2,298	1,887	3,249	1,959	1,742	3,666	1,186	14,275 i	8,254 i
Research and development in nanotechnology	541713	282	93	92	95	*	0	1	0	0	0	0
Research and development in biotechnology (except nanobiotechnology)	541714	10,226	442	626	603	569	552	638	438 i	586	2,319 i	3,453

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		All companies	10–19 <sup>a</sup>	20–49	50–99	100–249	250–499	500–999	1,000–4,999	5,000–9,999	10,000–24,999	25,000 or more			
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	28,420	i	569	1,579	1,184	2,598	1,407	1,103	3,223	0	11,957	i	4,801	i
Research and development in the social sciences and humanities	541720	698		4	*	6	82	*	0	5	601	0		0	
Other professional, scientific, and technical services	other 54	8,730		521	r	339	567	719	582	796	393	2,089		2,153	
Health care services	621–23	2,855		D		D	D	400	713	i	1,215	D		D	
Other nonmanufacturing	23, 44–45 (excluding 454111–12), 55–56, 624, 71–72, 81	3,394		D		D	D	454	r	D	370	D		D	

\* = 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.

<sup>a</sup> 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.