

TABLE 27

## Domestic R&amp;D paid for and performed by the company, by industry and company size: 2021

(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	527,804	4,258	12,626	12,488	20,030	20,574	23,655	83,609	53,873	84,057	212,634
Manufacturing industries	31–33	287,666	1,498	6,215	7,139	10,514	12,235	13,729	39,457	35,843	66,080	94,956
Food	311	4,963 - 4,968	3	16 - 90	218	162 - 230	170	288	461 - 527	473 - 520	2,037 - 2,189	932 i
Beverage and tobacco products	312	1,228	3 r	15	23	26	19	18	157	305	66	595
Textile, apparel, and leather products	313–16	818	*	18	34 i	61	19	54	181	209	242	0
Wood products	321	433 - 442	179 r	0 - 50	11	12	7	1 - 10	73	104	0 - 50	0
Paper	322	1,139	5	5 r	6	32	28	19	197	78	349 i	420
Printing and related support activities	323	196 - 205 i	1	0 - 7	26	23	25	3	13	28	78 i	0
Petroleum and coal products	324	952	3	4	42	15	19	33	23	68 - 74	119 - 125	621
Chemicals	325	97,097	671	2,787	3,593	5,002	6,937	5,032	10,803	10,539	31,350	20,382
Basic chemicals	3251	2,559	0 - 6	65	74	237	142	145	823 - 834	638	428 i	0
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	1,291 - 1,320 i	0 - 7 i	16	24	90	73	53	98 - 139 i	0	616 i	311
Pesticide, fertilizer, and other agricultural chemicals	3253	915 - 946	3	20	30	33	0 - 103 i	0 - 129	293 - 326	20 - 65	247 - 518	0
Pharmaceuticals and medicines	3254	88,524	631	2,622	3,348	4,462	6,587	4,622	8,780	9,574	29,173	18,724
Soap, cleaning compound, and toilet preparations	3256	2,531	0 - 35	21	35	90	35	86	376 i	264 - 307	361 i	1,224
Paint, coating, adhesive, and other chemicals	3255, 3259	1,242 - 1,252	0 - 35 i	43	82	89	0 - 103	0 - 129	385 - 395	0	252 - 522	123
Plastics and rubber products	326	2,961	0 - 26	20 - 94	103	188	227	215	917	691	233 - 337	266
Nonmetallic mineral products	327	1,503	12	46	85	58	22	169	36	95	981	0
Primary metals	331	887 - 890	0	13 - 19	62	71	27	32	235	413 - 419	27	0
Fabricated metal products	332	3,879	61 - 115	846	327	685	399	341	868	124 - 171	177	0
Machinery	333	16,726	89	561	737	938	701	735	2,127	3,337	4,681	2,821
Agricultural implement	33311	1,799 - 1,807	0 - 87	28	0 - 663	0 - 63	0 - 613	63	167	463 - 532	0	0 - 1,019
Semiconductor machinery	333242	5,182	3	8	42	56	53	303	741	1,735	2,239	0
Engine, turbine, and power transmission equipment	3336	1,239 - 1,246	0 - 6	22	33	95	37	42	51	353	609	0
Other machinery	other 333	8,499	0 - 87	502	0 - 663	723 - 789	0 - 613	327	1,168	717 - 787	1,832	1,801 - 2,821

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Computer and electronic products	334	94,211	174 - 222	1,059	944	1,274	2,242	3,005	12,496	13,514	14,625 - 14,666	i	44,833				
Communications equipment	3342	11,339	0 - 74	0 - 131	71 - 146	0 - 794	0 - 568	0 - 1,000	2,366	0 - 4,116	0		2,145 - 8,903				
Semiconductor and other electronic components	3344	45,516	21 - 94	554	0 - 546	0 - 794	1,275	1,175	i	5,706	6,153 - 6,323	i	13,380	i	15,693 - 17,182		
Navigational, measuring, electromedical, and control instruments	3345	10,014	65 - 81	374 - 402	253 - 328	481	399 - 559	832	1,411	3,077 - 3,905	353		1,664 - 2,757				
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	2,837	27	182	72	209	168	i	339	155	1,685	0	0				
Search, detection, navigation, guidance, aeronautical, and nautical system and instruments	334511	2,109	0 - 15	71	23	58 - 157	i	0 - 103	0 - 494	198	0 - 1,760	0	0 - 1,760				
Other measuring and controlling devices	other 3345	5,068	39	121 - 149	157 - 234	116 - 213	192 - 289	0 - 494	1,058	0 - 2,219	353	117 - 2,757					
Other computer and electronic products	other 334	27,342	0 - 74	i	0 - 131	i	0 - 546	0 - 794	0 - 568	0 - 1,000	3,013	0 - 4,116	i	893 - 933	i	16,205 - 23,437	
Electrical equipment, appliances, and components	335	5,007	78	r	110	284	331	256	823	1,778	582	765	0				
Transportation equipment	336	34,405	26	172	150	816	526	1,586	5,049	1,892	5,451	18,736					
Motor vehicles, bodies, trailers, and parts	3361-63	22,754	11	33	55	418	253	867	3,794	1,216	3,251	12,857					
Aerospace products and parts	3364	9,900	15	99	27	318	243	504	918	371	2,082	5,324	i				
Aircraft, aircraft engine, and aircraft parts	336411-13	9,293	0 - 16	98	26	65 - 300	7 - 244	268 - 505	328 - 681	371	2,082	5,324	i				
Guided missile, space vehicle, and related parts	336414-15, 336419	608	0 - 16	1	1	18 - 253	0 - 235	0 - 235	589	0	0	0					
Military armored vehicle, tank, and tank components	336992	20 - 24	0	0 - 6	3	5	0	11	0	0	0	0					
Other transportation	other 336	1,726 - 1,731	1	33 - 41	65	75	30	204	338	305	119	i	556				
Furniture and related products	337	423	2	r	7	11	67	20	17	110	178	11	0				
Miscellaneous	339	20,822	127	333 - 454	484	690 - 746	591	1,344 - 1,362	3,875 - 3,930	3,151	4,678 - 4,745	5,351					
Medical equipment and supplies	3391	18,204	91	300	374	493	407	911	2,763	3,120	4,512	5,235					
Other miscellaneous manufacturing	3399	2,618	36	34 - 154	110	197 - 253	185	433 - 452	1,112 - 1,167	32	166 - 233	116					
Nonmanufacturing industries	21-23, 42-81	240,138	2,759	6,412	5,349	9,516	8,339	9,926	44,152	18,030	17,978	117,678					
Mining, quarrying, oil and gas extraction, and support activities	21	1,077 - 1,151	4	143	r	0 - 94	i	68	i	283	59	i	198	i	0 - 94	305	0

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Utilities	22	133 - 17,961	11	0 - 164	0	*	0	0 - 279	0 - 1,605	11	0 - 529	0 - 17,940	i
Wholesale trade	42	1,661 - 1,770	i 145	370	262	480	i 215	i 85	i 0 - 111	i 4	i 25	i 78	i
Electronic shopping and electronic auctions	454111–12	5,931 - 24,034	i 3 - 8	23	r 18	r 29	109	46	29	0 - 2,839	0 - 529	2,300 - 22,477	i
Transportation and warehousing	48–49	7,198 - 7,200	0	155	r 27	46	96	54 - 58	2,711	0 - 1,869	2,243	i 0 - 1,869	
Information	51	146,488	696	1,573	1,830	3,822	4,352	5,789	27,720	9,862	7,584	83,259	
Publishing	511	38,521	385	624 - 668	5 - 599	1,608	1,100	1,153	8,633	3,235	1,240 - 1,880	19,898	
Newspaper, periodical, book, and directory publishers	5111	81	0	11	r 6	3	60	i 1	0	0	0	0	
Software publishers	5112	38,441	385	613 - 657	0 - 594	1,605	1,040	1,152	8,633	3,235	1,240 - 1,880	19,898	
Telecommunications	517	3,736 - 3,805	46	r 2 - 72	35	99	13	178	50	31	31	3,252	
Data processing, hosting, and related services	518	44,585	252	772 - 835	1,197 - 1,260	1,783	3,049	3,052	14,088	5,665	4,203	i 10,459	
Other information	other 51	59,577 - 59,647	14	68	0 - 594	331	190	1,407	4,950	932	1,469 - 2,109	49,650	
Finance and insurance	52	20,902	115	351	r 111	290	335	1,179	7,147	3,042	i 2,740	5,593	
Real estate and rental and leasing	53	2,095 - 2,097	0 - 1	5	4	25	11	37	3 - 1,609	0 - 2,014	0	0 - 2,014	
Lessors of nonfinancial intangible assets (except copyrighted works)	533	5 - 8	0	0	1 - 4	0	0	0	4	0	0	0	
Other real estate and rental and leasing	other 53	2,087 - 2,091	0 - 1	5	0 - 4	25	11	37	0 - 1,605	0 - 2,014	0	0 - 2,014	
Professional, scientific, and technical services	54	32,083	1,651	3,624	2,757	3,713	2,480	1,874	3,758	1,494	4,555	6,177	
Architectural, engineering, and related services	5413	2,553	129	426	334	523	284	149	515	76	118	0	
Computer systems design and related services	5415	17,188	780	1,843	1,047	1,065	1,321	1,355	1,438	1,369	2,608	i 4,363	
Scientific research and development services	5417	6,123	670	1,108	1,104	1,364	431	236	1,142	0	10	i 58	
Research and development in nanotechnology	541713	154	44	51	15	44	i 0	0	0	0	0	0	
Research and development in biotechnology (except nanobiotechnology)	541714	1,664	253	343	506	402	75	27	0	0	0	58	
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	4,266	370	705	582	918	336	209	1,136	0	10	i 0	

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Research and development in the social sciences and humanities	541720	38	3	8	0	0	20	0	7	0	0	0
Other professional, scientific, and technical services	other 54	6,218	72	247	273	761	444	134	663	49	1,819	1,757
Health care services	621–23	1,965 - 2,043	12	8 - 94	94	274	296	528	643	9	1	96
Other nonmanufacturing	23, 44–45 (excluding 454111–12), 55–56, 624, 71–72, 81	2,501 - 3,136	114 - 119	0 - 164	148 - 250	768 r	162	0 - 279	341	772	0 - 529	0 - 831

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