

TABLE 19

Companies with domestic R&D paid for by the company and others and performed by the company in the software products and embedded software technology focus area, by industry and company size: 2020

(Millions of U.S. dollars and number of companies)

Industry and company size	NAICS code	Domestic R&D		Software products and embedded software R&D											
				Total		Paid for by the company				Paid for by others					
										Total		Federally funded			
		Companies ^a (number)	Amount	Companies ^b (number)	Amount	Companies ^b (number)	Amount	Companies ^b (number)	Amount	Companies ^b (number)	Amount	Companies ^b (number)	Amount		
All industries	21-23, 31-33, 42-81	30,360	537,619	14,020	226,144	13,160	212,555	1,500	13,589	620	6,303				
Manufacturing industries	31-33	15,920	308,445	4,730	47,948	4,590	43,045	340	4,903	80	3,236				
Food	311	970	5,239	100	1,150	100	1,146	10	4	0	0				
Beverage and tobacco products	312	240	1,177	10	8	10	8	0	0	0	0				
Textile, apparel, and leather products	313-16	230	822	30	23	30	23	0	0	0	0				
Wood products	321	130	187	40	16	40	16	0	0	0	0				
Paper	322	100	928	10	1	10	1	0	0	0	0				
Printing and related support activities	323	220	283	130	142	130	142	0	0	0	0				
Petroleum and coal products	324	100	1,311 - 1,324	20	99	20	99	0	0	0	0				
Chemicals	325	2,550	101,079	250	769	240	733	20	35	10	4				
Basic chemicals	3251	300	2,694	30	29	30	27	10	2	0	0				
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	150	1,234	10	3	10	3	0	0	0	0				
Pesticide, fertilizer, and other agricultural chemicals	3253	130	1,060 - 1,066	10	1 - 27	10	2	10	0 - 25	0	0				
Pharmaceuticals and medicines	3254	1,230	91,776	130	580	120	570	20	10	10	4				
Soap, cleaning compound, and toilet preparation	3256	370	2,665	30	4 - 30	30	5	10	0 - 25	0	0				
Paint, coating, adhesive, and other chemicals	3255, 3259	400	1,643 - 1,649	70	127	70	127	10	*	10	*				
Plastics and rubber products	326	1,040	2,634	170	241	170	241	0	0	0	0				
Nonmetallic mineral products	327	240	1,717	20	27	20	27	0	0	0	0				
Primary metals	331	270	815	60	8	60	8	10	*	0	0				
Fabricated metal products	332	2,270	3,396	390	326	390	325	10	1	0	0				
Machinery	333	2,120	16,223	870	1,947	860	1,881	20	66	10	8				
Agricultural implement	33311	160	1,769 - 1,811	90	110	90	110	10	*	10	*				
Semiconductor machinery	333242	60	4,807	40	199	40	187	10	12	0	0				
Engine, turbine, and power transmission equipment	3336	90	1,645	40	129	40	119	10	9	10	8				
Other machinery	other 333	1,830	7,959 - 8,001	710	1,510	700	1,465	10	45	0	0				

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Computer and electronic products	334	2,220	99,535	1,390	35,084	1,320	31,162	180	3,922	50	2,892				
Communications equipment	3342	400	12,103	300	8,546	290	8,474	20	72	10	0 - 73				
Semiconductor and other electronic components	3344	570	43,181	190	8,385	160	8,106	70	279	10	28				
Navigational, measuring, electromedical, and control instruments	3345	1,060	18,505	760	6,801	730	3,285	100	3,516	40	2,735 - 2,865				
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	190	2,858	120	542	120	458	20	85	10	6				
Search, detection, navigation, guidance, aeronautical, and nautical system and instrument	334511	130	10,586	110	4,950	110	1,606	20	3,344	20	2,717 - 2,849				
Other measuring and controlling device	other 3345	740	5,061	540	1,309	510	1,222	80	87	20	11				
Other computer and electronic products	other 334	210	25,747	160	11,352	150	11,297	10	55	10	0 - 56				
Electrical equipment, appliances, and components	335	680	4,998	390	1,092	380	942	20	150	10	1				
Transportation equipment	336	980	48,796	340	4,626	310	3,928	70	698	10	323				
Motor vehicles, bodies, trailers, and parts	3361-63	490	23,121	130	2,677	120	2,470	30	207	10	0 - 4				
Aerospace products and parts	3364	340	22,914	190	1,848	160	1,394	40	454	10	320				
Aircraft, aircraft engine, and aircraft parts	336411-13	310	21,291	170	1,833	150	1,382	40	452	10	320				
Guided missile, space vehicle, and related parts	336414-15, 336419	40	1,623	20	14	20	12	10	2	10	*				
Military armored vehicle, tank, and tank component	336992	10	11	0	0	0	0	0	0	0	0				
Other transportation	other 336	140	2,750	30	101	30	63	10	38	10	0 - 4				
Furniture and related products	337	240	496	80	59	80	59	0	0	0	0				
Miscellaneous	339	1,430	18,791 - 18,809	510	2,329	500	2,303	40	26	20	7				
Medical equipment and supplies	3391	840	16,116	380	1,849	370	1,823	40	26	20	7				
Other miscellaneous manufacturing	3399	600	2,674 - 2,692	130	480	130	480	0	0	0	0				
Nonmanufacturing industries	21-23, 42-81	14,460	229,174	9,290	178,197	8,580	169,510	1,160	8,687	550	3,068				
Mining, quarrying, oil and gas extraction, and support activities	21	300	1,165	50	306	50	293	10	13	0	0				
Utilities	22	50	264	20	83	20	78	10	4	0	0				
Wholesale trade	42	1,160	1,058	220	101	210	92	20	9	0	0				
Electronic shopping and electronic auctions	454111-12	90	3,840 - 19,390	70	2,164 - 19,148	70	2,164 - 19,107	10	0 - 44	0	0				

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								Companies ^b (number)	Amount	Companies ^b (number)	Amount		
Transportation and warehousing	48-49	60	4,957 i	40	3,769 i	40	3,769 i	0	0	0	0	0	0
Information	51	3,810	129,463	3,680 i	119,125 i	3,610 i	118,335 i	130 i	789	20	299 i		
Publishing	511	1,680	35,025	1,650 i	29,411	1,610 i	29,180	100 i	231	10	10		
Newspaper, periodical, book, and directory publishers	5111	30	60	10 i	17	10 i	17	0	0	0	0		
Software publishers	5112	1,650	34,965	1,650 i	29,394	1,600 i	29,163	100 i	231	10	10		
Telecommunications	517	140	3,425 - 3,437	110	1,401	110	1,335 - 1,393	10	8 - 66 i	10	3		
Data processing, hosting, and related services	518	1,660	41,551	1,640	39,873	1,630	39,429	40 i	444	10	286 i		
Other information	other 51	350	49,449 - 49,463	280 i	48,440 i	280 i	48,334 - 48,393 i	10	105	0	0		
Finance and insurance	52	220	12,296	180	9,539	180	9,539	0	0	0	0		
Real estate and rental and leasing	53	60	3,249	10	3,070	10	3,070	0	0	0	0		
Lessors of nonfinancial intangible assets (except copyrighted works)	533	20	7	0	0	0	0	0	0	0	0		
Other real estate and rental and leasing	other 53	40	3,242	10	3,070	10	3,070	0	0	0	0		
Professional, scientific, and technical services	54	6,980	54,367	4,660 i	22,916 i	4,030 i	15,086	1,010 i	7,830 i	530 i	2,769		
Architectural, engineering, and related services	5413	1,390	4,214	460 i	790 i	310 i	310	190 i	480 i	90	353 i		
Computer systems design and related services	5415	2,780	17,935	2,740 i	10,914	2,520 i	7,987	390 i	2,927	150 i	485 i		
Scientific research and development services	5417	1,710	25,600	740 i	6,703 i	500 i	2,858 i	380 i	3,845 i	280 i	1,478		
Research and development in nanotechnology	541713	110 i	179 i	10 i	8 i	0	0	10 i	8 i	10 i	8 i		
Research and development in biotechnology (except nanobiotechnology)	541714	350	6,191	80 i	77	70 i	46	20	31	10 i	22		
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	1,250	18,539 i	650 i	6,606 i	440 i	2,812 i	360 i	3,794 i	260 i	1,437		
Research and development in the social sciences and humanities	541720	20	691	10	12	0	0	10	12	10 i	12 i		
Other professional, scientific, and technical services	other 54	1,110	6,618	740 i	4,509	710 i	3,930	60	578	30	453		
Health care services	621-23	620	1,477	220 i	145 i	220 i	145 i	0	0	0	0		

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Other nonmanufacturing	23, 44-45 (excluding 454111-12), 55- 56, 624, 71-72, 81	1,160	1,491 - 17,041	200 i	0 - 16,978	200 i	0 - 16,934	10	0 - 44	0	0		
All companies (number of domestic employees)	-	30,360	537,619	14,020 i	226,144 i	13,160 i	212,555 i	1,500 i	13,589 i	620 i	6,303 i		
Small companies													
10-19 ^c	-	5,110	5,047	2,790 i	1,687 i	2,500 i	1,379 i	520 i	308 i	260 i	121 i		
20-49	-	9,510	12,994	4,550 i	4,247 i	4,300 i	3,509 i	420 i	737 i	160 i	416 i		
Medium companies													
50-99	-	5,530	12,993	2,390 i	3,554	2,250 i	3,047	220 i	508	80	219		
100-249	-	4,950	25,411	2,070 i	9,416	1,970 i	8,421	160 i	995	70 i	615		
Large companies													
250-499	-	2,100	20,878	840	9,507	810	8,668	60	839 i	20	301		
500-999	-	1,280	21,264	490	7,818	470	7,338	40	480	10	71 i		
1,000-4,999	-	1,320	88,238	620	40,348	600	38,944	50	1,404	20	609		
5,000-9,999	-	260	48,397	130	15,658	130	14,776	30	882 i	10	142 i		
10,000-24,999	-	220	88,567	120	23,526 i	110	20,079 i	30	3,446	20	388 i		
25,000 or more	-	130	213,829	70	110,384 i	70	106,395 i	20	3,990 i	10	3,423 i		

* = 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 Beginning in survey year 2018, these statistics include an adjustment to the weight to account for unit nonresponse; beginning in survey year 2019, these company count estimates reflect a change in rounding methodology.^b Beginning in survey year 2018, these statistics include an adjustment to the weight to account for unit nonresponse; beginning in survey year 2019, these company count estimates reflect a change in rounding methodology. These company count estimates also reflect an imputation process implemented for survey year 2014. This change has affected the comparability of these company count estimates with estimates published for years prior to 2014.^c 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. Companies could report R&D in one, more than one, or no application area. 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.