Table 18. 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: 2024

(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 (number)	Amount	Companies (number)	Amount	Companies (number)	Amount	Companies (number)	Amount			Companies (number)	Amount		
All industries	21–23, 31–33, 42–81	29,570	765,082	14,360 i	322,214 i	13,660 i	305,788 i	1,510 i	16,425			690 i	5,046		
Manufacturing industries	31–33	12,780	405,092	4,490 i	58,343 i	4,310 i	52,270 i	480 i	6,073			160	1,959		
Food	311	990	6,288 i	120 i	268	120 i	265	10	3			0	0		
Beverage and tobacco products	312	260	1,459	20	13	20	13	0	0			0	0		
Textile, apparel, and leather products	313–16	190	788	30 i	22 i	30 i	22 i	0	0			0	0		
Wood products	321	90	267	30 i	17	30 i	17	0	0			0	0		
Paper	322	80	1,240	10 i	2 i	10 i	2 i	0	0			0	0		
Printing and related support activities	323	140	255	90 i	54	90 i	54	0	0			0	0		
Petroleum and coal products	324	60	1,006	10	21	10	21	0	0			0	0		
Chemicals	325	2,250	143,745	260	2,050	250	2,031	20	19			10	7		
Basic chemicals	3251	300	3,120	40 i	53	40 i	53	0	0			0	0		
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	130	1,354	20	D	20	D	10	*			0	0		
Pesticide, fertilizer, and other agricultural chemicals	3253	70	1,253	20 i	D	20 i	D	10	*			0	0		
Pharmaceuticals and medicines	3254	1,140	133,627	150	1,847	140	1,833	20	14			10	7		
Soap, cleaning compound, and toilet preparations	3256	210	2,956	20	13	20	11	10	3			0	0		
Paint, coating, adhesive, and other chemicals	3255, 3259	420	1,435	40 i	D	40 i	D	10	2			10	1		
Plastics and rubber products	326	650	2,908	150 i	98	150 i	98	10	*			0	0		
Nonmetallic mineral products	327	280	1,578 i	30 i	161 i	30 i	161 i	0	0			0	0		
Primary metals	331	170	1,174	30 i	35 i	30 i	35 i	0	0			0	0		
Fabricated metal products	332	1,480	3,230	520 i	763	470 i	746	90 i	16 i			0	0		
Machinery	333	1,980	22,035	940 i	3,024	900 i	2,833	90	191			60 r	7	i	
Agricultural implement	33311	160	2,561	80 i	378	70 i	352	10	26			10 r	D		
Semiconductor machinery	333242	50	6,851	30	554 i	30	D	10	D			10 i	*	i	
Engine, turbine, and power transmission equipment	3336	140	4,230	60 i	362	50 i	D	10 i	D			10 i	1	i	
Other machinery	other 333	1,640	8,394	790 i	1,730	760 i	D	80	D			50 r	D		
Computer and electronic products	334	1,710	115,599	1,250 i	35,671 i	1,200 i	32,299 i	160 i	3,372			60	579	i	
Communications equipment	3342	300	12,839	240 i	D	240 i	7,603 i	10 i	D			0	0		
Semiconductor and other electronic components	3344	470	52,358	190 i	13,609 i	180 i	11,056 i	30	2,552			20	25	i	
Navigational, measuring, electromedical, and control instruments	3345	810	14,083	670 i	4,068	650 i	3,355	130 i	713 i			50	D		
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	220	3,245	130 i	691 i	120 i	596 i	30 i	95			10 r	10	r	
Search, detection, navigation, guidance, aeronautical, and nautical system and instruments	334511	130	6,161	110 i	1,952	110 i	1,374	20 i	579 i			20	520	i	
Other measuring and controlling devices	other 3345	470	4,677	440 i	1,425	420 i	1,385	80 i	40			30 r	D		
Other computer and electronic products	other 334	150	36,318	150 i	D	150 i	10,284	10	D			10	D		
Electrical equipment, appliances, and components	335	380	6,999	240 i	1,580	220 i	1,525	30 i	54 i			10	3		

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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 (number)	Amount	Companies (number)	Amount	Companies (number)	Amount	Companies (number)	Amount	Companies (number)	Amount		
Transportation equipment	336	930	71,231	460 i	11,048	450 i	8,721 i	50	2,327	30	1,332		
Motor vehicles, bodies, trailers, and parts	3361–63	540	31,812	300 i	4,949 i	300 i	4,806 i	30	143	10	5 i		
Aerospace products and parts	3364	260	35,904	110 i	5,798	100 i	3,614	30	2,184	20	1,327		
Aircraft, aircraft engine, and aircraft parts	336411–13	230	D	90 i	3,675	90 i	D	20	D	10	D		
Guided missile, space vehicle, and related parts	336414–15, 336419	30	D	20	2,122	10	D	10	D	10	D		
Military armored vehicle, tank, and tank components	336992	20	33	10	1	10	*	10	*	10	*		
Other transportation	other 336	130	3,481	60 i	300 i	60 i	300 i	0	0	0	0		
Furniture and related products	337	200	450	40 i	72 i	40 i	72 i	0	0	0	0		
Miscellaneous	339	1,050	24,840	360 i	3,446	340	3,356	70 i	90	10	31		
Medical equipment and supplies	3391	660	22,126	290 i	2,949	270 i	2,862	60 i	87	10	30		
Other miscellaneous manufacturing	3399	390	2,715	80	498	70	494	10	3	10	*		
Nonmanufacturing industries	21–23, 42–81	16,790	359,990	9,880 i	263,871 i	9,350 i	253,518 i	1,030 i	10,353	540 i	3,087		
Mining, quarrying, oil and gas extraction, and support activities	21	60	1,862	30	307	20	304	10 i	3	0	0		
Utilities	22	70	613	30	348 i	30	348 i	0	0	0	0		
Wholesale trade	42	2,350	1,692 i	530 i	396 i	530 i	354 i	20	41 i	0	0		
Electronic shopping and electronic auctions	454111–12	270	7,898 i	50 i	5,725 i	50 i	5,725 i	0	0	0	0		
Transportation and warehousing	48–49	490 r	11,341	440 r	7,078 i	440 r	7,078 i	0	0	0	0		
Information	51	3,750	228,174	3,620 i	189,157 i	3,540 i	187,892 i	150 i	1,265	20	55		
Publishing	511	1,690	63,596	1,680 i	43,292	1,650 i	42,781	60 i	511	10	3 i		
Newspaper, periodical, book, and directory publishers	5111	50 i	489 i	20 i	218 i	20 i	218 i	0	0	0	0		
Software publishers	5112	1,650	63,108	1,670 i	43,074	1,630 i	42,563	60 i	511	10	3 i		
Telecommunications	517	150	3,323	120	1,812	120	1,806	10 i	6 i	10	1		
Data processing, hosting, and related services	518	1,680	58,772	1,670	50,846	1,640	50,112	90 i	734	10	51		
Other information	other 51	240	102,484	160	93,207 i	160	93,193 i	10	14	0	0		
Finance and insurance	52	220	25,463	180	24,545	180	24,448	10	97	0	0		
Real estate and rental and leasing	53	540	2,750	40	1,569	40	1,569	0	0	0	0		
Lessors of nonfinancial intangible assets (except copyrighted works)	533	10 i	23	0	0	0	0	0	0	0	0		
Other real estate and rental and leasing	other 53	530	2,727	40	1,569	40	1,569	0	0	0	0		
Professional, scientific, and technical services	54	7,560	74,548	4,740 i	32,240 i	4,300 i	23,293 i	870 i	8,947	530 i	3,032		
Architectural, engineering, and related services	5413	1,660	3,893	670 i	633	600 i	395	150 i	238	100 i	181		
Computer systems design and related services	5415	2,950	26,764	2,770 i	19,443	2,650 i	15,746	320 i	3,697	180 r	987		
Scientific research and development services	5417	1,500	33,942	560 i	5,283 i	350 i	814 i	330 i	4,469 i	210 i	1,387		
Research and development in nanotechnology	541713	80	548	30 i	128 i	30 i	90 i	10 i	38	10 i	37		
Research and development in biotechnology (except nanobiotechnology)	541714	420	6,751	130 i	316	70 i	42	80 i	274	30 i	123		

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				Total		Paid for by the company		Paid for by others					
								Total		Federally funded			
		Companies (number)	Amount	Companies (number)	Amount	Companies (number)	Amount	Companies (number)	Amount	Companies (number)	Amount		
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	980	25,931	410 i	4,812 i	260 i	676 i	240 i	4,136 i	180 i	1,213		
Research and development in the social sciences and humanities	541720	20	712	10	27	10	6	10	21	10	15	i	
Other professional, scientific, and technical services	other 54	1,480	9,949 i	760 i	6,881 i	710 i	6,338 i	90	543	50	477		
Health care services	621–23	260	2,020	80 i	253	80 i	253	10	*	0	0		
Other nonmanufacturing	23, 44–45 (excluding 454111–12), 55–56, 624, 71–72, 81	1,290	3,628	190 i	2,253	190 i	2,253	0	0	0	0		
All companies (number of domestic employees)	–	29,570	765,082	14,360 i	322,214 i	13,660 i	305,788 i	1,510 i	16,425	690 i	5,046		
Small companies													
10–19[a]	–	5,590	4,790	2,820 i	1,738 i	2,580 i	1,437 i	410 i	301	180 i	154		
20–49	–	7,920	16,179	4,120 i	5,075	3,950 i	4,533	500 i	542 i	300 i	317		
Medium companies													
50–99	–	5,030	17,078	2,600 i	5,122	2,500 i	4,548	220 i	575	90	319		
100–249	–	4,540	29,325	2,090 i	10,530	1,980 i	9,713	170 i	817	70	493		
Large companies													
250–499	–	2,100	28,852	950	10,289	920	9,569	70	720	20	282		
500–999	–	1,880	44,697	740 i	23,988	720 i	22,524	40	1,465	20 i	280		
1,000–4,999	–	1,490	123,813	720	57,615	700	53,989	60	3,626 i	20	313	i	
5,000–9,999	–	280	62,950	150	24,783 i	140	24,360 i	20	423 i	10	29		
10,000–24,999	–	610	140,348	130	36,756 i	130	32,718 i	30	4,038	20	668		
25,000 or more	–	150	297,050	100	146,317 i	100	142,398 i	20 i	3,919	20	2,191		

* = 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.

[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. Companies could report R&D in one, more than one, or no application area.

Source(s):
National Center for Science and Engineering Statistics and Census Bureau, Business Enterprise Research and Development Survey, 2024.