

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: 2019

(Millions of U.S. dollars and number)

Industry and company size	NAICS code	Software products and embedded software R&D									
		Domestic R&D		Total		Paid for by the company		Paid for by others			
		Companies ^a (number)	Amount	Companies ^b (number)	Amount	Companies ^b (number)	Amount	Total		Federally funded	
								Companies ^b (number)	Amount	Companies ^b (number)	Amount
All industries	21-23, 31-33, 42-81	28,270	492,956	12,450	200,859	11,640	189,553	1,440	11,306	710	5,089
Manufacturing industries	31-33	15,180	285,674	4,410	41,105	4,230	36,281	500	4,824	140	2,995
Food	311	870	4,180	80	45	80	41	10	4	0	0
Beverage and tobacco products	312	350	1,082	20	1	20	1	0	0	0	0
Textile, apparel, and leather products	313-16	240	904	50	60	50	60	0	0	0	0
Wood products	321	80	186	20	8	20	8	0	0	0	0
Paper	322	90	1,064	20	12	20	12	0	0	0	0
Printing and related support activities	323	200	420	70	78	70	78	0	0	0	0
Petroleum and coal products	324	80	1,306	10	10	10	10	0	0	0	0
Chemicals	325	2,330	97,063	200	1,572	190	1,538	20	34	10	2
Basic chemicals	3251	240	2,360	20	21	20	16	10	5	0	0
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	180	1,172	10	8	10	8	0	0	0	0
Pesticide, fertilizer, and other agricultural chemicals	3253	150	1,822 - 1,846	20	973	20	955	10	17	0	0
Pharmaceuticals and medicines	3254	1,060	87,619	90	470	90	467	10	4	10	2
Soap, cleaning compound, and toilet preparation	3256	270	2,760	10	17	10	9	10	8	0	0
Paint, coating, adhesive, and other chemicals	3255, 3259	460	1,305 - 1,333	70	84	70	84	10	*	10	*
Plastics and rubber products	326	790	2,856	80	75	80	75	0	0	0	0
Nonmetallic mineral products	327	170	1,508	20	31	20	31	0	0	0	0
Primary metals	331	200	665	40	30	40	30	0	0	0	0
Fabricated metal products	332	1,840	2,885	390	311	360	284	30	27	0	0
Machinery	333	2,240	15,184	810	1,631	770	1,552	60	80	10	34
Agricultural implement	33311	190	1,921	60	249	60	249	10	1	10	*
Semiconductor machinery	333242	80	4,459	60	365	40	348	30	17	0	0
Engine, turbine, and power transmission equipment	3336	110	1,301	50	133	50	99	10	34	10	31
Other machinery	other 333	1,880	7,503	650	884	640	856	20	28	10	3
Computer and electronic products	334	2,280	86,729	1,380	29,799	1,320	25,864	190	3,935	40	2,693
Communications equipment	3342	300	12,595	240	8,231	240	8,168	10	63	10	37

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Semiconductor and other electronic components	3344	640	35,183	190	8,407	170	8,088	60	320	10	55		
Navigational, measuring, electromedical, and control instruments	3345	1,140	17,562	760	7,037	730	3,544	120	3,493	30	2,583		
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	230	3,342	130	512	130	419	30	94	10	1		
Search, detection, navigation, guidance, aeronautical, and nautical system and instrument	334511	190	9,662	140	5,192	130	1,853	30	3,339	30	2,580		
Other measuring and controlling device	other 3345	740	4,558	500	1,332	490	1,272	60	60	10	2		
Other computer and electronic products	other 334	220	21,388	200	6,124	190	6,065	10	59	10	18		
Electrical equipment, appliances, and components	335	900	5,263	550	830	540	735	30	96	10	1		
Transportation equipment	336	1,090	45,375	260	3,881	250	3,262	130	619	90	265		
Motor vehicles, bodies, trailers, and parts	3361-63	540	24,117	180	2,076	170	1,834	40	242	10	3		
Aerospace products and parts	3364	380	18,358	60	1,658	60	1,282	90	376	90	261		
Aircraft, aircraft engine, and aircraft parts	336411-13	200	16,891	60	1,550	50	1,268	20	282	10	170		
Guided missile, space vehicle, and related parts	336414-15, 336419	190	1,467	10	108	10	14	80	95	80	90		
Military armored vehicle, tank, and tank component	336992	30	35	0	0	0	0	0	0	0	0		
Other transportation	other 336	150	2,865	30	147	30	146	10	1	10	1		
Furniture and related products	337	190	409	50	66	50	66	0	0	0	0		
Miscellaneous	339	1,310	18,596	460	2,665	440	2,635	70	30	10	*		
Medical equipment and supplies	3391	790	16,014	370	2,004	350	1,974	70	30	10	*		
Other miscellaneous manufacturing	3399	520	2,582	90	661	90	661	0	0	0	0		
Nonmanufacturing industries	21-23, 42-81	13,100	207,283	8,050	159,754	7,420	153,272	940	6,482	570	2,094		
Mining, quarrying, oil and gas extraction, and support activities	21	160	2,717	30	951	30	943	10	8	10	*		
Utilities	22	40	275	20	45	20	45	0	0	0	0		
Wholesale trade	42	1,560	1,191	290	70	280	7-71	10	0-62	0	0		
Electronic shopping and electronic auctions	454111-12	60	3,131 - 15,818	50	1,298 - 15,375	50	1,293 - 15,375	10	0-61	0	0		
Transportation and warehousing	48-49	130	9,890	50	8,194	50	8,194	0	0	0	0		
Information	51	3,090	110,227	2,830	102,561	2,760	101,780	130	781	10	10-31		

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50–99	–	4,960	14,021	2,060	i 3,716	1,960	i 3,107	160	609	80	296
100–249	–	4,580	19,793	1,720	i 5,963	1,640	i 5,127	170	i 835	70	i 425
Large companies											
250–499	–	2,140	18,883	780	6,633	730	5,632	90	1,001	i 30	327
500–999	–	1,230	23,969	510	8,157	500	7,714	40	443	20	i 64
1,000–4,999	–	1,330	75,671	590	31,404	580	30,165	50	1,239	20	504
5,000–9,999	–	240	50,811	120	15,174	i 120	14,470	i 30	704	i 10	140
10,000–24,999	–	220	88,263	120	29,212	110	26,829	i 20	2,383	10	290
25,000 or more	–	130	183,626	80	94,534	i 80	91,455	i 20	3,079	i 10	2,579

* = 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 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. 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. 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, 2019.