

TABLE 21

Companies with domestic R&D paid for by the company and others and performed by the company in the nanotechnology focus area, by industry and company size: 2019

(Millions of U.S. dollars and number)

Industry and company size	NAICS code	Domestic R&D		Nanotechnology R&D							
		Companies ^a (number)	Amount	Total		Paid for by the company		Paid for by others			
				Companies ^b (number)	Amount	Companies ^b (number)	Amount	Companies ^b (number)	Amount		
All industries	21-23, 31-33, 42-81	28,270	492,956	900	i 23,484	i 780	i 21,626	i 170	1,858	i	
Manufacturing industries	31-33	15,180	285,674	620	i 21,008	i 590	i 19,643	i 70	1,365	i	
Food	311	870	4,180	10	2	10	2	0	0		
Beverage and tobacco products	312	350	1,082	10	5	10	5	0	0		
Textile, apparel, and leather products	313-16	240	904	10	*	10	*	0	0		
Wood products	321	80	186	10	*	10	*	0	0		
Paper	322	90	1,064	10	11	i 10	11	i 0	0		
Printing and related support activities	323	200	420	i 0	0	0	0	0	0		
Petroleum and coal products	324	80	1,306	10	0 - 69	i 10	0 - 69	i 0	0		
Chemicals	325	2,330	97,063	180	i 553	i 170	i 500	20	53		
Basic chemicals	3251	240	2,360	50	i 70	i 40	i 61	10	8		
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	180	1,172	10	12	10	3	i 10	9		
Pesticide, fertilizer, and other agricultural chemicals	3253	150	1,822 - 1,846	10	*	10	*	0	0		
Pharmaceuticals and medicines	3254	1,060	87,619	40	379	30	345	10	i 34	i	
Soap, cleaning compound, and toilet preparation	3256	270	2,760	10	*	10	*	0	0		
Paint, coating, adhesive, and other chemicals	3255, 3259	460	1,305 - 1,333	100	i 92	100	i 90	10	2		
Plastics and rubber products	326	790	2,856	70	i 63	70	i 60	10	i 4	i	
Nonmetallic mineral products	327	170	1,508	i 20	10	20	i 7	10	3		
Primary metals	331	200	665	10	i 5	i 10	i 5	0	0		
Fabricated metal products	332	1,840	2,885	10	i 20	10	i 20	0	0		
Machinery	333	2,240	15,184	60	1,138	50	i 1,116	i 20	21		
Agricultural implement	33311	190	1,921	0	0	0	0	0	0		
Semiconductor machinery	333242	80	4,459	20	1,105	20	1,083 - 1,106	i 10	0 - 22		
Engine, turbine, and power transmission equipment	3336	110	1,301	10	*	10	*	0	0		
Other machinery	other 333	1,880	7,503	40	i 32	30	i 10 - 33	20	0 - 22		
Computer and electronic products	334	2,280	86,729	200	i 18,707	i 190	i 17,440	i 30	i 1,267	i	
Communications equipment	3342	300	12,595	10	*	10	*	0	0		
Semiconductor and other electronic components	3344	640	35,183	i 120	i 18,317	i 110	i 17,116	i 20	i 1,200	i	
Navigational, measuring, electromedical, and control instruments	3345	1,140	17,562	80	i 287	80	i 221	i 10	66		

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Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	230	3,342	10	i 6	10	i 5	10	i 1		
Search, detection, navigation, guidance, aeronautical, and nautical system and instrument	334511	190	9,662	10	i 124	10	i 63	10	i 61		
Other measuring and controlling device	other 3345	740	4,558	70	i 157	70	i 153	10	i 4		
Other computer and electronic products	other 334	220	21,388	10	i 103	10	i 103	10	i *		
Electrical equipment, appliances, and components	335	900	5,263	20	i 57	20	i 57	0	i 0		
Transportation equipment	336	1,090	45,375	10	i 101	10	i 85	10	i 15		
Motor vehicles, bodies, trailers, and parts	3361-63	540	24,117	10	i 91	10	i 76	10	i 15		
Aerospace products and parts	3364	380	18,358	10	i 10	10	i 9	10	i 1		
Aircraft, aircraft engine, and aircraft parts	336411-13	200	16,891	10	i 9	10	i 9	0	i 0		
Guided missile, space vehicle, and related parts	336414-15, 336419	190	1,467	10	i 1	0	i 0	10	i 1		
Military armored vehicle, tank, and tank component	336992	30	35	0	i 0	0	i 0	0	i 0		
Other transportation	other 336	150	2,865	0	i 0	0	i 0	0	i 0		
Furniture and related products	337	190	409	0	i 0	0	i 0	0	i 0		
Miscellaneous	339	1,310	18,596	70	i 273-342	70	i 271-341	10	i 2		
Medical equipment and supplies	3391	790	16,014	60	i 274	60	i 272	10	i 2		
Other miscellaneous manufacturing	3399	520	2,582	10	i 0-69	10	i 0-69	0	i 0		
Nonmanufacturing industries	21-23, 42-81	13,100	207,283	280	i 2,476	200	i 1,983	110	i 493		
Mining, quarrying, oil and gas extraction, and support activities	21	160	2,717	10	i 41	10	i 38	10	i 2		
Utilities	22	40	275	0	i 0	0	i 0	0	i 0		
Wholesale trade	42	1,560	1,191	60	i 10	60	i 10	0	i 0		
Electronic shopping and electronic auctions	454111-12	60	3,131-15,818	10	i 12	10	i 12	0	i 0		
Transportation and warehousing	48-49	130	9,890	0	i 0	0	i 0	0	i 0		
Information	51	3,090	110,227	20	i 1,217	20	i 1,213	10	i 4		
Publishing	511	1,080	33,019	20	i 1,216	20	i 1,212	10	i 4		
Newspaper, periodical, book, and directory publishers	5111	40	61	0	i 0	0	i 0	0	i 0		
Software publishers	5112	1,040	32,958	20	i 1,216	20	i 1,212	10	i 4		

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250–499	–	2,140	18,883	70	i 745	70	i 439	20		306	i
500–999	–	1,230	23,969	30	i 624	30	i 412	10	i	212	i
1,000–4,999	–	1,330	75,671	60		60		10	i	658	i
5,000–9,999	–	240	50,811	20		20	i 4,526	10		145	
10,000–24,999	–	220	88,263	20	i 5,251	20	i 5,146	10	i	105	i
25,000 or more	–	130	183,626	20	i 6,656	20	i 6,508	10		147	

* = 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.