

TABLE 39

## Domestic R&amp;D paid for by others and performed by the company, by industry and company size: 2019

(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	500-599	1,000-4,999	5,000-9,999	10,000-24,999	25,000 or more		
All industries	21-23, 31-33, 42-81	63,989	1,070	2,378	2,529	3,274	3,527	2,420	11,196	6,083	13,878	i	17,635	
Manufacturing industries	31-33	37,564	294	i	850	912	1,216	1,644	1,645	8,759	2,490	6,203	13,551	i
Food	311	243	0-25	i	1	7	80	6	24	86	3-42	0-9	0	
Beverage and tobacco products	312	111	i	0	0	0	0	97-103	i	0	9	0	0-4	i
Textile, apparel, and leather products	313-16	31	0-23	0	0-10	0-18	4	0	0	0	0	0	0	
Wood products	321	6	0	0	0	0	0	6	0	0	0	0	0	
Paper	322	*	0	0	0	*	0	0	0	0	0	0	0	
Printing and related support activities	323	0	0	0	0	0	0	0	0	0	0	0	0	
Petroleum and coal products	324	103	0	0	0	0-18	0	64-104	0	0-39	i	0-9	0-4	
Chemicals	325	9,775	42	i	179	391	388	333	272	3,795	596	3,578	200	
Basic chemicals	3251	162	0-3	7	0-13	0-19	0	0	113	2-37	0	0-5		
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	80	0-3	*	i	0-13	i	1	10	38-70	0	0-14	0	
Pesticide, fertilizer, and other agricultural chemicals	3253	320-345	0	0	0-13	0	*	0	275-345	0-35	0	0		
Pharmaceuticals and medicines	3254	8,966	40	i	168	379	369	317	272	3,256	560	3,408	196	
Soap, cleaning compound, and toilet preparation	3256	164	0	4	1	1	i	0	0	*	i	0	158	0
Paint, coating, adhesive, and other chemicals	3255, 3259	56-84	0-3	*	0-13	0-19	5	0	9-79	0	0-14	0-5		
Plastics and rubber products	326	85	3	3	25	19	7	7	17	0	4	i	0	
Nonmetallic mineral products	327	35	0	0	1	0-18	0-15	0	17	0-18	0	0		
Primary metals	331	16	0-4	0-5	0	7	*	*	i	6	*	0-5	i	0
Fabricated metal products	332	254	27	i	76	3	24	2	3	119	0	0	0	
Machinery	333	1,254	24	103	179	108	20	69	583	164	0	0	3	
Agricultural implement	33311	9	0	*	0	6	*	1	1	0	0	*		
Semiconductor machinery	333242	604	1	47	0-48	1	0	0	506-557	0	0	0		
Engine, turbine, and power transmission equipment	3336	205	12	9	i	2	1	9	11	2	160	0	0	
Other machinery	other 333	436	11	47	128-178	101	11	57	22-76	5	0	2		
Computer and electronic products	334	11,159	28	420	200	394	868	644	1,790	869	i	1,210	i	4,736

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Communications equipment	3342	1,100	i	0-18	*	37	24	5-150	7	14	i	493-599	i	280-394	i	0		
Semiconductor and other electronic components	3344	3,208		0-18	351	50	264	677	460	1,295		88-113		1		0		
Navigational, measuring, electromedical, and control instruments	3345	6,650		11	65	111	102	41-147	80-179	398		182-262		817	i	4,736		
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	225		6	18	38	47	0	81	31		0		4		0		
Search, detection, navigation, guidance, aeronautical, and nautical system and instrument	334511	6,262		0	40	0-74	42	42	0	332		181-261		813	i	4,736		
Other measuring and controlling device	other 3345	163		5	7	0-74	13	0-105	0-98	35		1		0		0		
Other computer and electronic products	other 334	201		0-18	3	3	i	4	0-110	0-98	i	83		0	0-110	0		
Electrical equipment, appliances, and components	335	377		22	i	11	11	7	7	16		48		0	254	0		
Transportation equipment	336	13,870	i	109	i	10	85	152	i	238	493	2,250	i	804	i	1,146	8,584	i
Motor vehicles, bodies, trailers, and parts	3361-63	3,233	i	5	0	0-28	0-120	i	233	295	1,424	i	565	i	0-482	87-714		
Aerospace products and parts	3364	9,458	i	99	i	10	56-85	33	i	1	171-199	i	816	236	665	7,340	i	
Aircraft, aircraft engine, and aircraft parts	336411-13	8,550	i	1	2	33-62	32	i	*	171-199	i	65	208	665	7,340	i		
Guided missile, space vehicle, and related parts	336414-15, 336419	908		98	i	8	23	1	*	0	750	27	0	0	0	0		
Military armored vehicle, tank, and tank component	336992	10		5	0	1	0	4	0	0	0	0	0	0	0	0		
Other transportation	other 336	1,168		0	0	1	0-120	0	0-28	10	3	0-482	529-1,156					
Furniture and related products	337	2		0	0-3	*	0-3	0-3	*	0	0	0	0	0	0	0		
Miscellaneous	339	244		18	45-50	1-14	23-41	34-67	3-41	48	0	6	27					
Medical equipment and supplies	3391	202		18	46	2	24	35	4	41	0	6	27					
Other miscellaneous manufacturing	3399	42		*	i	0-5	0-13	0-18	i	0-33	0-36	7	0	0	0			
Nonmanufacturing industries	21-23, 42-81	26,425		775	1,528	1,617	2,058	1,883	775	2,437	3,592	7,675	i	4,084				
Mining, quarrying, oil and gas extraction, and support activities	21	183		5	0	99	0	0	2	0	0	76	i	0				
Utilities	22	38		0	1-6	0-2	0	0	0	1	0	0	0	33				

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Wholesale trade	42	87	0-10	12	17	i	35	11-25	i	0	0	0	0			
Electronic shopping and electronic auctions	454111-12	43-61	0	0	0	*	i	43-61	0	0	0	0	0			
Transportation and warehousing	48-49	386	0	0	0	0	0	0	4	382	0	0	0			
Information	51	1,165	37	184	53	123	44	137	218	81	104	183				
Publishing	511	572	0-32	46	39	0-124	14	0-102	127	0-82	0	182				
Newspaper, periodical, book, and directory publishers	5111	*	0	0	*	0	0	0	0	0	0	0				
Software publishers	5112	572	0-32	46	39	0-124	14	0-102	127	0-82	0	182				
Telecommunications	517	33	6	27	0	0	0	0	1	i	0	0				
Data processing, hosting, and related services	518	404	0-20	111	14	0-20	30	36	91	0	104	2				
Other information	other 51	155	0-32	0	0	0-124	0	0-102	0	0-82	0	0				
Finance and insurance	52	28	0	0	0	28	0	0	0	0	0	0				
Real estate and rental and leasing	53	0	0	0	0	0	0	0	0	0	0	0				
Lessors of nonfinancial intangible assets (except copyrighted works)	533	0	0	0	0	0	0	0	0	0	0	0				
Other real estate and rental and leasing	other 53	0	0	0	0	0	0	0	0	0	0	0				
Professional, scientific, and technical services	54	24,103	724	1,324	1,408	1,847	1,759	627	1,552	3,499	i	7,495	i	3,867		
Architectural, engineering, and related services	5413	1,919	83	199	141	345	320	29	60	133	32	577				
Computer systems design and related services	5415	2,651	43	276	209	142	53	55	0	0	1,480	393				
Scientific research and development services	5417	18,403	562	721	854	1,163	1,121	489	1,490	3,366	i	5,983	i	2,655		
Research and development in biotechnology	541711	5,374	166	183	214	228	61	2	0	0	1,866	2,655				
Research and development in the physical, engineering, and life sciences (except biotechnology)	541712	12,291	i	392	530	594	902	1,061	487	1,213	i	2,996	i	4,117	i	0
Research and development in the social sciences and humanities	541720	738	4	8	46	34	0	0	277	370	0	0				
Other professional, scientific, and technical services	other 54	1,129	36	128	205	198	264	54	2	0	0	243				
Health care services	621-23	337	0	1	34	16	9	4	273	*	0	1				
Other nonmanufacturing	23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81	34-58	0-10	0-9	2-9	9	1	*	11	12	0	0				

\* = 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.

<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. 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. 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.