

TABLE 49

Domestic R&D paid for by the company and performed by others, by type of performer, industry, and company size: 2019

(Millions of U.S. dollars)

Industry and company size	NAICS code	Total	Companies in the United States	Companies outside the United States		U.S. federal government agencies		U.S. state and local government agencies		U.S. universities, colleges, and academic researchers		All other organizations	
				Company's parent	Other							In the United States	Outside the United States
All industries	21-23, 31-33, 42-81	37,537	31,827	1,347	3,251	64	i	24		439		465	120
Manufacturing industries	31-33	33,886	28,760	1,302	2,866	64	i	13		404		403	75
Food	311	190	152	*	7	*	i	*	i	9	i	20	1
Beverage and tobacco products	312	176	161	0	10	i	0	0		3		2	0
Textile, apparel, and leather products	313-16	16	16	0	*	i	0	0		*	i	*	i
Wood products	321	11	10	0	0	*		0		*		1	0
Paper	322	4	3	0	*		0	0		*		1	0
Printing and related support activities	323	6	i	6	i	0		0		0		0	0
Petroleum and coal products	324	248 - 347	137 - 247	0	0 - 17	5		0		0 - 36		56	0 - 35
Chemicals	325	25,666	22,597	66	2,530	*		*	i	214		224	34
Basic chemicals	3251	63	58	0	1	0		0		5		*	*
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	25	24	0	*	0		0		*		*	0
Pesticide, fertilizer, and other agricultural chemicals	3253	192	178	0	2	0		0		2		2	7
Pharmaceuticals and medicines	3254	25,052	22,036	61	2,518	*		*	i	200		214	24
Soap, cleaning compound, and toilet preparation	3256	291	271	1	i	8	i	*	i	*	i	1	7
Paint, coating, adhesive, and other chemicals	3255, 3259	42	30	5	1	0		0		6		*	i
Plastics and rubber products	326	53	41	0 - 12	0 - 12	*		0		2		0 - 12	*
Nonmetallic mineral products	327	23	12	9	2	*		0		*		0	*
Primary metals	331	15	12	0	*	0		0		2		*	0
Fabricated metal products	332	35	29	*	i	2		0		0		3	1
Machinery	333	415	353	0 - 14	46	0		0		4		0 - 14	*
Agricultural implement	33311	199	195	0	3	0		0		*		0	0
Semiconductor machinery	333242	5	4	0	1	0		0		*		0	0
Engine, turbine, and power transmission equipment	3336	18	17	*	1	0		0		*		0	0
Other machinery	other 333	194	137	0 - 14	41	0		0		4		0 - 14	*

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Computer and electronic products	334	2,021	1,115	651 - 733	133	1	i	7		18	8 - 58	1 - 36			
Communications equipment	3342	936	174 - 288	632 - 732	0 - 67	*	i	*	i	0 - 6	i	* i			
Semiconductor and other electronic components	3344	363	295	0 - 16	i	52		1	i	0	0 - 6	i	0 - 16	i	1
Navigational, measuring, electromedical, and control instruments	3345	380	302	1	15 - 48	*		6		13	8 - 41	1			
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	118	97	1	7	i	*	0		3	9	i	*	i	
Search, detection, navigation, guidance, aeronautical, and nautical system and instrument	334511	158	131	0	9			0		6	10	0	*		
Other measuring and controlling device	other 3345	104	74	0	0 - 31			0		0	0 - 31	*			
Other computer and electronic products	other 334	342	231 - 342	1	0 - 67			0		0	0 - 6	*	0 - 35		
Electrical equipment, appliances, and components	335	124	108	*	i	10		1		0	4	1	0		
Transportation equipment	336	4,055	3,325	496	i	94		56	i	6	i	40	32	6	i
Motor vehicles, bodies, trailers, and parts	3361-63	3,371	2,712	493	i	86		3		3	39	30	4	i	
Aerospace products and parts	3364	632	568	0	4			53	i	3	i	1	1	2	
Aircraft, aircraft engine, and aircraft parts	336411-13	514	450	0	4			53	i	3	i	1	1	2	
Guided missile, space vehicle, and related parts	336414-15, 336419	118	118	0	0			0		0	*	0	0		
Military armored vehicle, tank, and tank component	336992	0	0	0	0			0		0	0	0	0		
Other transportation	other 336	51	45	3	3			0		0	*	i	* i	0	
Furniture and related products	337	23	17	*	i	6		0		0	*	i	* i	* i	
Miscellaneous	339	708 - 800	564 - 657	0 - 56	14 - 32	*	i	*		74 - 111	0 - 56	0 - 35			
Medical equipment and supplies	3391	708	565	0 - 55	15	*	i	*		75	0 - 55	0 - 35			

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			Company's parent	Other	In the United States	Outside the United States					
Other miscellaneous manufacturing	3399	0 - 92	0 - 92	* i	0 - 17 i	0	0	0 - 36	*	* i	
Nonmanufacturing industries	21-23, 42-81	3,651	3,067	45	385	*	11	35	62	45	
Mining, quarrying, oil and gas extraction, and support activities	21	123	100	0	10	0	0	0 - 10	2 - 14	0	
Utilities	22	171	125	0	*	*	11	2	32	*	
Wholesale trade	42	47	37 i	* i	5 i	0	0	1 i	5 i	0	
Electronic shopping and electronic auctions	454111-12	125 i	125 i	0	0	0	0	0	0	0	
Transportation and warehousing	48-49	43	43 i	0	0	0	0	*	0	0	
Information	51	2,061	1,848	6	159	0	0	0 - 6	0 - 7	43	
Publishing	511	1,001	818	5	141	0	0	*	1	36	
Newspaper, periodical, book, and directory publishers	5111	4	4	0	0	0	0	0	0	0	
Software publishers	5112	998	815	5	141	0	0	*	1	36	
Telecommunications	517	416	414	*	1	0	0	0	0	0	
Data processing, hosting, and related services	518	249	221	* i	17	0	0	0 - 5	0 - 5	8	
Other information	other 51	395	394	0	* i	0	0	0	0	* i	
Finance and insurance	52	319	193	0	124	0	0	2	*	0	
Real estate and rental and leasing	53	7	7	0	0	0	0	0	0	0	
Lessors of nonfinancial intangible assets (except copyrighted works)	533	*	*	0	0	0	0	0	0	0	
Other real estate and rental and leasing	other 53	7	7	0	0	0	0	0	0	0	
Professional, scientific, and technical services	54	603	467	39	70	* i	0	12	13	1 i	
Architectural, engineering, and related services	5413	95	65	24	6	* i	0	* i	* i	* i	
Computer systems design and related services	5415	128	98 i	15 i	12 i	* i	0	3 i	1 i	1 i	
Scientific research and development services	5417	316	250	1	44	*	0	9	12	1	
Research and development in biotechnology	541711	118	107	1	5	* i	0	3	1	1	

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			Company's parent	Other	U.S. federal government agencies	U.S. state and local government agencies	U.S. universities, colleges, and academic researchers	In the United States	Outside the United States					
Research and development in the physical, engineering, and life sciences (except biotechnology)	541712	198	143	0	39	*	0	6	10	*				
Research and development in the social sciences and humanities	541720	*	* i	* i	* i	* i	0	* i	* i	* i	* i	* i	* i	* i
Other professional, scientific, and technical services	other 54	64	54	* i	9	0	0	*	1	0				
Health care services	621-23	66	39	0	16	0	0	10	* i	0				
Other nonmanufacturing	23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81	86	84	0	0	*	*	2 i	0	0				
All companies (number of domestic employees)	-	37,537	31,827	1,347	3,251	64 i	24	439	465	120				
Small companies														
10-19 ^a	-	514	432	4 i	37	* i	0	20	9 i	13				
20-49	-	1,214	1,027	0-42 i	100	1	* i	39	0-42	8				
Medium companies														
50-99	-	2,176	1,795	17	242	*	*	55	61 i	7				
100-249	-	1,912	1,538	25	285	* i	*	17	46	* i				
Large companies														
250-499	-	1,719	1,479	0-35	141	* i	* i	54	0-35	12				
500-999	-	2,118	1,857	37	109 i	*	*	16	54	43				
1,000-4,999	-	4,512	3,872	19	554	* i	1	39	22	4				
5,000-9,999	-	5,634	4,763	648-731	70	* i	* i	65	0-81	4				
10,000-24,999	-	8,850	7,549	43	1,090	1 i	10	28 i	121	8				
25,000 or more	-	8,888	7,514	475 i	622	61 i	12	106	75	21				

* = 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 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. The "undistributed" column shown in prior years is no longer necessary because of processing improvements implemented beginning in 2017. 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.