

TABLE 49

Domestic R&D performance by source of funds and performer, by industry and company size: 2018

(Millions of U.S. dollars)

Industry and company size	NAICS code	Paid for by the company				Paid for by others				
		Total	R&D performed by others (purchased and collaborative R&D)	R&D performed by the company	Total	R&D performed by others (subcontracted/ passed-through R&D costs)	R&D performed by the company			
							Total	Paid for by the U.S. government	Paid for by non-U.S. government sources	
All industries	21-23, 31-33, 42-81	420,474	42,668	377,806	73,109	9,878	63,230	24,685	38,545	
Manufacturing industries	31-33	273,761	39,079	234,682	47,634	8,242	39,393	18,980	20,413	
Food	311	4,644	232	4,412	244	2	242	*	i 241	
Beverage and tobacco products	312	1,237	233	1,004	109	1	109	0	109	
Textile, apparel, and leather products	313-16	1,004	18	986	4	*	4	0	4	
Wood products	321	212	13	199	4	*	i 4	*	i 4	
Paper	322	946	14	932	3	1	2	0	2	
Printing and related support activities	323	240	3	238	4	*	4	*	i 4	
Petroleum and coal products	324	1,475	230	1,246	23	*	23	*	23	
Chemicals	325	105,155	31,571	73,584	14,533	3,981	10,553	204	10,348	
Basic chemicals	3251	2,323	72	2,251	193	*	192	1	i 192	
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	1,574-1,586	6 - 18	1,568	84 - 164	0 - 79	85	1	i 84 i	
Pesticide, fertilizer, and other agricultural chemicals	3253	1,235	101	i 1,135	i 325-332	0 - 7	326	3	322	
Pharmaceuticals and medicines	3254	95,879	31,078	64,800	13,694	3,903	9,792	188	9,604	
Soap, cleaning compound, and toilet preparation	3256	2,843	271	2,573	136-216	0 - 79	137	*	i 137	
Paint, coating, adhesive, and other chemicals	3255, 3259	1,290-1,302	33 - 45	1,257	20 - 100	0 - 79	21	11	10 i	
Plastics and rubber products	326	2,735	68	2,667	131	47	83	2	81	
Nonmetallic mineral products	327	1,376	15	1,361	24	0	24	2	22	
Primary metals	331	854	37	817	23	1	22	i 2	i 20	
Fabricated metal products	332	2,307	85	2,222	106	1	105	3	i 102	
Machinery	333	14,194	429	13,765	1,089	55	1,034	175	859	
Agricultural implement	33311	2,050	188	1,862	11	*	10	2	8	
Semiconductor machinery	333242	3,624-3,633	1 - 10	3,623	576-586	32 - 42	543	*	i 543	
Engine, turbine, and power transmission equipment	3336	2,360	50	2,310	172-194	0 - 21	173	145	28	

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Other machinery	other 333	6,152 - 6,161	182 - 191	5,970	307 - 330	0 - 22	307	28	280	
Computer and electronic products	334	75,707	1,785	73,922	10,204	429	9,775	5,174	4,601	
Communications equipment	3342	12,602	779	11,822	1,349 i	64 i	1,285 i	821 i	463 i	
Semiconductor and other electronic components	3344	29,027	384	28,642	2,424	13	2,410	50	2,361	
Navigational, measuring, electromedical, and control instruments	3345	11,223	359	10,864	6,205	342	5,863	4,198	1,665	
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	3,126	80	3,046	163	*	163	1 i	162	
Search, detection, navigation, guidance, aeronautical, and nautical system and instrument	334511	3,564 - 3,575	177 - 186	3,388	5,783	328	5,455	4,152	1,303	
Other measuring and controlling device	other 3345	4,523 - 4,534	94 - 103	4,430	259	13	245	46	199	
Other computer and electronic products	other 334	22,855	261	22,594	227	9	217	105	112	
Electrical equipment, appliances, and components	335	4,330	109	4,222	315	49	266	39	227	
Transportation equipment	336	39,112	3,218	35,894	20,366	3,631	16,735	13,321 i	3,414	
Motor vehicles, bodies, trailers, and parts	3361-63	25,688	2,608	23,080	2,659 - 2,683	154 - 177	2,506	64 - 88	2,418 - 2,442	
Aerospace products and parts	3364	11,715	555	11,160	16,586 i	3,455 i	13,131 i	12,167 i	964	
Aircraft, aircraft engine, and aircraft parts	336411-13	11,168	422	10,746	15,677 i	3,455 i	12,222 i	11,286 i	936	
Guided missile, space vehicle, and related parts	336414-15, 336419	546	133	414	909	0	909	881	28	
Military armored vehicle, tank, and tank component	336992	6	0	6	6	0	6	2 - 6	0 - 4	
Other transportation	other 336	1,704	55	1,649	1,091 - 1,115	0 - 23	1,092	1,062 - 1,084	8 - 30	
Furniture and related products	337	424	19	404	5 - 6	0 - 1	5	3 i	3	
Miscellaneous	339	17,810	1,003	16,807	442 - 447	40 - 46	402	54	348	
Medical equipment and supplies	3391	15,106	839	14,267	291	27	264	47	216	
Other miscellaneous manufacturing	3399	2,703	163	2,540	152 - 156	14 - 18 i	138 i	6	132 i	
Nonmanufacturing industries	21-23, 42-81	146,712	3,589	143,123	25,475	1,637	23,838	5,705	18,132	

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Mining, quarrying, oil and gas extraction, and support activities	21	1,916	141	1,775	130	*	130	0	130	
Utilities	22	435	211	224	62	12	51	30	21	
Wholesale trade	42	916	36	881	29	4	25	0	25	
Electronic shopping and electronic auctions	454111-12	11,557 - 11,688	0 - 131	11,557	94	0	94	2	93	
Transportation and warehousing	48-49	965	31	935	7	0	7	0	7	
Information	51	95,548	2,062	93,487	941	79	862	50	812	
Publishing	511	33,389	1,108	32,281	565	75	489	36	453	
Newspaper, periodical, book, and directory publishers	5111	136	5	131	1	1	*	*	*	
Software publishers	5112	33,253	1,103	32,150	564	75	489	36	453	
Telecommunications	517	3,983	352	3,631	67	2	65	8	56	
Data processing, hosting, and related services	518	23,322	207	23,115	193	2	191	5	186	
Other information	other 51	34,854	395	34,459	117	0	117	1	117	
Finance and insurance	52	7,773	347	7,426	46	1	45	0	45	
Real estate and rental and leasing	53	1,022	*	1,022	0	0	0	0	0	
Lessors of nonfinancial intangible assets (except copyrighted works)	533	6	*	6	0	0	0	0	0	
Other real estate and rental and leasing	other 53	1,016	*	1,016	0	0	0	0	0	
Professional, scientific, and technical services	54	22,926	552	22,374	23,955	1,469	22,486	5,620	16,866	
Architectural, engineering, and related services	5413	2,380	103	2,277	2,000	316	1,684	875	809	
Computer systems design and related services	5415	13,743	111	13,633	2,320	29	2,291	493	1,798	
Scientific research and development services	5417	2,661	238	2,424	18,810	1,049	17,761	3,920	13,841	
Research and development in biotechnology	541711	891	71	820	5,036 - 5,188	0 - 150	5,037	77	4,960	
Research and development in the physical, engineering, and life sciences (except biotechnology)	541712	1,744	167	1,577	12,980	900	12,080	3,215 - 3,324	8,756 - 8,864	
Research and development in the social sciences and humanities	541720	27	0	27	643 - 795	0 - 150	644	518 - 627	18 - 126	

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Other professional, scientific, and technical services	other 54	4,141	100	4,041	825	75	750	332	418	
Health care services	621-23	1,481	80	1,401	124	49	75	4	72	
Other nonmanufacturing	23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81	2,043 - 2,175	3 - 134	2,041	86	23	62	1	62	
All companies (number of domestic employees)	-	420,474	42,668	377,806	73,109	9,878	63,230	24,685	38,545	
Small companies										
10-19 ^a	-	3,755	415	3,340	1,162	113	1,050	462	588	
20-49	-	11,118	1,562	9,556	2,091	396	1,695	759	936	
Medium companies										
50-99	-	12,282	1,836	10,446	2,050	174	1,875	561	1,314	
100-249	-	16,688	2,062	14,626	4,582	661	3,921	1,378	2,544	
Large companies										
250-499	-	18,956	2,352	16,604	3,672	631	3,041	1,016	2,025	
500-999	-	16,788	1,227	15,561	2,346	250	2,096	128	1,968	
1,000-4,999	-	64,205	5,696	58,509	11,547	1,479	10,068	1,462	8,606	
5,000-9,999	-	42,512	6,239	36,274	9,478	415	9,063	1,175	7,888	
10,000-24,999	-	89,224	14,801	74,423	11,700	1,702	9,997	2,161	7,836	
25,000 or more	-	144,944	6,478	138,465	24,480	4,056	20,423	15,583	4,841	

* = 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 Business 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 U.S. Census Bureau, Business Research and Development Survey, 2018.