

TABLE 47

Domestic R&D paid for by the company and performed by others, by type of performer, industry, and company size: 2016

(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 government agencies	U.S. universities, colleges, and academic researchers	All other		Undistributed ^a			
				Company's parent	Other				In the United States	Outside the United States				
All industries	21-23, 31-33, 42-81	37,499	31,239	843	3,322	i	116	i	5	275	346	163	1,190	i
Manufacturing industries	31-33	33,740	28,546	818	3,038	i	92	i	4	181	232	118	711	i
Food	311	140	105	*	8		D		0	3	8	4	D	
Beverages and tobacco products	312	183	173	0	3		0		0	2	2	*	2	i
Textiles, apparel, and leather products	313-16	12	i 7	0	0		0		0	0	0	0	5	i
Wood products	321	10	6	0	*		D		0	1	1	0	D	
Paper	322	3	3	0	0		*		0	*	*	0	*	i
Printing and related support activities	323	2	1	0	0		0		0	0	0	0	1	i
Petroleum and coal products	324	56	26	*	i 1		0		0	1	23	1	4	i
Chemicals	325	27,193	23,585	241	2,634	i	D		1	i 122	106	93	i D	
Basic chemicals	3251	109	79	*	i 12		D		0	3	D	3	D	
Resins, synthetic rubber, and artificial synthetic fibers and filaments	3252	17	D	*	i *	i	0		0	D	D	0	D	
Pesticides, fertilizers, and other agricultural chemicals	3253	D	D	0	0		0		0	D	*	0	D	
Pharmaceuticals and medicines	3254	26,628	23,105	238	2,612	i	D		1	i 117	90	86	i D	
Soaps, cleaning compounds, and toilet preparations	3256	372	335	1	i 9	i	*	i	*	i *	9	4	14	i
Paints, coatings, adhesives, and other chemicals	3255, 3259	D	23	2	*		0		*	D	0	0	D	
Plastics and rubber products	326	151	71	2	25		*		*	15	8	3	26	i
Nonmetallic mineral products	327	297	110	175	5		D		0	*	1	*	D	
Primary metals	331	36	i 27	i 6	i 2	i	D		*	i 1	*	0	D	
Fabricated metal products	332	80	51	0	4		0		0	0	0	0	26	i
Machinery	333	435	345	9	26		0		0	*	4	3	48	i
Agricultural implements	33311	182	168	0	2		0		0	*	*	3	9	i
Semiconductor machinery	333242	*	*	0	0		0		0	0	*	0	*	i
Engines, turbines, and power transmission equipment	3336	7	3	0	*		0		0	0	3	0	*	i
Other machinery	other 333	246	174	9	23		0		0	*	*	*	39	i
Computer and electronic products	334	1,313	1,004	40	i 198	i	D		1	i 4	4	7	D	
Communications equipment	3342	240	199	*	i 25		D		*	i 0	*	i *	D	
Semiconductors and other electronic components	3344	386	270	40	i 63	i	3	i	0	2	0	*	7	i
Navigational, measuring, electromedical, and control instruments	3345	288	238	*	18		*	i	0	2	4	*	25	i
Electromedical, electrotherapeutic, and irradiation apparatuses	334510, 334517	50	37	*	2		*	i	0	1	3	*	i 7	i
Search, detection, navigation, guidance, aeronautical, and nautical systems and instruments	334511	126	116	0	7		0		0	1	*	*	2	i
Other measuring and controlling devices	other 3345	112	85	0	10		0		0	0	*	0	17	i
Other computer and electronic products	other 334	399	297	0	92	i	D		1	i *	*	i 7	D	

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Electrical equipment, appliances, and components	335	149	117	13	3	i	0	0	*	3	i	0	13	i
Transportation equipment	336	2,749	2,119	318	99		D	2	10	52		4	D	
Automobiles, bodies, trailers, and parts	3361-63	1,999	1,541	314	69		D	2	D	2		4	D	
Aerospace products and parts	3364	708	545	4	i	D	D	*	i	50		*	D	
Aircraft, aircraft engines, and aircraft parts	336411-13	587	469	*	i	D	D	0	D	D		*	D	
Guided missiles, space vehicles, and related parts	336414-15, 336419	121	76	4	i	D	1	i	*	D		0	D	
Military armored vehicles, tanks, and tank components	336992	0	0	0	0		0	0	0	0		0	0	0
Other transportation	other 336	42	32	*	i	D	0	0	*	0		0	D	
Furniture and related products	337	25	20	0	0		0	0	0	0		0	5	i
Miscellaneous manufacturing	339	904	775	14	30		D	*	21	21		1	D	
Medical equipment and supplies	3391	815	698	14	26		D	*	21	21		1	D	
Other miscellaneous manufacturing	3399	89	i	77	i	0	4	i	0	*		0	8	i
Nonmanufacturing industries	21-23, 42-81	3,759	2,693	25	284		24	1	95	114		45	479	i
Mining, extraction, and support activities	21	273	116	0	39		9	0	34	69		6	*	i
Utilities	22	190	138	0	5		1	1	3	22		11	9	i
Wholesale trade	42	77	i	28	i	0	*	0	*	*		0	48	i
Electronic shopping and electronic auctions	454111-12	13	i	0	0		0	0	0	0		1	11	i
Transportation and warehousing	48-49	16		13	0		0	0	0	0		0	3	i
Information	51	1,999	1,681	1	150		2	0	3	15		24	122	i
Publishing	511	1,333	1,121	1	107		1	i	0	11		23	66	i
Newspaper, periodical, book, and directory publishers	5111	6	i	4	0		0	0	0	0		0	2	i
Software publishers	5112	1,327	1,118	1	107		1	i	0	11		23	64	i
Telecommunications	517	181	134	0	9		1	0	*	0		*	36	i
Data processing, hosting, and related services	518	270	215	0	33		0	0	0	0		1	21	i
Other information	other 51	215	211	0	*		0	0	0	4		*	*	i
Finance and insurance	52	95	56	24	9		0	0	0	0		0	7	i
Real estate and rental and leasing	53	3	*	0	3		0	0	0	0		0	*	i
Lessors of nonfinancial intangible assets (except copyrighted works)	533	3	0	0	3		0	0	0	0		0	0	
Other real estate and rental and leasing	other 53	*	*	0	0		0	0	0	0		0	*	i
Professional, scientific, and technical services	54	993	587	*	77		12	*	52	7		2	254	i
Architectural, engineering, and related services	5413	101	76	*	i	2	1	i	0	0		0	22	i
Computer systems design and related services	5415	107	78	*	i	10	1	i	*	3		0	15	i
Scientific research and development services	5417	766	i	427	*	58	9	*	51	4		2	213	i

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Biotechnology research and development	541711	377	263	0	12	0	0	4	1	*	98					
Physical, engineering, and life sciences (except biotechnology) research and development	541712	389	164	*	46	9	*	48	4	2	116					
Social sciences and humanities research and development	541720	0	0	0	0	0	0	0	0	0	0					
Other professional, scientific, and technical services	other 54	19	6	*	7	*	i	1	0	0	4					
Health care services	621-23	23	17	0	1	0	0	2	0	0	3					
Other nonmanufacturing	23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81	79	57	0	0	0	0	1	0	*	21					
All companies (number of domestic employees)	-	37,499	31,239	843	3,322	i	116	i	5	275	346	163	1,190			
Micro companies ^b																
5-9	-	255	151	0	9	*	0	D	*	i	1	i	D			
Small companies																
10-19	-	569	355	*	25	1	*	5	5	3	175	i				
20-49	-	1,348	931	2	107	2	*	63	2	4	237	i				
Medium companies																
50-99	-	1,523	1,141	10	i	126	2	i	*	i	22	18	11	193	i	
100-249	-	1,960	1,514	14		219	9		*	i	38	13	2	150	i	
Large companies																
250-499	-	1,141	864	7		123	i	1	i	*	i	D	2	1	i	D
500-999	-	1,484	1,013	33		285	i	*	*		5	17	29	101	i	
1,000-4,999	-	7,311	6,686	251		87		2	i	1	12	133	52	i	88	i
5,000-9,999	-	2,424	2,258	44	i	64	i	1	i	*	i	5	32	3	17	i
10,000-24,999	-	11,158	9,938	231		805		2		1	36	68	44	33	i	
25,000 or more	-	8,325	6,387	i	251	1,471	i	96	i	3	49	55	13	*	i	

* = amount < \$500,000; D = data withheld to avoid disclosing operations of individual companies; i = > 50% of the estimate is a combination of imputation and reweighting to account for nonresponse.

NAICS = 2012 North American Industry Classification System.

^a Detailed data were not collected on the BRDI-1(S) questionnaire.

^b Business R&D and Innovation Survey does not include companies with fewer than five 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. Statistics are representative of companies located in the United States that performed or funded R&D.

Source(s)

National Science Foundation, National Center for Science and Engineering Statistics, and U.S. Census Bureau, Business R&D and Innovation Survey, 2016.