TABLE 47

Domestic R&D paid for by sources located outside the United States and performed by the company, by source of funds, industry, and company size: 2019

(Millions of U.S. dollars)

				Foreign companies							Foreign universities,		
Industry and company size	NAICS code	Total		Subsidiaries ^a		Company's parent		Unaffiliated companies		Foreign government agencies	colleges,	All	
All industries	21-23, 31-33, 42-81	46,840		27,117		17,563		1,991		123	3 - 16	32 - 44	
Manufacturing industries	31-33	35,363		19,475		14,290		1,459		119	0 - 11	11 - 23	
Food	311	365		129	i	234		2		0	0	0	
Beverage and tobacco products	312	119	i	8		111	i	0		0	0	0	
Textile, apparel, and leather products	313-16	13	i	8		*	i	5	i	0	0	0	
Wood products	321	6		0		6		0		0	0	0	
Paper	322	*	i	0		0		*	i	0	0	*	
Printing and related support activities	323	0		0		0		0		0	0	0	
Petroleum and coal products	324	154 - 274		74 - 170		72 - 104		0 - 9	i	0	0	0	
Chemicals	325	12,478		5,011		6,643		816		*	0 - 10	0 - 10	
Basic chemicals	3251	160		19		141		*		0	0	0	
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	77		0 - 16		61 - 77		1	i	0	0	*	
Pesticide, fertilizer, and other agricultural chemicals	3253	391 - 836		73 - 490		287 - 345		0 - 15		0	0	0 - 10	
Pharmaceuticals and medicines	3254	11,204		4,490		5,906		801		*	0 - 9	0 - 9	
Soap, cleaning compound, and toilet preparation	3256	172		14		158		1	i	0	0	*	
Paint, coating, adhesive, and other chemicals	3255, 3259	27 - 471		0 - 399		14 - 72		0 - 15	i	0	0 - 10	0 - 10	
Plastics and rubber products	326	14		4		10		*	i	0	0	1	
Nonmetallic mineral products	327	33		2		31		*	i	*	0	*	
Primary metals	331	4 - 16		*		0 - 10	i	5		* i	0	0	
Fabricated metal products	332	69	i	9		60	İ	*	i	0	0	*	
Machinery	333	723		33		632		57		*	0	*	
Agricultural implement	33311	15		8		6		*	i	0	0	0	
Semiconductor machinery	333242	559		3		497 - 557		0 - 58		0	0	*	
Engine, turbine, and power transmission equipment	3336	19		8		11		0		0	0	0	
Other machinery	other 333	130		14		57 - 117		0 - 58		*	0	0	
Computer and electronic products	334	17,144		13,501		3,283		321		36	0 - 2 i	2 - 6	
Communications equipment	3342	3,941	i	3,593 - 3,767	i	124 - 297		0 - 53		* i	0	*	
Semiconductor and other electronic components	3344	3,485		964		2,379		142		0	0 - 2 i	0 - 2	

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Domestic R&D paid for by sources located outside the United States and performed by the company, by source of funds, industry, and company size: 2019

(Millions of U.S. dollars)

ndustry and company size Navigational, measuring, electromedical, and control instruments			Foreign companies							Foreign universities,		
	NAICS code	Total	Subsidiaries ^a		Company parent		Unaffiliated companies		n ent	colleges, and academic researchers	All other	
	3345	994	218		609	128	i	36		0	3	
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	266	74		192	*	i	0		0	0	
Search, detection, navigation, guidance, aeronautical, and nautical system and instrument	334511	504	17	i	332	119	i	33		0	3	
Other measuring and controlling device	other 3345	224	127		85	9		3		0	0	
Other computer and electronic products	other 334	8,724	8,554 - 8,725		0 - 170	0 - 53		*	i	0	0	
Electrical equipment, appliances, and components	335	403	86		315	2		0		0	0	
Transportation equipment	336	3,306	196		2,778	242		82	i	0	9	
Motor vehicles, bodies, trailers, and parts	3361-63	2,898	144		2,564	190		*	i	0	*	
Aerospace products and parts	3364	317 - 400	i 52	i	124 - 205	i 52		82	i	0	9	
Aircraft, aircraft engine, and aircraft parts	336411-13	317 - 400	i 52	i	124 - 205	i 52		82	i	0	9	
Guided missile, space vehicle, and related parts	336414-15, 336419	*	*		0	0		0		0	0	
Military armored vehicle, tank, and tank component	336992	0	0		0	0		0		0	0	
Other transportation	other 336	8 - 91	0		8 - 91	0		0		0	0	
Furniture and related products	337	4 - 85	4 - 83		0	*	i	*	i	0	*	
Miscellaneous	339	396 - 506	319 - 398		72 - 104	4 - 14		0		0	*	
Medical equipment and supplies	3391	397	320		73	5		0		0	*	
Other miscellaneous manufacturing	3399	0 - 108	0 - 78		0 - 30	0 - 9		0		0	0	
Nonmanufacturing industries	21-23, 42-81	11,477	7,642	i	3,273	532		5		4	21	
Mining, quarrying, oil and gas extraction, and support activities	21	206	96		92	17		0		0	*	
Utilities	22	7	0 - 7		0 - 8	0		0		0	0	
Wholesale trade	42	76			76	i *	i	0		0	0	
Electronic shopping and electronic auctions	454111-12	232 - 1,209	195 - 1,173		35 - 61	0		0		0	0	
Transportation and warehousing	48-49	2 - 969	2 - 969		0	0	-	0		0	0	
Information	51	-,	i 5,095	i		186	_	*	i	0	*	
Publishing	511	1,305	829	i	345	131		*	i	0	*	
Newspaper, periodical, book, and directory publishers	5111		i 0		0	*	<u> </u>			0	C	
Software publishers	5112	1,305	829	i		131	_	*	i	0	4	
Telecommunications	517	35	8		12 - 28	0 - 14	i	0		0	C	
Data processing, hosting, and related services	518	476	255		178	43		0		0	*	

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(Millions of U.S. dollars)

		Foreign companies						es	_		Foreign universities,				
Industry and company size	NAICS code	Total		Subsidiaries ^a		Company's parent		Unaffiliated companies		Foreign governmen agencies	t a	colleges, and academic researchers		All other	
Other information	other 51	4,140	i	4,003	i	122 - 138		0 - 14	i	0		0		0	
Finance and insurance	52	1,036		1,036		0		0		0		0		0	
Real estate and rental and leasing	53	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	0		0		0		0		0		0		0	
Professional, scientific, and technical services	54	2,944		240		2,362		312		5		4		21	
Architectural, engineering, and related services	5413	113		41		44		14		3		3		8	
Computer systems design and related services	5415	1,581		78		1,491		12		*	i	*	i	0	
Scientific research and development services	5417	1,112	i	94		760	i	242		2		1	i	13	
Research and development in biotechnology	541711	283	i	8		231	i	38		1		0		6	
Research and development in the physical, engineering, and life sciences (except biotechnology)	541712	829	i	86		530	i	204		1		1	i	7	
Research and development in the social sciences and humanities	541720	0		0		0		0		0		0		0	
Other professional, scientific, and technical services	other 54	139		28		67		44		0		*		*	
Health care services	621-23	4		0		0		4		0		0		0	
Other nonmanufacturing	23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81	42		0 - 31		0 - 29		12		*	i	0		0	
All companies (number of domestic employees)	-	46,840		27,117		17,563		1,991		123	3	3 - 16		32 - 44	
Small companies															
10−19 ^b	_	199	i	48		99	i	42	i	1		3		6	
20-49	-	782		115		595		65	i	4		0 - 6		0 - 6	
Medium companies															
50-99	-	1,027		240		573		211		*		0 - 5		0 - 5	
100-249	-	1,716		560		1,060		87		*	C) - 11	i	0 - 11	
Large companies															
250-499	-	1,716		303		1,216		189			i	0		8	
500-999	_	2,521		928		1,439		153			i	0		1	
1,000-4,999	_	9,904		2,401		6,993		507		3		*		*	
5,000-9,999	_	2,461		1,318		795		346		*		0		2	
10,000-24,999	-	8,261		3,306		4,623		295	i	36		0		0	

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Domestic R&D paid for by sources located outside the United States and performed by the company, by source of funds, industry, and company size: 2019

(Millions of U.S. dollars)

			For	eign compan	ies		Foreign	
						Foreign	universities, colleges, and	
				Company's	Unaffiliated	government		All
Industry and company size	NAICS code	Total	Subsidiaries ^a	parent	companies	agencies	researchers	other
25,000 or more	_	18,254	17,897	171	97	79 i	0 - 13 i	0 - 13 i

^{* =} 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.

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. In all other tables, R&D costs of foreign-company subsidiaries of U.S. companies are included in company-funded U.S. domestic R&D totals. Only in this table are such R&D costs classified as being part of R&D paid for by sources located outside of the United States. 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.

^a Statistics are based on companies in the United States that reported to the survey. No systematic item imputation was applied. These statistics include an adjustment to the weight to account for unit nonresponse.

^b The Business Enterprise Research and Development Survey does not include companies with fewer than 10 domestic employees.