

Table 56. R&D costs paid for by the company and others projected for 2025, by industry and company size: 2024

(Millions of U.S. dollars)

Industry and company size	NAICS code	Projected worldwide R&D cost				Projected domestic R&D cost										Projected foreign R&D cost paid for by the company			
						Paid for by the company					Paid for by others								
		Paid for by the company	Paid for by others			Total	Purchased and collaborative R&D		R&D performed by the company		Total	U.S. government		Non-U.S. government sources					
All industries	21–23, 31–33, 42–81	971,546		117,337	i	805,512		59,373		746,138		92,811	i	33,888	i	58,923	i	166,035	
Manufacturing industries	31–33	528,453		62,075		430,033		51,156		378,877		52,477		25,577	i	26,900		98,420	
Food	311	7,802		275		6,225		172	i	6,053		272		1	i	272		1,577	
Beverage and tobacco products	312	2,917		*	i	1,712		195		1,516		*	i	*	i	0		1,205	
Textile, apparel, and leather products	313–16	922		6		793		8		785		6		0		6		129	
Wood products	321	285	i	6		284	i	15		269	i	6		*	i	6		2	i
Paper	322	1,324		1	i	1,235		3	i	1,233		1	i	0		1	i	88	
Printing and related support activities	323	264		1	i	247		1	i	246		1	i	0		1	i	17	
Petroleum and coal products	324	1,520		3		1,250		212	i	1,037	i	3	i	1	i	2	i	271	
Chemicals	325	218,063		20,764	i	185,135		41,147		143,988		15,171	i	1,061		14,109	i	32,928	
Basic chemicals	3251	3,929		269		2,926		69		2,857		232	i	67		165	i	1,003	i
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	1,912	i	139		1,355	i	12		1,343	i	133		0		133		557	i
Pesticide, fertilizer, and other agricultural chemicals	3253	1,109		D		916		104		812		D		*	i	D		193	
Pharmaceuticals and medicines	3254	205,356		19,587	i	175,630		40,622		135,009		14,087	i	970		13,118	i	29,726	
Soap, cleaning compound, and toilet preparations	3256	4,025		277		2,844		334		2,510		277		0		277		1,181	
Paint, coating, adhesive, and other chemicals	3255, 3259	1,732		D		1,464		7		1,457		D		24		D		268	
Plastics and rubber products	326	3,128		180		2,702		60		2,642		167		88		78		426	
Nonmetallic mineral products	327	1,852	i	30		1,601	i	25	i	1,575	i	27		6		21		251	i
Primary metals	331	1,178		63		1,013		26		987		59		9		50		165	
Fabricated metal products	332	4,484		202	i	3,662		49		3,612		117	i	16		101	i	823	
Machinery	333	26,041		2,211		20,300		655		19,645		2,108		163		1,945		5,741	
Agricultural implement	33311	3,678		236		3,070		D		D		228		1	r	227		608	
Semiconductor machinery	333242	7,090		D		5,382		D		D		D		*	i	D		1,707	
Engine, turbine, and power transmission equipment	3336	5,220		305		3,828		11		3,817		272		137		135	i	1,392	
Other machinery	other 333	10,053		D		8,019		381		7,638		D		25		D		2,034	
Computer and electronic products	334	158,709		8,885		118,658	i	3,973	i	114,685	i	8,515		3,638		4,878		40,051	
Communications equipment	3342	17,627		801	i	13,467		628	i	12,839		780	i	D		D		4,161	
Semiconductor and other electronic components	3344	77,487		3,829		54,431		469		53,962		3,634		184	i	3,451		23,056	
Navigational, measuring, electromedical, and control instruments	3345	14,696		3,758		11,064		250		10,814		3,611		3,163		447		3,633	
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	3,519	i	252		2,958	i	113		2,846	i	210		51	r	159		560	i
Search, detection, navigation, guidance, aeronautical, and nautical system and instruments	334511	3,772		3,283		3,285		18		3,267		3,204		2,990		214		487	
Other measuring and controlling devices	other 3345	7,406		223		4,820		119		4,701		196		122	r	74		2,586	
Other computer and electronic products	other 334	48,898	i	497		39,697	i	2,627	i	37,070	i	491	i	D		D		9,201	i
Electrical equipment, appliances, and components	335	8,850		930		7,204		114		7,091		929		101		828		1,645	

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							Paid for by the company				Paid for by others								
		Paid for by the company		Paid for by others		Total		Purchased and collaborative R&D		R&D performed by the company		Total		U.S. government		Non-U.S. government sources			
Transportation equipment	336	58,822		28,083	i	51,119		3,643		47,477		24,757		20,329	i	4,427		7,702	
Motor vehicles, bodies, trailers, and parts	3361–63	40,739		2,104		34,581		3,206		31,374		1,649		D		D		6,159	
Aerospace products and parts	3364	16,082		24,421	i	14,721		289		14,432		21,581	i	18,778	i	2,804		1,361	
Aircraft, aircraft engine, and aircraft parts	336411–13	11,805		20,040	i	D		D		10,708		D		D		D		D	
Guided missile, space vehicle, and related parts	336414–15, 336419	4,277		4,381		D		D		3,724		D		D		D		D	
Military armored vehicle, tank, and tank components	336992	40		6		40		1	i	39		6		D		D		*	
Other transportation	other 336	1,960		1,552		1,778		146		1,632		1,520		D		D		182	
Furniture and related products	337	478	i	*	i	427	i	3		424	i	0		0		0		50	
Miscellaneous	339	31,816		435	i	26,466		854		25,612		339	i	164	i	174	i	5,350	
Medical equipment and supplies	3391	28,334		403	i	23,463		762		22,701		311	i	152	i	159	i	4,871	
Other miscellaneous manufacturing	3399	3,482		32		3,003		92	i	2,911		28		12		15		479	
Nonmanufacturing industries	21–23, 42–81	443,094		55,263	i	375,478		8,218		367,261		40,334	i	8,311		32,024	i	67,615	
Mining, quarrying, oil and gas extraction, and support activities	21	1,716		3,968	i	1,292		59		1,233		3,930	i	*	i	3,930	i	424	
Utilities	22	1,191		2	i	1,180		545		635		2		1		*	i	11	
Wholesale trade	42	1,797	i	D		1,660	i	73	i	1,587	i	D		D		127	i	136	i
Electronic shopping and electronic auctions	454111–12	10,983	i	D		8,688	i	528	i	8,160	i	0		0		0		2,295	i
Transportation and warehousing	48–49	12,581	i	D		12,262	i	294	i	11,968	i	D		D		D		319	i
Information	51	315,866		1,656		264,825		3,606		261,219		1,429		56		1,373		51,042	
Publishing	511	84,616		655		67,662		947		66,715		535		4		532		16,955	
Newspaper, periodical, book, and directory publishers	5111	473	i	0		442	i	1	i	442	i	0		0		0		30	i
Software publishers	5112	84,144		655		67,219		946		66,273		535		4		532		16,924	
Telecommunications	517	4,550		D		4,287		584		3,703		D		4		D		263	i
Data processing, hosting, and related services	518	84,186		876		68,498		391		68,107		843		47		796		15,687	
Other information	other 51	142,515		D		124,378		1,684	i	122,694		D		0		D		18,137	i
Finance and insurance	52	31,674		187		27,652		1,025		26,626		119		0		119		4,023	
Real estate and rental and leasing	53	3,242		0		3,098		2	i	3,097		0		0		0		143	
Lessors of nonfinancial intangible assets (except copyrighted works)	533	46		0		23		1	i	23		0		0		0		23	
Other real estate and rental and leasing	other 53	3,195		0		3,075		1	r	3,074		0		0		0		120	
Professional, scientific, and technical services	54	58,192		48,550	i	49,237		1,803		47,435		34,230	i	7,935		26,294	i	8,954	
Architectural, engineering, and related services	5413	3,814		727		3,754		317	i	3,437		634		418		216		60	
Computer systems design and related services	5415	35,618		5,000		29,234		840		28,394		4,627		1,183	i	3,444		6,383	
Scientific research and development services	5417	7,747		41,631	i	6,589		470		6,119		27,790	i	5,459		22,331	i	1,158	i
Research and development in nanotechnology	541713	529		129		505		17		488		126		88		38		24	
Research and development in biotechnology (except nanobiotechnology)	541714	1,398		8,215		1,359		175		1,184		5,384		699		4,685		40	

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Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	5,810	i	32,768	i	4,715	278		4,437		21,762	i	4,178		17,584	i	1,095	i
Research and development in the social sciences and humanities	541720	10		518		10	*		10		518		494		24		0	
Other professional, scientific, and technical services	other 54	11,013	i	1,192		9,660	i	176	9,484	i	1,178		875		303		1,352	i
Health care services	621–23	2,398		187		2,279		185	2,095		184		D		D		118	i
Other nonmanufacturing	23, 44–45 (excluding 454111–12), 55–56, 624, 71–72, 81	3,456		D		3,306		99	3,207		D		D		38		150	
All companies (number of domestic employees)	–	971,546		117,337	i	805,512	59,373	746,138		92,811	i	33,888	i	58,923	i	166,035		
Small companies																		
10–19 ^a	–	6,433		1,182		5,141	773	4,368		1,058		555		503	i	1,292		
20–49	–	26,202		2,524		24,380	2,527	21,853		2,225		1,039		1,186		1,822		
Medium companies																		
50–99	–	21,375		2,477		19,125	2,561	16,565		2,136		853		1,284		2,249		
100–249	–	34,984		3,537		30,871	3,410	27,461		2,976		1,272		1,704		4,113		
Large companies																		
250–499	–	34,305		3,085		29,518	3,105	26,412		2,797		1,141		1,656		4,788		
500–999	–	60,680		8,836	i	55,017	2,589	52,428		8,123	i	932	i	7,191	i	5,662		
1,000–4,999	–	153,637		21,165	i	123,618	7,189	116,429		17,143	i	1,839		15,303	i	30,019		
5,000–9,999	–	76,708		8,254	i	63,875	4,882	i	58,992		5,749	i	1,014	i	4,735	i	12,833	
10,000–24,999	–	186,914		26,259	i	150,200	19,040	131,160		18,272	i	2,164	i	16,108	i	36,714		
25,000 or more	–	370,309		40,019	i	303,767	13,297	290,470		32,332	i	23,080	i	9,252		66,542		

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

NAICS = 2017 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. Statistics are representative of companies located in the United States that performed or funded \$50,000 or more of R&D.

Source(s):
National Center for Science and Engineering Statistics and Census Bureau, Business Enterprise Research and Development Survey, 2024.