

TABLE 21

Foreign R&D paid for by the company and others and performed by the company, by type of R&D, industry, and company size: 2015

(Millions of U.S. dollars)

Industry and company size	NAICS code	Total foreign R&D performance			Research (basic and applied)			Development		
		Total	Paid for by company	Paid for by others	Total	Paid for by company	Paid for by others	Total	Paid for by company	Paid for by others
All industries	21-23, 31-33, 42-81	73,691	67,822	5,868	18,496	17,552	944	55,195	50,270	4,925
Manufacturing industries	31-33	51,919	50,616	1,304	13,300	13,056	243	38,620	37,559	1,060
Food	311	1,232	1,230	2	298	298	0	933	931	2
Beverages and tobacco products	312	523	521	2	187	186	1	336	335	1
Textiles, apparel, and leather products	313-16	71	71	*	19	19	*	52	52	0
Wood products	321	3	3	0	1	1	0	2	2	0
Paper	322	102	102	0	26	26	0	76	76	0
Printing and related support activities	323	2	2	*	*	*	*	2	2	*
Petroleum and coal products	324	38	38	0	4	4	0	34	34	0
Chemicals	325	13,146	12,919	227	3,498	3,431	67	9,648	9,488	159
Basic chemicals	3251	636	632	4	D	260	D	D	372	D
Resins, synthetic rubber, and artificial synthetic fibers and filaments	3252	579	578	1	285	284	*	295	294	1
Pesticides, fertilizers, and other agricultural chemicals	3253	D	D	16	D	D	D	D	467	D
Pharmaceuticals and medicines	3254	10,591	10,387	205	2,464	2,415	49	8,127	7,972	156
Soaps, cleaning compounds, and toilet preparations	3256	150	149	1	22	22	*	128	127	1
Paints, coatings, adhesives, and other chemicals	3255, 3259	D	D	0	D	D	0	258	258	0
Plastics and rubber products	326	358	356	1	114	114	*	244	242	1
Nonmetallic mineral products	327	228	224	4	24	24	0	205	201	4
Primary metals	331	87	86	1	60	60	*	27	26	1
Fabricated metal products	332	193	193	0	19	19	0	174	174	0
Machinery	333	3,292	3,201	92	529	514	15	2,763	2,686	77
Agricultural implements	33311	621	617	4	105	104	*	516	513	3
Semiconductor machinery	333242	599	523	76	90	76	14	509	447	62
Engines, turbines, and power transmission equipment	3336	410	408	2	30	30	*	380	378	2
Other machinery	other 333	1,663	1,653	10	305	304	1	1,358	1,349	9
Computer and electronic products	334	20,674	20,362	312	6,540	6,480	60	14,134	13,882	252
Communications equipment	3342	3,625	3,615	10	2,376	2,370	6	1,249	1,245	4
Semiconductors and other electronic components	3344	9,896	9,818	78	1,813	1,807	5	8,084	8,011	73
Navigational, measuring, electromedical, and control instruments	3345	2,814	2,686	128	970	939	31	1,844	1,747	97
Electromedical, electrotherapeutic, and irradiation apparatuses	334510, 334517	923	920	3	130	130	*	793	790	3
Search, detection, navigation, guidance, aeronautical, and nautical systems and instruments	334511	673	563	110	533	508	25	140	55	85
Other measuring and controlling devices	other 3345	1,218	1,203	15	307	301	7	911	902	9
Other computer and electronic products	other 334	4,338	4,242	96	1,382	1,364	18	2,957	2,878	79
Electrical equipment, appliances, and components	335	1,351	1,349	2	133	133	*	1,218	1,217	2

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Transportation equipment	336	8,413	7,777	636	i	1,461	1,376	85	i	6,951	6,400	551	i
Automobiles, bodies, trailers, and parts	3361-63	6,621	6,225	395	i	967	926	41	i	5,654	5,299	355	i
Aerospace products and parts	3364	1,674	D	D		455	D	D		1,219	1,023	196	
Aircraft, aircraft engines, and aircraft parts	336411-13	1,672	D	D		453	D	D		1,219	1,023	196	
Guided missiles, space vehicles, and related parts	336414-15, 336419	2	0	2		2	0	2		*	0	*	
Military armored vehicles, tanks, and tank components	336992	0	0	0		0	0	0		0	0	0	
Other transportation	other 336	118	D	D		39	D	D		79	79	0	
Furniture and related products	337	25	25	0		12	12	0		13	13	0	
Miscellaneous	339	2,183	2,159	24		375	361	14		1,808	1,798	10	
Medical equipment and supplies	3391	1,788	1,764	24		271	257	14		1,518	1,508	10	
Other miscellaneous manufacturing	3399	394	394	*	i	104	104	*	i	290	290	*	i
Nonmanufacturing industries	21-23, 42-81	21,771	17,207	4,565		5,196	4,496	700	i	16,575	12,711	3,864	i
Mining, extraction, and support activities	21	336	308	28	i	22	22	*		314	287	28	i
Utilities	22	3	3	0		1	1	0		2	2	0	
Wholesale trade	42	25	25	0		5	5	0		20	20	0	
Electronic shopping and electronic auctions	454111-12	D	D	0		0	0	0		D	D	0	
Transportation and warehousing	48-49	13	13	0		0	0	0		13	13	0	
Information	51	12,523	12,507	15		1,728	1,726	2		10,794	10,781	13	
Publishing	511	8,841	8,833	9		1,310	1,310	*	i	7,531	7,523	9	
Newspaper, periodical, book, and directory publishers	5111	9	9	0		0	0	0		9	9	0	
Software publishers	5112	8,832	8,823	9		1,310	1,310	*	i	7,522	7,513	9	
Telecommunications	517	41	41	1	i	4	4	*	i	38	37	1	i
Data processing, hosting, and related services	518	1,261	1,258	3		337	335	2		924	923	1	
Other information	other 51	2,379	2,376	3		78	78	0		2,301	2,298	3	
Finance and insurance	52	926	925	*	i	143	143	*	i	783	783	*	i
Real estate and rental and leasing	53	13	13	0		9	9	0		4	4	0	
Lessors of nonfinancial intangible assets (except copyrighted works)	533	D	D	0		8	8	0		D	D	0	
Other real estate and rental and leasing	other 53	D	D	0		1	1	0		D	D	0	
Professional, scientific, and technical services	54	7,650	3,139	4,511		3,278	2,580	698	i	4,373	560	3,813	i
Architectural, engineering, and related services	5413	58	28	30		8	7	*	i	51	21	30	
Computer systems design and related services	5415	2,892	2,713	180		2,462	2,284	178		430	429	2	
Scientific research and development services	5417	4,378	77	4,300		543	24	519	i	3,835	54	3,782	i
Biotechnology research and development	541711	1,518	25	1,493		316	17	300		1,202	8	1,193	
Physical, engineering, and life sciences (except biotechnology) research and development	541712	2,856	52	2,804		223	7	216	i	2,633	45	2,588	i

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Social sciences and humanities research and development	541720	3	0	3	3	0	3	0	0	0	
Other professional, scientific, and technical services	other 54	322	321	1	266	i 265	i 1	56	i 56	i *	
Health care services	621-23	12	i 2	10	i 2	2	* i 10	i 1	10	i	
Other nonmanufacturing	23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81	D	D	0	9	9	0	D	D	0	
All companies (number of domestic employees)	-	73,691	67,822	5,868	18,496	17,552	944	i 55,195	50,270	4,925	i
Micro companies ^a											
5-9	-	118	i 113	i 5	70	i 68	i 3	i 48	i 45	i 3	i
Small companies											
10-19	-	76	67	8	i 20	i 17	i 3	i 56	i 50	i 5	i
20-49	-	375	346	29	97	i 87	i 10	278	259	19	
Medium companies											
50-99	-	406	316	91	84	i 84	i *	322	231	91	
100-249	-	1,389	1,311	78	433	i 388	i 45	956	923	33	
Large companies											
250-499	-	1,122	1,083	40	266	259	7	857	824	33	
500-999	-	2,426	2,407	19	641	i 634	i 7	i 1,785	i 1,773	i 12	i
1,000-4,999	-	13,516	12,754	762	i 3,627	i 3,443	i 184	i 9,889	9,311	578	i
5,000-9,999	-	9,498	8,933	565	1,641	1,428	213	i 7,857	7,505	352	i
10,000-24,999	-	11,543	8,994	2,549	1,939	1,899	40	i 9,604	i 7,095	2,508	i
25,000 or more	-	33,221	31,498	1,723	9,678	9,246	432	23,544	22,252	1,291	

* = 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 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, 2015.