

TABLE 119. Worldwide, domestic, and foreign R&D paid for by the company and by others and performed by the company, R&D employment, and R&D cost per R&D employee, by industry and company size: 2010

Industry and company size	NAICS code	Company-performed R&D (US\$millions)			R&D employment (thousands)			Company-performed R&D per R&D employee (US\$thousands)		
		Worldwide	Domestic	Foreign	Worldwide	Domestic	Foreign	Worldwide	Domestic	Foreign
All industries	21–23, 31–33, 42–81	338,205	278,977	59,228	1,924	1,412	512	175.8	197.6	115.8
Manufacturing industries	31–33	241,013	196,711	44,302	1,180	849	331	204.3	231.8	133.9
Food	311	D	D	1,002	29	22	6	D	D	157.1
Beverage and tobacco products	312	D	D	769	7	3	4	D	D	210.9
Textiles, apparel, and leather products	313–316	527	489	37 i	6	5	1	92.3	94.3	72.3
Wood products	321	250	247	3	2	2	*	112.0	114.1	42.7
Paper	322	1,566	1,274	292	12	8	4	133.3	162.7	74.5
Printing and related support activities	323	269	231	38	4	3	*	70.3	69.0	80.0
Petroleum and coal products	324	D	D	D	6	4	2	D	D	D
Chemicals	325	72,288	58,038	14,249	234	169	64	309.1	342.6	221.2
Basic chemicals	3251	2,683	1,803	880	18	12	6	148.1	149.1	145.9
Resin, synthetic rubber, fibers, and filaments	3252	1,057	828	229	7	5	2	150.8	159.6	125.8
Pesticide, fertilizer, and other agricultural chemical	3253	D	D	D	D	4	D	D	D	D
Pharmaceuticals and medicines	3254	60,482 i	49,415 i	11,067 i	160	120	39	378.4	410.4	280.7
Soap, cleaning compound, and toilet preparation	3256	3,265	2,387	878	18	12	6	185.4	201.5	152.4
Paint, coating, adhesive, and other chemical	3255, 3259	D	D	D	D	16	D	D	D	D
Plastics and rubber products	326	2,548	2,121	427	27	21	6	94.3	100.7	71.7
Nonmetallic mineral products	327	1,548	1,276	272	13	9	5	117.1	146.5	60.3
Primary metals	331	771	653 i	118 i	8	7	1	93.7	88.4	140.1
Fabricated metal products	332	1,793	1,703	90	29	27	2	61.5	62.2	50.7
Machinery	333	12,050	9,955	2,094	86	65	20	140.8	152.2	103.8
Agricultural implement	33311	D	1,196	D	9	7	2	D	169.0	D
Semiconductor machinery	333295	2,422	2,126	296	9	6	2	283.6	328.2	143.3
Engine, turbine, and power transmission equipment	3336	1,476	1,344	132	12	10	2	128.1	134.2	87.6
Other machinery	other 333	D	5,290	D	57	42	15	D	126.5	D
Computer and electronic products	334	73,427	59,875	13,552	390	266	124	188.4	225.3	109.4
Communications equipment	3342	16,437	13,349	3,088	85	55	30	193.8	242.7	103.5
Semiconductor and other electronic components	3344	28,230	21,933	6,297	133	80	53	211.9	272.7	119.2
Navigational, measuring, electromedical, and control instruments	3345	17,699	15,561	2,138	105	89	17	168.0	175.2	129.2
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	4,339	3,997	342	24	21	3	184.6	191.9	128.1
Search, detection, navigation, guidance, aeronautical, and nautical system and instruments	334511	8,773	8,298	475	51	48	3	172.5	174.0	150.3
Other measuring and controlling instruments	other 3345	4,587	3,266	1,322	31	20	11	148.0	161.1	123.3
Other computer and electronic products	other 334	11,061	9,032	2,029	66	42	25	166.8	217.3	82.0
Electrical equipment, appliances, and components	335	4,769	3,320	1,449	51	29	22	93.7	113.1	67.2
Transportation equipment	336	51,384	42,913	8,472	215	155	60	239.2	277.5	140.9
Automobiles, bodies, trailers, and parts	3361–3363	17,792	D	D	88	50	38	201.2	D	D
Aerospace products and parts	3364	31,645	29,854	1,791	102	81	21	310.0	366.8	86.6
Aircraft, aircraft engine, and aircraft parts	336411–336413	D	24,900	D	96	75	21	D	332.3	D
Guided missile, space vehicle, and related parts	336414, 336415, 336419	D	4,955 i	D	7	6	*	D	766.5	D
Military armored vehicle, tank, and tank components	336992	D	D	D	*	*	0	D	D	D
Other transportation	other 336	D	D	D	24	23	1	D	D	D
Furniture and related products	337	406 i	373 i	33 i	6 i	6 i	* i	70.6	66.9	193.7

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		Worldwide	Domestic	Foreign	Worldwide	Domestic	Foreign	Worldwide	Domestic	Foreign
Miscellaneous manufacturing	339	9,748	D	D	56	46	10	173.4	D	D
Medical equipment and supplies	3391	7,624	6,597	1,027	38	33	5	202.5	202.9	200.0
Other miscellaneous manufacturing	3399	2,124	D	D	19	14	5	114.4	D	D
Nonmanufacturing industries	21–23, 42–81	97,192	82,265	14,927	744	563	181	130.6	146.1	82.6
Mining, extraction, and support activities	21	2,782	2,542	239	9	7	2	310.7	353.6	135.8
Utilities	22	442	425	17	4	3	*	125.4	124.9	139.3
Construction	23	1,083	1,079	4	13	13	1	81.2	85.1	6.5
Wholesale trade	42	1,329	1,274	55	15	14	1	88.2	88.7	79.0
Retail trade	44, 45	D	D	D	5	4	1	D	D	D
Electronic shopping and electronic auctions	454111, 454112	D	D	D	3	3	*	D	D	D
Other retail trade	other 44, 45	D	D	D	2	1	*	D	D	D
Transportation and warehousing	48, 49	124	96	29 i	2	2	*	65.9	52.2	542.7
Information	51	44,865	36,852	8,013	300	208	92	149.7	177.4	87.2
Publishing	511	33,937	26,982	6,955	226	145	81	150.3	186.6	85.7
Newspaper, periodical, book, and directory publishers	5111	848	791	57	4	4	*	199.2	203.2	156.4
Software publishers	5112	33,089	26,191	6,898	222	141	81	149.4	186.2	85.3
Telecommunications	517	1,981	1,868	113	18	17	2	108.9	112.8	69.1
Data processing, hosting, and related services	518	2,671	2,538	133	23 i	21 i	2	114.3	121.3	54.4
Other information	other 51	6,276	5,465	811 i	32	26	7	194.6	212.8	123.5
Finance and insurance	52	2,591	2,109	481	20	16	5	126.5	132.9	104.5
Real estate and rental and leasing	53	366	329	37	1	1	*	261.8	292.3	135.4
Professional, scientific, and technical services	54	39,208	33,690	5,518	339	260	79	115.8	129.8	69.9
Architectural, engineering, and related services	5413	4,235	4,093	142	41	39	2	102.1	104.4	62.2
Computer systems design and related services	5415	13,318	11,050	2,268	160	114	46 i	83.3	96.6	49.8
Scientific R&D services	5417	17,560	14,818	2,742	106	80	25	166.3	184.5	108.5
Biotechnology R&D	541711	6,366	5,610	756	31	25	7	203.6	228.5	112.4
Physical, engineering, and life sciences (except biotechnology) R&D	541712	10,644	8,663	1,981	71	52	18	150.2	165.3	107.5
Social sciences and humanities R&D	541720	550	545	5	3	3	*	158.3	162.6	40.1
Other professional, scientific, and technical services	other 54	4,095	3,729	366 i	32 i	26 i	6	129.8	144.9	63.1
Health care services	621–623	D	1,232	D	10	10	*	D	127.1	D
Other nonmanufacturing	55, 56, 624, 71, 72, 81	D	D	D	26	25	1 i	D	D	D
All companies (number of employees)	–	338,205	278,977	59,228	1,924	1,412	512	175.8	197.6	115.8
Small companies (number of employees) <sup>a</sup>										
5–499	–	56,446	52,202	4,244	492	441	51	114.6	118.3	83.1
5–99	–	31,672	30,052	1,620	295	270	25	107.4	111.5	64.1
5–49	–	22,144	21,197	947	205	191	14	108.2	111.2	67.2
5–9	–	4,029	3,851	179	40	35	4	101.7	109.2	40.8
10–24	–	9,175	8,722	453	85	80	5	107.8	109.1	88.5
25–49	–	8,940	8,624	316	80	75	5	111.7	114.3	68.7
50–99	–	9,528	8,855	673	90	79	11	105.8	112.3	60.2

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100-249	-	13,242	11,866	1,376 i	115	102	13	115.1	116.7	103.3
250-499	-	11,531	10,283	1,248 i	83	70	13	139.6	146.7	99.9
Medium and large companies (number of employees)										
500-999	-	11,861	10,116	1,745	72	58	14	165.6	174.8	126.9
1,000-4,999	-	59,812	48,227	11,584	322	217	105	186.0	222.3	110.8
5,000-9,999	-	34,374	27,463	6,911	207	130	77	165.7	211.2	89.3
10,000-24,999	-	50,746	41,835	8,910	248	176	72	204.9	237.8	124.3
25,000 or more	-	124,967	99,133	25,833	583	390	193	214.3	254.3	133.7

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

NAICS = 2007 North American Industry Classification System.

<sup>a</sup> Upper bound based on U.S. Small Business Administration's definition of small business; Business R&D and Innovation Survey (BRDIS) does not include companies with fewer than five domestic employees.

NOTES: Detail may not add to total because of rounding. Ratios were calculated using unrounded data. Industry classification based on dominant business code for domestic R&D performance where available. For companies that did not report business codes, classification used for sampling was assigned. Statistics are representative of companies located in United States that performed or funded R&D.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics and U.S. Census Bureau, Business R&D and Innovation Survey, 2010.