

TABLE 45. R&D paid for by the company and others and performed by the company outside of the United States, by selected location, industry, and company size: 2014

(Millions of U.S. dollars)

Industry and company size	NAICS code	Total	Puerto Rico	Canada	Austria	Belgium	Czech Republic	Denmark
All industries	21-23, 31-33, 42-81	75,310	75	4,603	674	1,745	342	612
Manufacturing industries	31-33	53,661	72	2,667	598	1,544	166	475 i
Food	311	1,240	* i	67	1	14 i	2	165 i
Chemicals	325	13,167	46	639	48	1,180	38	115
Pharmaceuticals and medicines	3254	10,125	D	557	45	954	34	107
Other chemicals	other 325	3,042	D	82	4	226	3	9
Plastics and rubber products	326	883	14	24	1	16	1	6
Nonmetallic mineral products	327	155 i	0	3	0	0	*	0
Fabricated metal products	332	222	0	8	7	3	*	*
Machinery	333	2,810	* i	33	6	35	15	9
Computer and electronic products	334	21,019	0	1,416	477	92	63	144
Electrical equipment, appliances, and components	335	1,385	0	130	21	33	3	1
Transportation equipment	336	9,613	*	224	18	101	42	1
Miscellaneous manufacturing	339	2,194	12	100	18	47	3	30
Other manufacturing	312-16, 321-24, 331, 337	974	0	24	1 i	23	0	4
Nonmanufacturing industries	21-23, 42-81	21,649	3 i	1,935	76	201	176	137
Wholesale trade	42	D	0	0	0	0	0	0
Information	51	13,569	2	1,462	37 i	D	89	101
Telecommunications	517	61	*	3	0	0	0	0
Data processing, hosting, and related services	518	1,294	1	196	2	0	0	11
Other information	other 51	12,214	*	1,263	35 i	D	89	90
Professional, scientific, and technical services	54	6,501	1 i	301 i	39	104	86	25 i
Architectural, engineering, and related services	5413	65	0	17	0	*	*	0
Scientific R&D services	5417	4,522	1 i	107 i	24	96	36	18
Biotechnology R&D	541711	1,438	0	10	*	28	4	5
Other scientific R&D	other 5417	3,083	1 i	96 i	23	68	31	13
Other professional, scientific, and technical services	other 54	1,914 i	0	178 i	15 i	7 i	51	7 i
Other nonmanufacturing	21-23, 44-45, 48-49, 52-53, 55-56, 621-24, 71-72, 81	D	0	172	0	D	1	11
All companies (number of domestic employees)	-	75,310	75	4,603	674	1,745	342	612
Small companies ^a								
5-499	-	4,194	2	302	16	16	D	21
5-99	-	1,255	1	51	* i	2	D	*

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5-49	-	707 i	*	20	* i	1	0	*
5-9	-	95 i	0	1	0	*	0	*
10-24	-	273 i	*	6	0	*	0	0
25-49	-	339	0	13	* i	1	0	0
50-99	-	547	1	30	0	1	D	*
100-249	-	1,492	1	76	* i	5	0	9
250-499	-	1,447	*	175 i	16	8	D	12
Medium and large companies								
500-999	-	2,264	0	199	23	16	D	9
1,000-4,999	-	14,185	25	1,556	36 i	214	116	128
5,000-9,999	-	12,818	11	515	70	142	83	102
10,000-24,999	-	9,194	32	565	20	246	20	40
25,000 or more	-	32,655	5	1,465	509	1,111	114	312 i
Industry and company size	NAICS code	Finland	France	Germany	Hungary	Ireland	Italy	Luxembourg
All industries	21-23, 31-33, 42-81	763	2,906	8,926	135	1,400	1,189	27
Manufacturing industries	31-33	398	2,106	7,839	93	904	999	9
Food	311	D	55	81	*	0	6	0
Chemicals	325	39	569	1,303	20	278	296	*
Pharmaceuticals and medicines	3254	30	424	793	19	271	250	D
Other chemicals	other 325	9	145	510	1	7	46	D
Plastics and rubber products	326	2	28	97	4	2	41 i	5
Nonmetallic mineral products	327	0	7	27 i	0	0	0	0
Fabricated metal products	332	*	3	73	0	*	4	0
Machinery	333	82	203	642	2	5 i	71	* i
Computer and electronic products	334	232	705	1,868 i	12	390	253	4
Electrical equipment, appliances, and	335	4	51	203	3	2	13	0
Transportation equipment	336	D	320	3,212	51	5	278	*
Miscellaneous manufacturing	339	3	125	277	*	222	23	0
Other manufacturing	312-16, 321-24, 331, 337	D	41	55	1	*	15	*
Nonmanufacturing industries	21-23, 42-81	365	801	1,088	42	497	190	17
Wholesale trade	42	0	0	D	0	0	0	0
Information	51	338	441	583	6	437	66	D
Telecommunications	517	0	0	5	0	0	0	0
Data processing, hosting, and related services	518	3	56	14	*	44	1 i	0
Other information	other 51	335	386	564	6	393	65	D
Professional, scientific, and technical services	54	27	345 i	379 i	36	53	121	0
Architectural, engineering, and related services	5413	6	1	8	0	0	0	0

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Industry and company size	NAICS code	Finland	France	Germany	Hungary	Ireland	Italy	Luxembourg
Scientific R&D services	5417	13	207	283	36	40	100	0
Biotechnology R&D	541711	4	52	79	4	3	16	0
Other scientific R&D	other 5417	10	155	205 i	32 i	37	84	0
Other professional, scientific, and technical services	other 54	7 i	137 i	88 i	0	13	21 i	0
Other nonmanufacturing	21-23, 44-45, 48-49, 52-53, 55-56, 621-24, 71-72, 81	0	14	D	0	6	3	D
All companies (number of domestic employees)	-	763	2,906	8,926	135	1,400	1,189	27
Small companies ^a								
5-499	-	10	144	307	11	51	41	D
5-99	-	D	70	49	5	8	10	*
5-49	-	D	65	16	1	2	2	0
5-9	-	0	1	4	1	0	*	0
10-24	-	0	8	4	*	*	*	0
25-49	-	D	57	9	0	2	2	0
50-99	-	D	5	33	5	6	8	*
100-249	-	D	31	58	4	24	22	D
250-499	-	9	43	200	1	20	8	D
Medium and large companies								
500-999	-	61	38	201	6	11	9	D
1,000-4,999	-	120	776	1,486	20	331	151	7
5,000-9,999	-	53	436	876	46	241	310	4
10,000-24,999	-	60	494	1,298	10	238	161	2
25,000 or more	-	460	1,018	4,758	42	529	518	8
Industry and company size	NAICS code	Netherlands	Norway	Poland	Russia	Spain	Sweden	Switzerland
All industries	21-23, 31-33, 42-81	1,194	374	497	470	597	851	2,773
Manufacturing industries	31-33	819	271	350	241	476	572	1,834
Food	311	4	D	4	4	4	7 i	70 i
Chemicals	325	291	26	81	104	216	161	933
Pharmaceuticals and medicines	3254	181	22	73	101	197	150	854
Other chemicals	other 325	110	4	8	3	19	11	79
Plastics and rubber products	326	49	0	1	1	24	4	81
Nonmetallic mineral products	327	*	0	0	1	0	0	*
Fabricated metal products	332	4	*	*	1	2	*	16
Machinery	333	91	57	6	1	35	90	100
Computer and electronic products	334	127	136	119 i	95 i	60	131	212
Electrical equipment, appliances, and components	335	48	7	*	0	4	9	28
Transportation equipment	336	134	D	134	7	119 i	122	8

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Industry and company size	NAICS code	Netherlands	Norway	Poland	Russia	Spain	Sweden	Switzerland
Miscellaneous manufacturing	339	63	D	D	18	6	42	122
Other manufacturing	312-16, 321-24, 331, 337	10	*	D	10	4	6	263
Nonmanufacturing industries	21-23, 42-81	375	103	147	230	121	278	940
Wholesale trade	42	D	0	0	0	0	0	0
Information	51	128	90	57	97	24	214	482
Telecommunications	517	0	0	0	*	0	0	0
Data processing, hosting, and related services	518	21	1	3	15	2	18	7
Other information	other 51	108	89	54	81	22	196	475
Professional, scientific, and technical services	54	162 i	D	79	128	91 i	62 i	D
Architectural, engineering, and related services	5413	*	0	*	*	*	5	0
Scientific R&D services	5417	125 i	6	72	75	75 i	37	406
Biotechnology R&D	541711	7	4	12	10	0	7	367
Other scientific R&D	other 5417	117 i	1 i	60 i	65 i	75 i	30	39
Other professional, scientific, and technical services	other 54	37 i	D	7	53	16 i	20 i	D
Other nonmanufacturing	21-23, 44-45, 48-49, 52-53, 55-56, 621-24, 71-72, 81	D	D	12 i	5	6	2	D
All companies (number of domestic employees)	-	1,194	374	497	470	597	851	2,773
Small companies ^a								
5-499	-	32	7	3	35	14	70	330
5-99	-	10	1	*	8	6	4	43
5-49	-	1	0	D	2	2	2	9
5-9	-	*	0	0	0	0	1	9
10-24	-	*	0	0	*	*	*	0
25-49	-	*	0	D	2	1	1	*
50-99	-	9	1	D	6	5	2	33
100-249	-	18	*	0	8	3	7	262
250-499	-	4	5	3	19	5	59	25
Medium and large companies								
500-999	-	73	16	10 i	62	16 i	30	24
1,000-4,999	-	375	11	94 i	64 i	88	260	725
5,000-9,999	-	275	58	111	77	139	107	650
10,000-24,999	-	150	38	50	28	116	112	241
25,000 or more	-	288	244	229	204	224	271	803

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Industry and company size	NAICS code	Turkey	United Kingdom	Other European				
				locations	Argentina	Brazil	Chile	Mexico
All industries	21-23, 31-33, 42-81	97	8,749	2,517	695	1,692	53	798
Manufacturing industries	31-33	72	5,232	1,567	612	1,464	28	669
Food	311	2	122	87	6	82 i	1 i	21
Chemicals	325	40	2,216	625	114	297	14	142
Pharmaceuticals and medicines	3254	37	1,883	365	84	177	11	86
Other chemicals	other 325	3	333	260	30 i	120 i	3 i	56 i
Plastics and rubber products	326	1 i	35	7	30	74	3	19
Nonmetallic mineral products	327	0	7 i	0	0	0	*	1
Fabricated metal products	332	0	42	4	1	2	*	3
Machinery	333	1	304	11	1	97	5	11
Computer and electronic products	334	10	1,043	262	441	52	*	114 i
Electrical equipment, appliances, and components	335	*	114	130	*	120	1	14
Transportation equipment	336	D	1,157	246 i	9	695	*	304
Miscellaneous manufacturing	339	2	96	130 i	5	22	2	8
Other manufacturing	312-16, 321-24, 331, 337	D	96	65	4	23	1	32
Nonmanufacturing industries	21-23, 42-81	25	3,518	951	83	228	26	129
Wholesale trade	42	0	0	0	0	0	0	0
Information	51	D	1,993	659	17	87	7	68
Telecommunications	517	0	6	0	0	0	0	0
Data processing, hosting, and related services	518	0	254	95	1	*	*	*
Other information	other 51	D	1,732	564	16	86	7	68
Professional, scientific, and technical services	54	14	1,131	228 i	64	118 i	15	41 i
Architectural, engineering, and related services	5413	0	16	1	0	0	0	0
Scientific R&D services	5417	14	882	207 i	64	90 i	15	37 i
Biotechnology R&D	541711	2	266	20	5	8	3	6
Other scientific R&D	other 5417	12	616	187 i	59	82 i	12 i	31 i
Other professional, scientific, and technical services	other 54	0	233 i	20	* i	28 i	0	4
Other nonmanufacturing	21-23, 44-45, 48-49, 52-53, 55-56, 621-24, 71-72, 81	D	394	64	2	23	4	20

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Industry and company size	NAICS code	Turkey	United Kingdom	Other European					Mexico
				locations	Argentina	Brazil	Chile		
All companies (number of domestic employees)	-	97	8,749	2,517	695	1,692	53	798	
Small companies ^a									
5-499	-	3	260	100	13	25	2	14	
5-99	-	*	69	15	5	1	1	4	
5-49	-	*	34	5	0	1	1	*	
5-9	-	0	*	*	0	0	0	*	
10-24	-	*	*	2	0	0	0	0	
25-49	-	0	34	3	0	1	1	*	
50-99	-	0	35	10	5	*	0	4	
100-249	-	*	78	55	8	15	1	2	
250-499	-	3	113	30	1	9	0	8	
Medium and large companies									
500-999	-	0	225	35	7	13	0	6	
1,000-4,999	-	13	1,394	470	28	143	14	73	
5,000-9,999	-	26	1,877	419	57	174	12	88	
10,000-24,999	-	19	936	659	110	372	10	131	
25,000 or more	-	35	4,057	834	480	965	16	486	
Industry and company size	NAICS code	Other Latin American locations	Australia	China	Hong Kong	India	Indonesia	Japan	
All industries	21-23, 31-33, 42-81	631	1,920	5,831	209	5,659	35	2,937	
Manufacturing industries	31-33	388	1,468	4,205	149	3,059	27	2,274	
Food	311	30	65	55	7 i	13	5	43 i	
Chemicals	325	147	292	710	28	276	4	1,135	
Pharmaceuticals and medicines	3254	96	277	396	21	228	D	953	
Other chemicals	other 325	50	14	314	8	47 i	D	182	
Plastics and rubber products	326	5	9	94	8	7	1	49	
Nonmetallic mineral products	327	0	*	11 i	0	*	0	2	
Fabricated metal products	332	*	1	17	*	3	*	1	
Machinery	333	*	43	279	2	120	*	80	
Computer and electronic products	334	85	504	2,035	66	2,272	2	606	
Electrical equipment, appliances, and components	335	15	7	212	6	18	*	54	
Transportation equipment	336	26	417	486	13 i	331	1	140	
Miscellaneous manufacturing	339	18	127	243	12	12	2	133	
Other manufacturing	312-16, 321-24, 331, 337	60	2	63	6 i	7	12	32	
Nonmanufacturing industries	21-23, 42-81	243	452	1,627	60	2,601	8	663	
Wholesale trade	42	0	0	0	0	0	0	0	
Information	51	163	273	1,286	16	2,215	1	293	
Telecommunications	517	*	1	5	*	14	0	0	

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Industry and company size	NAICS code	Other Latin American locations	Australia	China	Hong Kong	India	Indonesia	Japan
Data processing, hosting, and related services	518	19	25	32	1	211	0	10
Other information	other 51	144	248	1,249	15	1,990	1	284
Professional, scientific, and technical services	54	78	130	272	36	212	7	299
Architectural, engineering, and related services	5413	*	1	3	*	*	0	3
Scientific R&D services	5417	24	86	176	12	108	2	293
Biotechnology R&D	541711	6	22	66	2	2	0	11
Other scientific R&D	other 5417	17	64	110	10	106	2	282
Other professional, scientific, and technical services	other 54	54	43	93 i	25 i	104	5	3
Other nonmanufacturing	21-23, 44-45, 48-49, 52-53, 55-56, 621-24, 71-72, 81	3	49	69	7	174	*	71
All companies (number of domestic employees)	-	631	1,920	5,831	209	5,659	35	2,937
Small companies ^a								
5-499	-	81	41	397	51	350	17	61
5-99	-	*	13	97	1	124	0	8
5-49	-	*	12	69	1	58	0	3
5-9	-	0	8	3	0	1	0	*
10-24	-	*	1	8	*	16	0	2
25-49	-	*	3	58	1	41	0	1
50-99	-	*	1	28	1	66	0	5
100-249	-	80	7	167	15	164	17	32
250-499	-	*	21	132	35	62	0	22
Medium and large companies								
500-999	-	2	139	213	16	106	1	30
1,000-4,999	-	234	154	1,041	31	1,001	3	352
5,000-9,999	-	50	250	792	34	1,379	4	761
10,000-24,999	-	106	182	705	15	390	5	597
25,000 or more	-	159	1,154	2,682	61 i	2,432	6	1,135
Industry and company size	NAICS code	Malaysia	New Zealand	Singapore	South Korea	Taiwan	Thailand	Other Asian or Pacific locations
All industries	21-23, 31-33, 42-81	1,203 i	122	1,662	1,283	818	462 i	884
Manufacturing industries	31-33	1,170 i	75	1,331	1,153	632	444 i	576
Food	311	2	5	9	4	7 i	5	31
Chemicals	325	5	14	226	105	65	12	60
Pharmaceuticals and medicines	3254	4	4	94	59	45	6	30
Other chemicals	other 325	1	10	132	46	20	6	30
Plastics and rubber products	326	6	5	4	56	19	4	8
Nonmetallic mineral products	327	0	0	0	0	0	0	*

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Industry and company size	NAICS code	Malaysia	New Zealand	Singapore	South Korea	Taiwan	Thailand	Other Asian or Pacific locations
500–999	–	151 i	5 i	24	19	36	4	45
1,000–4,999	–	124	32	314	158	154	21	314
5,000–9,999	–	525 i	17	545	179	186	399 i	192
10,000–24,999	–	14	7	259	135	51	16	120
25,000 or more	–	311 i	18	396	737	255	21	104
Industry and company size	NAICS code	Israel	Other Middle Eastern locations	South Africa	Other African locations	Undistributed		
All industries	21–23, 31–33, 42–81	3,959	524	155	76	2,181 i		
Manufacturing industries	31–33	2,911 i	468	72	44	1,141 i		
Food	311	*	2	6	2	143 i		
Chemicals	325	118	25	41	29	44 i		
Pharmaceuticals and medicines	3254	82	22	28	26	21 i		
Other chemicals	other 325	35	3	13 i	3 i	22 i		
Plastics and rubber products	326	* i	9	1	*	28 i		
Nonmetallic mineral products	327	*	0	0	0	95 i		
Fabricated metal products	332	0	1	1	0	18		
Machinery	333	200	3	7	*	50 i		
Computer and electronic products	334	2,482 i	418	5	8	571 i		
Electrical equipment, appliances, and components	335	1	2	*	0	58 i		
Transportation equipment	336	41	2	7	4	99 i		
Miscellaneous manufacturing	339	68	4	2	0	12 i		
Other manufacturing	312–16, 321–24, 331, 337	0	0	2	0	23 i		
Nonmanufacturing industries	21–23, 42–81	1,048	57	83	32	1,041 i		
Wholesale trade	42	0	0	0	0	D		
Information	51	871	18	19	27 i	282 i		
Telecommunications	517	0	0	0	0	22		
Data processing, hosting, and related services	518	116	1	15	0	38 i		
Other information	other 51	755	18	4	27 i	222 i		
Professional, scientific, and technical services	54	163	9	65	4	740 i		
Architectural, engineering, and related services	5413	0	0	*	0	3 i		
Scientific R&D services	5417	58	5	63	4	354 i		
Biotechnology R&D	541711	15	0	2	0	346 i		
Other scientific R&D	other 5417	43	5	61	4	7 i		

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Industry and company size	NAICS code	Israel	Other Middle Eastern locations	South Africa	Other African locations	Undistributed
Other professional, scientific, and technical services	other 54	104	4 i	1 i	0	384 i
Other nonmanufacturing	21-23, 44-45, 48-49, 52-53, 55-56, 621-24, 71-72, 81	15	29	*	1	D
All companies (number of domestic employees)	-	3,959	524	155	76	2,181 i
Small companies ^a						
5-499	-	165	4	2	1	648 i
5-99	-	61	1	1	0	439 i
5-49	-	52	0	0	0	257 i
5-9	-	11	0	0	0	33 i
10-24	-	7	0	0	0	191 i
25-49	-	34	0	0	0	33 i
50-99	-	9	1	1	0	182 i
100-249	-	37	4	*	0	137 i
250-499	-	67	0	1	1	72 i
Medium and large companies						
500-999	-	108	1	3	2	257 i
1,000-4,999	-	484	16 i	27	20 i	983 i
5,000-9,999	-	436	21	65	5	20 i
10,000-24,999	-	86	31	34	8	274 i
25,000 or more	-	2,680	452	24	41	0

* = 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 Upper bound is based on the U.S. Small Business Administration's definition of a small business; the Business R&D and Innovation Survey does not include companies with fewer than five domestic employees.

NOTES: Detail may not add to total because of rounding. Country detail was not asked on Form BRDI-1(S). 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: National Science Foundation, National Center for Science and Engineering Statistics, and U.S. Census Bureau, Business R&D and Innovation Survey, 2014.