

TABLE 29. R&amp;D paid for by the company and by others and performed by the company outside of the United States, by selected location, industry, and company size: 2011

(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	69,231	114	5,468	207	1,702	180	523
Manufacturing industries	31–33	51,870	107	3,654	134	1,568	126	420
Food	311	1,197	*	51	0	12	1	D
Chemicals	325	16,393	63	992	67	1,247	50	93
Pharmaceuticals and medicines	3254	12,578	26	913	51	1,021	48	82
Other chemicals	other 325	3,815	36	78	16	227	2	11
Plastics and rubber products	326	362	0	36 i	0	21	2	0
Nonmetallic mineral products	327	253	0	35	0	2	0	0
Fabricated metal products	332	137	0	2 i	0	0	0	0
Machinery	333	3,524	*	137	24	38	5 i	1
Computer and electronic products	334	17,294	9	1,525	30	107	58	147
Electrical equipment, appliances, and components	335	1,704	0	82	8	2	1	7
Transportation equipment	336	7,933	*	580	2	77	9	0
Miscellaneous manufacturing	339	D	34	63	2	22	1	22
Other manufacturing	312–316, 321–324, 331, 337	D	0	151	1	41	*	D
Nonmanufacturing industries	21–23, 42–81	17,361	7	1,814	73	134	54	103
Wholesale trade	42	289 i	0	4 i	8 i	2 i	0	0
Information	51	9,586	*	1,175	27	35	12	88
Telecommunications	517	97	0	4	0	0	0	0
Data processing, hosting, and related services	518	306	0	50	2 i	0	0	2
Other information	other 51	9,183	*	1,122	25	35	12	85
Professional, scientific, and technical services	54	5,892	7	506	38	70	38	15
Architectural, engineering, and related services	5413	145	0	14	3 i	*	0	0
Scientific research and development services	5417	2,350	7	72	28	40	24	11
Biotechnology research and development	541711	250	0	12	0	3	1	0
Other scientific research and development	other 5417	2,100	7	60	28	37	23	11
Other professional, scientific, and technical services	other 54	3,398	* i	419	7	29	14	5
Other nonmanufacturing	21–23, 44–45, 48–49, 52–53, 55–56, 621–24, 71–72, 81	1,595 i	0	130	0	27	4	0
All companies (number of employees)	–	69,231	114	5,468	207	1,702	180	523
Small companies <sup>a</sup>								
5–499	–	4,010	2	419	13	107	1	12
5–99	–	1,409	0	94 i	*	61	0	*
5–49	–	905	0	66 i	*	2	0	*
5–9	–	83	0	16	0	0	0	0
10–24	–	533	0	41	0	0	0	0
25–49	–	289	0	9	*	2	0	*
50–99	–	504	0	28 i	0	59	0	0
100–249	–	1,066	0	27	2 i	15	0	0
250–499	–	1,534	2	298	10	31	1	12
Medium and large companies								
500–999	–	1,448	7	181 i	1	23	7	0
1,000–4,999	–	12,967	46	1,648	59	169	50	78

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5,000–9,999	–	7,705	1	420	33	90	42	51
10,000–24,999	–	12,559	39	1,259	29	166	18	82
25,000 or more	–	30,543	19	1,541	73	1,148	61	300
Industry and company size	NAICS code	Finland	France	Germany	Ireland	Italy	Netherlands	Poland
All industries	21–23, 31–33, 42–81	327	2,971	8,957	1,161	1,425	1,610	399
Manufacturing industries	31–33	276	2,406	8,041	667	1,241	1,372	291
Food	311	*	59	174	0	9	8	2
Chemicals	325	41	719	1,462	253	426	1,053	97
Pharmaceuticals and medicines	3254	33	567	902	251	263	269	94
Other chemicals	other 325	8	153	560	2 i	163	784	3
Plastics and rubber products	326	0	49	63	0	22	2	0
Nonmetallic mineral products	327	2	77 i	82 i	1	1	1	0
Fabricated metal products	332	0	5	13	0	2	1	1
Machinery	333	70	294	582	8 i	178	38	D
Computer and electronic products	334	162 i	784	2,109	322	439	90	112
Electrical equipment, appliances, and components	335	0	95	284	0	34	2	18
Transportation equipment	336	0	216	2,977	7 i	107	D	13
Miscellaneous manufacturing	339	*	72	110	77	16	19	*
Other manufacturing	312–316, 321–324, 331, 337	0	34	187	*	7	D	D
Nonmanufacturing industries	21–23, 42–81	51	566	916	494	184	237	109
Wholesale trade	42	0	2 i	36 i	0	11 i	5 i	1 i
Information	51	31	188	515	312	61	66	41
Telecommunications	517	0	0	6	0	0	2	0
Data processing, hosting, and related services	518	0	2 i	15 i	9 i	0	2 i	0
Other information	other 51	31	186	494	303	61	62	41
Professional, scientific, and technical services	54	19	358	290	182 i	111	135	66
Architectural, engineering, and related services	5413	7	3 i	5 i	2 i	3 i	0	1
Scientific research and development services	5417	10	157	143	38	63	114	49
Biotechnology research and development	541711	0	44	35	0	5	2	6
Other scientific research and development	other 5417	10	112	109	38	58	112	43
Other professional, scientific, and technical services	other 54	2	199 i	142	143 i	45 i	21	16
Other nonmanufacturing	21–23, 44–45, 48–49, 52–53, 55–56, 621–24, 71–72, 81	0	18	74 i	0	1	32 i	1
All companies (number of employees)	–	327	2,971	8,957	1,161	1,425	1,610	399
Small companies <sup>a</sup>								
5–499	–	14	68 i	269	19	44	33 i	12 i
5–99	–	3	23 i	75 i	1	2	9 i	7 i
5–49	–	0	5	56 i	0	0	*	6 i
5–9	–	0	0	1	0	0	0	0
10–24	–	0	5	46 i	0	0	0	6 i
25–49	–	0	0	9	0	0	*	0
50–99	–	3	19 i	19	1	2	9 i	2
100–249	–	0	26	99	2	26	21	0
250–499	–	11	19 i	96	16	16	4	5 i

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Industry and company size	NAICS code	Finland	France	Germany	Ireland	Italy	Netherlands	Poland
Medium and large companies								
500-999	-	*	37	100	8	5	43	2 i
1,000-4,999	-	129 i	720	1,611	191	312 i	219	59
5,000-9,999	-	23	303	889	180	364	239	46
10,000-24,999	-	55	718	1,129	262 i	161	773	93
25,000 or more	-	105	1,125	4,958	500	539	302	187
Industry and company size	NAICS code	Russia	Spain	Sweden	Switzerland	United Kingdom	Other European locations	Argentina
All industries	21-23, 31-33, 42-81	476	544	831	2,381	10,381	3,010	230
Manufacturing industries	31-33	295	461	582	1,707	6,675	2,128	172
Food	311	3	6	5	D	172	149	2
Chemicals	325	115	281	239	801	3,395	731	130
Pharmaceuticals and medicines	3254	115	228	234	669	3,095	488	93
Other chemicals	other 325	1	53	5	131	301	243	37
Plastics and rubber products	326	1	5	3	5	17	5	4
Nonmetallic mineral products	327	*	*	*	*	20 i	*	0
Fabricated metal products	332	0	0	12	0	44	4	0
Machinery	333	5	21	84	257	521	101	2 i
Computer and electronic products	334	135	28	104	74	1,278	507	19
Electrical equipment, appliances, and components	335	12	1	7	19	112	253	0
Transportation equipment	336	12	108	47	6	962	94	10
Miscellaneous manufacturing	339	6	4	67	175	67	182	4
Other manufacturing	312-316, 321-324, 331, 337	7	7	14	D	88	102	2
Nonmanufacturing industries	21-23, 42-81	182	84	249	674	3,706	882	58
Wholesale trade	42	0	0	79 i	D	10 i	13 i	0
Information	51	65	10	65	396	2,300 i	586	1
Telecommunications	517	0	0	7 i	0	6	1	0
Data processing, hosting, and related services	518	9	0	5	0	41	31 i	0
Other information	other 51	56	10	52	396	2,254 i	554	1
Professional, scientific, and technical services	54	110 i	72	83	277	1,018	257	55
Architectural, engineering, and related services	5413	0	3 i	11	0	3 i	11 i	0
Scientific research and development services	5417	45	63	45	22	463	144	52
Biotechnology research and development	541711	1	3	2	5 i	62	5	1
Other scientific research and development	other 5417	44	60	43	16	401	139	51
Other professional, scientific, and technical services	other 54	65 i	5	27	256	552	101 i	3
Other nonmanufacturing	21-23, 44-45, 48-49, 52-53, 55-56, 621-24, 71-72, 81	7	2	22	D	377	26	1
All companies (number of employees)	-	476	544	831	2,381	10,381	3,010	230
Small companies <sup>a</sup>								
5-499	-	36 i	7 i	46 i	378	339	295 i	5
5-99	-	6 i	*	10	18 i	75 i	210 i	0
5-49	-	2	*	3	5 i	42 i	203 i	0

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Industry and company size	NAICS code	Russia	Spain	Sweden	Switzerland	United Kingdom	Other European locations	Argentina
5-9	-	0	0	0	0	0	9	0
10-24	-	*	0	*	*	26 i	124	0
25-49	-	2	*	2	5	15 i	71 i	0
50-99	-	4 i	*	7	12 i	33 i	7	0
100-249	-	24 i	1	22 i	333	46	48	*
250-499	-	7	6 i	14	28	218	37 i	5
Medium and large companies								
500-999	-	7	3	18	78	138	63	3
1,000-4,999	-	83	80	220	487	1,759	632	11
5,000-9,999	-	49	88	83	294	1,048	178	54
10,000-24,999	-	97	134	220	473	1,064	931	95
25,000 or more	-	204	232	243	671	6,032	912	61

  

Industry and company size	NAICS code	Brazil	Chile	Mexico	Other Latin American locations	Australia	China	Hong Kong
All industries	21-23, 31-33, 42-81	1,826	55	911	416	1,298	4,249	108
Manufacturing industries	31-33	1,642	32	877	267	933	2,988	69
Food	311	45	1	29	13	96	44	8
Chemicals	325	391	29	145	112	320	607	19
Pharmaceuticals and medicines	3254	223	D	101	72	301	360	14
Other chemicals	other 325	168	D	44	40	19	247	6
Plastics and rubber products	326	26	0	8	0	2	20	1
Nonmetallic mineral products	327	0	0	2	0	*	25 i	0
Fabricated metal products	332	0	0	0	0	0	10	0
Machinery	333	65	*	D	1	33	290	1
Computer and electronic products	334	48	*	115	72	99	1,527	20
Electrical equipment, appliances, and components	335	143	0	45	26	7	192	3
Transportation equipment	336	890	*	185	D	D	136	4
Miscellaneous manufacturing	339	8	0	6	7	D	65	3
Other manufacturing	312-316, 321-324, 331, 337	26	2	D	D	10	72	8
Nonmanufacturing industries	21-23, 42-81	184	23	35	149	365	1,261	40 i
Wholesale trade	42	0	0	1 i	4 i	0	11 i	9 i
Information	51	106	2	2	79	195	849	17 i
Telecommunications	517	24 i	0	0	0	0	29	1
Data processing, hosting, and related services	518	23	0	0	*	17	5 i	5 i
Other information	other 51	59	2	2	79	178	815	12
Professional, scientific, and technical services	54	74	9	28	66	126	331 i	9 i
Architectural, engineering, and related services	5413	3 i	*	3 i	*	8	15 i	0
Scientific research and development services	5417	53	8	17	18	76	52	*
Biotechnology research and development	541711	1	*	2	1	24	6	0
Other scientific research and development	other 5417	52	7	15	17	53	47	*
Other professional, scientific, and technical services	other 54	18	2	7	48	42	263 i	8 i
Other nonmanufacturing	21-23, 44-45, 48-49, 52-53, 55-56, 621-24, 71-72, 81	5	11	4	1	43	70 i	4

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Industry and company size	NAICS code	Brazil	Chile	Mexico	Other Latin American locations	Australia	China	Hong Kong
All companies (number of employees)	–	1,826	55	911	416	1,298	4,249	108
Small companies <sup>a</sup>								
5–499	–	63	0	26 i	30 i	44	298	26 i
5–99	–	46	0	2 i	24 i	2	121 i	12 i
5–49	–	0	0	2	12 i	2	79 i	D
5–9	–	0	0	0	0	0	2	0
10–24	–	0	0	0	0	2	38 i	0
25–49	–	0	0	2	12 i	0	40 i	D
50–99	–	46	0	*	12 i	*	42 i	D
100–249	–	1	0	9 i	4 i	8 i	64	6 i
250–499	–	16	0	15 i	1 i	33	113	8 i
Medium and large companies								
500–999	–	3	*	19	1	108	157	6 i
1,000–4,999	–	94	3	310	73	178	801	21
5,000–9,999	–	116	9	42	101	218	472	8
10,000–24,999	–	436	22	126	22	214	706	17
25,000 or more	–	1,114	21	388	190	537	1,814	31
Industry and company size	NAICS code	India	Indonesia	Japan	Malaysia	New Zealand	Singapore	South Korea
All industries	21–23, 31–33, 42–81	4,784	25	3,229	653	55	1,712 i	1,184
Manufacturing industries	31–33	3,270	22	2,533	642	38	996	1,078
Food	311	7	2	37	2	1	7	2
Chemicals	325	228	3	1,369	12	10	235	208
Pharmaceuticals and medicines	3254	172	2	1,175	6	7	199	151
Other chemicals	other 325	55	1	194	6 i	3	36	57
Plastics and rubber products	326	*	*	40	4	*	0	6
Nonmetallic mineral products	327	*	0	2	0	0	0	0
Fabricated metal products	332	1	0	0	0	0	0	*
Machinery	333	235	0	100	1	3	39	22
Computer and electronic products	334	2,507	5	592	609	17	614	143
Electrical equipment, appliances, and components	335	45	*	107	0	*	42	4
Transportation equipment	336	168	0	110	*	1	D	D
Miscellaneous manufacturing	339	67	0	97	13	5	8	3
Other manufacturing	312–316, 321–324, 331, 337	13	12	80	1	0	D	D
Nonmanufacturing industries	21–23, 42–81	1,514	3	696	10	17 i	715 i	106
Wholesale trade	42	2 i	0	5 i	0	0	0	0
Information	51	960	*	388	4	5 i	D	28
Telecommunications	517	3	0	0	*	0	*	0
Data processing, hosting, and related services	518	26	0	1 i	*	4 i	7 i	0
Other information	other 51	931	*	387	4	1	D	28
Professional, scientific, and technical services	54	502 i	2	298	6	12 i	D	46
Architectural, engineering, and related services	5413	3 i	0	4 i	0	0	0	4 i
Scientific research and development services	5417	86	2	177	4	5	75	19
Biotechnology research and development	541711	3	0	0	*	0	9	0

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Industry and company size	NAICS code	India	Indonesia	Japan	Malaysia	New Zealand	Singapore	South Korea
Other scientific research and development	other 5417	83	2	177	4	5	67	19
Other professional, scientific, and technical services	other 54	414 i	0	118 i	1 i	7 i	D	24
Other nonmanufacturing	21-23, 44-45, 48-49, 52-53, 55-56, 621-24, 71-72, 81	50	*	5	*	0	D	31 i
All companies (number of employees)	-	4,784	25	3,229	653	55	1,712 i	1,184
Small companies <sup>a</sup>								
5-499	-	232	11	80 i	11	8 i	72	33 i
5-99	-	109	0	41 i	1	0	8 i	22 i
5-49	-	36 i	0	22 i	1	0	0	D
5-9	-	0	0	0	0	0	0	0
10-24	-	23 i	0	18	0	0	0	D
25-49	-	13	0	3 i	1	0	0	0
50-99	-	73	0	19 i	0	0	8 i	D
100-249	-	43	11	9 i	*	*	36	4
250-499	-	80	*	30	10	7 i	28	6 i
Medium and large companies								
500-999	-	144 i	0	26	D	0	27	11
1,000-4,999	-	914	3	558	121	26	275	199
5,000-9,999	-	861	1	374	25	5	287	75
10,000-24,999	-	781	2	766	97	4	611 i	125
25,000 or more	-	1,852	8	1,424	D	12	439	741

  

Industry and company size	NAICS code	Taiwan	Thailand	Other Asian or Pacific locations	Israel	Other Middle Eastern locations	South Africa	Other African locations
All industries	21-23, 31-33, 42-81	495	355	563	3,369	181	196	58
Manufacturing industries	31-33	330	147	456	2,609	145	110	36
Food	311	7	11	19	* i	*	4	*
Chemicals	325	58	15	105	111	29	69	16
Pharmaceuticals and medicines	3254	46	13	68	D	26	53	16
Other chemicals	other 325	12	2	37	D	3	16	*
Plastics and rubber products	326	1	3	*	7	0	0	0
Nonmetallic mineral products	327	*	0	0	0	*	0	0
Fabricated metal products	332	0	0	0	0	0	0	0
Machinery	333	7	6	15	175	3	4	*
Computer and electronic products	334	232	80	179	2,265	23 i	4	20 i
Electrical equipment, appliances, and components	335	4	0	58	1	67	5	0
Transportation equipment	336	D	D	D	D	1	D	0
Miscellaneous manufacturing	339	6	2	31	39	*	*	0
Other manufacturing	312-316, 321-324, 331, 337	D	D	D	D	22	D	0
Nonmanufacturing industries	21-23, 42-81	164	208	107	760	36	86	22
Wholesale trade	42	0	0	3 i	47 i	0	0	0
Information	51	112	200 i	74	399	21	17	D
Telecommunications	517	*	0	0	0	0	0	0
Data processing, hosting, and related services	518	3	0	1 i	1 i	0	12	0
Other information	other 51	109	200 i	73	399	21	5	D
Professional, scientific, and technical services	54	52	8	27	275 i	10	69	10 i

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Industry and company size	NAICS code	Taiwan	Thailand	Other Asian or Pacific locations	Israel	Other Middle Eastern locations	South Africa	Other African locations
Architectural, engineering, and related services	5413	15	0	*	0	*	*	*
Scientific research and development services	5417	10	8	7	35	7	67	5
Biotechnology research and development	541711	0	*	*	5	*	*	0
Other scientific research and development	other 5417	10	8	7	30	7	67	5
Other professional, scientific, and technical services	other 54	26 i	1	20	240 i	3	2	5 i
Other nonmanufacturing	21-23, 44-45, 48-49, 52-53, 55-56, 621-24, 71-72, 81	1	*	2	39 i	5	*	D
All companies (number of employees)	-	495	355	563	3,369	181	196	58
Small companies <sup>a</sup>								
5-499	-	105	100 i	43	234	3	3	*
5-99	-	31	99	3 i	72 i	0	0	0
5-49	-	10	99	2	72 i	0	0	0
5-9	-	4	0	0	10 i	0	0	0
10-24	-	2	99	0	33 i	0	0	0
25-49	-	3	0	2	29	0	0	0
50-99	-	21	0	1 i	0	0	0	0
100-249	-	26	0	9	9	1	*	0
250-499	-	48	1	31	154	2	2	*
Medium and large companies								
500-999	-	7	3	6 i	32	*	1	4
1,000-4,999	-	93	57	191	358	22	25	3
5,000-9,999	-	60	46	15	417	9	73	4
10,000-24,999	-	72	12	133	478	83	36	D
25,000 or more	-	158	137	175	1,849	64	58	D
Industry and company size	NAICS code	Undistributed						
All industries	21-23, 31-33, 42-81	611						
Manufacturing industries	31-33	324						
Food	311	6						
Chemicals	325	52 i						
Pharmaceuticals and medicines	3254	32 i						
Other chemicals	other 325	20						
Plastics and rubber products	326	10						
Nonmetallic mineral products	327	3						
Fabricated metal products	332	43						
Machinery	333	46						
Computer and electronic products	334	74						
Electrical equipment, appliances, and components	335	22						
Transportation equipment	336	24 i						
Miscellaneous manufacturing	339	27						
Other manufacturing	312-316, 321-324, 331, 337	17 i						
Nonmanufacturing industries	21-23, 42-81	288						
Wholesale trade	42	D						
Information	51	91						
Telecommunications	517	16						

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Industry and company size	NAICS code	Undistributed
Data processing, hosting, and related services	518	32
Other information	other 51	43
Professional, scientific, and technical services	54	D
Architectural, engineering, and related services	5413	23
Scientific research and development services	5417	34
Biotechnology research and development	541711	11
Other scientific research and development	other 5417	22
Other professional, scientific, and technical services	other 54	D
Other nonmanufacturing	21-23, 44-45, 48-49, 52-53, 55-56, 621-24, 71-72, 81	D
All companies (number of employees)	-	611
Small companies <sup>a</sup>		
5-499	-	468
5-99	-	222
5-49	-	159
5-9	-	42
10-24	-	D
25-49	-	D
50-99	-	63
100-249	-	131
250-499	-	115 i
Medium and large companies		
500-999	-	D
1,000-4,999	-	83
5,000-9,999	-	15
10,000-24,999	-	D
25,000 or more	-	0

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

<sup>a</sup> Upper bound based on U.S. Small Business Administration's definition of a small business; 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 for on Form BRDI-1A. 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, 2011.