

TABLE 25

**Foreign R&D paid for by the company and others and performed by the company, by type of R&D, selected industry, and location: 2021**

(Millions of U.S. dollars)

Industry and location	NAICS code	Total foreign R&D performance	Research (basic and applied)	Development
<b>All locations</b>				
All industries	21-23, 31-33, 42-81	135,412	24,477	110,936
Manufacturing industries	31-33	78,389	14,143	64,245
Chemicals	325	23,741	5,980	17,761
Pharmaceuticals and medicines	3254	20,936	5,171	15,765
Computer and electronic products	334	31,535	4,028	27,506
Semiconductor and other electronic components	3344	16,521	2,265	14,256
Nonmanufacturing industries	21-23, 42-81	57,024	10,333	46,690
Information	51	29,258	2,835	26,423
Software publishers	5112	9,933	1,028	8,904
Professional, scientific, and technical services	54	18,763	5,004	13,759
Scientific research and development services	5417	13,630	4,232	9,398
<b>Africa</b>				
All industries	21-23, 31-33, 42-81	605	113	492
Manufacturing industries	31-33	265	65	199
Chemicals	325	96	20	75
Pharmaceuticals and medicines	3254	80	4 - 21	59 - 76
Computer and electronic products	334	0 - 23	0 - 23	0 - 23
Semiconductor and other electronic components	3344	*	*	*
Nonmanufacturing industries	21-23, 42-81	340	48	293
Information	51	67	5	62
Software publishers	5112	38	4	34
Professional, scientific, and technical services	54	166	4	162
Scientific research and development services	5417	147	2	144
<b>Asia and Pacific</b>				
All industries	21-23, 31-33, 42-81	45,196	7,026	38,170
Manufacturing industries	31-33	27,495	4,586	22,909
Chemicals	325	5,698	1,292	4,406
Pharmaceuticals and medicines	3254	4,903	1,123	3,780
Computer and electronic products	334	14,462	1,910	12,552
Semiconductor and other electronic components	3344	8,812	1,185	7,627
Nonmanufacturing industries	21-23, 42-81	17,701	2,441	15,261
Information	51	9,044	806	8,238
Software publishers	5112	3,826	354	3,471
Professional, scientific, and technical services	54	4,811	598	4,213
Scientific research and development services	5417	3,109	380	2,729
<b>Canada</b>				
All industries	21-23, 31-33, 42-81	9,283	1,561	7,721
Manufacturing industries	31-33	4,149	618	3,531
Chemicals	325	865	196	669
Pharmaceuticals and medicines	3254	820	186	634
Computer and electronic products	334	2,038	194	1,845
Semiconductor and other electronic components	3344	1,060	95	965
Nonmanufacturing industries	21-23, 42-81	5,134	944	4,190
Information	51	3,088	310	2,778
Software publishers	5112	1,554	148	1,405
Professional, scientific, and technical services	54	1,378	485	893
Scientific research and development services	5417	723	400	324
<b>Europe</b>				

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Industry and location	NAICS code	Total foreign R&D performance		Research (basic and applied)		Development	
All industries	21-23, 31-33, 42-81	64,996		13,282		51,714	
Manufacturing industries	31-33	36,095		7,171		28,924	
Chemicals	325	15,345		4,012		11,333	
Pharmaceuticals and medicines	3254	13,612		3,459		10,153	
Computer and electronic products	334	9,057		1,243		7,814	
Semiconductor and other electronic components	3344	3,088		477	i	2,611	i
Nonmanufacturing industries	21-23, 42-81	28,901		6,111	i	22,790	i
Information	51	14,274		1,453		12,822	
Software publishers	5112	3,764		445		3,320	
Professional, scientific, and technical services	54	10,900	i	3,586	i	7,314	i
Scientific research and development services	5417	8,987	i	3,389	i	5,598	i
<b>Latin America and other Western Hemisphere<sup>a</sup></b>							
All industries	21-23, 31-33, 42-81	5,376		846		4,530	i
Manufacturing industries	31-33	3,884		700		3,183	i
Chemicals	325	1,025		257		768	
Pharmaceuticals and medicines	3254	890		229		660	
Computer and electronic products	334	1,448 - 1,540	i	0 - 181	i	1,267 - 1,540	i
Semiconductor and other electronic components	3344	406 - 631		0 - 99	i	324 - 535	i
Nonmanufacturing industries	21-23, 42-81	1,492		145	i	1,347	i
Information	51	516		25		490	
Software publishers	5112	69 - 80		0 - 9		70	
Professional, scientific, and technical services	54	708	i	37		671	i
Scientific research and development services	5417	483	i	17		467	i
<b>Middle East</b>							
All industries	21-23, 31-33, 42-81	8,757		1,393	i	7,364	i
Manufacturing industries	31-33	5,465		780	i	4,685	i
Chemicals	325	548		138		410	
Pharmaceuticals and medicines	3254	504		124		380	
Computer and electronic products	334	4,059		503	i	3,556	i
Semiconductor and other electronic components	3344	2,931		412	i	2,519	i
Nonmanufacturing industries	21-23, 42-81	3,292		613		2,679	
Information	51	2,207		224		1,984	
Software publishers	5112	660		70		590	
Professional, scientific, and technical services	54	704		275		429	
Scientific research and development services	5417	149	i	40	i	109	i
<b>Puerto Rico<sup>b</sup></b>							
All industries	21-23, 31-33, 42-81	743	i	123		619	i
Manufacturing industries	31-33	733	i	119		613	i
Chemicals	325	158		62		96	
Pharmaceuticals and medicines	3254	117 - 130		21 - 48		72 - 97	
Computer and electronic products	334	135 - 473	i	0 - 58	i	77 - 473	i
Semiconductor and other electronic components	3344	2		0		2	
Nonmanufacturing industries	21-23, 42-81	10		4		6	i
Information	51	2		*	i	2	i
Software publishers	5112	1		*		1	
Professional, scientific, and technical services	54	8		4		4	i
Scientific research and development services	5417	2		2		*	i

\* = amount < \$500,000; i = more than 50% of the estimate is a combination of imputation and reweighting to account for nonresponse.

NAICS = 2017 North American Industry Classification System.

<sup>a</sup> Other Western Hemisphere is defined as Argentina, Brazil, Chile, Mexico, and other Latin America.

<sup>b</sup> Puerto Rico is not included in the U.S. total due to its classification as a U.S. territory.

**Note(s):**

Detail within a select location may not add to total because of rounding. Sum of locations does not equal all locations due to the undistributed portion not being published. 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. Beginning in survey year 2018, statistics are representative of companies located in the United States that performed or funded \$50,000 or more of R&D and also performed foreign R&D and are not comparable with estimates published for years prior to 2018. An estimate range may be displayed in place of a single estimate to avoid disclosing operations of individual companies.

**Source(s):**

National Center for Science and Engineering Statistics and Census Bureau, Business Enterprise Research and Development Survey, 2021.