

TABLE 26

Domestic R&D paid for and performed by the company, by type of cost, industry, and company size: 2021

(Millions of U.S. dollars)

Industry and company size	NAICS code	Total	Salaries, wages, and fringe benefits	Stock-based compensation	Temporary staffing	Expensed equipment	Materials and supplies	Lease and rental payments	Depreciation	Royalties and licensing fees	Other purchased services (except R&D)	Other
All industries	21-23, 31-33, 42-81	527,804	287,984	60,491	23,725	8,605	32,925	7,770	18,433	3,450	15,319	69,102
Manufacturing industries	31-33	287,666	149,421	18,527	11,917	3,564	27,881	4,399	12,251	2,760	10,105	46,842
Food	311	4,963 - 4,968	2,954	36	191	23	794	57	224 - 236	25	145	512
Beverage and tobacco products	312	1,228	624	12	62	2	105	5	67	0	54	297
Textile, apparel, and leather products	313-16	818	643	7	17	3	55	5	15	3	16	54
Wood products	321	433 - 442	221	0	34 r	5	131 r	14 r	2	0	1	25 - 33
Paper	322	1,139	451	3	8	20	542	5	7	2	3	99 i
Printing and related support activities	323	196 - 205 i	143	1 i	7 i	1 i	18 i	4	11 i	*	10 i	1 - 9 i
Petroleum and coal products	324	952	506	0	15	1	46	4	43	2	170	165
Chemicals	325	97,097	40,199	6,251	6,875	897	9,071	1,960	3,679	1,475	5,944	20,745
Basic chemicals	3251	2,559	1,442	35	28 - 42	4 - 18	302	64	165	39	187	263 - 277
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	1,291 - 1,320 i	824	11	57	2	76 - 120	0 - 20	73 - 100	12	52	91 - 143 i
Pesticide, fertilizer, and other agricultural chemicals	3253	915 - 946	528 - 560 i	1 i	71 - 88 i	2 i	80 - 148 i	14 - 47 i	53 - 80 i	23	13 i	91 i
Pharmaceuticals and medicines	3254	88,524	34,997	6,183	6,616	867	8,345	1,816	3,204	1,400	5,647	19,448
Soap, cleaning compound, and toilet preparations	3256	2,531	1,477	17	71	1	142	4 - 37	107	1	23	651 - 690
Paint, coating, adhesive, and other chemicals	3255, 3259	1,242 - 1,252	901 - 929	5	16	5 - 22	54 - 82	9	22 - 49	*	22	108 - 160
Plastics and rubber products	326	2,961	1,738	31	86	41	405	18	111	8	98	425
Nonmetallic mineral products	327	1,503	949	13	47	3	78	15	88	*	44	264
Primary metals	331	887 - 890	320	1	3	1	349	3	15 - 22	*	132	59
Fabricated metal products	332	3,879	2,243	43	158	43	981	42	79	7	43	240
Machinery	333	16,726	9,745	363	658	132	2,262	293	681	49	547	1,997
Agricultural implement	33311	1,799 - 1,807	967 - 1,029	1	78	7	211	8	41 - 60	2	127 - 140	265 - 327
Semiconductor machinery	333242	5,182	2,635	278	49	37	559 i	184	373	9	170	889
Engine, turbine, and power transmission equipment	3336	1,239 - 1,246	754	6	36	11	86	24	35 - 47	7	113	165
Other machinery	other 333	8,499	5,326 - 5,390	79	495	78	1,406	78	201 - 220	31	124 - 137	615 - 678

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Computer and electronic products	334	94,211	52,598	10,649	1,534	1,593	6,498	1,493	5,272	830	867	12,877
Communications equipment	3342	11,339	6,379	888	400	130	254	772	480	25	110	1,902
Semiconductor and other electronic components	3344	45,516	23,979	4,954	764	314	4,006	228	2,360	409	213	8,290
Navigational, measuring, electromedical, and control instruments	3345	10,014	6,460	336	196	101	808	84	299	25	383	1,320
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	2,837	1,733	200	43	17	183	23	64	19	160	395
Search, detection, navigation, guidance, aeronautical, and nautical system and instruments	334511	2,109	1,411	47	70	15	178	15	65	*	50	259
Other measuring and controlling devices	other 3345	5,068	3,316	90	84	70	448	46	170	6	173	666
Other computer and electronic products	other 334	27,342	15,780	4,472	174	1,047	1,430	408	2,133	372	161	1,366
Electrical equipment, appliances, and components	335	5,007	3,146	134	195	45	384	75	113	39	185	690
Transportation equipment	336	34,405	21,041	389	1,133	550	4,359	209	1,181	285	758	4,500
Motor vehicles, bodies, trailers, and parts	3361-63	22,754	14,769	298	916	497	2,850	156	969	216 - 268	268	1,758 - 1,818
Aerospace products and parts	3364	9,900	5,176	55	158	32	1,109	43	177	18	458	2,675
Aircraft, aircraft engine, and aircraft parts	336411-13	9,293	4,893	54	138	28	903	40	171	18	438	2,610
Guided missile, space vehicle, and related parts	336414-15, 336419	608	283	1	20	4	206	3	6	0	20	65
Military armored vehicle, tank, and tank components	336992	20 - 24	12	0	2	1	*	*	2	r 0	1	0 - 8
Other transportation	other 336	1,726 - 1,731	1,084	37	56	20	399	i 9	33	0 - 52	31	2 - 63
Furniture and related products	337	423	296	2	11	6	43	2	10	3	22	28
Miscellaneous	339	20,822	11,603	590	885	197	1,759	195	644	32	1,066	3,851
Medical equipment and supplies	3391	18,204	9,919	559	844	171	1,377	137	597	21	1,004	3,576
Other miscellaneous manufacturing	3399	2,618	1,684	32	i 41	27	382	58	46	11	62	275
Nonmanufacturing industries	21-23, 42-81	240,138	138,563	41,964	11,808	5,041	5,044	3,372	6,182	i 690	5,214	22,260
Mining, quarrying, oil and gas extraction, and support activities	21	1,077 - 1,151	577	8	9	31	93	i 51	14	*	298	0 - 73
Utilities	22	133 - 17,961	0 - 11,040	1	14	*	i 0 - 308	2	9	3	0 - 77	0 - 6,505
Wholesale trade	42	1,661 - 1,770	i 1,232	i *	51	i 2	i 192	i 5	30	10	10	i 125 - 241
Electronic shopping and electronic auctions	454111-12	5,931 - 24,034	i 0 - 11,040	i 3,694 - 4,337	i 147	i 0 - 341	i 0 - 308	i 169	i 1,222	i *	i 26	i 0 - 6,505

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Transportation and warehousing	48-49	7,198 - 7,200	3,115	819	i 152	290	i 1,002	i 204	221 - 224	45	437	913
Information	51	146,488	86,859	29,350	7,579	2,943	1,046	1,942	2,893	357	3,151	10,368
Publishing	511	38,521	24,774	5,297	1,815	366	571	401	461	144	1,547	3,145
Newspaper, periodical, book, and directory publishers	5111	81	72	0	2	*	i *	i *	*	0	3	3
Software publishers	5112	38,441	24,701	5,297	1,813	366	571	401	460	144	1,544	3,142
Telecommunications	517	3,736 - 3,805	2,859 - 2,929	31	i 105	15	53	9 - 19	3 - 10	8	r 632	i 0 - 27
Data processing, hosting, and related services	518	44,585	28,126	7,844 - 7,880	1,171	690	318	661	549	182	796	4,214 - 4,250
Other information	other 51	59,577 - 59,647	31,030 - 31,100	16,141 - 16,177	4,488	1,871	103	861 - 871	i 1,872 - 1,879	i 22	176	2,946 - 2,982
Finance and insurance	52	20,902	11,083	4,792	2,012	658	193	157	643	52	301	i 1,011
Real estate and rental and leasing	53	2,095 - 2,097	1,034	669	0 - 228	27	4	6	20	0 - 29	8	67 - 332
Lessors of nonfinancial intangible assets (except copyrighted works)	533	5 - 8	1	0	*	0 - 6	1	0	0	0	1	0 - 6
Other real estate and rental and leasing	other 53	2,087 - 2,091	1,033	669	0 - 228	20 - 28	3	6	20	0 - 29	7	62 - 332
Professional, scientific, and technical services	54	32,083	20,135	1,860	1,513	742	1,936	741	1,081	179	823	3,073
Architectural, engineering, and related services	5413	2,553	2,199	5	28	13	184	7	9	1	i 10	97
Computer systems design and related services	5415	17,188	11,361	1,130	915	428	519	173	612	62	244	1,745
Scientific research and development services	5417	6,123	3,174	490	211	164	787	180	188	30	248	652
Research and development in nanotechnology	541713	154	88	1	i 8	3	i 19	6	6	1	i 4	i 18
Research and development in biotechnology (except nanobiotechnology)	541714	1,664	724	138	71	24	175	65	53	16	138	259
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	4,266	2,333	351	131	137	593	109	128	12	99	374
Research and development in the social sciences and humanities	541720	38	29	0	*	0	0	*	1	0	6	1
Other professional, scientific, and technical services	other 54	6,218	3,401	236	360	137	445	381	272	86	321	579
Health care services	621-23	1,965 - 2,043	1,035	132	108	12	275	56	39	19	86	200 - 285

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Other nonmanufacturing	23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81	2,501 - 3,136	2,458	0 - 634	0 - 228	0 - 341	i 0 - 308	39	5 - 11	0 - 29	0 - 77	0 - 634
All companies (number of domestic employees)	-	527,804	287,984	60,491	23,725	8,605	32,925	7,770	18,433	3,450	15,319	69,102
Small companies												
10-19 ^a	-	4,258	2,605	76	i 185	191	r 435	89	83	35	180	380
20-49	-	12,626	7,749	291	436	119	1,790	244	226	189	625	958
Medium companies												
50-99	-	12,488	7,418	582	645	169	1,420	303	250	65	486	1,149
100-249	-	20,030	12,651	1,034	746	275	1,932	342	461	165	638	1,787
Large companies												
250-499	-	20,574	11,257	1,873	982	230	1,540	442	439	206	1,193	2,412
500-999	-	23,655	13,315	1,882	1,041	201	2,095	408	737	388	758	2,831
1,000-4,999	-	83,609	45,089	13,679	2,376	1,670	4,531	1,074	2,369	577	3,012	9,232
5,000-9,999	-	53,873	30,076	5,860	2,277	661	3,373	1,150	2,150	342	2,082	5,902
10,000-24,999	-	84,057	44,587	5,879	5,091	862	6,398	1,036	3,847	440	3,065	12,852
25,000 or more	-	212,634	113,236	29,336	9,947	4,226	9,409	2,682	7,872	1,044	3,282	31,599

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

NAICS = 2017 North American Industry Classification System.

^a The Business Enterprise Research and Development Survey does not include companies with fewer than 10 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 \$50,000 or more of 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.