

TABLE 29-B

Companies with domestic R&D paid for and performed by the company, by industry, company size, and state (N-Z): 2022

(Millions of U.S. dollars and number of companies)

Industry and company size	NAICS code	Companies, U.S. total ^a (number)	United States	Nebraska	Nevada	New Hampshire	New Jersey	New Mexico	New York	North Carolina	North Dakota	Ohio	Oklahoma	Oregon	Pennsylvania	Rhode Island	South Carolina	South Dakota	Tennessee	Texas	Utah	Vermont	Virginia	Washington	West Virginia	Wisconsin	Wyoming	Undistributed ^b	
All industries	21-23, 31-33, 42-81	28,450	608,058	1,395	1,471	1,449	20,144	1,514	29,915	11,503	454	10,501	1,820	12,426	17,151	594	2,319	201	2,147	26,151	3,748	614	6,451	55,718	444	6,470	78	703	
Manufacturing industries	31-33	14,310	326,998	359	833	839	14,062	1,254	10,564	6,789	305	8,339	608	10,085	12,445	482	1,162	129	1,097	13,505	1,486	487	1,878	6,322	377	4,321	31	349	
Food	311	950	D	74	8 e	17	266	4 e	360	195	9 e	190	75	54	125	71 i	32	7 e	69	402	27	7 e	64	76 e	1 e	172	1 e	D	
Beverage and tobacco products	312	160	660	* e	* e	* e	1 e	* e	20	78	* e	2	1	2 e	4	* e	* e	* e	1 e	63	5 r	1 e	109	50	* e	6	* e	D	
Textile, apparel, and leather products	313-16	260	D	* e	* e	7	18	* e	25	60	* e	94	2	15	2 i	4	66	* e	1	5	2	4	1 e	16	* e	10	* e	D	
Wood products	321	100	254	* e	* e	* e	1	*	3	12	8	4	*	8	5	*	5	* e	5	18	1	* e	3	12	1	10	* e	D	
Paper	322	100	1,004	1	*	* e	22	* e	18	33	*	23	2	* e	39	3	85	* e	9	26	* e	* e	112	24	* e	316	0	2	
Printing and related support activities	323	140	164	* e	* e	* e	2	* e	6	14 i	* e	* i	* e	* i	7	* e	1 i	* e	9	5	1 i	* e	* e	*	4	8 i	* e	8	
Petroleum and coal products	324	80	856	* e	* e	* e	270	* e	* e	5	0	6	44	5	7	* e	* e	* e	* e	356	D	0	1	*	* e	2	0	D	
Chemicals	325	2,240	113,518	99 i	27 i	74	11,301	8 e	5,458	2,360	19	2,499	15	98	8,912	45	248 i	24	322	1,076	359	47	407 i	2,064	263 i	695	9 e	D	
Basic chemicals	3251	310	D	32	3	2	237 i	1 e	90	43	1 e	230	9	5	195	* e	13	22	260	191	4	0	109	26	3	66	7 e	D	
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	200	1,413	* e	1	3 r	4	0	40 i	28	0	283	*	7	121	2	13	0	15	305	* e	* e	2	1	32	10	0	D	
Pesticide, fertilizer, and other agricultural chemicals	3253	70	D	D	* e	* e	D	* e	*	293	*	D	*	2	9	0	*	1	1 i	33	*	* e	*	3	* e	D	0	D	
Pharmaceuticals and medicines	3254	1,080	104,720	61 i	18 i	61	10,503	6 e	5,074	1,933	18	597	4	71	8,402	41	202 i	D	39	498	348	43	290 i	2,030	227 i	484	1	D	
Soap, cleaning compound, and toilet preparations	3256	270	D	2	1 r	* e	350 i	* e	243	33	* e	1,117	* e	1 e	13	1 i	2 i	* e	5	35	2 e	4	* e	3 i	* e	105	1 i	D	
Paint, coating, adhesive, and other chemicals	3255, 3259	340	1,195	D	3	8	D	* e	10	28	* e	D	2	11	172	* e	18	D	2	14	5	* e	5	2 i	* e	D	* e	D	
Plastics and rubber products	326	790	3,251	11	1 e	12	18	2	160 i	124	* e	364	52	2 e	131	7	58	3	28	128	4	* e	19	7	3	83	4	30	
Nonmetallic mineral products	327	250	1,435	2 i	9	1 i	10	* e	931	64	* e	57	1 e	4	20	* e	4	* e	4	11	1 i	* e	1 e	4	* e	11	* e	11	
Primary metals	331	230	1,099	9	* e	6	2	* e	12	10	* e	72	2	39	136	1	4	2	3 i	388	5	1 i	2	1 e	2	48	* e	12	
Fabricated metal products	332	1,780	3,304	22	11	65	327	26	75	56	2 e	243	35	23	110	26 i	55	4 e	29	314 i	23	1 e	26 i	34	7 i	224	1 i	D	
Machinery	333	1,990	18,246	93	51	65	114	8	540	670	224	474	243	737	298	36	171	35	99 i	1,730	57	12	144	136	4 e	931	9	50	
Agricultural implement	33311	160	D	71	* e	*	7	* e	22	26	115	14	39	2 e	44	0	5	14	6	11	5	0	* e	9	0	111	* e	D	
Semiconductor machinery	333242	50	5,390	0	6 i	1	33 i	0	103 i	0	0	0	0	588	13 i	0	0	0	0	516 i	0	* i	0	0	0	0	0	0	0
Engine, turbine, and power transmission equipment	3336	110	D	*	4	2	1	0	276	102	1	18	11	2 e	15	1	107	4	6 r	125	4	0	100	9	* e	315	*	D	
Other machinery	other 333	1,680	7,987	22	41	62	73	8	139	542	108	443	193	146	226	35	60 i	17 i	87 i	1,078	47	12	44	118	4 e	505	9	46	
Computer and electronic products	334	2,300	99,234	31	90	438	807	1,098	1,567	2,222	2	596	45	8,406	1,046	93	122	43	170	6,981	343	192	302	1,930	4 e	303	6	D	
Communications equipment	3342	330	10,870	7	23	82	354	9	250	856	* e	91	17	56	176	2	25	2	53	697	67	1	169	237	*	30	D	D	
Semiconductor and other electronic components	3344	490	47,380	14	18	111	170	1,082	414	945 i	1	159 i	5	7,848	459	43	47	39	58 e	3,601	100	160	37	431	2 e	63 e	2	4	

TABLE 29-B

Companies with domestic R&D paid for and performed by the company, by industry, company size, and state (N-Z): 2022

(Millions of U.S. dollars and number of companies)

Industry and company size	NAICS code	Companies, U.S. total ^a (number)	United States	Nebraska	Nevada	New Hampshire	New Jersey	New Mexico	New York	North Carolina	North Dakota	Ohio	Oklahoma	Oregon	Pennsylvania	Rhode Island	South Carolina	South Dakota	Tennessee	Texas	Utah	Vermont	Virginia	Washington	West Virginia	Wisconsin	Wyoming	Undistributed ^b	
Navigational, measuring, electromedical, and control instruments	3345	990	10,105	8	17	189	229	2	402	116	1 e	291	13	208	299	5	38	*	44	367	129	26	58	264	* e	185	1	7	
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	170	3,959	4	9	43	25	*	251 i	7	*	54	2	4	134	4	5	*	31	31	91	* e	16 i	64	*	10	1	0	
Search, detection, navigation, guidance, aeronautical, and nautical system and instruments	334511	110	2,170	*	1	127	76	* e	24	26	0	37	2	109	28	* e	0	* e	3	34	8	6 i	17	60	0	133	0	1	
Other measuring and controlling devices	other 3345	730	3,976	4	7	19	128	2	127	83	1 e	199 i	10	95	137	1 e	33	*	11	302	30	20	25	139	* e	42	1	6	
Other computer and electronic products	other 334	500 r	30,879	2 i	31	55 i	54	5	501	305	1 e	56	10 i	294	111	43	12	1 i	15	2,317	46	6	38	998	1	26	D	*	
Electrical equipment, appliances, and components	335	510	6,657	2 e	3 e	35	271	1 e	220	203	* e	176	16	108	342	25	84	1 e	54	189	4 e	4 e	32	167	1 e	643	* e	D	
Transportation equipment	336	1,040	46,468	12	145	19	144	103	370	354 i	21	3,205	69	342	662	3	210	8	89	1,443	182	209	609 i	1,361	87	285	* e	D	
Motor vehicles, bodies, trailers, and parts	3361-63	550	30,722	5	130	2	8	1	115	229 i	3	2,605	7	289	221	* e	81	3	61	498	37	* e	18	142	1 e	103	* e	D	
Aerospace products and parts	3364	250	13,786	6	15	16	119	102	245	111	17	588	62	52	233	D	110	2	15	864	136	209	264	1,208	86	40	* e	D	
Aircraft, aircraft engine, and aircraft parts	336411-13	220	9,303	6	15	16	90	5	203	42	*	525	49	52	218	*	101	2	14	722	134	184	229	1,175	83	37	* e	D	
Guided missile, space vehicle, and related parts	336414-15, 336419	40	4,483	*	*	1	30	97	42	69	17	63	13	*	15	D	8	0	1	142	2	24	35	33	3	4	0	D	
Military armored vehicle, tank, and tank components	336992	10	26	0	0	0	0	0	0	2	0	* i	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	D
Other transportation	other 336	230	1,935	1 i	* e	* e	17	0	11	12	1	12	1 e	2 e	208	D	19	3	13	80	9	0	327 i	11 e	* e	141	0	D	
Furniture and related products	337	210	405	* e	* e	* e	2	* e	4	13	* e	10	* r	5	2	3	* e	* e	12	2 i	25	6	1 i	1	* e	9	* e	12	
Miscellaneous	339	1,280	23,032	4	488	100	487	2 e	797 i	317	18	326	6	235	597	165	16	3	193	367	D	4	46 i	440	1 e	565	* e	D	
Medical equipment and supplies	3391	790	20,112	1 e	2 e	86	435	1 e	299 i	294	17	301	5	46	560	12	14	1 e	180	295	272	* e	39 i	237	1	527	* e	D	
Other miscellaneous manufacturing	3399	500	2,921	3	486	14	52	1 e	498 i	23	* e	25	2 e	190	37	153	2 e	2 r	13	72	D	4	6	203	* e	38	* e	10	
Nonmanufacturing industries	21-23, 42-81	14,150	281,060	1,036	638	610	6,083	260	19,351	4,714	149	2,162	1,212	2,341	4,705	112	1,157	72	1,050	12,646	2,262	127	4,573	49,396	67	2,149	48	353	
Mining, quarrying, oil and gas extraction, and support activities	21	140 i	D	1 i	15 i	D	* e	8 i	* e	* e	7 i	* e	105 i	* e	37 i	D	* e	1 i	* e	511	5	D	* e	D	2 i	39 i	D	3	
Utilities	22	50	D	D	0	D	3	0	D	D	D	D	0	*	3	0	0	2	0	D	* i	0	D	D	4	D	4	*	
Wholesale trade	42	1,560	D	7 e	6 e	D	106 i	2 e	67 e	48 i	10 i	77 i	13	17	46 e	D	18	6	36 i	107 e	76 i	D	18 e	D	2 e	24 e	D	D	
Electronic shopping and electronic auctions	454111-12	120	D	6	D	D	172 i	1 i	469 i	14 i	D	53 i	1 i	D	48 i	D	10 i	1 i	5 i	D	52	D	D	D	D	40 i	D	2	
Transportation and warehousing	48-49	60	D	4	5	D	33	*	370 i	19	D	34	1	17	385 i	D	1	*	116	574	5	D	8	1,686	D	10	1	D	

TABLE 29-B

Companies with domestic R&D paid for and performed by the company, by industry, company size, and state (N-Z): 2022

(Millions of U.S. dollars and number of companies)

Industry and company size	NAICS code	Companies, U.S. total ^a (number)	United States	Nebraska	Nevada	New Hampshire	New Jersey	New Mexico	New York	North Carolina	North Dakota	Ohio	Oklahoma	Oregon	Pennsylvania	Rhode Island	South Carolina	South Dakota	Tennessee	Texas	Utah	Vermont	Virginia	Washington	West Virginia	Wisconsin	Wyoming	Undistributed ^b	
Information	51	3,450	181,392	794	391	386	3,157	146	12,396	2,684	88	994	1,007	1,810	2,205	46	985	21	658	6,238	1,612	64	2,344	31,671	18	1,580	24	95	
Publishing	511	1,430	49,674	40	88	154	531	19	1,215	800	79	299	D	729	745	16	D	D	132	1,984	327	28	583	18,887	D	141	8	D	
Newspaper, periodical, book, and directory publishers	5111	40	72	* e	*	1	3	*	4	2	* e	2	*	2	3	1	* e	* e	1 i	4 i	1	*	*	1	* e	3	* e	1	
Software publishers	5112	1,400	49,602	40	87	154	528	18	1,211	799	79	298	D	727	741	15	D	D	132	1,981	327	28	583	18,886	D	137	8	D	
Telecommunications	517	260	3,614	D	3	19	1,397	2	57	95	1 e	8	D	5	10	*	2	D	D	128	5	D	78	388	*	17	1 e	D	
Data processing, hosting, and related services	518	1,490	49,270	514	73	171	603	16	2,564	1,124	D	406	156	460	569	18	271	12	107	1,974	883	23	693	2,403	10	1,352	D	D	
Other information	other 51	280	78,834	D	227	42	627	109	8,559	665	D	281	D	616	881	12	D	D	D	2,152	396	D	990	9,994	D	70	D	D	
Finance and insurance	52	530	17,173	38	49	D	1,046	D	2,907	725	D	437	32	30	272	D	42	D	30 e	1,258	69	D	149 i	D	D	83	D	D	
Real estate and rental and leasing	53	70	2,398	i D	D	D	* e	1 i	213	D	* e	D	* e	D	4 i	* e	* e	* e	1 i	D	3 r	* e	D	D	* e	D	* e	D	
Lessors of nonfinancial intangible assets (except copyrighted works)	533	20	5	i 0	0	0	0	0	0	0	0	0	0	0	* i	0	0	0	0	0	0	0	0	0	0	0	0	0	* i
Other real estate and rental and leasing	other 53	50	2,393	i D	D	D	* e	1 i	213	D	* e	D	* e	D	3 i	* e	* e	* e	1 i	D	3 r	* e	D	D	* e	D	* e	D	
Professional, scientific, and technical services	54	6,420	38,633	126	45	177	1,473	i 90	2,825	1,097	36	462	37 e	225	1,649	29	84	26	140	2,706	389	50	1,341	1,293	33	305	15	91	
Architectural, engineering, and related services	5413	1,240	2,912	9	13	20	44	8	81	90	5	49	7	74	112	5	15	10	38	247	27	5	175	108	19	73	2	41	
Computer systems design and related services	5415	3,150	18,878	18 e	23	56 i	396	19	2,272	765	23	196	19 e	90	244	17	46	10	52	1,897	150	43	723 e	667	11	136 i	4	31	
Scientific research and development services	5417	1,070	9,297	83	2	96	232	60	150	156	7	157	5	41	1,044	4	6	5	16	180	96	1 i	266	364	1 e	56	* i	8	
Research and development in nanotechnology	541713	60	179	* e	* e	*	* e	9	13	1	* e	16	* e	2	6 i	* e	* e	0	* e	33	3	*	3	15	* e	* e	0	*	
Research and development in biotechnology (except nanobiotechnology)	541714	280	2,916	82	* e	90	25	8	52	47	*	9	1	1	642	1	3	5	1	18	2 i	* e	26	155	* e	26	0	1	
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	730	6,176	1 e	2	6	183	43	85	109	7	132	3	38	397	2	2	1 i	15	129	91	1 i	236	194	1 e	30	* i	6	
Research and development in the social sciences and humanities	541720	10	27	0	0	0	24	0	0	0	0	0	0	0	0	* i	0	0	0	0	0	0	1 i	0	0	0	0	0	
Other professional, scientific, and technical services	other 54	980	7,547	17	6 e	5	801 i	2 e	322	86	1 e	59	5 e	20	250	3	18	1	34	381	117	2	177	155	2 e	40	8	11	
Health care services	621-23	270	D	12	D	2	35	3	42	13	* e	14	2 e	14	25	10	3 e	* e	17	291	23	D	31	D	1 e	4 e	1	D	

TABLE 29-B

Companies with domestic R&D paid for and performed by the company, by industry, company size, and state (N-Z): 2022

(Millions of U.S. dollars and number of companies)

Industry and company size	NAICS code	Companies, U.S. total ^a (number)	United States	Nebraska	Nevada	New Hampshire	New Jersey	New Mexico	New York	North Carolina	North Dakota	Ohio	Oklahoma	Oregon	Pennsylvania	Rhode Island	South Carolina	South Dakota	Tennessee	Texas	Utah	Vermont	Virginia	Washington	West Virginia	Wisconsin	Wyoming	Undistributed ^b
Other nonmanufacturing	23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81	1,540	3,300	D	D	D	57	D	D	D	D	D	15	D	31	D	14	D	46	D	31	D	D	D	D	D	D	D
All companies (number of domestic employees)	-	28,450	608,058	1,395	1,471	1,449	20,144	1,514	29,915	11,503	454	10,501	1,820	12,426	17,151	594	2,319	201	2,147	26,151	3,748	614	6,451	55,718	444	6,470	78	703
Small companies																												
10-19 ^c	-	5,390	4,009	8 e	22	23	137 e	16	182 e	96 i	4 e	83 e	12 e	39 i	180	18	30 e	9	32 e	258 e	34 e	2 e	139 e	134	3 e	43 e	2 e	D
20-49	-	7,760	12,788	32 e	41 e	52	432	39	736 e	251	22	336 e	52 e	150	436	33	64 e	15 e	97 e	672 e	154	11 e	362 e	478	10 e	189 e	13 e	53
Medium companies																												
50-99	-	4,880	13,274	25 e	31	49	279	26	453	359	11	363	38 e	127	545	19	71 i	17	73 e	673	134	17	298 e	478	11 e	205	4 e	96
100-249	-	5,010	24,844	116	60	175	612	27	774	467	17	408	45	250	842	41 i	66	20 e	119 e	1,024	321	19	286 e	964	15	405	10	133
Large companies																												
250-499	-	2,090	26,469	150	69	62	381	64	992	561	18	374	39 e	263	968	31	98	18	161	1,243	384	210	461	1,067	23	286	5	117
500-999	-	1,370	29,007	72	75	196	1,274	119	1,451	600	14	414	56	263	918	27	104	20	129	1,458	604	6	398	598	11	488	4	135
1,000-4,999	-	1,400	94,615	295	721	443	2,385	23 i	5,468	2,684	155	1,630	152	763	3,043	258	401	73	250	4,025	925	152	919	4,212	107	954	21	65
5,000-9,999	-	270	54,018	133	17	89	1,296	8	4,792	1,444	14	616	344	948	1,005	6	284	5	202	2,745	191	95	403	3,346	2	1,008	10	D
10,000-24,999	-	210	96,071	43	61	109	5,488	4	4,264	1,307	51	1,062	147	799	2,715 i	39	274 i	10	298	6,037	342	12	393 i	1,870	174 i	2,304	1	D
25,000 or more	-	140	252,964	520	374	252	7,860 i	1,189	10,803	3,734	147	5,215	934	8,823	6,500	122 i	926	12	787	8,016	658	89	2,792	42,572	89	588	8	27

* = amount < \$500,000; D = data withheld to avoid disclosing operations of individual companies; e = more than 50% of value is modeled—see "Technical Notes"; 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 Beginning in survey year 2018, these statistics include an adjustment to the weight to account for unit nonresponse; beginning in survey year 2019, these company count estimates reflect a change in rounding methodology.

^b Includes data reported that were not allocated to a specific state by multi-establishment companies. For single-establishment companies, data reported were allocated to the state in the address used to mail the survey form.

^c 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. For a given estimate in this table, if the conditions are satisfied for the "i," "r," and "e" flags, the e flag is assigned because the imputation rate and relative standard error may be found in the corresponding tables of imputation rates and relative standard errors (available from the Survey Manager upon request).

Source(s):

National Center for Science and Engineering Statistics and Census Bureau, Business Enterprise Research and Development Survey, 2022.