

TABLE 29-B

## Companies with domestic R&amp;D paid for and performed by the company, by industry, company size, and state (N-Z): 2021

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

Industry and company size	NAICS code	Companies, U.S. total <sup>a</sup> (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 <sup>b</sup>
All industries	21-23, 31-33, 42-81	29,860	527,804	1,004	757	1,461	20,091	1,351	23,939	9,812	330	7,814	969	10,954	14,541	689	1,601	213	1,802	24,495	3,730	434	6,330	47,644	435 i	5,723	88	712
Manufacturing industries	31-33	14,980	287,666	311	274	947	14,456	1,110	8,749	5,805	175	5,975	613	8,953	11,010	623	1,164	155	1,104	13,615	1,639	233	1,806	5,506	369 i	3,736	47	375
Food	311	880	4,963 - 4,968	60	3 e	13	232	0 - 247 e	60	132	4	156	80	18	91	1 e	13	4	44	45	10	5	88	48	* e	110	* e	0 - 242
Beverage and tobacco products	312	190	1,228	* e	* e	* e	1 e	0 - 24 r	323	84	* e	* e	1 i	1 e	3	* e	* e	* e	* e	206	* e	* e	116	57	* e	12	* e	0 - 24
Textile, apparel, and leather products	313-16	300	818	* e	* e	3	23	* e	29	61	* e	89	2	18	9	1 e	63	* e	3 e	8	8	5	1 e	14	* e	20	* e	0 - 30
Wood products	321	150	433 - 442	1 e	1 e	2 e	2 e	0 - 39 e	15 r	19	6	10 e	1 e	16	13 e	* e	7	1 e	9 e	29	2 e	1 e	17	12	2 e	20	* e	0 - 39
Paper	322	120	1,139	1	*	2	21	* e	31	36	*	18	1	* i	23	3	205	* e	9	16	* r	1	117	15	* e	358	* e	8
Printing and related support activities	323	170	196 - 205 i	* e	2 i	* i	1 i	* e	6	7	* e	2 i	* e	2	15	* e	5 i	* e	12	12	2 i	* r	* i	4	3 i	12	* e	0 - 26
Petroleum and coal products	324	110	952	* e	1	* e	310	* e	* e	* e	0	5	49	2	7	* e	9	* e	* e	448	5	0	1	* e	* e	2	0	9
Chemicals	325	2,120	97,097	93	20 i	64	11,770	15	4,044	2,077	5	2,705	22	82	8,085	245	268 i	37	331 i	1,229	451	17	425 i	1,752	331 i	547	2	19 - 207
Basic chemicals	3251	240	2,559	20	* e	2	87	1 e	195	18	* e	247	14	6	208	2	12	31	249 i	181	15	0	115	16	11	36	*	9
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	120	1,291 - 1,320 i	* e	0 - 3	0 - 10 r	11	0	40 i	8	0	310	0 - 6 r	7	108	0 - 5	3	0	7	294	0 - 6 r	* e	14	4	29	4	0	0 - 47
Pesticide, fertilizer, and other agricultural chemicals	3253	100	915 - 946	2	* e	* e	15 - 223	* e	4	179 - 387	*	37	* e	2	2 e	0	*	1	1 i	8	* e	* e	6	8	* e	38	0	6
Pharmaceuticals and medicines	3254	1,110	88,524	67 i	18 i	54	11,192	14	3,585	1,640	5	702	3	54 i	7,619	240	235 i	1	62	678	431	13	285 i	1,720	290 i	445	1	0 - 164
Soap, cleaning compound, and toilet preparations	3256	290	2,531	2	* e	* e	260 i	* e	212 i	27	0	1,203	1	2	10	0 - 5 i	2 i	* e	5	46	1 e	4	1 e	2	1 e	9	0	0 - 26
Paint, coating, adhesive, and other chemicals	3255, 3259	300	1,242 - 1,252	1 r	0 - 3 i	0 - 10	0 - 207	* e	8	0 - 207	0	207	0 - 6 i	11	138	*	16	4	6	24	0 - 6	* e	6	1	* e	15	* e	0 - 193
Plastics and rubber products	326	880	2,961	12	1 e	15	21	0 - 51 i	106	103	* e	350	52	3 e	168	13	47	4	25	122	4	* e	21	11 i	6	152	1	0 - 51
Nonmetallic mineral products	327	340	1,503	1 e	1 e	1 e	31	0 - 36 e	948	35	* e	37 i	2 e	4	35	* e	7	* e	5 e	13 e	1 e	2 r	6	5	1 e	13	* e	0 - 36
Primary metals	331	250	887 - 890	* e	* e	8	4	0 - 37	8	9	* e	27	1	22	128	1	2	2	8	339	1	1 i	2	2 i	1	31	* e	0 - 37

TABLE 29-B

## Companies with domestic R&amp;D paid for and performed by the company, by industry, company size, and state (N-Z): 2021

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

Industry and company size	NAICS code	Companies, U.S. total <sup>a</sup> (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 <sup>b</sup>	
Fabricated metal products	332	2,160	3,879	14	16	59	327	12	125	82	5	243	24	43	139	7	57	4	54	334	22	2	28	36	6	219	2	54	
Machinery	333	2,090	16,726	79	40	61	157	7	605	432	147	456	243	734	336	36	215	26	106	1,676	66	11	110	141	5	739	9	39	
Agricultural implement	33311	140	1,799 - 1,807	60	1	*	2	* e	4	34	55	72	0 - 110	2 i	0 - 110	0	3	5	4	6	7	0	* e	21	0	65 i	* e	0 - 39	
Semiconductor machinery	333242	50	5,182	0	1	*	50 i	0	98 i	0	0	* e	0	578	14 i	0	0	0	0	469 i	0	0	0	0	0	0	0	0	1
Engine, turbine, and power transmission equipment	3336	80	1,239 - 1,246	*	3	1	*	0	337	13	1	56	4	1	20	2	132	*	1	23 i	* e	0	55	17	*	284	2	0 - 24	
Other machinery	other 333	1,830	8,499	19	35	59	105 i	7	166	385	91	327	128 - 240	153	191 - 304	34	80	21	102	1,178	59	11	55	103	5 e	390	7	0 - 39	
Computer and electronic products	334	2,040	94,211	19	53	622	810	769 - 1,037	1,681	2,052	4	652	73	7,302	865	74	132	66	140	7,210	390	167	326	1,414	6	228	6	0 - 242	
Communications equipment	3342	270	11,339	6	22	99	371	14	407 i	771	1	91	15	72	174	6	33	2	55	650	105	3	173	193	2	24	0 - 4	0 - 32	
Semiconductor and other electronic components	3344	610	45,516	6	8	152	166 i	109 - 1,024	355	721 i	*	109 i	0 - 24 e	6,776	264	34	50	29	17	3,546	49	134	19	287	0 - 5 e	29	0 - 4 e	0 - 242	
Navigational, measuring, electromedical, and control instruments	3345	940	10,014	4	3	258	208	0 - 545	339	180	1	387	36	206	295	0 - 36 e	38	32	47	337 i	140	21	84	187	0 - 5 e	133	3	0 - 242	
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	180	2,837	0 - 4	0 - 3 i	103	11	0 - 19	81	6	0	57	2	4	86	0 - 19 e	6	0 - 19 e	37	8	82	2 r	6	61	0	7 i	*	0 - 19	
Search, detection, navigation, guidance, aeronautical, and nautical system and instruments	334511	180	2,109	1	1	136	61	0 - 545	65	0 - 175	0	53	25	0 - 203	33	0 - 36 e	*	*	*	51	2	*	47	29	0 - 5	0 - 127	* e	0 - 242	
Other measuring and controlling devices	other 3345	600	5,068	0 - 4	0 - 3	18	136	0 - 545	194	0 - 175	1	277	9	0 - 203	176	0 - 36 e	33	12 - 33	10	279 i	57	19	31	97	0 - 5 e	0 - 127	3	0 - 242	
Other computer and electronic products	other 334	240	27,342	3 i	20	113 i	65	0 - 311 i	579 i	380	1 i	65 i	0 - 24 i	248	132	0 - 36 i	11 i	2 i	21 i	2,676 i	96	8	50	747	0 - 5 i	42	0 - 4	0 - 242	
Electrical equipment, appliances, and components	335	570	5,007	1 e	2 e	8	196	* e	109	158	* e	142	15	104	298	9	26	* e	27	155	1 e	1 e	17	163	1 e	552	26	5	
Transportation equipment	336	1,080	34,405	24 i	12	17	86 i	41	327	248 i	3	743	36	389	263	11 i	94	7	107	1,432 i	200 i	8	468 i	1,335	8 i	295	0 - 5 e	1 - 48	
Motor vehicles, bodies, trailers, and parts	3361-63	530	22,754	3	2	4	2	1	125	220 i	0 - 4	329	9	322	80	0 - 12 e	71	1	77	215	38	* e	32	156	* e	125	* e	0 - 46	

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Aerospace products and parts	3364	320	9,900	20 i	10	12 i	71 i	41	200 i	15	0-4	404	26	65	117	0-12 i	8	0-7	19	1,197 i	158 i	8	148 i	1,174	7 i	20	0-5 e	0-46	
Aircraft, aircraft engine, and aircraft parts	336411-13	300	9,293	20 i	10	12 i	70 i	40	196 i	15	0-4	395	23	0-66	113	0-12 i	7	0-7	15	1,154 i	158 i	8	133 i	991-1,175	7 i	20	0-5 e	0-46	
Guided missile, space vehicle, and related parts	336414-15, 336419	30	608	0	* i	0	1	1	3	1 i	0	8	3	0-66	3	0	1	0	4	44	0	*	15	0-182	0	0	0	0	
Military armored vehicle, tank, and tank components	336992	20 r	20-24	0	0	0	0	0	0	0-7 i	0	0-7 i	0	0	0-7 e	0	* e	0	0	0	0	0	0	0	0	0	0	0	0-7
Other transportation	other 336	220	1,726-1,731	1 e	1	1 e	12	0	3 e	5-14 i	0	2-12	1 r	2 e	58-68 i	0-12 e	14 i	0-7	11 i	20	4	* e	288 i	6 e	* e	150	0	2	
Furniture and related products	337	220	423	* e	* e	* e	1 i	* e	2	26	* e	10	* e	5	7	* e	* e	* e	15	6	22	3	10	2	* e	9	* e	0-28	
Miscellaneous	339	1,400	20,822	8	121 i	72	464	0-35 e	330 i	243	* e	331	11	210	523	221	13	2 e	211 i	335	453	8	54	495	1 e	416	0-5 e	0-35	
Medical equipment and supplies	3391	780	18,204	1 e	3	15	420	0-25 e	224 i	216	* e	296	9	22	479	21	9	1 e	202 i	266	297	3 r	37	297	* e	380	0	0-25	
Other miscellaneous manufacturing	3399	620	2,618	7	118 i	57	45	0-32 e	106	27	* e	35	2 e	187	45	201	4 e	1 e	8	69 i	156 i	5	17	198	* e	36	0-5 e	0-32	
Nonmanufacturing industries	21-23, 42-81	14,890	240,138	693	483 i	513	5,636	241	15,190	4,007	155	1,840	356	2,001	3,531	66	437	59	698	10,880	2,091	201 i	4,524	42,138	67	1,987	41	337	
Mining, quarrying, oil and gas extraction, and support activities	21	170 i	1,077-1,151	* e	0-82 i	* e	* e	19 r	* e	0-82	16 i	0-82 e	77 i	* e	20 i	* e	* e	0-10 i	* e	753	6	* e	0-82 e	1 e	0-17 i	11 i	0-12 i	0-82	
Utilities	22	40	133-17,961	0	0	0-10	0-363	0	0-637	0	0-22	0-169	0	*	0-60	0	0	0	0	0-508	0-45	0	0-1,322	0-13,910 i	0-17	0-147	0-12	*	
Wholesale trade	42	1,720	1,661-1,770	i	9	11	3 e	47 e	1 e	82 i	45 i	0-22 i	74 i	6 e	21 i	41 e	2 e	33 i	7	83 i	153 i	8 e	1 e	24 i	27	1 e	39 i	0-12 e	0-155
Electronic shopping and electronic auctions	454111-12	180	5,931-24,034	i	* e	0-212 i	9 i	0-363 i	1 i	0-637 i	36 i	1 i	0-169 i	1 i	0-402 i	95 i	1 i	0-40 i	1 i	8 i	672 i	55	* e	0-1,322 i	0-13,910 i	2 i	0-147 i	* e	1
Transportation and warehousing	48-49	80	7,198-7,200	9	6	1 e	18	2	286 i	17	1 e	35	3 e	15	293 i	* e	3	* e	102	1,060	5	* e	19 r	1,098	1	16	1	0-155	
Information	51	3,380	146,488	521	149	314	2,682	100	9,149	2,347	82	658	177	1,266	1,626	32	193	22	346 i	4,074	1,618	56	1,411	25,943	8	1,210	20	99	
Publishing	511	1,410	38,521	28	43	149	343	15	843	1,133	76	398	21	523	464	16	33	12	42	1,119	470	31	378	16,237	3	951	10 r	15	
Newspaper, periodical, book, and directory publishers	5111	60	81	* e	* e	1 i	1	* e	3	2 i	* e	2 i	* i	3 i	2	* i	* e	* e	1 i	4	* e	* i	* e	1	* e	3	* e	4	
Software publishers	5112	1,350	38,441	28	43	149	341	15	840	1,131	76	396	20	520	462	15	33	12	41	1,115	470	31	377	16,236	3	947	10 r	11	

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Telecommunications	517	160	3,736 - 3,805	1 e	3	4	1,527	0 - 86	298	59	0 - 5 e	6	3	5	7	0 - 5	0 - 58	1 e	5	60	7	0 - 7	66	346	0 - 3	16	0 - 9 e	0 - 85	
Data processing, hosting, and related services	518	1,660	44,585	409	57	126	412	0 - 86	2,288	938	3	168	138	492	431	13	104	5	231 i	1,674	862	20	682	2,273	4	203	3	0 - 85	
Other information	other 51	180	59,577 - 59,647	84	46	34	401	0 - 86	5,720	217	0 - 5	86	14	246	724	0 - 5	0 - 58 i	4	68	1,221	279	0 - 7	285	7,087	0 - 3	40	0 - 9	0 - 85	
Finance and insurance	52	530	20,902	43	64	13	1,106	1 e	2,643	532	1 e	462	37	30	380	4	68	2 e	17	1,134	114	2	616	156	1 e	308	1 e	3	
Real estate and rental and leasing	53	50	2,095 - 2,097	0 - 34	0 - 212	* e	1	1	216 i	8	* e	10	* e	0 - 402	3	* e	* e	* e	1	10	7	* e	0 - 484	0 - 484	* e	* e	* e	2	
Lessors of nonfinancial intangible assets (except copyrighted works)	533	10	5 - 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 - 3
Other real estate and rental and leasing	other 53	40	2,087 - 2,091	0 - 34	0 - 212	* e	1	1	216 i	8	* e	10	* e	0 - 402	3	* e	* e	* e	1	10	7	* e	0 - 484	0 - 484	* e	* e	* e	0 - 3	
Professional, scientific, and technical services	54	6,290	32,083	74	44	167	1,408 i	109	2,085	923	36	430	38 e	266	1,003	21	103	20	110	2,501	233	140 i	1,123	1,000	40	247	10	80	
Architectural, engineering, and related services	5413	1,260	2,553	6	10	22	71	7	90	67	3 e	43	8 e	95	102	6	13 e	13 i	30	231	23	89 i	101	75	3 e	38	2 e	34	
Computer systems design and related services	5415	3,220	17,188	11 e	24	56 i	402	20	1,681	660	25	235	18 e	99	182	7 e	50	5	39 e	1,723	61	44	707	551	9 e	153 i	7	25	
Scientific research and development services	5417	1,020	6,123	34	2	82	166	79	94	135	6	86	4	58	567	4 i	23	2	4	110	62	1	128	243	26	10	1 i	10	
Research and development in nanotechnology	541713	60	154	* e	* e	* e	* e	3	14	* e	0	5	* e	3 i	* e	* e	* e	2	* e	15	* e	1	4	53 i	* e	* e	0	0	
Research and development in biotechnology (except nanobiotechnology)	541714	240	1,664	31	*	70	33	* e	23	58	*	9	4	8	37	* e	6	0	1	11	20	0	9	53	*	7	0	3	
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	720	4,266	3	1	11	126	76	55	76	6	68	*	47	530	4	17	*	3 i	84	42	* i	115	134	26	3 e	1 i	7	

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Research and development in the social sciences and humanities	541720	20	38	0	0	0	6	0	2	0	0	4	0	0	0	* i	0	0	0	0	0	0	0	3	0	0	0	0	
Other professional, scientific, and technical services	other 54	800	6,218	24	8 e	7	769 i	2 e	220	62	1 e	65	8 e	15	153	4	17	1 e	37	436	87	6	186	131	2 e	46	1	11	
Health care services	621-23	550 r	1,965 - 2,043	7	* e	* e	15	* e	96	19	* e	6	1 e	5	15	* e	1 e	* e	3	20	5	* e	13	7	* e	13	* e	0 - 78	
Other nonmanufacturing	23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81	1,960	2,501 - 3,136	0 - 34	0 - 212 e	0 - 10 e	0 - 363	6 e	0 - 637 e	0 - 85	0 - 22 e	0 - 169	17	0 - 402	0 - 60 e	5	0 - 40 e	0 - 10	28	0 - 508	0 - 45	1 e	0 - 1,322 e	0 - 2,947	0 - 17 e	0 - 147	0 - 12	0 - 155	
All companies (number of domestic employees)	-	29,860	527,804	1,004	757	1,461	20,091	1,351	23,939	9,812	330	7,814	969	10,954	14,541	689	1,601	213	1,802	24,495	3,730	434	6,330	47,644	435 i	5,723	88	712	
Small companies																													
10-19 <sup>c</sup>	-	5,250	4,258	15 e	16 e	30	270	12	206	93 e	5 e	93 e	14 e	47 e	133 e	9 e	25 e	9	34 e	234 e	50 e	5 e	130 e	137	5 e	53 e	8 r	16	
20-49	-	8,700	12,626	29 e	62	52 e	414	97	560 e	350	20 e	360 e	68 e	127 e	580	30 e	57 e	13 e	90 e	737 e	150	17 e	351 e	404	15 e	190 e	9 e	79	
Medium companies																													
50-99	-	5,520	12,488	26 e	52	48	283	21	421	211	10 e	261	41 e	170	679	14 e	97	13	86 e	657	146	28	208 e	535	12 e	201	12	95	
100-249	-	5,330	20,030	71	57	140	567	64	780	355	19	439	49	282	555	33	54 e	13	141 i	1,093	234	100 i	358	596	13	242	7	183	
Large companies																													
250-499	-	1,970	20,574	60	46	61	551	0 - 135	952	361	11	274	29	295	780	9	102	23	108	1,293	366	22	244	867	5	286	2	0 - 135	
500-999	-	1,230	23,655	91	69	183	823	47	1,300	706	9 i	503	44	105	287	16	77	16	133	1,478	528	13	126	447	5	381	9	142	
1,000-4,999	-	1,300	83,609	194	155 i	476	1,603	17	3,825	1,921	117	1,245	357	774	1,947	250	233	105	141	3,226	1,058	93 i	974	4,338	51	801	32	0 - 80	
5,000-9,999	-	260	53,873	121	6	123	805	0 - 178	3,391	1,847	31	642	127	887	1,111	15	337	4	219 i	3,104	221	85	925	1,770	0 - 157 i	1,016	5	0 - 178	
10,000-24,999	-	200	84,057	43	50	77 i	6,508	9	3,902	1,070	1	878	138	702	2,319 i	246	303 i	4	486 i	4,590	420 i	8	422 i	1,358	177 i	2,124	*	2 - 193	
25,000 or more	-	130	212,634	356	244 i	272	8,268	906 - 1,088	8,603	2,898	106	3,118	103	7,564	6,150	68 i	316	14	362	8,082	557	64	2,591 i	37,192	0 - 157 i	428	4	0	

\* = amount < \$500,000; 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.

<sup>a</sup> 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.

<sup>b</sup> 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.

<sup>c</sup> 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). 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.