

TABLE 29-A

## Companies with domestic R&amp;D paid for and performed by the company, by industry, company size, and state (A-M): 2020

(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	Alabama	Alaska	Arizona	Arkansas	California	Colorado	Connecticut	Delaware	District of Columbia	Florida	Georgia	Hawaii	Idaho	Illinois	Indiana	Iowa	Kansas	Kentucky	Louisiana	Maine	Maryland	Massachusetts	Michigan	Minnesota	Mississippi	Missouri	Montana
All industries	21-23, 31-33, 42-81	28,720	466,162	1,329	43 e	4,899	360	175,459	6,042	6,487	1,688	509	5,762	4,426	216	2,139 i	13,415	7,202 i	2,664	1,956	852	475	385	3,964	27,704	18,507	7,421	244	4,581	224
Manufacturing industries	31-33	15,420	264,596	859	10	3,975	244	82,147	3,552	5,692	1,441	61	2,995	2,273	145	1,853 i	10,257	6,780 i	2,278	1,339	649	271	265	2,515	21,060	17,191	5,671	188	3,558	95 i
Food	311	970	4,985	25	1 e	4	45 i	218	45	28	439 i	* e	32	24	105	69	804 i	259	839 i	86	24	4 e	1 e	71	21	166	396	5	64	3
Beverage and tobacco products	312	240	1,056	* e	* e	1 i	* e	51	7	10	* e	* e	16	90	* e	* e	88	* e	* e	* e	47	* e	1 i	1	5	3	1 e	* e	* e	* e
Textile, apparel, and leather products	313-16	230	812	6	* e	1	2	331	*	* e	* e	* e	24	99 i	*	* e	6	* e	1 i	1	*	* e	1 i	* e	8	13	5	* e	3 i	* e
Wood products	321	130	183	1	* e	*	1	21	*	* e	* e	0	2	6	* e	3	1 i	2	22	* i	* e	1	*	* e	* e	1 i	41	1 i	* e	* e
Paper	322	100	927	16	0	1	19	10	1	4	* e	0	24	35	0	*	36	1 i	1	10	16	5	12	*	21	10	8	1	1	* e
Printing and related support activities	323	210	282	* e	* e	2 i	*	65 i	11	* e	* e	* e	1 e	* e	* e	* e	5 i	* e	1 i	* e	1 i	* e	* e	* e	36 i	6	29	* e	6	* e
Petroleum and coal products	324	100	1,222	2 e	* e	1 e	2 e	19	8	1 e	* e	0	7 e	5 e	0	* e	33	13	* e	9	12	3 e	1 e	11	5	2 e	6	3	7 e	0
Chemicals	325	2,450	89,403	148	3	287	35 i	21,072	350	4,808	808	29	551	392	7	11	4,231	4,174 i	232	212	202	72	16	1,298	13,856	926	398	13	2,152	5 e
Basic chemicals	3251	300	2,523	26	0	4 e	7	111	10	69	108	0	7	96	* e	1 e	46	20	118	45	17	54	* e	78	67	22	5 e	6	21	* e
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	150	1,161	1 e	0	2	*	40	* e	1 e	16	0	4	36	0	* e	18	7	4	* e	17	8	3	* e	7	233	5	* e	1	* e
Pesticide, fertilizer, and other agricultural chemicals	3253	130	775	2	0	9	1	40	6	* e	146	0	9	5	4	2	6	2	5	1	1	1	* e	1 e	* e	18	3	2	13	1
Pharmaceuticals and medicines	3254	1,190	80,858	111	3	256	25 i	20,529	314	4,602	538	29	512	222	2 e	5	3,958	4,120 i	86	97	34	4	11	1,217	13,670	598	184	4	2,074	3 e
Soap, cleaning compound, and toilet preparation	3256	340	2,476	1 e	0	1 e	1 e	197	2 e	34	* e	0	12	13	* e	3	146	3 e	3	65 i	* e	* e	* e	1 e	67	2 e	131	* e	11	* e
Paint, coating, adhesive, and other chemicals	3255, 3259	370	1,610	7	* e	17	1	155	18	103	* e	0	7	19	1	*	57	22	16	3	133	5	1	2	45	54	70	1	33	1 i
Plastics and rubber products	326	1,020	2,607	16	* e	59	7	161	91	70 i	1 i	0	62	78	* e	3 i	93	117	16	10	57	53	1 e	4	28	167	80	8	13	* e
Nonmetallic mineral products	327	240	1,619 i	3 i	* e	0-80	* e	104	32	1 i	* e	* e	45	5	* e	* e	28	5	1 e	1 e	16	1 e	* e	6	47	20	20	20	3	* e
Primary metals	331	270	795	10	0	4	6	19	3	4	* e	0	2 e	10	0	* e	19	66	11	1 e	12	1 e	* e	5	25	61	27	13	4 e	1 e
Fabricated metal products	332	2,250	3,336	20 e	1 e	60	8 e	424	37	106 i	4 e	* e	73	132	* e	6 e	203	111	21 e	44	36	30 e	4 e	31	73	145 e	88	9 e	84	2 e
Machinery	333	2,050	15,071	27	* e	139	37	3,473	45	113	1 e	0	160	140	1	41 i	1,532	293	757	139	61	43	8 e	179	587 i	512	441	17 i	131	59 i

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## Companies with domestic R&amp;D paid for and performed by the company, by industry, company size, and state (A-M): 2020

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Agricultural implement	33311	160	1,760	1	0	20	2	72	3	* e	0	0	*	31	0	3	410	3	710	60	* e	10	0	* e	0	5	94	* e	1	* e
Semiconductor machinery	333242	60	4,121	0	0	75	0	2,755	1 i	0	0	0	10	0	0	26 i	0	2	0	0	0	0	0	1 i	289 i	0	7 i	0	0	57 i
Engine, turbine, and power transmission equipment	3336	90	1,523	* e	0	1	* e	47	* e	7	0	0	32	17	0	* e	40	21	1 i	* i	* e	13	1	7	23	27	11	* e	9	* e
Other machinery	other 333	1,760	7,667	26	* e	43	35	599	41	105	1 e	0	117	92 i	1	12	1,081	267	46	78	61	20	7 e	171	275	480	329	16 i	121	1 e
Computer and electronic products	334	2,090	88,505	138	2	3,022	32	45,344	2,139	172	159 i	29	1,248 i	651	28	1,696 i	1,159	144	286 i	558	28	19	49	236	3,642	263	1,027	11	81	16
Communications equipment	3342	360	11,107	92	0-2	110	6	4,885	240	35	86 i	23	621 i	275	15	49	587	48	0-15	0-99	9	6	4	153	346	110	69	6	51	3
Semiconductor and other electronic components	3344	530	40,801	23	1 i	2,252	10 i	20,297 i	1,034 i	21	5	2 i	113	188 i	*	1,539 i	183 i	42	56	0-415 e	14 i	0-11 i	27	42	1,427	52 i	231 i	* e	8	6
Navigational, measuring, electromedical, and control instruments	3345	1,000	11,012	7	0-2 e	619	15	3,476	348	113	67	*	188	115	8	0-110	226	37	217 i	144-479	4 i	3 e	16	28	1,229	77	400	5	18	5
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	180	2,606	* e	0	30	0	1,370	16	26	* e	0	76	3 i	0	*	40	13	1 e	* e	0	* e	* e	2 i	425	5	57	0	* e	* e
Search, detection, navigation, guidance, aeronautical, and nautical system and instrument	334511	130	3,561	6	0	0-590	0	334	54	12	0	0	49	36	* e	* e	0-187	6	0-217 i	139-475	*	1 e	0-17	8	343	4	95	2	9	1
Other measuring and controlling device	other 3345	700	4,844	1 e	0-2 e	0-590 i	15	1,772	278	75	67	*	63	77	7	0-110	0-187	18	0-217 i	4	4 i	3 e	0-17	18	461	67	249	3	9 i	4
Other computer and electronic products	other 334	210	25,585	15	0	41	1	16,685	516	3	1	4	326 i	73 i	5	0-110 i	163	18	0-15	0-232	1	0-11	2	13	640	25	326	*	4	2
Electrical equipment, appliances, and components	335	640	4,492	28	0	13	3 e	1,164	25	65	* e	*	28	102	0	4 i	292	32	26	12	7	6	6	17	493	436	70	8	56	1 i
Transportation equipment	336	900	30,232	350	1 i	204	24	4,411	480	202	3	1	435	262	1	7	679	1,059	20	237	107	28	11	437	138	13,403	424	63 i	861	2
Motor vehicles, bodies, trailers, and parts	3361-63	470	19,522	198	1 i	113	1 e	2,402 i	13	10	* e	0	13	53	*	3	546	892	9	2	92	* e	* e	51	33	13,154	107	39 i	30	2

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Aerospace products and parts	3364	310	9,111	131	* e	78	23	1,905	447	179	3	1	376	50	*	4	91	141	9	228	1	24	6	332	100	84	33	23	825	1 e
Aircraft, aircraft engine, and aircraft parts	336411-13	280	8,281	80	* e	66	22	1,465	317	160	3	1	351	49	*	4	88	141	7	228	*	24	2	331	95	63	33	13	822	1 e
Guided missile, space vehicle, and related parts	336414-15, 336419	40	831	51	0	12	*	440	130	18	0	*	25	1	0	0	3	0	3	*	1	0	4	1	5	21	*	10	3	0
Military armored vehicle, tank, and tank component	336992	10	4	* e	0	1 i	0	* i	0	0	0	0	0	0	0	0	0	0	* e	0	0	0	0	1	0	* e	0	0	0	0
Other transportation	other 336	130	1,594	20	* e	12	1 e	104	20	13	* e	0	46	159	* e	* e	42	25	1	7	13	3 e	5 i	54 i	5	165	284	1	7	* e
Furniture and related products	337	240	492	3	* e	4	* e	58	28	2	* e	* e	3 e	20	* e	1 e	9	15	6	* e	4	* e	* e	1 e	14	116 i	17	10	1 e	* e
Miscellaneous	339	1,420	18,576	66	* e	101 - 181 i	20	5,199	250	105	24	2	283	223	1 e	11	1,038	486	38	17	20	6 e	155	216	2,060	941	2,593	6 e	91	5
Medical equipment and supplies	3391	830	15,944	58	* e	102 i	9 e	4,591	216	54	21	2	240	187	1 e	3 e	916	473	6 e	8 e	6 e	3 e	154	209 i	1,959	855	2,566	5 e	81	1 e
Other miscellaneous manufacturing	3399	600	2,632	9	* e	0 - 80	11	607	34	50 i	3 i	0	44	35	* e	8	122	13	33	9	14	3 e	1 e	7	101	85	27	1 e	10	5
Nonmanufacturing industries	21-23, 42-81	13,310	201,566	470	33 e	923	117	93,313	2,491	795	247	449	2,767	2,152	72	286 i	3,157	422	386	618 i	203	203	120	1,448	6,644	1,316	1,750	57	1,023 i	129
Mining, quarrying, oil and gas extraction, and support activities	21	280	1,121	* e	1	20	* e	155	6 e	5 i	* e	0	* e	26 i	* e	* e	7	1 e	* e	6 i	1 e	16 i	* e	* e	* e	1 e	* e	3 i	* e	1 e
Utilities	22	50	224	21	0	*	2	23 i	25	*	1	1	0	20	*	*	10	0	3	2	*	7	0	5	7	4 i	1	2	1	
Wholesale trade	42	1,100	1,001	5 e	1 i	15 i	3 e	165 i	18 i	15 i	1 e	* e	22 e	30	16 i	2 e	85 i	9 e	26	19 i	5 e	8 e	1 e	7 e	12 e	28	23 i	2 e	21	1 e
Electronic shopping and electronic auctions	454111-12	90	3,837 - 19,343 i	1 i	* e	0 - 123 i	* e	3,684 i	0 - 240 i	6 i	2 i	4 i	31 i	0 - 92 i	* i	1 i	24 i	16 i	1 i	1 i	0 - 46 i	* e	* e	4 i	0 - 837 i	135 i	0 - 213 i	* e	3 i	* i
Transportation and warehousing	48-49	50	4,954 i	1 e	* e	2 e	2	3,173 i	5	1 e	* e	*	30	4	9	1 i	17	3	1 e	8	1 e	1 e	* e	0 - 325	4	3 e	0 - 213	* e	24	* e
Information	51	3,740	128,350	262	22 e	391	68	67,390	1,551	507	34 e	300	1,718	1,455	19	60	1,219	221	250	147	90	59 e	40	565	3,689	751	605	21	192	53
Publishing	511	1,630	34,516	78	2	165	26	8,327	401	0 - 110	10 e	24 e	455	276	9	21	306	114	33	51	8	6 e	14	169	1,462	411	260	2	50	9
Newspaper, periodical, book, and directory publishers	5111	30	60	*	* e	*	* e	8	1	0 - 12	* e	* e	4	1	*	*	1 i	1	* e	*	* e	*	*	7	10	1 i	*	* e	1	* e
Software publishers	5112	1,610	34,456	78	2	164	26	8,319	401	0 - 110	10 e	24 e	451	275	8	21	304	114	33	50	8	6 e	14	162	1,452	410	260	2	50	9

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Telecommunications	517	130	3,371	3 e	3	25	1 e	357	96	0-91 e	2	0-91 e	462	68	0-2 e	1 e	56	3	2 e	3 e	1 e	6	1 e	11	23	6	5	0-10 e	7	1 e
Data processing, hosting, and related services	518	1,640	41,105	115	16 e	196	40	23,496	673	190	21 e	144	731	986	10	36	549	95 e	107	89	78	45 e	23 i	371 e	1,559	293	324	11 e	124 e	43
Other information	other 51	350	49,358	66	* e	5 e	1 e	35,210	381	115-318	* e	39-134	71	124	0-2 e	2	309	9	108	4 i	3	3 e	3	14	645	42	16	0-10	11	1 e
Finance and insurance	52	220	12,204	6 i	* e	130	1 i	4,563	45	95	176	3	355 i	92	*	1	948	3	22	7	35	1 e	31	108	199	76	244	*	21	4
Real estate and rental and leasing	53	60	3,249	* e	* e	2	* i	2,577	8	*	* e	1	1	4	* e	* e	7	* i	* i	* e	* e	* e	* e	* e	* e	1	3	* e	* e	* e
Lessors of nonfinancial intangible assets (except copyrighted works)	533	20	7	0	0	0	0	2	0	0	0	0	0	0	0	0	0	* i	0	0	0	0	0	0	0	0	0	0	0	0
Other real estate and rental and leasing	other 53	40	3,242	* e	* e	2	* i	2,574	8	* e	* e	1	1	4	* e	* e	7	* e	* i	* e	* e	* e	* e	* e	* e	1	3	* e	* e	* e
Professional, scientific, and technical services	54	6,070	28,322	155	7 e	238	33	9,936	584 i	128	26	130 i	530	427	22	214 i	673	131	49	396 i	28 e	83	43	436	1,691	319	663	24	739 i	66
Architectural, engineering, and related services	5413	1,180	2,214	65	4	28	3 e	347	65	42	3	8	78	49	9	18	82	34	13	29	7	31	24	80	81	74	28	6	64	11
Computer systems design and related services	5415	2,570	14,293	70	3 e	168	18	3,841	378 i	53	17	26 e	267	281	9	42 i	285	54	22	340 i	17 e	16 e	6 e	163 e	777	114	482	8	653 i	15 i
Scientific research and development services	5417	1,280	6,246	14 e	*	29	5 i	3,601 i	67	9 i	4	1 i	91	11	2	2 i	45 i	30	7	12	1 i	7 i	13 i	155	647 i	69	69 i	7	11	39
Research and development in nanotechnology	541713	90 i	126 i	* e	0	* e	* e	44 i	2 i	* e	* e	* e	* e	* e	0	0	2 i	* e	* e	* e	* e	* e	* e	* e	1 i	11 i	* e	* e	1	* e
Research and development in biotechnology (except nanobiotechnology)	541714	270	1,176	* e	0	2	* e	508	4 i	1 i	2	* e	6	6	0	0	16	19	5	* e	* i	6 i	1 i	72	146	*	11	* e	* e	* e

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Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	920	4,906 i	13 e *		27	5 i	3,020 - 3,051 i	61	7 i	2 i	* e	85 i	5 i	2	2 i	0 - 29 i	10	1 e	12	1	1 e	12 i	83	500 i	58	58 i	7	11	39	
Research and development in the social sciences and humanities	541720	20	38	0	0	0	0	0 - 28	0	0	0	1 i	0	0	0	0	0 - 28 i	0	0	0	0	0	0	* i	0	0	0	0	0	0	
Other professional, scientific, and technical services	other 54	1,060	5,570	6	1 e	13	6	2,146	74	24	2 e	94 i	94	87	1	152 i	260	13	7	15	3 e	29	1 e	37	186	63	85	2	11	1 e	
Health care services	621–23	560	1,374	3	* e	7 i	4	869	14	2 i	* e	* e	24	7	* e	* e	2 e	3 i	* e	3	1 e	1 e	1	2	209	3	2 e	* e	1 e	* e	
Other nonmanufacturing	23, 44–45 (excluding 454111–12), 55–56, 624, 71–72, 81	1,150	1,429 - 16,934	15	1 e	0 - 123	3 e	778 i	0 - 240 i	36	7	8	56 e	0 - 92	4 e	6	166	35	34	28	0 - 46	27	2 e	0 - 325	0 - 837	0 - 135	0 - 213	3 e	21	3	
All companies (number of domestic employees)	–	28,720	466,162	1,329	43 e	4,899	360	175,459	6,042	6,487	1,688	509	5,762	4,426	216	2,139 i	13,415	7,202 i	2,664	1,956	852	475	385	3,964	27,704	18,507	7,421	244	4,581	224	
Small companies																															
10–19 <sup>b</sup>	–	4,610	4,019	62	5 e	43 e	15 i	1,111	109	39 e	7 e	12 e	110 e	52 e	5 e	12 i	102 e	48 e	12 e	16 e	20 e	14 e	5 e	148	335	90 e	63 e	5 e	46	5 e	
20–49	–	9,000	10,970	61 e	5 e	96 e	22 e	3,042	183	92 e	91	27 e	254 e	152 e	22	28	315 e	131 e	80	81	42 e	49 e	20 e	304	1,428	289 e	248	19 e	100 e	21	
Medium companies																															
50–99	–	5,290	11,177	77 e	4 e	121	29 e	3,328	135	87 e	12 e	20	268	159	8 e	21 e	313	131 e	95	45 e	58 e	55 e	27 i	190	1,811	273	141 e	21 e	102	7 e	
100–249	–	4,730	22,132	161	6 e	248	49	8,459	362	244	25	33	424	342	9	38	595	216	63	134	62	69	20	349	2,410	499	382	31	170	31	
Large companies																															
250–499	–	2,040	18,067	94	14 e	282	23 e	6,025	369	227	18 e	53 e	371	322	21 i	25	501	139	118	184	52	60	6 e	261 e	1,612	450	294	13 e	177	60	
500–999	–	1,230	18,458	33	1	152	22	7,410	491	144	30	1	498 i	168	13	56	393	170	114	42	45	21	2	289	2,076	603	336	20	40	0 - 20	
1,000–4,999	–	1,270	75,917	509	2	654	103	31,822	1,209	941 i	745	99	1,002	1,191	10	120	1,617	599	321	266	371	128	72	728	8,012	1,955	912	43	556	24	
5,000–9,999	–	250	42,451	58	1	267	10	20,362	668	666	50	80 i	345	430	112	161 i	1,205	551	420	543	54	14	142	106	919	1,493 i	864	42 i	129	0 - 20	
10,000–24,999	–	210	72,827	78	3	442 i	25 i	21,762 i	1,271 i	365	461 i	7	536 i	493 i	2	1,551 i	4,678	4,877 i	480 i	517	105	25	16	769 i	3,884	2,937	1,318	28	1,333	60 i	

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**Companies with domestic R&D paid for and performed by the company, by industry, company size, and state (A–M): 2020**

(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	Alabama	Alaska	Arizona	Arkansas	California	Colorado	Connecticut	Delaware	District of Columbia	Florida	Georgia	Hawaii	Idaho	Illinois	Indiana	Iowa	Kansas	Kentucky	Louisiana	Maine	Maryland	Massachusetts	Michigan	Minnesota	Mississippi	Missouri	Montana
25,000 or more	–	130	190,145	195	2	2,595	62 i	72,138	1,246	3,682	247	177	1,955	1,118	15	128	3,695	339	960	128	44 i	40	75	821	5,216	9,917	2,863	23	1,929	0 - 20

\* = 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.

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> 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 both the "i" and "e" flags, the e flag is assigned because the imputation rate may be found in the corresponding table of imputation rates. 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, 2020.