

Table 28-A. Companies with domestic R&D paid for and performed by the company, by industry, company size, and state (A–M): 2024

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

Industry and company size	NAICS code	Companies, U.S. total (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	25,580		679,371	2,412		73		7,649		633		243,582		9,175		7,360		6,204		1,092		10,815		9,208		346		3,190		19,566		14,745		4,249		1,950		998		624		616		6,149		47,870		23,226		8,536		472		5,498		395		
Manufacturing industries	31–33	12,530		356,431	966		10		5,432		352		115,851		3,970		5,981		3,080		95		3,996		3,150		158		2,710		13,908		13,948		2,393		1,202		681		334		378		3,995		35,912		21,057		6,348		384		3,906		195		
Food	311	830		6,020	3	e	2	e	10		73		453		68		23		429	i	D		49		47		44	i	89		1,044	i	390	i	696	i	122		68		9		1	e	61		69		88	i	408	i	3	e	86		1	i	
Beverage and tobacco products	312	250		1,459	1	e	*	e	1	e	*	e	65		23		4		*	e	*	e	10		202		*	e	3		16		1	i	*	e	*	e	29		*	e	1	e	*	e	26		2	e	3		*	e	1	e	1		
Textile, apparel, and leather products	313–16	180		783	4		*	e	1	e	*	e	138		12		5		*	e	*	e	19		63		*	e	D		29		1	e	4		1	r	1	e	*	e	1	e	1	e	20		16		13		1	e	3	e	*	e	
Wood products	321	80		261	4		*	e	9	i	2		42		3		*		*		0		12		11		*	e	3		11		2		16		1		2	i	*		*		1		2		3		13		4		3		*		
Paper	322	70		1,238	23		0		32	i	24		13		6		5		2		0		26		109		0		*		19		7		1		8		87		2		35		*		8		14		37		31		1		0		
Printing and related support activities	323	130		253	*	i	*	i	6	i	1	i	7	i	1	i	1	i	*	i	*	i	2	i	3	i	*	i	*		3	i	2	i	1	i	*	i	5		*	i	*		1	i	5		6		17	i	*	i	8		*	i	
Petroleum and coal products	324	60		1,004	*	e	*	e	*	e	*	e	13		*	e	*	e	9		0		*	e	1		0		*	e	7		24		2		7		*	e	6		*	e	*	e	*	e	*	e	3		8		3		11		
Chemicals	325	2,190		131,790	118		1		247		32	i	31,994		457		4,223		2,407		39		744		449		61		14		7,026		9,900		155		337		157		66		24		2,199		26,899		1,051		457		11		2,416		7		
Basic chemicals	3251	310		2,883	5		0		1		7		336		8		80		160		*		4		151		*	e	1		142		22		46		26		5		39		D		9		95		23		7		5		62		D		
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	110		D	D		0		*	e	0		43		*	e	D		D		0		5		26		0		*	e	13		5		4		D		16		14		4		*	e	14		262		10		D		1	i	D		
Pesticide, fertilizer, and other agricultural chemicals	3253	70		D	D		0		2		3		80		8		D		D		0		14		5		*	e	D		8		D		10		D		D		D		D		D		*	e	24		4		4		22		2		
Pharmaceuticals and medicines	3254	1,130		122,656	100		1		237		21	i	31,337		432		3,930		2,061		38		696		222		61		9		6,713		9,855		86		227		26	i	10		19		2,177		26,674		682		227		1		2,264		5		
Soap, cleaning compound, and toilet preparations	3256	180		2,684	D		0		3		1		117		2		107		D		0		11		9		*	e	1		64		D		4		77	i	D		D		*	e	D		75		20	i	149		*	e	4		*	e	
Paint, coating, adhesive, and other chemicals	3255, 3259	410		D	10		*	e	2		*	e	81		7		95		D		*		14		36		0		D		86		17		5		5		110		3		*		13		40		40		61		D		64		*	e	
Plastics and rubber products	326	680		2,767	11		*	e	336		5		121		35		9		14		D		36		41		*	e	1		66		75		14		17		7		68	i	1	e	129		229		83		89		6		12		*	e	
Nonmetallic mineral products	327	220		1,556	i	2		*	e	1	e	*	e	40	i	41		3	i	*	e	*	e	4	e	8		*	e	*	e	36		2	e	1	e	1	e	*	e	1	e	*	e	6		40	i	190		14		23		7		*	e
Primary metals	331	170		1,129	5		0		6		11		23		8		3	r	0		0		6		23		0		*	e	5		71		8		1		11		*	e	*	e	*	e	23		49		33		201		1		*	e	
Fabricated metal products	332	1,380		3,137	26		1	e	127		3	e	366		16		51		1	e	D		64		151		2		5		110		86		20		36		25		9	e	2	e	22		85		106		161		10		45		3	i	
Machinery	333	1,850		19,844	74		0		167		90		4,428		100		140		1		*		241		276		1		40	i	2,090		1,593		789		170		79		64		9		281		1,010		472		761		21	i	421		87	i	

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Industry and company size	NAICS code	Companies, U.S. total (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
Agricultural implement	33311	170		D	* e 0		2	7	54	19	D	0	0	D	66	0	D	440	D	721	79	* e D	0	5	6	59	159	2 r 10	D		
Semiconductor machinery	333242	40		D	0	0	73 i	0	3,628	D	D	0	0	D	0	0	D	0	0	0	0	0	D	0	0	434 i	0	20	0	0	D
Engine, turbine, and power transmission equipment	3336	130		D	4	0	24	1	167	D	19	1	*	51	34	0	D	1,177	1,164	2	5	4	D	3	3	8	65	92	1	17	D
Other machinery	other 333	1,520		8,060	70	0	68	82	579	63	121	1	0	180 i	175 i	1	D	473	D	66	87	75	24	6 i	273	562	348	490	18 i	394	D
Computer and electronic products	334	1,750		107,038	242 i	4	3,081	53 i	58,106	2,160	343 i	140 i	51	1,464	726	44	2,506	1,156	113	102	124	59	21	64 i	432	3,934	448	787	10	158	57
Communications equipment	3342	310		12,069	131 i	1	110	12	5,560	283	33	4	20	359	264	18	18	514	44	14	23	12	9	9	223	352	123	92	7	68	8
Semiconductor and other electronic components	3344	460		48,546	55	2 i	2,795	26 i	22,450	578	131 i	10	22	337	91 i	12 i	2,287	259 i	27 i	11 i	7	40	4 i	43 i	108	1,852	180	179	1	40 i	10 i
Navigational, measuring, electromedical, and control instruments	3345	820		10,736	47	*	78 i	8	4,222	599	164	123 i	1	478 i	137	D	7	129	34	69	29	5 i	4 i	6	70	430	119	324	1	43	37
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	170		3,046	30	0	11	1 i	2,104	25	31	*	0	51	49	0	0	53	8	23	3	*	*	1	7 i	111	13	73	0	7	1
Search, detection, navigation, guidance, aeronautical, and nautical system and instruments	334511	140		3,190	12	*	3	*	736	325	14	70 i	1	383 i	24	D	*	4	1 e	19	1 i	* e	* i	3	29	12	8	52	* e	17	32
Other measuring and controlling devices	other 3345	520		4,501	5	* e	64 i	7	1,382	249	119 i	52	*	45	64	7	7	72	24	28 i	25	5 i	3 i	1	34	308	98	199	1	19 i	4 i
Other computer and electronic products	other 334	180		35,687	8	1	98	7	25,874	699	15 i	3	8	290	233	D	194 i	254	8	7	65	2	4	6	31	1,300	26	192 i	1 i	8	3
Electrical equipment, appliances, and components	335	390		6,135	6	*	28	3	2,380	79 i	102	2 i	0	28	101	0	19	297 i	50	32	6	41	5	* i	10 i	414	404	42	11	60	4
Transportation equipment	336	1,050		47,039	421	2	1,175	44	9,551	661	894	59	D	912	627	4	D	939	949	462	345	100	67	41	607	542	16,626	688 i	27	608	12
Motor vehicles, bodies, trailers, and parts	3361–63	630		D	187	D	245 i	10	6,592	47	7	52	D	194 i	77	* e	D	515	822	D	13	94	1 e	1	52	166	16,330	193	17	25	3

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Aerospace products and parts	3364	240		15,130	178	D	912	32	2,863	556	880	8	D	676	142	D	D	379	107	D	325	D	60	38	541	370	197	190	8	575	9																				
Aircraft, aircraft engine, and aircraft parts	336411–13	220		D	D	D	D	28	2,452	D	D	D	0	D	D	D	D	D	D	D	319	D	60	6	D	D	D	D	D	573	9																				
Guided missile, space vehicle, and related parts	336414–15, 336419	30		D	D	0	D	4	411	D	D	D	D	D	D	D	D	D	D	D	6	D	*	32	D	D	D	D	D	3	*																				
Military armored vehicle, tank, and tank components	336992	20		23	6	0	1	0	2	0	0	0	0	1	0	0	0	0	0	0	5	0	0	0	1	*	i	8	0	0	0	0																			
Other transportation	other 336	180		D	50	i	D	17	2	e	94	58	7	0	0	40	408	D	*	e	45	21	D	2	D	7	e	1	e	13	5	90	304	i	2	e	8	*	e												
Furniture and related products	337	170		450	3	*	e	1	i	*	i	40	*	i	*	e	*	e	1	4	i	*	e	*	e	4	*	e	3	133	i	33	7	*	e	*	e														
Miscellaneous	339	1,170		24,528	23	e	*	e	205	i	10	e	8,072	300	174	i	15	i	1	378	310	2	e	22	1,051	658	45	23	11	e	13	e	194	243	i	2,603	1,367	2,789	10	e	73	10	e								
Medical equipment and supplies	3391	800		21,840	19	e	*	e	175	i	9	e	7,633	268	149	i	10	i	1	346	264	1	e	6	e	878	640	18	12	e	8	e	9	e	192	238	i	2,490	1,272	2,750	6	e	63	6	e						
Other miscellaneous manufacturing	3399	380		2,688	4	*	e	30	1	e	440	32	25	5	*	32	46	*	16	173	19	27	12	3	e	4	2	i	6	114	95	39	4	10	4																
Nonmanufacturing industries	21–23, 42–81	13,060		322,940	1,446	63	2,217	281	127,731	5,205	1,379	3,124	997	6,819	6,057	187	480	5,659	797	1,857	748	317	291	237	2,154	11,958	2,169	2,188	89	1,592	i	201																			
Mining, quarrying, oil and gas extraction, and support activities	21	70		1,224	*	e	3	6	*	129	23	*	*	e	0	*	4	*	e	*	2	9	D	D	*	e	D	*	e	D	24	3	*	e	*	D	5														
Utilities	22	70		D	*	e	*	e	*	e	4	54	1	e	1	e	*	D	267	D	D	*	e	3	D	*	e	1	r	15	3	D	3	D	16	6	D	*	e												
Wholesale trade	42	1,580		D	9	e	1	e	21	i	3	e	215	i	25	i	12	i	2	e	D	59	135	i	D	D	171	i	31	i	36	i	13	i	D	7	e	D	7	e	27	62	i	52	i	3	e	14	e	1	e
Electronic shopping and electronic auctions	454111–12	110		7898	i	D	*	e	27	i	D	3,002	i	27	i	D	1	i	D	13	i	D	D	D	D	D	142	i	D	D	D	*	e	D	*	e															
Transportation and warehousing	48–49	440	r	D	9	e	2	e	23	41	4,605	i	45	D	14	9	772	36	14	3	e	170	19	e	8	e	9	8	e	9	e	2	e	D	115	83	16	16	20	1	e										
Information	51	3,610		226,853	1,230	32	1,324	147	96,780	3,992	917	2,289	716	3,572	3,708	124	407	i	2,830	555	1,650	546	195	112	148	907	8,541	1,399	1,067	39	1,021	i	136																		
Publishing	511	1,670		63,085	129	D	428	61	17,239	1,315	83	D	110	960	1,366	47	247	i	979	135	D	111	35	49	i	59	271	3,761	671	380	D	125	32																		
Newspaper, periodical, book, and directory publishers	5111	40	i	489	i	*	e	*	e	*	e	*	e	*	e	*	e	8	i	1	i	*	e	*	e	*	e	*	e	*	e	*	e	461	i	*	e	*	e	*	e	*	e								
Software publishers	5112	1,630		62,597	129	D	428	61	17,239	1,315	83	D	110	952	1,366	47	247	i	979	135	D	111	35	49	i	59	271	3,300	671	380	D	125	32																		
Telecommunications	517	150		D	5	1	e	60	3	123	120	3	e	*	1	586	76	*	3	41	11	2	e	D	5	11	3	14	27	20	5	1	14	1																	
Data processing, hosting, and related services	518	1,640		58,017	D	D	502	73	27,213	1,503	390	D	249	1,457	917	32	101	988	277	287	168	134	44	68	395	3,138	519	568	19	788	i	81																			

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Other information	other 51	170		D	D	D	335	10	52,205	1,055	441	D	356	569	1,349	45	57	821	132	D	D	21	9	18	227	1,615	189	115	D	94	22					
Finance and insurance	52	210		25,362	23	* e	221	18	6,704	210	92	741	9	1,062	537	3	5	1,150	28	64	19	14	5	39	162	376	165	265	3	73	3					
Real estate and rental and leasing	53	60		2,750	* e	* e	28	*	1,445	52	1	* e	2	51	24	1	* e	31	* e	2	* e	* i	* e	1	1	31	1	D	* e	109	* e					
Lessors of nonfinancial intangible assets (except copyrighted works)	533	10	i	23	0	0	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	* i	0	0	0	0	0	0	0	0	0	0				
Other real estate and rental and leasing	other 53	50		2,727	* e	* e	28	*	1,427	52	1	* e	2	51	24	1	* e	31	* e	2	* e	* e	* e	1	1	31	1	D	* e	109	* e					
Professional, scientific, and technical services	54	6,290		40,134	169	24	396	66	13,102	761	327	74	253	900	1,531	i	37	50	1,153	117	77	111	63	94	38	531	2,389	409	702	19	281	54				
Architectural, engineering, and related services	5413	1,550		3,240	29	19	22	9	473	187	82	7	13	131	43	18	19	65	37	25	32	11	20	e	12	102	85	89	67	11	91	22				
Computer systems design and related services	5415	2,650		22,353	82	5 e	320	33	6,938	345	166	51	116	550	392	14	22	485	62	40	61	38	27	14	258	e	1,146	175	473	7	144	25				
Scientific research and development services	5417	930		5,705	50	i	* e	34	23	2,356	119	54	13	14	96	35	2	i	6	95	10	6	10	10	3	i	9	97	871	95	61	*	37	3		
Research and development in nanotechnology	541713	50		434	3	0	*	*	150	4	0	7	0	6	0	0	*	3	i	0	0	*	0	0	0	3	107	*	10	0	*	0				
Research and development in biotechnology (except nanobiotechnology)	541714	260		1,204	1	i	* e	* e	3	454	9	9	3	* e	4	3	r	1	i	* e	31	1	5	4	*	* e	*	39	199	20	19	* e	22	* e		
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	610		4,060	47	i	* e	34	19	1,750	106	46	3	i	14	86	32	*	i	6	62	9	*	i	5	9	3	i	8	55	564	75	32	*	14	3
Research and development in the social sciences and humanities	541720	20		8	0	0	0	0	2	i	0	0	*	0	0	0	0	0	0	0	0	0	0	0	*	*	i	0	0	0	0	0	0	0		

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Other professional, scientific, and technical services	other 54	1,170	8,835 i	8	* e	21	1 e	3,336 i	111	24 i	2	110	124	1,060 i	4	3	508	7	7	8	5	44	4	74	286	50 i	101	1	10	3
Health care services	621–23	190	1,888	D	* e	92	D	1,048	23	1	* e	1	6	17	*	* e	7	D	* e	6	2 i	46	D	28	137	7	D	* e	13	* e
Other nonmanufacturing	23, 44–45 (excluding 454111–12), 55–56, 624, 71–72, 81	490	3579	5	1	78	2	648	45	20	3	D	118	54	6	8	118	29	17	40	22	3	1	129	173	26	54	1 e	53	1
All companies (number of domestic employees)	–	25,580	679,371	2,412	73	7,649	633	243,582	9,175	7,360	6,204	1,092	10,815	9,208	346	3,190	19,566	14,745	4,249	1,950	998	624	616	6,149	47,870	23,226	8,536	472	5,498	395
Small companies																														
10–19 ^a	–	4,330	3,734	24 e	2 e	64	7 e	939	71	41	14 e	22	142	87 e	3 i	11 e	136	32 e	10 e	19 e	20	13 e	6 i	113	404	85 e	77	3 e	29 e	5 e
20–49	–	7,190	14,153	62 e	10 e	120 e	31 e	4,979	257	146	101	37 e	303 e	199 e	16	27 e	370 e	147 e	67	53 e	43 e	37 e	25	328	1,481	255 e	231	21 e	117	19 e
Medium companies																														
50–99	–	4,510	14,998	62 e	18	109	41	4,531	185	93	44	34	334	237	6 e	40	393	114 e	77	52 e	43 e	47 e	33	393	2,721	276	306	14 e	102	11 e
100–249	–	4,070	26,548	108	5 e	250	42	9,148	816	230	107	163	457	408	20	73	698	206	110	85	47	78	15	377	4,098	507	364	16	150	34
Large companies																														
250–499	–	1,910	26,185	153	1 e	275	24	9,071	677	573	69	26	465	301	8	26	677	349	77	119	93	28	31	475	3,391	623	383	35	176	42
500–999	–	1,610	40,152	72	16	375 i	29	19,096	516	226	170	60	623	412	18	196 i	639	562	115	83	54	23	38	738	3,563	560	654	8	89	21
1,000–4,999	–	1,370	110,612	410	3	1,447	112	39,027	1,845	793	2,286	192	1,765	1,416	34	216	3,146	780	469	260	311	158 i	92	854 i	14,905	1,347	1,485	36	533	69
5,000–9,999	–	260	55,804	163	4	722	151	23,697	584	1,094 i	123	55	610	766	69 i	2,205	1,268	1,009 i	458 i	335	130	25	215	375	1,767	1,931	761	40	249	16
10,000–24,999	–	220	120,991	192	5 i	529	72	46,082 i	1,682 i	897	639 i	40 i	2,701	2,107 i	79	250 i	1,948	9,879	385 i	77	163	61	38	861	6,636 i	1,710	1,861 i	256	1,640	93 i
25,000 or more	–	140	266,195	1,166	10	3,759	125	87,012	2,540	3,267	2,651	464	3,414	3,275	93	147	10,292	1,667	2,483	868	95	153	123	1,635	8,904	15,932	2,413	43	2,413	85

* = amount < \$500,000; D = data withheld to avoid disclosing operations of individual companies; e = more than 50% of value is modeled—see the technical notes section at <https://ncses.nsf.gov/surveys/business-enterprise-research-development/2023#methodology>; 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. 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 upon request from the National Center for Science and Engineering Statistics).

Source(s):

National Center for Science and Engineering Statistics and Census Bureau, Business Enterprise Research and Development Survey, 2024.