

TABLE 10

Domestic R&D paid for by the company and others and performed by the company, by type of cost, industry, and company size: 2020

(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	537,619	300,046	48,343	23,456	7,929	35,020	8,909	20,972	3,785	16,802	72,358
Manufacturing industries	31-33	308,445	165,464	16,162	12,518	3,790	29,828	4,418	14,372	3,312	9,220	49,361
Food	311	5,239	3,171	37	202	22	710	83	249	15	150	599
Beverage and tobacco products	312	1,177 i	625 i	10	70	2	85	6	56	0	47	276
Textile, apparel, and leather products	313-16	822	636	18	16	15	64	5	15	3	11	38
Wood products	321	187	140	0	3	1	27	1	3	0	3	7 i
Paper	322	928	479	* i	6	17 i	314	6	6	*	7	92
Printing and related support activities	323	283	208	3 i	14 i	1 i	17 i	6 i	17 i	* i	1	17 i
Petroleum and coal products	324	1,311 - 1,324	695	0	12	1	53	6	56 - 78	*	232	230 - 266
Chemicals	325	101,079	44,297	5,535	7,227	902	9,073	1,662	4,674	1,918	4,845	20,945
Basic chemicals	3251	2,694	1,423	13	42	15	501	40	157	58	153	291
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	1,234	852	1	45	6	61	19	93	5	54	97
Pesticide, fertilizer, and other agricultural chemicals	3253	1,060 - 1,066	536	1 i	200	2 i	70	14	57	19	8 i	148 - 163
Pharmaceuticals and medicines	3254	91,776	38,684	5,501	6,843	864	8,191	1,542	4,185	1,835	4,565	19,566
Soap, cleaning compound, and toilet preparation	3256	2,665	1,569	16	89	3	160	29	102	1	25	671
Paint, coating, adhesive, and other chemicals	3255, 3259	1,643 - 1,649	1,233	3	8	12	90	17	80	*	40	155 - 169
Plastics and rubber products	326	2,634	1,584	4	25	42	570	22	83	5	44	255
Nonmetallic mineral products	327	1,717 i	888 i	21 i	45 i	37 i	135 i	40 i	78 i	1	29	443 i
Primary metals	331	815	315	1	4	7	381	2	21	* i	38	46 i
Fabricated metal products	332	3,396	2,029	55	89	46	756	30	85	12	51	243
Machinery	333	16,223	9,434	302	589	167	2,255	220	678	35	426	2,116
Agricultural implement	33311	1,769 - 1,811	1,019	1	113	7	217	7	40 - 54	1	50	306 - 359
Semiconductor machinery	333242	4,807	2,543	232	37	8	505	135	367	*	150	829
Engine, turbine, and power transmission equipment	3336	1,645	1,017	9	29	12	106	26	59	15	21	351
Other machinery	other 333	7,959 - 8,001	4,855	61	410	139	1,428	52 i	199 - 213	19	205	575 - 631 i
Computer and electronic products	334	99,535	57,717	9,581	1,715	1,665	6,989	1,623	6,133	758	1,433	11,922

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Communications equipment	3342	12,103	7,017	766	424	146	299	813	516	24	162	i 1,938
Semiconductor and other electronic components	3344	43,181	22,836	4,562	675	274	3,656	275	3,079	445	479	i 6,898
Navigational, measuring, electromedical, and control instruments	3345	18,505	12,728	339	492	183	1,823	113	551	16	429	1,829
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	2,858	1,659	171	116	26	226	21	82	14	161	382
Search, detection, navigation, guidance, aeronautical, and nautical system and instrument	334511	10,586	7,782	i 63	294	77	1,215	43	231	*	117	764
Other measuring and controlling device	other 3345	5,061	3,287	106	82	80	382	50	239	2	151	683
Other computer and electronic products	other 334	25,747	15,135	3,913	125	1,062	1,210	422	1,986	273	363	1,257
Electrical equipment, appliances, and components	335	4,998	3,276	54	268	42	351	74	150	39	223	521
Transportation equipment	336	48,796	28,292	85	1,308	581	6,369	i 486	1,286	429	899	9,062
Motor vehicles, bodies, trailers, and parts	3361-63	23,121	14,460	45	968	479	2,510	380	996	403	299	2,580
Aerospace products and parts	3364	22,914	i 12,160	i 25	285	53	3,349	i 57	232	i 1	510	i 6,242
Aircraft, aircraft engine, and aircraft parts	336411-13	21,291	i 11,207	i 21	219	i 45	3,015	i 46	199	i 1	505	i 6,033
Guided missile, space vehicle, and related parts	336414-15, 336419	1,623	953	4	i 66	8	335	11	33	0	5	208
Military armored vehicle, tank, and tank component	336992	11	4	*	i 1	i *	3	* i	0	* i	1	i 2
Other transportation	other 336	2,750	1,667	i 15	54	49	506	i 49	i 57	i 24	i 89	i 239
Furniture and related products	337	496	282	2	16	6	92	4	9	23	i 18	43
Miscellaneous	339	18,791 - 18,809	11,396	454	908	236	1,584	143	755 - 776	73	763	2,473 - 2,500
Medical equipment and supplies	3391	16,116	9,508	435	831	188	1,333	122	700	29	717	2,254
Other miscellaneous manufacturing	3399	2,674 - 2,692	1,888	19	77	47	252	21	55 - 77	44	46	219 - 246
Nonmanufacturing industries	21-23, 42-81	229,174	134,582	32,181	10,938	4,139	5,193	4,491	6,600	473	7,582	i 22,996
Mining, quarrying, oil and gas extraction, and support activities	21	1,165	808	8	38	6	80	i 15	16	1	i 49	i 145
Utilities	22	264	128	2	28	2	11	1	10	3	27	53
Wholesale trade	42	1,058	799	*	i 14	i 5	62	i 2	18	4	12	144

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Electronic shopping and electronic auctions	454111-12	3,840 - 19,390 i	0 - 11,484 i	2,016 - 4,233 i	155 i	0 - 313 i	0 - 256 i	2 - 241 i	0 - 775 i	0 - 55 i	3	0 - 5,514 i
Transportation and warehousing	48-49	4,957 i	2,396 i	1,373 i	342 i	30 i	96 i	8	0 - 210	0 - 55	205 i	301 - 454 i
Information	51	129,463	77,206	23,285	6,422	3,043	1,030	2,945	3,670	284	2,520	9,059
Publishing	511	35,025	22,532	4,306	1,675	349	566	342	438	112	1,422	3,283
Newspaper, periodical, book, and directory publishers	5111	60	56	0	3	*	*	*	*	0	*	*
Software publishers	5112	34,965	22,476	4,306	1,672	349	566	342	438	112	1,422	3,282
Telecommunications	517	3,425 - 3,437	2,592	23	183	19	57	22	13 - 20	4	485	18 - 42
Data processing, hosting, and related services	518	41,551	27,260	6,611	1,159	576	298	713	843	149	448	3,495
Other information	other 51	49,449 - 49,463	24,822	12,345	3,404	2,098	108	1,868	2,370 - 2,377	20	164	2,239 - 2,265 i
Finance and insurance	52	12,296	7,862	1,123	1,770	203	88	100	300	16	190	645
Real estate and rental and leasing	53	3,249	957	2 - 2,211	37	0 - 313	0 - 256	0 - 238	43	0 - 55	3	0 - 2,209
Lessors of nonfinancial intangible assets (except copyrighted works)	533	7	2	3	0 - 3 i	0 - 3 i	*	*	*	0 - 3 i	* i	1 i
Other real estate and rental and leasing	other 53	3,242	955	0 - 2,209	33 - 38	0 - 313	0 - 256	0 - 238	43	0 - 55	3	0 - 2,209
Professional, scientific, and technical services	54	54,367	32,099	1,982	1,849	521	3,473	1,150 i	1,743	96	4,479 i	6,975
Architectural, engineering, and related services	5413	4,214	3,092	6	136	19	459	52	24	1	62	363
Computer systems design and related services	5415	17,935	12,122	803	753	215	441	150	626	39	329	2,456
Scientific research and development services	5417	25,600	12,371	1,091 i	675	197 i	2,242	908 i	1,018 i	51	4,003 i	3,044
Research and development in nanotechnology	541713	179 i	103 i	*	3 i	1 i	15 i	21 i	7 i	1	2 i	26 i
Research and development in biotechnology (except nanobiotechnology)	541714	6,191	2,967	189	155	13	485	99	150	26	1,107 i	1,000
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	18,539 i	8,787	885 i	496 i	183 i	1,707 i	770 i	851 i	24	2,841 i	1,994 i
Research and development in the social sciences and humanities	541720	691	515	16	21	*	36	18	10	0	53	23
Other professional, scientific, and technical services	other 54	6,618	4,513	82	285	91	331	39	74	4	85	1,113

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Health care services	621-23	1,477	819	95	157	20	99	32	29	17	46	163
Other nonmanufacturing	23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81	1,491 - 17,041	27 - 11,513	81	128	0 - 313	1 - 258	1 - 240	0 - 775	*	47	0 - 5,514
All companies (number of domestic employees)	-	537,619	300,046	48,343	23,456	7,929	35,020	8,909	20,972	3,785	16,802	72,358
Small companies												
10-19 ^a	-	5,047	3,044	203	230	44	461	140	121	48	201	557
20-49	-	12,994	8,232	260	474	141	1,282	288	231	171	599	1,315
Medium companies												
50-99	-	12,993	7,890	345	471	187	1,602	321	286	99	524	1,267
100-249	-	25,411	14,382	1,939	1,026	235	2,384	781	513	255	1,363	2,534
Large companies												
250-499	-	20,878	13,090	1,366	807	153	1,481	325	728	178	676	2,074
500-999	-	21,264	11,958	1,230	892	227	1,519	449	819	299	794	3,077
1,000-4,999	-	88,238	49,457	10,845	3,341	1,281	5,066	1,363	2,996	846	3,243	9,801
5,000-9,999	-	48,397	27,763	3,070	2,295	606	3,536	788	2,246	295	1,267	6,530
10,000-24,999	-	88,567	48,978	6,506	4,863	659	6,397	827	4,534	497	4,602	10,703
25,000 or more	-	213,829	115,253	22,579	9,057	4,397	11,291	3,628	8,498	1,094	3,533	34,499

* = amount < \$500,000; 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.

^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, 2020.