

TABLE 33

## Domestic R&amp;D paid for by 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	71,457	41,958	795	2,745	373	7,642	1,110	2,414	309	4,386	i 9,724
Manufacturing industries	31-33	43,848	26,620	497	1,751	224	5,325	574	1,426	288	914	6,231
Food	311	254	153	1	10	6	15	15	13	*	4	36
Beverage and tobacco products	312	121	64	*	9	0	12	4	7	0	8	16
Textile, apparel, and leather products	313-16	9	5	* i	* i	* i	1	* i	1	0	* i	2
Wood products	321	3	2	0	0	*	*	*	*	0	*	1
Paper	322	1	*	* i	* i	* i	* i	* i	0	* i	* i	* i
Printing and related support activities	323	1	1	* i	* i	* i	* i	* i	* i	* i	* i	* i
Petroleum and coal products	324	89 - 103	22 - 97	0	*	0	0 - 25	0	0 - 21	0	0	0 - 37
Chemicals	325	11,675	6,586	417	1,094	67	737	163	746	40	224	i 1,600
Basic chemicals	3251	171	125	*	0 - 15	2	14	*	11	3	4	0 - 15
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	73	62	* i	1	* i	1	* i	9	* i	* i	1 i
Pesticide, fertilizer, and other agricultural chemicals	3253	284 - 291	113 - 150	0	78 - 98	0	0 - 20	8	18	0	0	0 - 44
Pharmaceuticals and medicines	3254	10,918	6,136	417	993	61	697	147	694	37	215	i 1,522
Soap, cleaning compound, and toilet preparation	3256	189	115	* i	4	* i	7	8	14	1	5	35
Paint, coating, adhesive, and other chemicals	3255, 3259	32 - 39	0 - 33	0	*	5	0 - 20	*	1	0	1	0 - 33
Plastics and rubber products	326	26	11	0	0	5	5	0	1	0	*	4 i
Nonmetallic mineral products	327	98	66	0	1	*	1	*	8	0	2	i 21
Primary metals	331	20	9	* i	1	* i	5	*	*	* i	1	4
Fabricated metal products	332	60	35	0	0	2	21	0	1	0	*	1 i
Machinery	333	1,152	848	1	20	2	156	3	63	1	10	48
Agricultural implement	33311	10 - 52	0 - 45	0	1	0	4	0 - 3	0 - 13	*	3	0 - 33
Semiconductor machinery	333242	686	579	0	5	*	45	1	50	*	2	4
Engine, turbine, and power transmission equipment	3336	122	74	1	0	*	32	*	2	0	*	13
Other machinery	other 333	292 - 334	149 - 197	0	15	2	76	0 - 3	0 - 13	i *	6	0 - 33
Computer and electronic products	334	11,030	7,806	i 73	i 265	81	1,207	116	305	89	232	856
Communications equipment	3342	996	i 753	i 18	i 61	i 3	i 38	i 15	i 12	i 1	19 - 68	i 23 - 72
Semiconductor and other electronic components	3344	2,380	1,597	40	i 61	18	76	69	130	87	87	216

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Navigational, measuring, electromedical, and control instruments	3345	7,493	5,366	15	139	59	1,079	30	157	1	79	570
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	251	150	0	20	1	20	4	6	1	7	42
Search, detection, navigation, guidance, aeronautical, and nautical system and instrument	334511	7,025	5,083	0 - 15	114	57	1,045	24	145	0	46	492 - 513
Other measuring and controlling device	other 3345	217	132	0 - 15	5	1	14	2	5	0	26	14 - 35
Other computer and electronic products	other 334	161	90	1	4	1	14	3	6	*	0 - 46	0 - 46
Electrical equipment, appliances, and components	335	506	321	1	48	7	52	2	20	6	13	36
Transportation equipment	336	18,564	10,536	3	287	52	3,064	269	241	152	410	3,550
Motor vehicles, bodies, trailers, and parts	3361-63	3,599	1,884	3	163	25	439	203	130	132	105 - 198	418 - 517
Aerospace products and parts	3364	13,803	7,953	0	102	17	2,428	31	87	0	213	2,972
Aircraft, aircraft engine, and aircraft parts	336411-13	13,011	7,419	0	77	17	2,260	31	87	0	213	2,907
Guided missile, space vehicle, and related parts	336414-15, 336419	793	534	0	25	0	168	*	0	0	0	65
Military armored vehicle, tank, and tank component	336992	6	2	0	1	0	2	*	0	0	0 - 2	0 - 3
Other transportation	other 336	1,155	698	*	20	10	195	34	23	20	0 - 90	62 - 158
Furniture and related products	337	3	2	0	0	0	*	*	*	0	0	1
Miscellaneous	339	215 - 233	84 - 145	0	17	1	29 - 54	1	5 - 26	*	9	24 - 61
Medical equipment and supplies	3391	173	85	0	16	1	30	1	5	0	9	25
Other miscellaneous manufacturing	3399	42 - 60	0 - 60	0	*	*	0 - 25	*	0 - 21	*	0	0 - 37
Nonmanufacturing industries	21-23, 42-81	27,608	15,338	298	995	150	2,317	536	988	21	3,473	3,494
Mining, quarrying, oil and gas extraction, and support activities	21	45	25	0	*	1	*	1	1	1	*	15
Utilities	22	40	9	1	3	*	4	*	0	0	6	18
Wholesale trade	42	58	33	0	4	*	6	*	3	0	3	8
Electronic shopping and electronic auctions	454111-12	2 - 50	0 - 47	0	0	*	0	3	0 - 7	0	0	0 - 25
Transportation and warehousing	48-49	3	2	0	0	0	0	0	1	0	0	*
Information	51	1,113	855	33	27	3	55	12	27	*	36	65
Publishing	511	509	381	2	11	1	50	3	19	0	5	38

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Newspaper, periodical, book, and directory publishers	5111	0	0	0	0	0	0	0	0	0	0	0	
Software publishers	5112	509	381	2	11	1	50	3	19	0	5	38	
Telecommunications	517	54 - 66	33	0	8	2	*	0 - 9	0 - 7	*	1	0 - 24	
Data processing, hosting, and related services	518	446	385	0 - 32	3	*	5	2	2	0	0 - 32	0 - 28	
Other information	other 51	91 - 105	55	0 - 32	4	*	*	0 - 9	0 - 7	0	0 - 32	0 - 28	
Finance and insurance	52	92	72	0	0	0	0	0	0	0	0	20	
Real estate and rental and leasing	53	*	0	0	0	0	0	0	0	0	0	* i	
Lessors of nonfinancial intangible assets (except copyrighted works)	533	*	0	0	0	0	0	0	0	0	0	* i	
Other real estate and rental and leasing	other 53	0	0	0	0	0	0	0	0	0	0	0	
Professional, scientific, and technical services	54	26,045	14,212	264	960	146	2,236	515	950	i 19	3,412	i 3,331	
Architectural, engineering, and related services	5413	2,001	1,226	2	101	8	312	39	7	*	48	258	
Computer systems design and related services	5415	3,643	2,492	110	152	17	54	52	87	0	132	546	
Scientific research and development services	5417	19,354	9,815	146	527	114	1,828	418	852	i 19	3,205	i 2,429	
Research and development in nanotechnology	541713	53	i 29	i 0	* i	0	4	i 2	i *	i 0	* i	17	i
Research and development in biotechnology (except nanobiotechnology)	541714	5,014	2,430	36	107	3	362	63	113	*	1,052	i 847	
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	13,632	i 6,856	94	i 401	i 111	1,424 - 1,450	i 333 - 354	i 729	i 19	2,098 - 2,124	i 1,541 - 1,567	i
Research and development in the social sciences and humanities	541720	654	499	16	20	0	13 - 37	0 - 19	10	0	30 - 54	0 - 24	
Other professional, scientific, and technical services	other 54	1,048	680	6	179	7	41	7	4	0	26	98	
Health care services	621-23	103	53	0	1	*	13	3	3	0	15	15	
Other nonmanufacturing	23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81	62 - 109	27 - 79	0	*	*	2	2	0 - 7	0	*	0 - 25	
All companies (number of domestic employees)	-	71,457	41,958	795	2,745	373	7,642	1,110	2,414	309	4,386	i 9,724	
Small companies													
10-19 <sup>a</sup>	-	1,029	650	4	i 31	11	i 91	27	13	2	40	i 159	
20-49	-	2,025	1,206	15	i 106	i 17	226	69	33	4	64	285	

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Medium companies												
50–99	–	1,816	1,080	34	58	9	226	43	35	4	57	272
100–249	–	3,280	1,984	80	153	31	341	58	69	5	79	478
Large companies												
250–499	–	2,811	1,700	21	221	22	271	83	72	13	119	288
500–999	–	2,807	1,696	62	96	20	233	57	101	6	139	397
1,000–4,999	–	12,322	7,115	216	i 993	63	1,016	282	636	81	632	i 1,289
5,000–9,999	–	5,945	3,154	79	212	66	618	100	i 377	39	i 554	i 745
10,000–24,999	–	15,739	i 9,181	255	558	i 69	i 1,083	i 270	i 718	i 134	2,184	i 1,288
25,000 or more	–	23,684	14,192	i 29	i 318	66	3,537	i 121	360	20	i 519	4,523

\* = amount &lt; \$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.

<sup>a</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. 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.