

TABLE 33

## Domestic R&amp;D paid for by others and performed by the company, by type of cost, industry, and company size: 2022

(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	83,489	46,597	1,255	2,923	613	8,694	1,179	2,325	280	4,366	15,257
Manufacturing industries	31-33	45,461	26,837	726	1,496	236	4,596	350	1,079	220	1,662	8,260
Food	311	D	212	2	13	1	40	19	D	0	*	50
Beverage and tobacco products	312	107	68	0	6	5	9	4	7	0	0	9
Textile, apparel, and leather products	313-16	D	9	0	0	0	1	0	D	0	0	3
Wood products	321	5	3	*	*	*	*	*	*	*	1	1
Paper	322	*	*	*	*	*	*	*	0	*	*	*
Printing and related support activities	323	1	1	*	*	*	*	*	r	*	*	*
Petroleum and coal products	324	4	3	*	*	*	*	*	0	*	*	*
Chemicals	325	12,210	6,723	498	1,000	59	725	141	513	55	979	1,518
Basic chemicals	3251	D	132	0	D	3	20	2	D	0	1	D
Resin, synthetic rubber, and artificial synthetic fibers and filaments	3252	80	60	0	*	*	D	1	D	0	*	D
Pesticide, fertilizer, and other agricultural chemicals	3253	D	D	*	D	*	D	D	D	*	*	*
Pharmaceuticals and medicines	3254	11,353	6,230	498	953	50	622	98	456	51	965	1,430
Soap, cleaning compound, and toilet preparations	3256	D	126	0	5	3	6	D	D	4	11	D
Paint, coating, adhesive, and other chemicals	3255, 3259	29	D	0	*	2	D	0	*	0	2	D
Plastics and rubber products	326	219	116	0	1	1	54	*	6	0	4	38
Nonmetallic mineral products	327	29	20	0	*	1	3	*	1	0	1	3
Primary metals	331	20	13	0	0	0	2	*	*	0	6	0
Fabricated metal products	332	222	129	*	12	11	21	2	10	*	1	35
Machinery	333	1,218	638	1	106	7	231	8	70	*	39	116
Agricultural implement	33311	D	88	0	2	*	11	1	D	0	22	4
Semiconductor machinery	333242	48	27	0	1	*	8	2	2	0	2	5
Engine, turbine, and power transmission equipment	3336	D	200	1	4	5	81	1	D	0	3	3
Other machinery	other 333	725	322	1	99	2	132	4	51	*	11	104
Computer and electronic products	334	5,483	3,196	205	152	63	743	67	162	24	156	715
Communications equipment	3342	795	560	0	2	10	34	8	11	*	19	151
Semiconductor and other electronic components	3344	1,950	1,216	204	63	5	24	31	84	23	31	266
Navigational, measuring, electromedical, and control instruments	3345	2,671	1,373	1	86	47	678	28	62	*	104	293
Electromedical, electrotherapeutic, and irradiation apparatus	334510, 334517	619	363	0	61	*	38	8	8	*	71	70
Search, detection, navigation, guidance, aeronautical, and nautical system and instruments	334511	1,976	957	1	16	47	632	18	53	*	32	219
Other measuring and controlling devices	other 3345	77	53	0	9	*	8	2	1	*	*	4



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Scientific research and development services	5417	30,328 i	14,829 i	203 i	1,028 i	337 i	3,780 i	651 i	1,135 i	35 i	2,495 i	5,834 i
Research and development in nanotechnology	541713	102	57	0	11	*	7	1	1	*	1	23
Research and development in biotechnology (except nanobiotechnology)	541714	7,310	3,187 i	22 i	273	3 i	663	66	134	2	1,441 i	1,518
Research and development in the physical, engineering, and life sciences (except nanotechnology and biotechnology)	541715	22,244 i	11,200 i	153 i	713 i	334 i	3,038 i	580 i	999 i	33 i	926 i	4,267 i
Research and development in the social sciences and humanities	541720	672	385	28	31	*	71	4	*	0	128	25
Other professional, scientific, and technical services	other 54	1,184	761	9	168	9	73	28	5	1	14	118
Health care services	621-23	D	40	*	*	*	8	D	D	*	4	D
Other nonmanufacturing	23, 44-45 (excluding 454111-12), 55-56, 624, 71-72, 81	94	D	0	D	*	5	D	D	D	D	3 i
All companies (number of domestic employees)	-	83,489	46,597	1,255	2,923	613 i	8,694	1,179	2,325	280	4,366 i	15,257
Small companies												
10-19 <sup>a</sup>	-	1,269	834	25 i	59 i	18	100	24	14	2 i	30	162
20-49	-	1,907	1,098	10	100	25	227	61	39	2	80	264
Medium companies												
50-99	-	1,990	1,140	48	67	19	265	56	36	23	80	255
100-249	-	3,003	1,770	37	126	17	284	63	97	7	84	518
Large companies												
250-499	-	3,080	1,837	49	190	40	246	74	75	23	98	448
500-999	-	2,795	1,679	19 i	136	39	238	72	70	2 i	124	417
1,000-4,999	-	9,890	4,754	433	720	71	742	152	461	63 i	910 i	1,583
5,000-9,999	-	4,692	2,450	61	318	23	587	11 i	38	6	199	999
10,000-24,999	-	25,072 i	14,024 i	530	757 i	231 i	2,316 i	452 i	985 i	119	2,260 i	3,398 i
25,000 or more	-	29,792	17,012 i	42 i	450	130	3,687	213 i	511	32 i	501	7,214

\* = amount &lt; \$500,000; D = data withheld to avoid disclosing operations of individual companies.; 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> 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&amp;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&amp;D and are not comparable with estimates published for years prior to 2018.

**Source(s):**

National Center for Science and Engineering Statistics and Census Bureau, Business Enterprise Research and Development Survey, 2022.