

TABLE 10

U.S. R&D expenditures, by state, performing sector, and source of funds: 2018

(Millions of current dollars)

State	All R&D	R&D rank	Performer: Source of funds:	Federal	FFRDCs		Business				Higher education <sup>a</sup>						NPOs		State, internal <sup>b</sup>	GDP	GDP rank	R&D intensity <sup>c</sup>		
				Federal	Total	Federal	Nonfederal <sup>d</sup>	Total	Own	Paid by others		Total	Federal	Other government	Business	Higher education	NPO	Other	Federal <sup>f</sup>			Total	Percent	Rank
										Nonfederal <sup>e</sup>	Federal													
U.S. total <sup>g</sup>	606,085	na		36,793	21,563	21,163	400	445,637	381,615	38,823	25,199	74,897	37,736	4,210	4,580	20,704	5,204	2,465	8,451	656	20,611,900	na	2.91	na
States total <sup>g</sup>	579,587	na		32,351	21,172	20,770	401	438,454	375,406	38,337 - 38,568	24,447 - 24,708	79,159	41,856	4,303	4,713	20,370	5,438	2,478	7,816	635	20,495,101	na	2.83	na
Alabama	4,876	26		1,524	0	0	0	2,236	1,284	101	851	1,069	592	54	72	302	33	16	35	11	221,031	27	2.21	24
Alaska	297	50		95	0	0	0	25	20	4	1	165	111	4	3	45	1	1	5	7	54,293	47	0.55	49
Arizona	7,773	21		126	34	24	10	6,203	4,673	715	815	1,359	577	67	33	467	85	130	50	2	350,718	20	2.22	23
Arkansas	852	42		28	0	0	0	471	423	28	19	343	126	66	12	119	9	12	10	*	127,761	35	0.67	47
California	164,398	1		2,138	6,462	6,349	113	144,524	129,656	7,691	7,177	10,175	5,090	445	693	2,249	1,061	636	1,021	78	2,975,083	1	5.53	5
Colorado	7,712	22		469	547	489	58	5,032	4,286	232	514	1,552	1,083	54	86	151	88	90	103	9	372,453	16	2.07	27
Connecticut	8,851	16		20	0	0	0	7,488	6,193	356	939	1,287	709	9	96	360	99	14	34	23	279,782	23	3.16	13
Delaware	2,594	34		3	0	0	0	2,375	1,432	933	9	208	132	14	5	48	5	4	6	3	74,187	43	3.50	12
District of Columbia	5,632	25		4,218	8	8	0	400	278	17	105	630	323	5	22	185	69	27	374	2	138,774	34	4.06	7
Florida	10,516	14		1,083	0	0	0	6,489	4,498	709	1,282	2,726	1,242	276	119	881	153	54	166	52	1,050,298	4	1.00	38
Georgia	7,817	20		229	0	0	0	5,067	4,094	868	105	2,474	1,384	139	141	641	154	14	45	2	602,024	9	1.30	34
Hawaii	633	43		171	0	0	0	146	89	37	20	298	187	20	1	73	15	2	18	*	93,101	39	0.68	46
Idaho	3,172	31		40	395	376	19	2,556	2,376	177	4	171	86	38	3	35	2	7	4	6	79,091	41	4.01	8
Illinois	17,119	10		186	1,106	1,075	31	13,182	12,239	859	84	2,570	1,494	45	172	676	145	38	74	1	863,040	5	1.98	28
Indiana	8,595	18		110	0	0	0	6,976	6,004	861	110	1,505	628	45	88	602	109	33	3	*	368,425	18	2.33	18
Iowa	4,324	28		71	37	36	1	3,315	2,556	94 - 325	434 - 665	886	399	51	47	352	33	4	13	3	190,147	30	2.27	19
Kansas	3,261	30		18	0	0	0	2,593	1,645	940	8	641	254	80	71	201	32	3	7	2	171,719	32	1.90	29
Kentucky	2,044	35		10	0	0	0	1,435	1,178	58	199	597	266	53	23	187	25	43	1	2	207,849	28	0.98	39
Louisiana	1,237	39		61	0	0	0	415	359	37	20	744	290	91	69	224	46	24	3	13	253,236	24	0.49	50
Maine	527	46		9	0	0	0	285	266	14	6	129	58	25	6	33	4	3	102	3	64,557	44	0.82	43
Maryland	23,112	7		11,473	981	981	0	6,016	4,227	463	1,326	4,167	3,211	80	129	519	215	14	472	3	411,619	15	5.61	4
Massachusetts	35,335	8		398	1,768	1,756	12	27,282	22,581	4,037	665	4,060	2,252	35	293	947	387	146	1,819	8	570,464	11	6.19	2
Michigan	25,438	6		161	0	0	0	22,412	20,323	1,829	260	2,781	1,375	63	125	1,055	120	44	83	0	521,803	14	4.87	6
Minnesota	8,744	17		42	0	0	0	7,405	7,021	246	138	1,000	475	87	45	325	42	26	297	1	371,930	17	2.35	17
Mississippi	1,171	40		414	0	0	0	276	250	15	11	479	212	96	14	141	12	4	*	2	113,579	37	1.03	37
Missouri	8,491	19		40	0	0	0	7,171	3,976	195	3,000	1,222	692	8	99	313	97	12	51	8	317,949	22	2.67	15
Montana	462	47		44	0	0	0	180	157	13	10	230	137	12	4	65	7	6	5	3	50,692	49	0.91	41
Nebraska	1,148	41		33	0	0	0	570	513	40	17	536	226	71	30	164	21	24	9	*	124,705	36	0.92	40
Nevada	1,241	38		16	0	0	0	960	638	296	25	260	114	16	4	115	5	6	4	*	169,180	33	0.73	45
New Hampshire	3,089	32		31	0	0	0	2,566	992	292	1,281	471	237	3	14	185	25	7	20	*	84,584	40	3.65	11

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				Federal	Total	Federal	Nonfederal <sup>d</sup>	Total	Own	Nonfederal <sup>e</sup>	Federal	Total	Federal	Other government	Business	Higher education	NPO	Other	Federal <sup>f</sup>			Total	Percent	Rank	
New Jersey	22,873	8		1,152	82	82	0	20,251	16,843	3,222	186	1,359	691	85	54	400	87	42	27	2	612,979	8	3.73	10	
New Mexico	7,026	24		763	5,169	5,103	66	699	374	31	294	368	244	23	5	70	18	7	26	1	100,080	38	7.02	1	
New York	25,822	5		300	553	525	27	17,515	15,370	1,285	860	6,634	3,445	342	430	1,657	522	238	581	241	1,705,010	3	1.51	31	
North Carolina	15,437	11		330	0	0	0	11,716	7,790	3,760	167	3,205	1,828	151	360	627	195	45	166	19	567,452	12	2.72	14	
North Dakota	600	45		30	0	0	0	312	284	26	2	256	86	55	11	92	2	9	1	2	56,287	46	1.07	36	
Ohio	14,273	12		1,989	0	0	0	9,646	6,820	2,081	744	2,370	1,426	103	194	462	154	31	259	8	675,030	7	2.11	25	
Oklahoma	1,664	36		248	0	0	0	868	822	34	13	517	210	66	34	188	12	7	30	1	198,596	29	0.84	42	
Oregon	9,688	15		81	0	0	0	8,751	8,446	225	79	821	545	60	41	100	59	16	19	16	241,978	25	4.00	9	
Pennsylvania	17,481	9		444	143	143	*	12,104	10,633	1,330	141	4,406	2,441	97	277	1,175	280	137	377	7	778,375	6	2.25	21	
Rhode Island	1,412	37		261	0	0	0	703	663	10	29	368	238	16	8	79	22	5	78	2	59,925	45	2.36	16	
South Carolina	2,750	33		103	154	153	1	1,670	1,462	140	68	761	339	28	46	305	27	16	32	28	235,287	26	1.17	35	
South Dakota	344	49		12	0	0	0	201	179	21	1	116	56	21	3	22	6	8	15	*	53,239	48	0.65	48	
Tennessee	4,816	27		264	1,399	1,378	21	1,440	1,184	203	52	1,294	726	35	61	405	49	18	417	2	362,737	19	1.33	33	
Texas	27,214	4		464	5	5	*	20,929	18,267	2,063	599	5,643	2,242	848	396	1,448	441	268	169	3	1,795,635	2	1.52	30	
Utah	4,026	29		168	0	0	0	3,025	2,642	189	194	812	491	34	44	200	33	10	2	18	181,623	31	2.22	22	
Vermont	438	48		4	0	0	0	300	233	49	19	133	90	0	3	30	8	2	0	1	32,981	51	1.33	32	
Virginia	11,084	13		2,112	1,372	1,345	27	5,725	4,092	325	1,307	1,684	780	106	86	550	100	63	178	13	533,510	13	2.08	26	
Washington	33,816	3		174	956	943	13	30,305	29,498	634	173	1,809	1,156	70	73	287	187	35	556	15	575,417	10	5.88	3	
West Virginia	605	44		142	0	0	0	238	209	10	20	212	90	12	11	75	6	18	11	3	77,633	42	0.78	44	
Wisconsin	7,597	23		49	0	0	0	5,966	5,334	539	92	1,542	728	83	50	499	128	53	35	5	337,553	21	2.25	20	
Wyoming	157	51		1	0	0	0	39	34	3	2	113	43	15	6	41	3	6	2	2	39,703	50	0.40	51	
U.S. undistributed <sup>h</sup>	4,050	na		1,466	0	0	0	2,584	2,399	0 - 186	0 - 186	0	0	0	0	0	0	0	0	0	0	na	na	na	na
Puerto Rico	604	na		6	0	0	0	493	476	NA	NA	104	70	3	6	24	1	1	*	na	107,975	na	NA	na	
Other <sup>i</sup>	427	na		401	0	0	0	0	0	0	0	23	19	2	*	*	*	0	3	na	na	na	na	na	na

\* = value &lt; \$0.5 million; na = not applicable; NA = not available.

FFRDC = federally funded R&amp;D center; GDP = gross domestic product; NPO = nonprofit organization.

<sup>a</sup> State-level higher education R&D data have not been adjusted to eliminate the double counting of funds passed through from an academic institution to subrecipients (other academic institutions, businesses, NPOs, and others). At the national level, funds passed through to such subrecipients accounted for 8.0% of total R&D expenditures reported by higher education institutions in FY 2018.<sup>b</sup> Internal performers include state agency and department employees and also services performed by others in support of an internal R&D project.<sup>c</sup> R&D intensity is ratio of total R&D performed in a state to its state GDP.<sup>d</sup> Nonfederal sources of R&D expenditures reported by FFRDCs in FY 2018 included state and local governments (\$44 million), business (\$198 million), NPOs (\$44 million), and all other sources (\$116 million).<sup>e</sup> R&D paid for by nonfederal sources in 2018 included funding from other companies located inside (\$19 billion) or outside (\$18 billion) the United States; U.S. state government agencies (\$120 million); U.S. universities, colleges, and academic researchers (\$77 million); foreign

universities, colleges, and academic researchers (\$5 million); and other organizations located inside (\$380 million) or outside (\$340 million) the United States.

<sup>f</sup> Other sources of support for NPOs were unavailable by state. In 2018, total nonprofit performance is estimated at \$26.5 billion. Business provided an estimated \$2.0 billion to the nonprofit sector, and nonprofit institutions provided an estimated \$16.1 billion.

<sup>g</sup> States totals differ from U.S. totals for several reasons: (a) some R&D expenditures cannot be allocated to 1 of 50 states or the District of Columbia, (b) nonfederal sources of other nonprofit R&D expenditures could not be allocated by state, (c) state-level higher education data have not been adjusted to eliminate double counting of funds passed through from one academic institution to another, and (d) state-level R&D data are not converted from fiscal years to calendar years.

<sup>h</sup> Reported data that could not be assigned to 1 of the 50 states or the District of Columbia.

<sup>i</sup> Includes R&D expenditures reported for outlying areas (Guam, U.S. Virgin Islands, American Samoa) and offices abroad but excluding Puerto Rico.

**Note(s):**

Business R&D data refer to calendar years; the data for the other R&D performers refer to fiscal years but are used here as approximations to calendar year data.

**Source(s):**

National Center for Science and Engineering Statistics, National Patterns of R&D Resources (annual series). State GDP data are from the Bureau of Economic Analysis, <http://www.bea.gov/regional/index.htm>, accessed 20 November 2020.