

TABLE 10
U.S. R&D expenditures, by state, performing sector, and source of funds: 2020

(Millions of current dollars)

State	All R&D	R&D rank	Performer:	Federal	FFRDCs		Business				Higher education ^a						NPOs	State, internal ^b	GDP	GDP rank	R&D intensity ^c			
			Source of funds:	Federal	Total	Federal	Nonfederal ^d	Total	Own	Paid by others		Total	Federal	Other government	Business	Higher education	NPO	Other			Total	Total	Percent	Rank
										Nonfederal ^e	Federal													
U.S. total ^f	716,955	na		40,371	23,866	23,478	389	543,220	470,436	43,012	29,772	80,842	41,462	4,464	4,837	22,252	5,284	2,544	27,973	683	21,060,474	na	3.40	na
States total ^g	713,526	na		38,373	23,514	23,134	381	536,816	465,455	41,987 - 43,163	28,195 - 29,371	86,158	46,047	4,592	5,180	21,919	5,744	2,676	27,973	692	20,925,236	na	3.41	na
Alabama	5,701	27		1,443	0	0	0	2,937	1,329	112	1,497	1,187	669	65	71	329	37	16	121	14	230,892	27	2.47	22
Alaska	339	50		87	0	0	0	47	43	2	1	178	118	5	4	46	2	3	17	11	50,475	49	0.67	48
Arizona	9,056	21		264	73	70	3	7,110	4,899	754	1,457	1,499	647	81	42	495	99	135	109	2	382,072	17	2.37	26
Arkansas	892	42		41	0	0	0	414	360	38	16	371	136	72	20	127	12	5	65	*	133,969	36	0.67	49
California	217,976	1		3,458	6,756	6,650	105	193,063	175,459	9,024	8,580	10,911	5,524	438	733	2,390	1,127	701	3,707	81	3,020,173	1	7.22	4
Colorado	10,297	15		626	700	632	68	7,145	6,042	216	887	1,666	1,186	53	87	190	94	56	148	12	391,263	16	2.63	20
Connecticut	9,486	18		15	0	0	0	7,902	6,487	393	1,022	1,401	761	12	85	430	102	11	143	26	276,223	23	3.43	12
Delaware	2,749	34		3	0	0	0	2,499	1,688	804	7	244	157	11	7	60	5	5	0	2	75,819	43	3.63	11
District of Columbia ^h	7,440	25		4,511	9	9	0	659	509	31	118	685	333	5	27	193	90	37	1,574	3	144,720	34	5.14	6
Florida	11,888	14		766	0	0	0	7,885	5,762	838	1,284	2,723	1,278	252	114	890	131	57	461	52	1,116,727	4	1.06	41
Georgia	8,455	23		198	0	0	0	5,389	4,426	814	149	2,782	1,627	172	141	703	122	17	83	3	625,426	8	1.35	35
Hawaii	794	45		91	0	0	0	279	216	37	25	298	184	19	3	78	13	1	120	7	82,536	41	0.96	43
Idaho	2,929	31		37	494	481	13	2,210	2,139	66	5	171	86	40	3	36	2	3	10	8	85,928	40	3.41	13
Illinois	19,203	10		181	1,160	1,140	20	14,097	13,415	582	101	2,765	1,666	39	169	697	156	39	1,001	1	856,943	5	2.24	28
Indiana	10,303	16		243	0	0	0	8,305	7,202	976	126	1,734	756	47	112	627	129	64	21	*	373,782	20	2.76	17
Iowa	4,480	28		71	33	32	*	3,455	2,664	0 - 588	204 - 792	917	430	43	46	360	32	6	1	3	196,983	30	2.27	27
Kansas	3,616	30		93	0	0	0	2,771	1,956	799	15	740	319	72	111	204	29	4	12	1	177,581	32	2.04	31
Kentucky	1,911	35		7	0	0	0	1,259	852	320	87	641	302	50	22	202	20	46	2	2	216,866	28	0.88	45
Louisiana	1,453	37		53	0	0	0	535	475	30	30	798	309	97	99	227	40	25	55	11	232,528	26	0.62	50
Maine	769	44		8	0	0	0	434	385	32	18	151	66	22	3	54	4	2	172	4	70,740	44	1.09	39
Maryland	27,853	8		14,521	1,040	1,040	0	5,923	3,964	593	1,366	4,745	3,735	87	137	550	225	11	1,624	1	410,931	15	6.78	5
Massachusetts	44,907	3		573	1,917	1,892	24	32,737	27,704	3,861	1,172	4,361	2,414	42	330	996	426	153	5,310	10	585,150	12	7.67	2
Michigan	24,898	6		115	0	0	0	21,589	18,507	2,812	269	2,868	1,425	63	128	1,081	129	42	326	*	520,105	14	4.79	7
Minnesota	10,301	17		61	0	0	0	7,824	7,421	229	175	1,087	524	86	51	354	45	26	1,327	3	376,814	19	2.73	18
Mississippi	1,098	41		300	0	0	0	278	244	25	9	507	269	112	10	99	15	2	12	1	115,123	37	0.95	44
Missouri	8,229	22		126	0	0	0	6,502	4,581	150	1,771	1,444	822	30	118	351	112	12	149	8	330,250	22	2.49	21
Montana	608	47		65	0	0	0	242	224	9	9	290	161	25	4	91	7	2	4	6	52,356	48	1.16	37

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			Source of funds:	Federal	Total	Federal	Nonfederal ^d	Total	Own	Paid by others		Total	Federal	Other government	Business	Higher education	NPO	Other	Total			Total	Percent	Rank
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Nebraska	1,492	39		39	0	0	0	838	769	44	25	587	255	71	31	181	23	26	26	2	134,581	35	1.11	38
Nevada	1,252	40		20	0	0	0	931	707	195	29	296	110	12	6	152	7	10	5	*	172,563	33	0.73	47
New Hampshire	3,332	32		63	0	0	0	2,755	1,093	0 - 588	1,074 - 1,662	484	244	6	13	189	26	8	29	*	88,338	39	3.77	10
New Jersey	24,121	7		570	108	104	4	22,009	18,054	3,722	234	1,386	679	104	87	302	131	83	46	3	620,086	9	3.89	9
New Mexico	8,438	24		688	6,135	6,076	58	1,140	857	43	240	376	247	27	6	75	13	8	97	3	98,790	38	8.54	1
New York	36,559	5		1,379	595	570	26	23,414	21,062	1,326	1,026	7,156	3,732	405	510	1,675	530	305	3,735	279	1,740,805	3	2.10	30
North Carolina	18,064	11		349	0	0	0	13,369	9,242	4,010	118	3,386	1,940	164	329	685	214	55	942	18	598,916	11	3.02	15
North Dakota	679	46		37	0	0	0	342	331	10	1	267	76	65	13	105	2	6	33	*	54,423	47	1.25	36
Ohio	16,647	12		1,885	0	0	0	11,005	7,511	2,552	941	2,519	1,554	74	216	498	129	48	1,236	2	684,383	7	2.43	24
Oklahoma	1,892	36		185	0	0	0	1,012	945	28	39	604	243	61	38	243	14	5	89	2	190,064	31	1.00	42
Oregon	11,537	19		89	0	0	0	10,472	10,190	213	70	895	609	58	49	110	51	17	65	16	247,967	24	4.65	8
Pennsylvania	21,687	9		420	141	141	*	15,443	13,544	1,612	287	4,820	2,631	104	318	1,385	294	89	855	8	771,613	6	2.81	16
Rhode Island	1,638	38		351	0	0	0	700	581	15	104	396	265	15	7	84	18	7	188	3	60,771	45	2.70	19
South Carolina	2,628	33		108	176	173	3	1,567	1,337	133	97	743	349	39	43	273	26	12	7	28	245,360	25	1.07	40
South Dakota	344	51		17	0	0	0	216	209	6	1	111	51	19	3	19	5	13	1	*	55,681	46	0.62	51
Tennessee	6,187	26		786	1,633	1,617	16	1,820	1,568	183	69	1,399	766	37	83	433	60	19	548	2	379,007	18	1.63	34
Texas	34,589	4		810	7	6	0	26,084	22,834	1,985	1,265	6,620	2,678	911	464	1,821	471	274	1,065	3	1,789,933	2	1.93	32
Utah	4,452	29		177	0	0	0	3,285	2,981	243	61	951	581	29	50	241	40	10	33	6	202,133	29	2.20	29
Vermont	574	49		4	0	0	0	368	295	64	9	194	100	1	4	74	9	6	7	1	34,019	51	1.69	33
Virginia	13,317	13		2,019	1,468	1,445	23	7,235	5,072	429	1,734	1,921	876	124	94	638	109	80	661	13	556,993	13	2.39	25
Washington	46,392	2		282	1,071	1,054	17	41,615	40,576	773	265	1,827	1,196	81	71	225	211	43	1,573	23	612,969	10	7.57	3
West Virginia	556	48		56	0	0	0	229	203	8	17	218	95	12	7	80	7	17	50	3	76,548	42	0.73	46
Wisconsin	8,346	20		57	0	0	0	6,430	5,506	837	87	1,747	809	126	61	549	150	53	107	5	340,591	21	2.45	23
Wyoming	1,169	43		26	0	0	0	1,047	1,035	9	2	93	57	5	5	25	1	0	0	3	36,330	50	3.22	14
U.S. undistributed ⁱ	2,050	na		1,243	0	0	0	807	707	0 - 101	0 - 101	0	0	0	0	0	0	0	0	0	0	na	na	na
Puerto Rico	656	na		6	0	0	0	533	515	NA	NA	111	76	2	4	26	1	2	0	na	105,428	na	na	na
Other ^j	69	na		42	0	0	0	0	0	0	0	27	22	3	*	2	*	0	0	na	na	na	na	na

* amount > \$0.5 million; na = not applicable; NA = not available.

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

^a 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% of total R&D expenditures reported by higher education institutions in FY 2020.

^b Internal performers include state agency and department employees and services performed by others in support of an internal R&D project.

^c R&D intensity is the ratio of total R&D performed in a state to its state GDP.

^d Nonfederal sources of R&D expenditures reported by FFRDCs in FY 2020 included state and local governments, business, NPOs, and other sources.

^e R&D paid for by nonfederal sources included funding from other companies located inside or outside the United States; U.S. state government agencies; U.S. universities, colleges, and academic researchers; foreign universities, colleges, and academic researchers; and organizations located inside or outside the United States.

^f U.S. R&D totals as reported by the NCSES *National Patterns of R&D Resources* series, 2020-21 edition. (See tables 1–9 in this report.)

^g The states totals differ from U.S. totals for several reasons: (1) some R&D expenditures cannot be allocated to any 1 of the 50 states or the District of Columbia; (2) data are not available to allocate the portion of business R&D performed by companies with fewer than 10 employees (\$5.6 billion in 2020) by state; (3) the state-level higher education data have not been adjusted to eliminate the double counting of funds passed through to other performers; and (4) state-level R&D data are not converted from fiscal years to calendar years.

^h Federal total excludes \$9.9 billion in federally funded R&D performed by others.

ⁱ Reported R&D expenditures that could not be assigned to any of the 50 states or the District of Columbia.

^j 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 U.S. Bureau of Economic Analysis, <https://www.bea.gov/data/gdp/gdp-state>, accessed 23 October 2022.