

State Indicators

S-45 Business-Performed R&D as a Percentage of Private-Industry Output

Description

This indicator represents the role of R&D in a state's business activity. The business sector is the largest performer of U.S. R&D. The overwhelming majority of business R&D performance is self-funded. A high value for this indicator indicates that the businesses within a state are making a large investment in their R&D activities in that state. Values for this indicator vary greatly across the nation, and business-performed R&D is often concentrated in a handful of states.

The methodology for data collection, assignment to individual states, and developing estimates of R&D funding and performance has changed during the last decade as the transition was made from the National Center for Science and Engineering Statistics' Survey of Industrial R&D to the Business R&D and Innovation Survey. The U.S. total for industrial R&D spending is consistent between these two surveys. Estimates for states with smaller economies are generally less precise than those for states with larger economies.

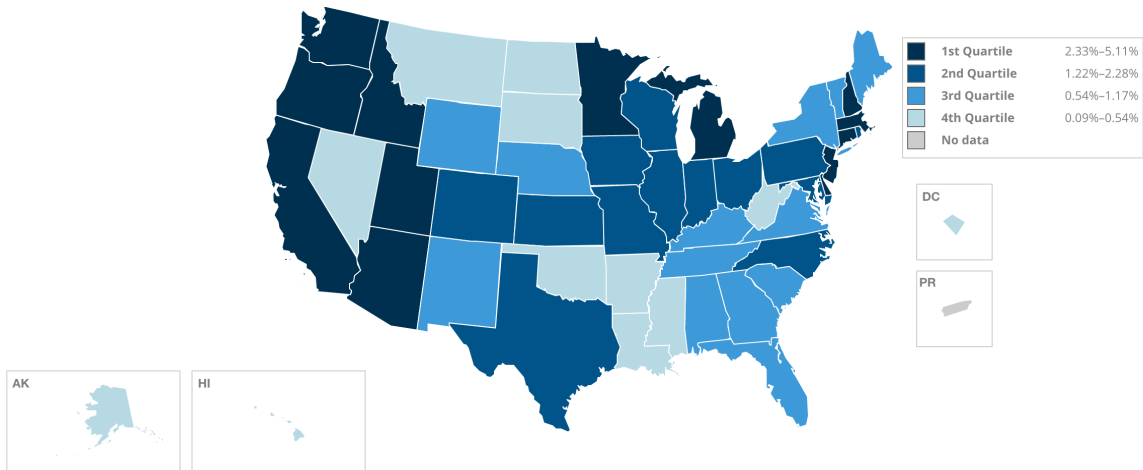
Private-industry output is the portion of state gross domestic product contributed by state businesses. Data for private-industry output come from the Bureau of Economic Analysis.

Data sources: National Science Foundation, National Center for Science and Engineering Statistics, Survey of Industrial Research and Development and Business R&D and Innovation Survey; U.S. Bureau of Economic Analysis, Gross Domestic Product data.

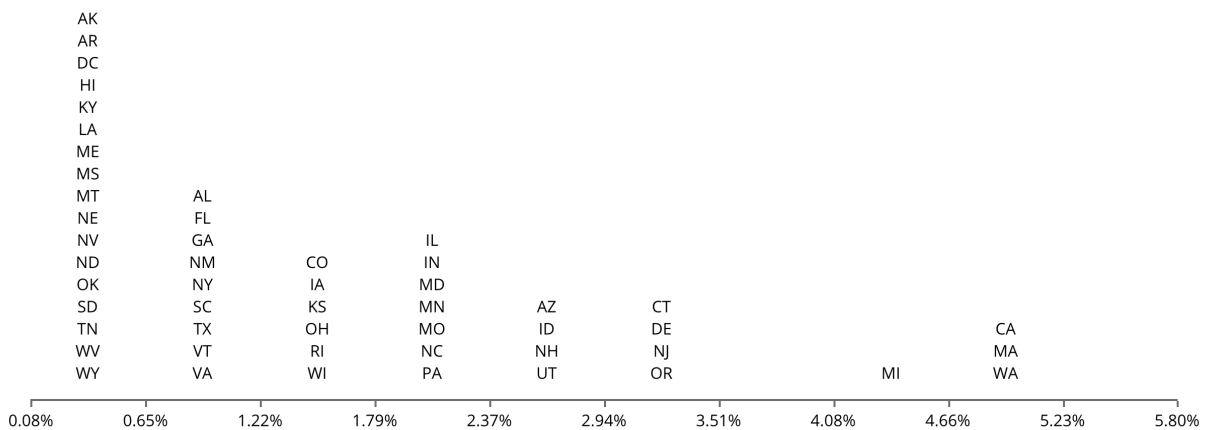
State Indicators

S-45 Business-Performed R&D as a Percentage of Private-Industry Output

2016



Distribution of states across indicator values, 2016



Histograms do not display states with extreme values. Please consult the data tables for exact indicator values for each state. State positions on the histogram are based on unrounded values of the indicator and may not always match the rounded values displayed in the table.

State Indicators

Business-Performed R&D as a Percentage of Private-Industry Output

(Percent)

State	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
United States	2.11	2.14	2.19	2.26	2.19	2.04	2.02	1.96	1.99	2.06
Alabama	0.68 i	0.92	0.85	0.82 i	0.88	0.79	0.89	1.00	1.08	1.33
Alaska	0.12 i	0.20 e	0.43 e	0.23 e	0.30	0.22 e	0.14 e	0.12 e	0.10 e	0.13 e
Arizona	1.62	1.44	1.55 i	1.51 i	1.81	2.06	1.56	1.45	1.51	1.66
Arkansas	0.22	0.39 e	0.56	0.66	0.41 e	0.35 e	0.39	0.39	0.34	0.35
California	3.60	3.26	3.48	3.80	3.73	3.39	3.50	3.25	3.27	3.54
Colorado	1.92	2.43	2.27	1.97	1.87	1.68	2.05	2.26	2.24	2.30
Connecticut	2.38	2.50	2.96 i	2.70 i	2.96	3.80	3.54	3.97	4.17	4.15
Delaware	3.30 i	3.99 i	3.42 i	3.57 i	2.81	2.86	2.92	2.22	3.14	2.85
District of Columbia	NA	1.80 i	0.74 e	0.51 e	0.58	0.44	0.50	0.35 e	0.31	0.48
Florida	0.98	0.86	0.85	0.87 i	0.81	0.75	0.60	0.62	0.67	0.62
Georgia	0.60	0.70	0.75	0.80 i	0.68	0.74	0.71	0.68	0.67	0.79
Hawaii	0.29	0.19 e	0.22 e	0.28 e	0.27	0.29	0.34	0.31	0.36	0.31
Idaho	4.72 i	4.17 i	4.23	4.15	2.77	3.01	2.16	1.84	1.60	1.43
Illinois	1.64	1.84	1.94	1.89 i	1.82	1.66	1.75	1.71	1.85	1.93
Indiana	1.72	1.73	1.62 i	1.56 i	1.92	1.85	1.80	1.96	2.09 i	2.13
Iowa	0.78	0.99	0.94	0.91	0.97	0.85	0.89	0.92	0.95	0.93
Kansas	1.75 i	2.02 i	2.03 i	1.77 i	1.69 i	1.81 i	2.03 i	2.13 i	2.22 i	2.12 i
Kentucky	0.40	0.64	0.77	0.77	0.62	0.62	0.55	0.49	0.54	0.65
Louisiana	0.17	0.36 e	0.47 e	0.31 e	0.26 e	0.20 e	0.21	0.21	0.17	0.20
Maine	0.31	0.49	0.70	0.80	0.74	0.72 i	0.55	0.55	0.88	0.61
Maryland	1.12	1.41	1.40	1.44	2.23	2.19	1.71	1.93	1.75	1.54
Massachusetts	3.95	4.68	4.15	4.19	4.43	3.92	3.95	4.02	4.34	4.86

State Indicators

State	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Michigan	4.81	4.48	5.58	5.57 i	4.59	4.19	4.56	4.47	4.79	4.72
Minnesota	2.23	2.25	2.36	2.33	2.49	2.46	2.59	2.52	2.90	2.82
Mississippi	0.15	0.36 e	0.42 e	0.44 e	0.39 e	0.39	0.33	0.25	0.29	0.32
Missouri	0.89 i	0.99	1.05	1.19	1.06	0.92	0.97	1.14	1.32	1.31
Montana	0.58	0.37	0.53 e	0.43 e	0.37 e	0.33	0.31	0.30	0.30 i	0.37 i
Nebraska	0.16	0.43 e	0.46 e	0.68 e	0.59	0.65	0.63	0.63	0.64	0.67
Nevada	0.71	0.83	0.77	0.63	0.40	0.44	0.47	0.44	0.36	0.46
New Hampshire	1.92	3.15	3.10	1.78	3.21	2.65	2.95	2.77	2.83	3.35 i
New Jersey	4.02	3.87	3.35	3.24	3.01	3.31	3.13	2.91	3.36	3.53
New Mexico	3.21 i	3.78 i	3.34 i	2.86 i	0.55	0.76	0.71	0.84	0.71	1.13
New York	1.58 i	1.57	1.76	1.58	1.40	1.17	1.07	1.04	1.05	1.00
North Carolina	1.77	1.61	1.62	1.88	1.75	1.42	1.63	1.59	1.67	1.63
North Dakota	0.25	0.33 e	0.66 e	0.55 e	2.18	0.91	1.16	1.94 i	0.50	0.54
Ohio	1.84	1.77	1.94	1.78	1.90	1.70	1.65	1.38	1.43	1.61
Oklahoma	0.64	0.54	0.80 e	0.61	0.67 e	0.50	0.65	0.43	0.40	0.41
Oregon	1.26	1.47	1.52	1.51	2.67	2.23 i	2.69	2.47	2.52	2.37
Pennsylvania	2.08 i	2.21	2.14	2.32	2.36	1.81	1.75	1.86	1.96	2.10
Rhode Island	2.85 i	5.08 i	4.77 i	3.96 i	3.67 i	3.42	3.45 i	3.54 i	3.56 i	3.24 i
South Carolina	0.94 i	1.12	0.98	1.08	0.91	1.00	0.88	0.84	1.16	1.10
South Dakota	0.16	0.23 e	0.31 e	0.45 e	0.42 e	0.23	0.31	0.27	0.25	0.34
Tennessee	0.80	1.67	1.43	1.03	0.91	0.75	0.84	0.85	0.62	0.68
Texas	1.34	1.56	1.43	1.53	1.43	1.55	1.50	1.37	1.41	1.37
Utah	2.14	2.14	1.84	1.78	1.89	1.74	1.48	1.50	1.53	1.39
Vermont	1.82	0.81	2.31	2.43	2.02	1.63 i	1.95	2.17	1.78	1.73
Virginia	0.99	1.32	1.29	1.21	1.26	1.21	1.37	1.48	1.48	1.55
Washington	3.99 i	3.92 i	3.55 i	4.02 i	4.35 i	4.03	4.19	3.84 i	3.84	4.18

State Indicators

State	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
West Virginia	NA	0.99	1.00	0.92	0.57	0.70	0.57	0.49	0.55	0.47
Wisconsin	1.23	1.32	1.42	1.49	1.47 i	1.52 e	1.45	1.38	1.36	1.44
Wyoming	0.23	0.16 e	0.49 e	0.25 e	0.18 e	0.13	0.21	0.12	0.13	0.09 e
Puerto Rico	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

e = more than 50% of the cell value is imputed due to raking of state data

NA = not available

Note(s):

The national total for business-performed R&D in the United States includes undistributed business-performed R&D and states with suppressed data. Please see source for information on estimation techniques. The national private industry output value for the United States does not include territories.

Source(s):

National Science Foundation, National Center for Science and Engineering Statistics, Survey of Industrial Research and Development and Business R&D and Innovation Survey (various years), data as of August 2018; U.S. Bureau of Economic Analysis, Gross Domestic Product data (various years), data as of May 2018.

Recommended Citation: National Science Board. 2018. "Business-Performed R&D as a Percentage of Private-Industry Output." Science and Engineering Indicators 2018, State Indicators. Alexandria, VA: National Science Foundation (NSB-2018-1). <https://www.nsf.gov/statistics/state-indicators/indicator/business-performed-rd-to-private-industry-output>

Last updated: March 4, 2019

Science and Engineering Indicators 2018

State Indicators

Business-Performed R&D as a Percentage of Private-Industry Output

(Percent)

State	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
United States	2.14	2.29	2.29	2.18	2.20	2.17	2.23	2.25	2.26	2.31
Alabama	1.25	2.17	1.14	1.01	1.27	0.84	0.99	1.22	0.94	1.00
Alaska	0.14 e	0.15	0.17	0.17	0.17 e	0.08 e	0.09	0.12 e	0.16 e	0.09 e
Arizona	1.68	2.37	2.26	1.94	2.27	2.19	2.25	2.27	2.17	2.45
Arkansas	0.40	0.51	0.84	0.31	0.37	0.32	0.29	0.31	0.29	0.35
California	3.75	3.92	3.93	3.82	4.25	4.40	4.59	4.77	4.90	5.11
Colorado	2.42	1.80	1.85	1.78	1.89	1.73	1.80	1.70	1.58	1.54
Connecticut	4.42	4.91	5.08	3.09	3.58	3.42	3.72	4.16	3.77	3.47
Delaware	2.87	NA	4.00	4.19	3.92	4.47	4.23 i	4.22	4.24	3.23
District of Columbia	0.62	0.89	1.07	0.36	0.61	0.37	0.67	0.44	0.37	0.39
Florida	0.68	0.64	0.69	0.81	0.93	0.79	0.84	0.79	0.74	0.76
Georgia	0.76	0.94	1.12	1.03	1.05	1.02	1.02	1.11	1.04	1.12
Hawaii	0.42	0.51	0.47	0.49	0.47	0.33	0.37 i	0.33	0.29	0.24
Idaho	1.55	2.01	2.22	2.38 i	2.41	2.17	2.36	2.65	2.75	2.69
Illinois	1.95	1.55	1.62	2.10	1.98	2.04	2.02	1.83	1.81	1.91
Indiana	2.02	2.03	2.23	1.96	2.34	2.23	2.29	1.99	2.07	1.90
Iowa	0.98	1.24	1.62	1.57	1.76	1.26	1.43	1.38	1.58	1.73
Kansas	1.24	1.46	1.53	1.36	1.29	1.71	1.57	1.51	1.62	1.64
Kentucky	0.67	0.70	0.75	0.64	0.88	0.72	0.83	0.73	0.79	0.64
Louisiana	0.20 e	0.21	0.22	0.21	0.22	0.17 i	0.17	0.18	0.19 i	0.13
Maine	0.63	0.72	1.24	0.57	0.67	0.61	0.80	0.78	0.61	0.57
Maryland	1.60	1.85	1.89	1.77	2.00	1.54	1.78	1.85	1.78	1.88
Massachusetts	5.80	4.41	4.24	3.94	4.28	4.54	4.43	5.16	4.91	4.77

State Indicators

State	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Michigan	4.44	4.09	3.82	3.63	3.90	4.06	4.19	4.32	4.09	4.34
Minnesota	2.86	2.43	3.01	2.60	2.44	2.37	2.42	2.44	2.33	2.33
Mississippi	0.37	0.31	0.34	0.31	0.30	0.33	0.25	0.31	0.25	0.25
Missouri	1.30	NA	NA	3.64 i	NA	3.00 i	2.97 i	2.71 i	2.37 i	2.28 i
Montana	0.44	0.48	0.48	0.45	0.39	0.29 i	0.25	0.53	0.57 i	0.35
Nebraska	0.69	0.76	0.80	0.66	0.73	0.65	0.67	0.60	0.57	0.58
Nevada	0.48	0.59	0.59	0.67	0.58	0.57	0.46	0.54	0.30	0.44
New Hampshire	3.36 i	4.04	NA	3.26	3.62	3.16	3.39	3.25	2.90	2.77
New Jersey	4.19	4.38	4.34	3.70	3.20	3.46	2.98	2.86	2.82	3.06
New Mexico	0.91	1.10	0.99	0.83	0.69	0.65	0.75	0.68	0.70	0.68
New York	1.11	1.17	1.09	1.04	1.12	1.02	1.03	1.12	1.18	1.17
North Carolina	2.00	1.75	1.60	1.63	1.70	1.67	2.07	1.97	1.98	2.24
North Dakota	0.51	1.06	0.83	0.76	0.70	0.47	0.46	0.50	0.42	0.54
Ohio	1.67	1.71	1.63	1.58	1.50	1.60	1.63	1.69	1.66	1.60
Oklahoma	0.43	0.45	0.43	0.39	0.44	0.31	0.32	0.36	0.41	0.46
Oregon	2.40 i	2.55	2.57	2.61	2.62	2.97 i	3.25	3.62	3.34	3.26
Pennsylvania	2.08	1.89	1.96	1.75	1.77	1.63	1.82	1.76	1.62	1.89
Rhode Island	1.01	1.34	1.13	1.27	1.29	1.04	1.28	1.17	1.55	1.76 i
South Carolina	1.06	0.91	0.95	0.97	0.99	1.11	0.67	0.68	0.76	0.73
South Dakota	0.43	0.41	0.45	0.36	0.37	0.30	0.41	0.33	0.33	0.35
Tennessee	0.76	0.74	0.69	0.56	0.62	0.59	0.56	0.60	0.56	0.55
Texas	1.32	1.45	1.49	1.31	1.28	1.18	1.13	1.13	1.20	1.22
Utah	1.75	1.95	2.16	2.06	2.30	1.94	2.56	2.30	2.51	2.52
Vermont	1.94	1.95	1.93	1.38	1.59 i	1.94 i	1.67 i	1.21	0.96	0.93
Virginia	1.51	1.90	1.87	1.37	1.61	1.33	1.22	1.34 i	1.15	0.95
Washington	4.26	4.58	5.58	4.45	4.62	4.38	4.28	4.28	4.32	4.77

State Indicators

State	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
West Virginia	0.47	0.64	0.66	0.43	0.41	0.51	0.51	0.45	0.33	0.30
Wisconsin	1.58	1.76	1.69	1.77	1.76	1.73	1.70	1.66	1.73	1.77
Wyoming	0.12 e	0.17	0.15	0.12 e	0.13 e	0.09 e	0.08 e	0.17	0.53	0.54
Puerto Rico	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

e = more than 50% of the cell value is imputed due to raking of state data

NA = not available

Note(s):

The national total for business-performed R&D in the United States includes undistributed business-performed R&D and states with suppressed data. Please see source for information on estimation techniques. The national private industry output value for the United States does not include territories.

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Science and Engineering Indicators 2018

State Indicators

Business-performed domestic R&D

State	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
United States	157,539	169,180	184,129	201,962	202,017	193,868	200,724	208,301	226,159	247,669
Alabama	589 i	845	823	821 i	905	846	992	1,227	1,417	1,835
Alaska	24 i	37 e	82 e	48 e	68	51 e	36 e	35 e	32 e	49 e
Arizona	1,854	1,801	2,109 i	2,182 i	2,707	3,201	2,604	2,570	2,980	3,590
Arkansas	118	213 e	326	400	254 e	225 e	270	287	271	285
California	34,011	32,856	38,169	45,455	44,628	42,177	46,401	46,614	50,683	58,424
Colorado	2,248	3,180	3,266	3,143	3,082	2,823	3,543	4,008	4,299	4,657
Connecticut	3,014	3,346	4,145 i	4,132 i	4,686	6,077	5,834	7,177	7,885	8,273
Delaware	1,009 i	1,356 i	1,295 i	1,468 i	1,232	1,219	1,298	1,059	1,511	1,446
District of Columbia	NA	598 i	268 e	196 e	242	194	235	182 e	166	276
Florida	3,442	3,265	3,482	3,773 i	3,755	3,707	3,155	3,486	4,164	4,139
Georgia	1,273	1,617	1,904	2,159 i	1,912	2,107	2,104	2,160	2,282	2,786
Hawaii	87	55 e	68 e	93 e	93	103	133	131	168	155
Idaho	1,181 i	1,103 i	1,239	1,363	884	992	745	681	642	625
Illinois	6,248	7,318	8,102	8,393 i	8,232	7,616	8,319	8,554	9,712	10,765
Indiana	2,677	2,922	2,863 i	2,888 i	3,583	3,572	3,658	4,208	4,610 i	4,858
Iowa	578	750	730	762	817	753	833	963	1,039	1,055
Kansas	1,136 i	1,384 i	1,448 i	1,327 i	1,299 i	1,427 i	1,675 i	1,804 i	1,993 i	2,064 i
Kentucky	359	606	777	762	636	656	601	565	660	839
Louisiana	172	377 e	516 e	364 e	316 e	248 e	289	311	300	367
Maine	83	137	208	255	249	250 i	200	213	350	253
Maryland	1,425	1,905	2,020	2,213	3,682	3,800	3,118	3,826	3,706	3,421
Massachusetts	8,300	10,367	9,781	10,857	11,756	10,609	11,092	11,819	13,342	15,562
Michigan	13,009	12,554	16,877	17,489 i	14,283	13,565	15,217	15,170	16,752	16,477

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State	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Minnesota	3,116	3,367	3,695	3,971	4,355	4,460	5,003	5,199	6,340	6,296
Mississippi	73	183 e	224 e	242 e	219 e	224	199	160	194	231
Missouri	1,290 i	1,505	1,664	1,978	1,792	1,592	1,742	2,151	2,602	2,675
Montana	92	63	92 e	78 e	70 e	66	65	70	77 i	103 i
Nebraska	71	195 e	217 e	335 e	306	342	363	383	407	447
Nevada	380	476	490	433	290	339	383	417	382	535
New Hampshire	652	1,138	1,157	722	1,339	1,153	1,349	1,330	1,435	1,774 i
New Jersey	11,069	11,107	10,145	10,580	10,164	11,566	11,405	10,993	13,214	14,606
New Mexico	1,310 i	1,450 i	1,352 i	1,203 i	231	331	338	450	405	676
New York	9,939 i	10,283	12,260	11,622	10,884	9,234	8,528	8,793	9,474	9,518
North Carolina	3,590	3,483	3,754	4,535	4,437	3,704	4,423	4,565	5,158	5,486
North Dakota	33	46 e	95 e	83 e	347	154	216	379 i	104	120
Ohio	5,608	5,742	6,531	6,245	6,694	6,230	6,258	5,516	5,900	6,852
Oklahoma	428	369	562 e	463	543 e	412	576	410	422	474
Oregon	1,102	1,345	1,408	1,533	2,677	2,320 i	2,956	3,057	3,252	3,419
Pennsylvania	6,609 i	7,393	7,474	8,473	8,967	7,064	7,091	8,005	8,846	9,819
Rhode Island	704 i	1,332 i	1,317 i	1,167 i	1,134 i	1,121	1,203 i	1,320 i	1,387 i	1,330 i
South Carolina	783 i	996	922	1,059	921	1,054	976	961	1,402	1,396
South Dakota	26	40 e	57 e	89 e	87 e	53	75	72	68	95
Tennessee	1,089	2,440	2,205	1,644	1,503	1,289	1,507	1,630	1,246	1,428
Texas	7,265	8,984	8,661	10,048	9,839	10,744	11,008	10,992	12,438	13,334
Utah	1,027	1,119	1,028	1,063	1,173	1,116	996	1,089	1,234	1,274
Vermont	246	114	346	389	339	286 i	360	423	360	360
Virginia	1,767	2,540	2,662	2,683	2,957	2,920	3,492	4,006	4,379	4,816
Washington	6,610 i	7,072 i	7,093 i	8,235 i	8,933 i	8,579	9,220	8,840 i	9,736	11,320
West Virginia	NA	335	351	329	211	264	219	202	242	221



State Indicators

State	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Wisconsin	1,707	1,929	2,194	2,415	2,469 i	2,649 e	2,623	2,645	2,729	3,020
Wyoming	28	20 e	65 e	37 e	28 e	21	37	23	30	27 e
Puerto Rico	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NA = not available										
<i>Science and Engineering Indicators 2018</i>										

State Indicators

Business-performed domestic R&D

State	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
United States	269,267	290,681	282,393	278,977	294,093	302,250	322,528	340,728	355,821	374,685
Alabama	1,771	3,099	1,562	1,449	1,879	1,284	1,563	1,961	1,561	1,694
Alaska	58 e	69	71	74	84 e	39 e	46	57 e	66 e	34 e
Arizona	3,846	5,232	4,682	4,054	4,931	4,962	5,208	5,499	5,515	6,472
Arkansas	339	443	709	276	344	305	288	317	302	366
California	64,187	67,532	64,939	64,914	75,035	81,689	89,373	98,488	107,982	117,569
Colorado	5,223	4,019	3,960	3,899	4,310	4,105	4,522	4,551	4,362	4,355
Connecticut	9,444	10,518	10,638	6,498	7,504	7,343	8,010	9,093	8,533	7,987
Delaware	1,472	NA	2,046	2,144	2,097	2,415	2,310 i	2,520	2,681	2,069
District of Columbia	379	571	672	235	415	260	488	338	299	328
Florida	4,569	4,178	4,329	5,127	5,988	5,211	5,795	5,783	5,816	6,273
Georgia	2,788	3,344	3,905	3,644	3,839	3,875	4,023	4,635	4,614	5,245
Hawaii	218	269	240	257	252	188	214 i	196	186	164
Idaho	726	961	1,015	1,120 i	1,171	1,079	1,238	1,448	1,554	1,590
Illinois	11,362	8,900	9,188	12,221	12,038	13,001	13,096	12,371	12,710	13,733
Indiana	4,939	4,991	5,220	4,985	6,158	6,044	6,479	5,901	6,252	5,949
Iowa	1,202	1,509	1,943	1,950	2,314	1,763	2,052	2,098	2,539	2,862
Kansas	1,304	1,600	1,616	1,492	1,509	2,072	1,942	1,934	2,126	2,204
Kentucky	890	933	986	889	1,278	1,074	1,279	1,158	1,292	1,070
Louisiana	373 e	411	416	428	459	363 i	354	386	400 i	274
Maine	265	308	530	251	295	275	365	373	298	290
Maryland	3,665	4,333	4,492	4,384	5,101	4,028	4,770	5,124	5,136	5,676
Massachusetts	19,488	15,028	14,422	14,020	15,722	17,491	17,395	21,105	21,484	21,560
Michigan	15,736	13,742	11,999	12,144	13,660	14,912	15,925	17,077	17,136	18,847

State Indicators

State	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Minnesota	6,636	5,728	6,880	6,246	6,174	6,216	6,614	6,975	6,820	7,084
Mississippi	279	252	260	243	235	273	211	269	216	222
Missouri	2,736	NA	NA	8,106 i	NA	6,982 i	7,174 i	6,720 i	6,078 i	5,958 i
Montana	134	148	144	145	136	105 i	92	205	225 i	140
Nebraska	489	561	602	527	636	578	627	590	578	604
Nevada	567	677	619	709	638	634	525	631	381	574
New Hampshire	1,814 i	2,169	NA	1,818	2,069	1,857	2,045	2,041	1,932	1,919
New Jersey	17,892	19,054	18,404	15,925	13,930	15,810	14,022	13,743	14,113	15,715
New Mexico	568	735	623	546	472	445	519	499	502	487
New York	10,916	11,455	10,919	10,954	12,072	11,732	12,032	13,818	15,329	15,714
North Carolina	6,829	6,246	5,531	5,749	6,193	6,254	8,083	8,091	8,572	10,064
North Dakota	126	303	231	236	261	222	229	271	211	254
Ohio	7,265	7,405	6,811	6,857	6,993	7,755	8,118	8,945	9,044	8,892
Oklahoma	527	595	509	478	604	463	505	607	661	692
Oregon	3,629 i	4,074	4,080	4,396	4,631	5,156 i	5,635	6,434	6,357	6,523
Pennsylvania	10,387	9,735	9,989	9,246	9,718	9,318	10,761	10,816	10,354	12,300
Rhode Island	411	538	460	531	542	450	571	542	751	875 i
South Carolina	1,426	1,221	1,254	1,316	1,399	1,615	1,016	1,089	1,289	1,301
South Dakota	132	133	143	120	136	112	164	135	139	151
Tennessee	1,638	1,608	1,487	1,244	1,434	1,437	1,423	1,586	1,570	1,610
Texas	13,889	16,166	15,307	14,384	15,309	15,163	15,550	16,373	17,350	17,353
Utah	1,764	1,945	2,083	2,066	2,438	2,134	2,945	2,809	3,274	3,453
Vermont	413	422	418	313	374 i	466 i	406 i	302	247	248
Virginia	4,840	6,142	6,159	4,655	5,562	4,756	4,445	4,994 i	4,486	3,773
Washington	12,687	13,876	16,471	13,545	14,558	14,494	14,860	15,699	16,940	19,673
West Virginia	233	334	349	240	247	305	306	279	201	182



State Indicators

State	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Wisconsin	3,411	3,798	3,616	3,927	4,053	4,135	4,227	4,287	4,676	4,972
Wyoming	37 e	63	47	39 e	46 e	30 e	28 e	59	177	172
Puerto Rico	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA = not available

Science and Engineering Indicators 2018

State Indicators

Private-industry output

State	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
United States	7,459,395	7,894,015	8,403,164	8,956,010	9,223,548	9,499,527	9,950,967	10,627,989	11,366,297	12,045,446
Alabama	87,014	91,506	96,284	99,665	102,978	106,580	111,717	123,016	131,370	137,954
Alaska	20,284	18,776	19,293	21,235	22,642	23,363	25,190	28,041	32,475	36,737
Arizona	114,739	124,648	135,978	144,666	149,576	155,487	166,857	176,749	197,738	216,682
Arkansas	53,067	54,592	58,640	60,283	61,841	64,681	68,691	74,444	78,619	82,415
California	945,830	1,007,437	1,095,761	1,197,217	1,197,983	1,242,701	1,324,365	1,435,602	1,547,616	1,648,709
Colorado	116,955	130,912	144,031	159,704	164,749	167,933	172,577	177,026	191,839	202,661
Connecticut	126,860	134,034	139,870	153,203	158,317	160,017	164,906	180,676	189,030	199,531
Delaware	30,590	34,021	37,840	41,115	43,803	42,604	44,410	47,626	48,090	50,791
District of Columbia	31,039	33,293	36,177	38,328	41,683	44,099	46,550	51,458	54,379	57,131
Florida	350,096	380,003	407,497	435,921	464,976	493,802	522,023	559,840	621,490	663,453
Georgia	212,104	232,254	254,109	270,755	279,945	284,508	296,418	317,876	339,364	353,229
Hawaii	29,877	29,587	30,783	32,851	34,152	35,880	38,638	42,440	46,529	49,272
Idaho	25,039	26,459	29,288	32,860	31,955	32,947	34,453	36,922	40,075	43,705
Illinois	380,212	396,831	417,872	443,600	452,598	460,087	474,994	500,206	525,358	557,784
Indiana	155,693	168,812	176,419	185,720	186,173	193,404	203,129	215,200	220,779	227,797
Iowa	74,243	75,553	78,072	83,700	84,255	88,096	93,917	104,719	109,340	113,324
Kansas	64,971	68,388	71,360	75,017	77,002	78,905	82,637	84,645	89,769	97,240
Kentucky	90,714	95,146	100,272	99,110	102,025	105,590	109,734	116,465	123,023	129,855
Louisiana	103,429	105,045	110,210	116,334	121,188	121,390	135,488	149,551	177,172	185,134
Maine	26,407	27,957	29,914	32,045	33,504	34,874	36,309	38,580	39,699	41,442
Maryland	127,798	135,243	144,380	153,953	164,796	173,471	182,048	197,942	211,789	222,411
Massachusetts	210,292	221,378	235,580	259,313	265,138	270,780	280,984	294,009	307,191	320,527
Michigan	270,221	280,290	302,217	313,960	311,130	323,381	334,010	339,315	349,691	349,411

State Indicators

State	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Minnesota	139,820	149,354	156,862	170,718	174,551	181,027	193,071	206,714	218,352	223,448
Mississippi	49,232	51,379	53,576	54,919	55,952	57,062	60,805	64,092	67,318	71,709
Missouri	145,207	151,582	158,286	166,885	169,547	173,557	180,201	189,413	196,868	204,019
Montana	15,900	16,965	17,304	18,127	19,077	19,776	21,202	23,254	25,677	27,670
Nebraska	43,556	45,096	46,791	49,558	51,545	52,949	57,635	61,063	63,590	66,793
Nevada	53,641	57,669	63,969	69,046	72,886	76,669	81,872	94,037	107,131	115,711
New Hampshire	34,006	36,134	37,268	40,497	41,661	43,523	45,668	48,052	50,637	52,919
New Jersey	275,477	287,349	302,519	326,093	337,143	349,709	364,419	377,553	393,234	413,687
New Mexico	40,781	38,349	40,439	42,017	42,336	43,295	47,698	53,394	56,721	59,840
New York	628,841	654,308	697,591	736,293	775,728	786,460	796,400	842,018	902,225	952,896
North Carolina	202,755	216,086	232,195	241,842	253,250	261,745	270,727	287,876	309,301	336,058
North Dakota	13,210	14,149	14,297	15,111	15,935	16,942	18,618	19,496	20,790	22,403
Ohio	304,688	324,913	337,318	350,854	352,647	366,106	378,489	398,663	413,338	424,521
Oklahoma	66,981	68,279	70,437	76,394	81,371	82,347	88,074	95,223	105,086	116,090
Oregon	87,271	91,502	92,799	101,840	100,302	104,109	109,794	123,710	128,988	144,458
Pennsylvania	317,488	334,166	349,452	365,593	380,727	390,004	406,001	429,819	450,599	467,894
Rhode Island	24,715	26,237	27,592	29,478	30,928	32,747	34,832	37,326	38,988	41,039
South Carolina	83,720	88,660	94,122	97,986	101,614	105,528	110,964	114,625	120,400	126,628
South Dakota	16,399	17,435	18,154	19,645	20,595	23,250	24,354	26,283	27,261	28,234
Tennessee	136,307	146,379	154,004	160,047	164,331	170,963	179,890	192,579	199,434	209,871
Texas	543,583	574,968	605,749	657,639	688,309	694,197	732,725	804,860	879,504	971,908
Utah	47,948	52,293	55,874	59,572	62,219	64,221	67,276	72,692	80,561	91,531
Vermont	13,534	14,046	14,991	16,011	16,816	17,542	18,430	19,510	20,220	20,839
Virginia	177,845	192,097	207,017	221,665	235,541	240,665	254,182	270,732	294,983	311,605
Washington	165,613	180,184	199,586	204,940	205,398	212,642	220,178	230,392	253,843	271,064
West Virginia	32,705	33,720	35,255	35,786	36,815	37,730	38,465	40,953	44,311	47,489



State Indicators

State	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Wisconsin	138,324	146,045	154,677	162,277	168,018	174,062	181,141	191,454	200,868	209,315
Wyoming	12,374	12,505	13,192	14,624	15,894	16,124	17,813	19,854	23,643	28,613
Puerto Rico	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA = not available

Science and Engineering Indicators 2018

State Indicators

Private-industry output

State	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
United States	12,572,387	12,716,179	12,352,979	12,826,507	13,348,439	13,957,545	14,468,465	15,149,621	15,776,274	16,224,645
Alabama	141,306	142,965	137,143	142,773	148,181	153,494	158,140	161,020	165,903	169,745
Alaska	40,919	46,889	41,387	44,742	48,851	50,592	49,786	47,836	41,917	39,935
Arizona	228,291	220,965	207,394	208,939	216,784	226,323	231,865	242,365	253,893	264,366
Arkansas	84,525	86,490	84,141	88,416	92,541	94,240	99,255	102,566	103,576	105,573
California	1,709,628	1,724,274	1,651,687	1,700,691	1,764,721	1,857,908	1,945,664	2,066,659	2,202,980	2,299,422
Colorado	216,076	222,854	214,293	219,190	228,268	237,775	251,173	268,286	276,278	283,048
Connecticut	213,430	214,310	209,572	210,094	209,435	214,628	215,582	218,487	226,269	229,960
Delaware	51,356	49,371	51,115	51,200	53,457	54,082	54,566	59,775	63,159	64,017
District of Columbia	61,607	64,217	62,988	65,514	68,369	70,281	72,410	76,158	80,346	83,154
Florida	676,392	652,314	623,370	634,252	641,571	662,438	692,266	730,258	785,877	822,404
Georgia	364,461	357,555	347,858	353,677	364,574	379,083	394,896	418,475	442,364	468,111
Hawaii	51,801	52,462	50,685	52,902	54,023	56,180	58,342	60,107	64,570	67,402
Idaho	46,788	47,817	45,686	47,075	48,595	49,700	52,353	54,697	56,552	59,185
Illinois	581,602	575,434	568,697	580,582	607,066	638,002	647,528	675,904	701,973	720,712
Indiana	244,106	246,022	233,935	253,778	262,873	271,165	282,745	296,004	302,753	313,636
Iowa	122,358	121,676	120,002	124,063	131,125	140,022	143,613	151,893	160,235	165,289
Kansas	105,170	109,821	105,424	109,308	117,172	121,040	123,464	128,037	131,356	134,202
Kentucky	131,988	133,736	131,181	139,146	145,029	149,840	153,888	158,526	163,511	168,124
Louisiana	186,803	194,585	185,440	205,692	208,788	214,241	208,177	217,426	215,169	210,393
Maine	42,331	42,548	42,897	43,832	44,026	45,088	45,778	47,574	49,154	51,170
Maryland	228,739	233,857	237,663	247,315	255,266	262,016	267,854	277,178	288,646	302,582
Massachusetts	336,023	340,418	339,782	355,858	367,400	385,647	392,729	408,735	437,536	452,167
Michigan	354,630	335,734	314,142	334,866	350,459	367,639	380,406	395,700	418,576	433,887

State Indicators

State	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Minnesota	231,718	235,701	228,869	239,871	252,617	262,584	272,989	285,992	293,176	304,645
Mississippi	75,579	80,300	76,320	78,341	79,446	83,643	85,713	86,349	87,625	90,091
Missouri	210,514	218,476	217,455	222,446	223,850	232,528	241,922	248,010	256,332	261,113
Montana	30,417	31,127	30,082	32,163	34,823	35,838	36,834	38,537	39,519	39,522
Nebraska	71,106	73,512	75,406	79,364	86,929	88,760	93,660	98,346	101,883	104,294
Nevada	118,651	114,088	105,578	106,501	109,285	110,271	112,994	117,341	125,428	131,011
New Hampshire	53,933	53,660	54,410	55,687	57,098	58,798	60,309	62,821	66,652	69,237
New Jersey	426,681	435,232	423,894	430,244	435,801	456,466	470,776	480,906	500,873	513,264
New Mexico	62,320	66,973	62,895	65,636	68,424	68,831	69,565	73,125	71,337	71,243
New York	982,936	975,590	1,005,633	1,055,423	1,079,993	1,149,412	1,172,970	1,232,123	1,297,945	1,338,139
North Carolina	342,233	356,040	346,237	352,214	363,458	374,306	390,702	409,972	433,934	448,508
North Dakota	24,774	28,501	27,979	31,255	37,114	47,330	49,928	54,171	50,404	47,239
Ohio	435,345	432,955	418,771	435,337	464,809	485,024	499,515	529,301	543,736	555,046
Oklahoma	122,704	131,912	117,875	123,145	136,701	147,392	158,556	170,552	160,418	151,740
Oregon	151,091	159,809	158,866	168,730	176,671	173,618	173,185	177,692	190,453	200,185
Pennsylvania	499,084	516,096	508,754	529,402	548,379	570,782	591,126	616,201	638,778	652,203
Rhode Island	40,825	40,009	40,546	41,943	42,094	43,395	44,649	46,144	48,447	49,675
South Carolina	134,426	134,852	132,594	136,225	141,556	145,125	151,712	160,508	170,461	177,820
South Dakota	30,798	32,699	31,943	33,082	37,092	37,944	39,617	40,493	41,902	43,071
Tennessee	214,846	217,840	214,152	220,605	229,998	243,595	252,858	262,635	280,160	294,165
Texas	1,054,733	1,111,304	1,026,595	1,096,537	1,196,807	1,284,997	1,380,764	1,452,534	1,442,665	1,426,154
Utah	100,523	99,756	96,511	100,393	106,039	110,063	115,241	122,366	130,250	137,279
Vermont	21,245	21,684	21,688	22,711	23,530	24,030	24,355	25,047	25,758	26,644
Virginia	320,743	323,217	328,902	339,218	345,947	356,561	364,097	371,991	389,089	398,889
Washington	298,095	302,848	295,053	304,693	314,781	331,273	347,150	367,098	391,768	412,353
West Virginia	49,107	52,373	53,104	56,243	59,749	59,410	60,528	62,247	60,899	60,672



State Indicators

State	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Wisconsin	215,816	215,328	214,335	221,362	230,712	239,537	249,170	257,964	270,430	280,269
Wyoming	31,813	37,985	32,050	33,832	36,164	34,604	35,097	35,490	33,356	31,690
Puerto Rico	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA = not available

Science and Engineering Indicators 2018

State Indicators

Private-industry output

State	2017
United States	16,925,936
Alabama	175,786
Alaska	42,214
Arizona	278,607
Arkansas	108,987
California	2,417,524
Colorado	300,813
Connecticut	233,764
Delaware	66,365
District of Columbia	87,036
Florida	856,498
Georgia	487,621
Hawaii	70,374
Idaho	62,139
Illinois	743,075
Indiana	327,266
Iowa	168,852
Kansas	136,965
Kentucky	174,704
Louisiana	218,711
Maine	52,956
Maryland	313,240
Massachusetts	473,195
Michigan	451,083

State Indicators

State	2017
Minnesota	316,238
Mississippi	92,673
Missouri	268,442
Montana	40,983
Nebraska	106,877
Nevada	138,107
New Hampshire	71,743
New Jersey	528,943
New Mexico	74,929
New York	1,382,267
North Carolina	466,370
North Dakota	49,311
Ohio	577,665
Oklahoma	159,212
Oregon	208,597
Pennsylvania	679,039
Rhode Island	51,616
South Carolina	185,166
South Dakota	44,092
Tennessee	306,233
Texas	1,516,115
Utah	144,758
Vermont	27,429
Virginia	414,130
Washington	439,190
West Virginia	64,787



State Indicators

State	2017
Wisconsin	289,199
Wyoming	34,051
Puerto Rico	NA
NA = not available	
<i>Science and Engineering Indicators 2018</i>	