

Science and engineering profile: Michigan

Characteristic	State	U.S.	Rank	Characteristic	State	U.S.	Rank
Doctoral scientists, 2001	14,630	542,940	13	Total R&D performance, 2002 (millions of dollars)	15,082	255,707	2
Doctoral engineers, 2001	4,570	112,760	8	Industry R&D, 2002 (millions of dollars)	13,565	182,403	2
S&E doctorates awarded, 2002	967	24,558	8	Academic R&D, 2002 (millions of dollars)	1,233	36,314	9
engineering (percent)	27	21	na	life sciences (percent)	58	59	na
life sciences (percent)	21	27	na	engineering (percent)	18	15	na
social sciences (percent)	16	16	na	social sciences (percent)	10	4	na
S&E postdoctorates, 2002				Public higher education current-fund expenditures, 2001 (millions of dollars)	7,967	170,024	4
in doctorate-granting institutions	1,394	45,171	8				
S&E graduate students, 2002				Number of SBIR awards, 1999-2002	331	19,383	17
in doctorate-granting institutions	18,571	482,211	9	Utility patents issued to state residents, 2002	3,862	86,971	4
Population, 2003 (thousands)	10,080	294,688	8	Gross state product, 2001 (billions of dollars)	320	10,206	9
Civilian labor force, 2003 (thousands)	5,042	147,569	8	agriculture (percent)	1	1	na
				manufacturing, mining, construction (percent)	28	20	na
Personal income per capita, 2003 (dollars)	30,439	31,632	22	transportation, communication, utilities (percent)	6	8	na
				wholesale and retail trade (percent)	17	16	na
Federal spending				finance, insurance, real estate (percent)	16	20	na
Total expenditures, 2002 (millions of dollars)	55,909	1,896,317	9	services (percent)	21	22	na
R&D obligations, 2002 (millions of dollars)	1,244	83,764	21	government (percent)	11	12	na

na = not applicable.

SBIR = small business innovation research.

NOTES: Rankings and totals are based on data for the 50 states, District of Columbia, and Puerto Rico. Reliability of the estimates of industry R&D and of doctoral scientists and engineers varies by state, because the sample allocation was not based on geography. The rankings do not take into account the margin of error of estimates from sample surveys.

Data on graduate students, doctoral scientists, doctoral engineers, and postdoctorates include all graduate degree (except M.D.) candidates and recipients in S&E fields, including health fields.

Data on S&E doctorates awarded do not include health fields.

Federal obligations for research and development by agency and performer: Michigan, fiscal year 2002

(Thousands of dollars)

Agency	Performer							Rank
	Total	Federal intramural	All FFRDCs	Industrial firms	Universities and colleges	Other nonprofits	State and local government	
All agencies	1,244,244	231,707	0	298,827	653,670	51,622	8,418	21
Department of Agriculture	23,393	6,933	0	51	16,409	0	0	30
Department of Commerce	16,902	7,649	0	7,460	1,778	0	15	14
Department of Defense	398,745	105,016	0	247,022	45,924	783	0	21
Department of Energy	23,318	0	0	655	22,663	0	0	22
Department of Health and Human Services	611,111	101,512	0	16,070	442,580	48,095	2,854	12
Department of the Interior	10,764	9,912	0	4	616	25	207	12
Department of Transportation	25,810	15	0	19,066	1,238	149	5,342	7
Environmental Protection Agency	9,189	605	0	170	6,039	2,375	0	18
National Aeronautics and Space Administration	20,182	65	0	3,969	16,148	0	0	28
National Science Foundation	104,830	0	0	4,360	100,275	195	0	10
Rank	21	20	na	21	9	23	15	na

FFRDC = federally funded research and development center.

na = not applicable.

NOTES: Federal R&D obligations are as reported by funding agencies. Ranks and totals are based on data for the 50 states, District of Columbia, and Puerto Rico.

SOURCES: Prepared by the National Science Foundation/Division of Science Resources Statistics. Data compiled from numerous sources; see the section, Data Sources for Science and Engineering (S&E) State Profiles.