Massachusetts

Science and Engineering Profile

Characteristic	State	U.S.	Rank	Characteristic	State	U.S.	Rank
Doctoral scientists, 1999[1]	24,880	518,670	4	Total R&D performance, 1998 (millions)	$13,382	$214,668	4
Doctoral engineers, 1999[1]	4,850	107,100	4	Industry R&D, 1998 (millions)	$10,604	$163,480	4
S&E doctorates awarded, 1999[1]	1,498	25,953	4	Academic R&D, 1998 (millions)	$1,322	$25,342	5
of which, in life sciences	22%	25%		of which, in life sciences	41%	57%	
in social sciences	22%	16%		in engineering	20%	16%	
in engineering	21%	21%		in physical sciences	14%	9%	
S&E postdoctorates, 1998[1]				Public higher education current-fund			
in doctorate-granting institutions	4,738	39,494	2	expenditures, 1997 (millions)	$1,740	$125,236	28
S&E graduate students, 1998[1]				Number of SBIR awards, 1990-98	5,514	35,413	2
in doctorate-granting institutions	22,804	422,834	4	Patents issued to state residents, 1999	3,521	83,901	8
Population, 1999 (thousands)	6,175	276,580	13	Gross state product, 1998 (billions)	$239	$8,800	11
Civilian labor force, 1999 (thousands)	3,278	140,536	13	of which, agriculture	1%	1%	
				manufacturing, mining, construction	18%	22%	
Personal income per capita, 1999	$35,551	$28,542	3	transportation, communication, utilities	6%	9%	
				wholesale and retail trade	15%	16%	
Federal spending				finance, insurance, real estate	24%	19%	
Total expenditures, 1999 (millions)	$37,803	$1,508,933	13	services	27%	21%	
R&D obligations, 1998 (millions)	$3,112	$70,445	7	government	9%	12%	

NOTE: 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.

[1]Data on graduate students, doctoral scientists and 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: Fiscal Year 1998

Agency	Performer							
	Total	Federal Intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	State rank, total
	[In thousands of dollars]							
Total, all agencies	3,112,271	301,193	284,299	991,701	823,426	706,800	4,852	7
Department of Agriculture	22,399	15,920	0	472	6,007	0	0	22
Department of Commerce	44,145	30,771	0	8,600	4,274	500	0	6
Department of Defense	1,439,986	190,892	284,043	826,770	104,731	33,550	0	7
Department of Energy	100,568	0	0	17,640	76,369	6,559	0	14
Dept. of Health & Human Services	1,124,925	1,452	0	89,333	435,429	596,604	2,107	3
Department of the Interior	6,062	4,255	0	342	1,209	0	256	33
Department of Transportation	38,016	31,922	0	3,964	113	55	1,962	3
Environmental Protection Agency	19,434	0	0	3,325	6,457	9,125	527	7
National Aeronautics and Space Admin	143,063	24,983	256	24,363	43,498	49,963	0	10
National Science Foundation	173,673	998	0	16,892	145,339	10,444	0	3
State rank, total	7	11	5	8	4	1	21	na

NOTE: 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.

KEY: FFRDC = federally funded research and development center; SBIR = small business innovation research; na = not applicable.

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