

Science and Engineering Profile: Pennsylvania

Characteristic	State	U.S.	Rank	Characteristic	State	U.S.	Rank
Doctoral scientists, 2001 ¹	24,630	542,940	5	Total R&D performance, 2000 (millions).....	\$9,842	\$244,855	9
Doctoral engineers, 2001 ¹	4,650	112,770	7	Industry R&D, 2000 (millions).....	\$7,873	\$187,544	9
S&E doctorates awarded, 2001 ¹	1,247	25,509	6	Academic R&D, 2001 (millions).....	\$1,687	\$32,716	4
of which, in engineering.....	27%	22%		of which, in life sciences.....	60%	59%	
in life sciences.....	21%	26%		in engineering.....	18%	15%	
in social sciences.....	15%	16%		in physical sciences.....	7%	9%	
S&E postdoctorates, 2001 ¹				Public higher education current-fund			
in doctorate-granting institutions.....	2,332	42,899	5	expenditures, 2000 (millions).....	\$5,679	\$152,068	6
S&E graduate students, 2001 ¹				Number of SBIR awards, 1999-2001.....	458	13,650	9
in doctorate-granting institutions.....	19,358	452,411	7	Utility patents issued to state residents, 2001.....	3,534	87,605	8
Population, 2002 (thousands).....	12,335	292,228	6	Gross state product, 2000 (billions).....	\$404	\$10,003	6
Civilian labor force, 2002 (thousands).....	6,290	146,712	6	of which, agriculture.....	1%	1%	
Personal income per capita, 2001.....	\$30,720	\$30,472	16	manufacturing, mining, construction.....	24%	22%	
Federal spending				transportation, communication, utilities.....	9%	8%	
Total expenditures, 2001 (millions).....	\$79,310	\$1,753,011	5	wholesale and retail trade.....	15%	16%	
R&D obligations, 2001 (millions).....	\$2,602	\$78,006	10	finance, insurance, real estate.....	19%	19%	
				services.....	23%	22%	
				government.....	10%	12%	

¹Data 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. Data on S&E doctorates awarded do not include health fields.

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.

Federal Obligations for Research and Development by Agency and Performer: Pennsylvania, Fiscal Year 2001

Agency	Performer							State rank, total
	Total	Federal intramural	All FFRDCs	Industrial firms	Universities & colleges	Other nonprofits	State & local government	
	[In thousands of dollars]							
Total, all agencies.....	2,601,636	177,837	17,891	876,336	1,236,427	286,384	6,761	10
Department of Agriculture.....	57,685	42,446	0	0	13,906	1,333	0	7
Department of Commerce.....	7,762	112	0	3,155	3,681	345	469	22
Department of Defense.....	837,613	62,958	17,891	538,851	168,174	49,739	0	14
Department of Energy.....	391,888	46,273	0	297,939	37,876	9,800	0	5
Dept. of Health & Human Services.....	1,110,494	20,875	0	22,635	850,181	216,207	596	5
Department of the Interior.....	4,909	3,747	0	0	769	240	153	24
Department of Transportation.....	9,115	43	0	2,338	964	227	5,543	17
Environmental Protection Agency.....	6,134	100	0	70	4,759	1,205	0	19
National Aeronautics and Space Admin....	44,872	1,283	0	10,900	31,159	1,530	0	15
National Science Foundation.....	131,164	0	0	448	124,958	5,758	0	6
State rank, total.....	10	20	17	11	3	5	19	na

KEY: FFRDC = federally funded research and development center; SBIR = small business innovation research; 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".