Science and engineering profile: Pennsylvania

Characteristic	State	U.S.	Rank	Characteristic	State	U.S.	Rank
Doctoral scientists, 2001	24,630	542,940	5	Total R&D performance, 2002 (millions of dollars)	9,763	255,707	9
Doctoral engineers, 2001	4,650	112,760	7	Industry R&D, 2002 (millions of dollars)	7,064	182,403	9
S&E doctorates awarded, 2002	1,207	24,558	6	Academic R&D, 2002 (millions of dollars)	1,913	36,314	4
engineering (percent)	24	21	na	life sciences (percent)	59	59	na
life sciences (percent)	23	27	na	engineering (percent)	18	15	na
social sciences (percent)	17	16	na	math & computer sciences (percent)	7	4	na
S&E postdoctorates, 2002				Public higher education current-fund			
in doctorate-granting institutions	2,347	45,171	5	expenditures, 2001 (millions of dollars)	6,455	170,024	5
S&E graduate students, 2002				Number of SBIR awards, 1999-2002	663	19,383	9
in doctorate-granting institutions	21,834	482,211	7	Utility patents issued to state residents, 2002	3,343	86,971	8
Population, 2003 (thousands)	12,365	294,688	6	Gross state product, 2001 (billions of dollars)	408	10,206	6
Civilian labor force, 2003 (thousands)	6,170	147,569	6	agriculture (percent)	1	1	na
				manufacturing, mining, construction (percent)	22	20	na
Personal income per capita, 2003 (dollars)	31,998	31,632	16	transportation, communication, utilities (percent)	9	8	na
				wholesale and retail trade (percent)	15	16	na
Federal spending				finance, insurance, real estate (percent)	19	20	na
Total expenditures, 2002 (millions of dollars)	85,601	1,896,317	5	services (percent)	24	22	na
R&D obligations, 2002 (millions of dollars)	3,162	83,764	7	government (percent)	10	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: Pennsylvania, 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	3,162,026	433,556	17,614	1,045,767	1,350,959	306,808	7,322	7
Department of Agriculture	60,193	43,492	0	0	15,209	1,492	0	7
Department of Commerce	7,396	173	0	4,014	3,204	5	0	24
Department of Defense	990,111	68,738	17,614	677,237	184,883	41,639	0	12
Department of Energy	398,811	50,820	0	313,120	29,318	5,553	0	6
Department of Health and Human Services	1,489,656	265,430	0	34,138	938,477	248,857	2,754	5
Department of the Interior	4,548	3,957	0	0	417	134	40	29
Department of Transportation	7,644	30	0	2,533	554	83	4,444	20
Environmental Protection Agency	10,988	102	0	70	10,216	600	0	12
National Aeronautics and Space Administration	47,381	814	0	11,114	33,158	2,211	84	14
National Science Foundation	145,298	0	0	3,541	135,523	6,234	0	5
Rank	7	14	16	9	3	5	19	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.