

Oklahoma R&D 2009

Economic Prosperity Through Science & Engineering Research



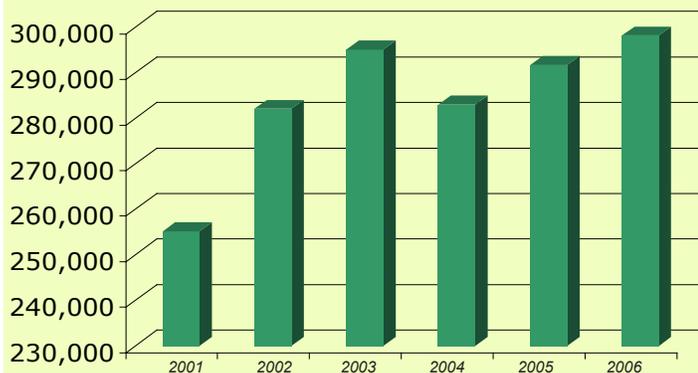
America's economic recovery requires more federal investment in basic scientific research. Overall scientific research and development

(R&D) promotes economic development, job growth, national security, competitiveness and global leadership. Recent efforts to double our investment in R&D over a ten-year period may help turn the tide, but U.S. leadership continues to narrow across a broad range of indicators when compared to the rest of the world.

A National Science Foundation (NSF) study found that 73% of the science papers cited in industry patents were funded by taxpayers through the federal government, especially university research operations.¹

Oklahoma contractors earned \$126 million in federal R&D contract expenditures in FY 2008, with approximately 106 contractors involved.² This amount does not include federal grants and loans for R&D activities. Information and charts on this page demonstrate the importance of federal investment in R&D to Oklahoma's economy, and its future in the global marketplace.

Federal R&D Funding to Oklahoma Colleges & Universities FY 2001-2006 (\$ thousands)



SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Research and Development Expenditures at Universities and Colleges, FY 2006.

For more information and explanations of the summary data sets presented on this page, ASTRA Members can contact ASTRA with specific requests. Contact rboege@comcast.net for details.

Top 5 Known Oklahoma Congressional Districts Where Federal R&D Contracts Performed FY 2008²

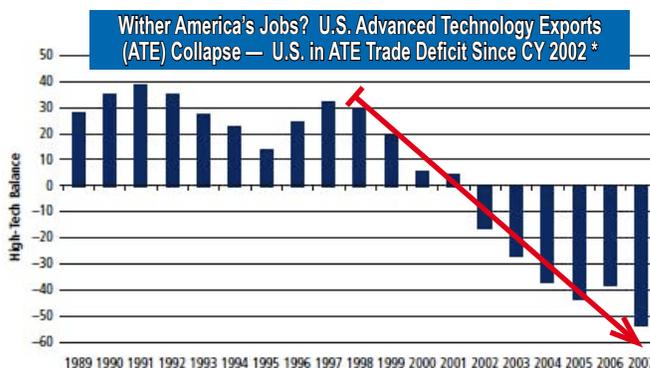
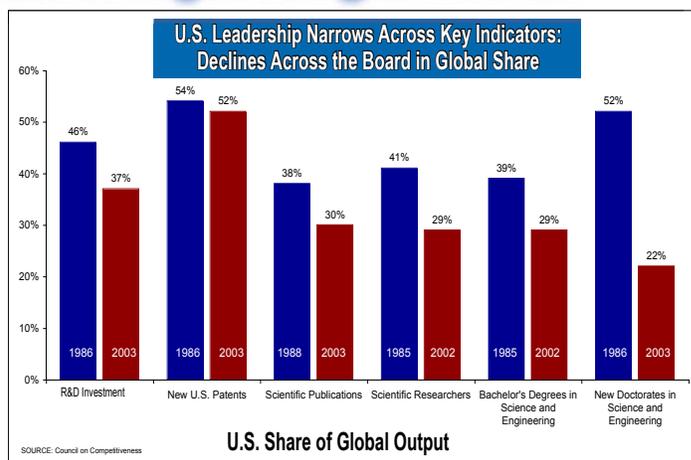
Oklahoma 1 (John Sullivan)	\$54,747,562
Oklahoma 4 (Tom Cole)	\$24,320,231
Oklahoma 3 (Frank D. Lucas)	\$23,857,305
Oklahoma 5 (Ernest J. Istook Jr. / Mary Fallin)	\$15,741,092
Oklahoma 2 (Dan Boren)	\$1,924,498

Key Reports and On-line Resources:

• **ASTRA's State Innovation Index[®]** is a flexible, user-defined on-line tool for comparing relative performance by your state to other states across 300 innovation indicators. ASTRA's 14-Point Program, part of its *Riding the Rising Tide Report*, shows how America can regain its scientific & technology lead. A comprehensive set of analytical tools and policy reports on innovation and R&D policy are also found at www.usinnovation.org and www.aboutastra.org, the two ASTRA Web Sites.

• The Science-Engineering-Technology Working Group (SETWG) sponsors the annual Congressional Visits Day Program See www.setcvt.org/cvt2009/

• **Science & Engineering Indicators 2008**, published by the National Science Board, provides a broad base of quantitative information on the U.S. and international science and engineering enterprise. It is created biennially by the National Science Foundation's Division of Science Resources Statistics (SRS) See www.nsf.gov/statistics/seind08/



* All figures in billions of CY '07 dollars. Source: U.S. Census Bureau FT900: U.S. International Trade in Goods and Services (aggregated data). See www.census.gov/foreign-trade data series.

Top 10 Recipients of Federal R&D Contracts² Performed in Oklahoma FY 2008*

L-3 Communications Holdings, Inc.	\$28,404,073
Pyramid Real Estate Services, LLC	\$22,623,119
International Fire Service Accreditation Congress	\$19,815,163
University of Oklahoma	\$6,690,783
OSU Center For Innov. & Econom. Dev., Inc.	\$6,566,425
URS Corporation	\$4,620,851
Northrop Grumman Corporation	\$3,437,591
Nomadics, Inc.	\$3,424,358
IS TECHNOLOGIES, LLC (unknown parent)	\$2,933,661
Wave Technologies, Inc.	\$2,731,143

* Note: R&D contract amounts do not include management and administrative fees for the operation of Government-Owned, Contractor-Operated (GOCO) facilities under OMB definitions.

Top 5 Federally-Funded R&D Products or Services Sold in Oklahoma FY 2008²

Defense Missile & Space Syst. — Basic Research (R&D)	\$29,073,963
Housing — Management and Support (R&D)	\$22,623,119
Services — Management and Support (R&D)	\$21,829,787
Weapons — Operational Systems Development (R&D)	\$6,566,425
Services — Engineering Development (R&D)	\$4,777,465

The 2009 CVD State R&D Sheet State Series are made possible by IEEE-USA www.ieee-usa.org; SPIE-The International Society for Optical Engineering www.spie.org; the National Venture Capital Association www.nvca.org; and the American Chemical Society www.acs.org



How Oklahoma Ranks 2009

Rank	General Demographic & Economic Indicators	Oklahoma	Total U.S.
28	Population as of July 1, 2008	3,642,361	304,059,724
29	Civilian labor force, 2007 (thousands)	1,730	153,124
33	Personal income per capita, 2007 (\$)	\$34,874	\$38,611
33	High Tech Employment, 2006	38,933	5,766,327
46	High Tech Wages, 2006 (\$)	\$50,851	\$79,484
31	High Tech Establishments, 2006	3,166	345,522
29	Gross State Product, 2007 (\$ billions)	\$139	\$14,790
46	R&D per capita, 2004 (\$)	\$231	\$980
35	High Tech Jobs Gained/Lost in State 2001 - 2006	— 9,227	— 763,443
43	Unemployment Rate, February 2009 (percent)	5.5%	8.1%
Rank	Academic Indicators & Degree Production		
32	S&E Doctorates Awarded, 2005	232	27,974
33	S&E and Health Graduate Students, 2005	4,510	527,767
39	Federal R&D Expenditures at Universities & Colleges, all sources, FY 2006 (\$ thousands)	\$142,598	\$30,033,156
25	State & Local Govt. R&D Expenditures at Universities & Colleges, FY 2006 (\$ thousands)	\$39,099	\$3,016,240
31	Industry R&D Expenditures at Universities & Colleges, FY 2006 (\$ thousands)	\$16,843	\$2,427,627
31	Institutional R&D Expenditures at Universities & Colleges, FY 2006 (\$ thousands)	\$85,401	\$9,062,058
47	Expenditures per pupil for elementary and secondary public schools (\$)	\$6,610	\$8,701
Rank	Workforce Indicators		
37	Industrial Diversity 2004 (Herfindahl Index, indicating degree of diversity within State's traded sector)	.07	—
38	High Tech Workers per 1,000 Private Sector Workers, 2006 (Employment Concentration)	32.64	51.16
22	High Tech Employment Change, 2005-2006 (percent)	4.3%	2.5%
37	High Tech Payroll, 2006 (2006 \$ millions)	\$1,980	\$458,330
Rank	R&D Spending by Source, R&D Indicators, Awards, & Patents		
39	Private R&D per Worker 2003 (\$)	\$340	—
30	SBIR Grants Awarded, 2000-2005	150	33,289
29	Gross License Income per Worker 2003 (\$)	\$2.12	—
35	Industry R&D, 2005 (\$ millions)	\$422	\$222,427
36	Academic R&D, 2005 (\$ millions)	\$292	\$45,725
31	Broadband Access (Residential high-speed lines per capita within State)	0.12	—
30	Patents issued to state residents per million workers, 2005	403	89,795
13	Businesses Created from University R&D (# of spin-outs per \$1 billion spent) 2001-2003	14.36	—
Rank	Venture Capital & Entrepreneurial Indicators		
40	Number of Deals CY 2008	5	3,861
39	Venture Capital Investments in 2008 (millions of 2008 \$)	\$40.2	\$28,290
32	Venture Capital Numeric Change 2006 - 2007 (millions of 2006 \$)	\$1.2	\$2,855.2
19	Economic Dynamism - 2008 State New Economy Index (measures 6 aspects of dynamism)	9.94	10.0
43	Overall State New Economy Index Score 2008	43.24	57.30

** rankings include the Oklahoma

Sources: U.S. Department of Commerce, Bureau of Economic Analysis; U.S. Department of Commerce, Census Bureau; National Science Foundation/Science Resources Study Division; U.S. Bureau of Labor Statistics; National Venture Capital Association www.nvca.org; U.S. Patent & Trademark Office; U.S. Office of Management & Budget; U.S. Small Business Administration; Association of University Technology Managers, Inc., AUTM Licensing Survey; Fiscal Years 2001-2003; Ewing Marion Kauffman Foundation www.kauffman.org; Information Technology & Innovation Foundation www.iitif.org.

