



Overview and Summary of Recent Initiatives

In 2005 the **Kansas Bioscience Authority**, created by the Kansas Economic Growth Act of 2004, was rolled out. The Authority is charged to develop a range of programs including programs for faculty recruitment, matching of major federal awards, facilities construction, bioscience development districts, and workforce programs. The state's ultimate goal is to provide appropriations to the Authority based on incremental tax revenue available from growing the bioscience sector, projected to be \$580 million over a decade. An initial appropriation of \$7.5 million supports creation of a cluster/commercialization function with pre-seed funding capability.

With staff support from the **Kansas Technology Enterprise Corporation (KTEC)**, the Authority commissioned a roadmap that narrowed the Act's broad identification of bioscience sectors and identified four key targets of opportunity: human and animal health, animal health and food safety, biologically inspired materials, and bioproducts. The state planning process was mirrored in Kansas City, where the **Kansas City Area Life Sciences Institute**—a steering collaborative of eight bioscience institutions on both sides of the border with Missouri—identified its own more precise targets and reached about halfway toward its goal of stimulating \$500 million in annual external grant support to area institutions. The Kansas City region has identified its own sectoral targets, with a particular focus on animal health.

Since the last BIO report, Kansas also enriched an existing tax credit for venture investment; focused it on high-value angel investments; and rolled out KansasBio, the state BIO affiliate.

Building Bioscience R&D Capacity

Recent state investments in facilities

The 2001 **University Research and Development Act** authorized the Board of Regents to float \$130 million in revenue bonds for new R&D capacity in several fields. These bonds are serviced by appropriations for the first 5 years and then from incremental indirect-cost recovery. Bioscience buildings recently finished include the new \$55 million **Biomedical Research Building** at the University of Kansas Medical Center (KUMC) in Kansas City and a \$54 million **Bio-Security Research Facility** at Kansas State University in Manhattan. The University of Kansas at Lawrence completed a \$40 million **Multidisciplinary Research Building** and received approval for a 45,000-square-foot, \$20 million addition to its existing **Structural Biology Center**.

Research programs

KTEC receives \$6.5 million annually to support five university-based centers of excellence. The bioscience center is the **Higuchi Biosciences Center**, an umbrella life-science institute at the University of Kansas at Lawrence.

KTEC allocates \$2.4 million annually to a combination of the state's EPSCoR program and the **Strategic Technology and Research Fund**, which supports applied R&D. An example is a recent award to Wichita State University, to support adapting its expertise in aviation materials to biomedical devices.

Encouraging Academic/Industrial Interaction

KTEC offers grants of between \$5,000 and \$125,000 through an **Applied Research Fund** for projects matched 1.5:1 by Kansas companies. Biosciences are eligible. Grants are repaid through royalties on any resulting commercialization.

Moving Technology into the Marketplace

Commercializing university technology

As noted above, one of the Authority's first funded programs is a commercialization initiative that is not yet fully developed.

Supporting bioscience entrepreneurs and emerging companies

In the 1990s, KTEC set up what it called Business Assistance Incubators at several university campuses and in other regions around the state. These are essentially multisector commercialization centers. For example, **Enterprise Center of Johnson County** serves as a multisector commercialization center for the greater Kansas City metropolitan area. The **Lawrence Regional Technology Center**, which is linked to the Higuchi Center, offers similar services in the Lawrence area.

Making Capital Available

Pre-seed and seed capital

Each of the regional "incubators" is equipped with a pre-seed capital fund. Those that have done bioscience deals include the following:

- **Precede Fund**, associated with the center at KUMC in Kansas City
- **Kaw Holdings**, associated with the University of Kansas at Lawrence
- **Manhattan Holdings**, associated with Kansas State University in Manhattan.

Mid-America Angels is an informal network that considers bioscience deals, based at the Enterprise Center of Johnson County.

Kansas Angel Investor Tax Credit offers a credit of 50 percent up to \$50,000 on investments in qualified companies certified by KTEC. The program offers \$2 million in credits a year up to a maximum

of \$20 million, and demand was so strong in the first year that KTEC has shifted from “first come first served” to making judgments about the likely impact of an investment and authorizing partial credits.

Venture capital

In the Kansas City region, both the Midwest Research Institute (MRI) and the Stowers Institute for Medical Research maintain “captive” venture funds. The MRI fund (\$12 million) is targeted at MRI’s own commercialization partners, while the **Biomed Valley Discovery Fund** at Stowers (\$50 million) sources deals broadly, not just in the region.

Providing Space for Bioscience Companies

Incubators

The following incubators have a significant bioscience component:

- **Biotechnology Development Center of Greater Kansas City** is a 6,000-square-foot facility adjacent to the KUMC.
- **Bioprocessing and Industrial Value Added Programs** facility at Kansas State contains 6,600 square feet of pilot facilities and 2,900 square feet of laboratories for incubator clients.

The University of Kansas, which acquired a former industrial facility and converted it to the Lawrence Life Sciences Center, is considering adding incubation capacity there.

Addressing Talent Needs

Specialized postsecondary programs

Johnson County Community College is constructing a \$67 million laboratory building to offer enhanced life-science programming.

Pending Proposals

Governor Kathleen Sebelius has proposed funding the KU Cancer Center at \$5 million annually to support its goal for designation as an NCI comprehensive cancer center.

Contacts

Tracy Taylor
President and CEO, Kansas Technology Enterprise Corporation
214 SW Sixth Street, 1st Floor
Topeka, KS 66603-3719
(785) 296-5272
ttaylor@ktec.com

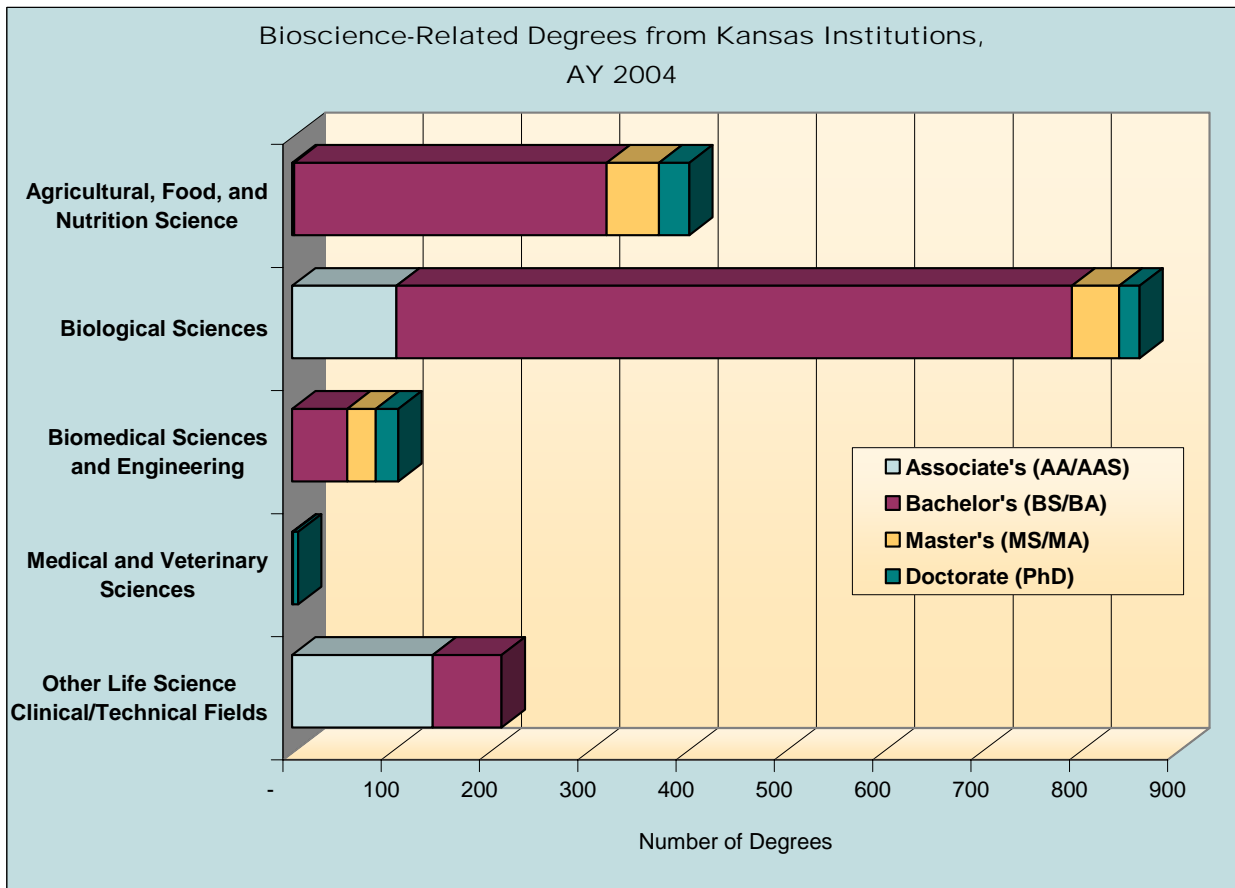
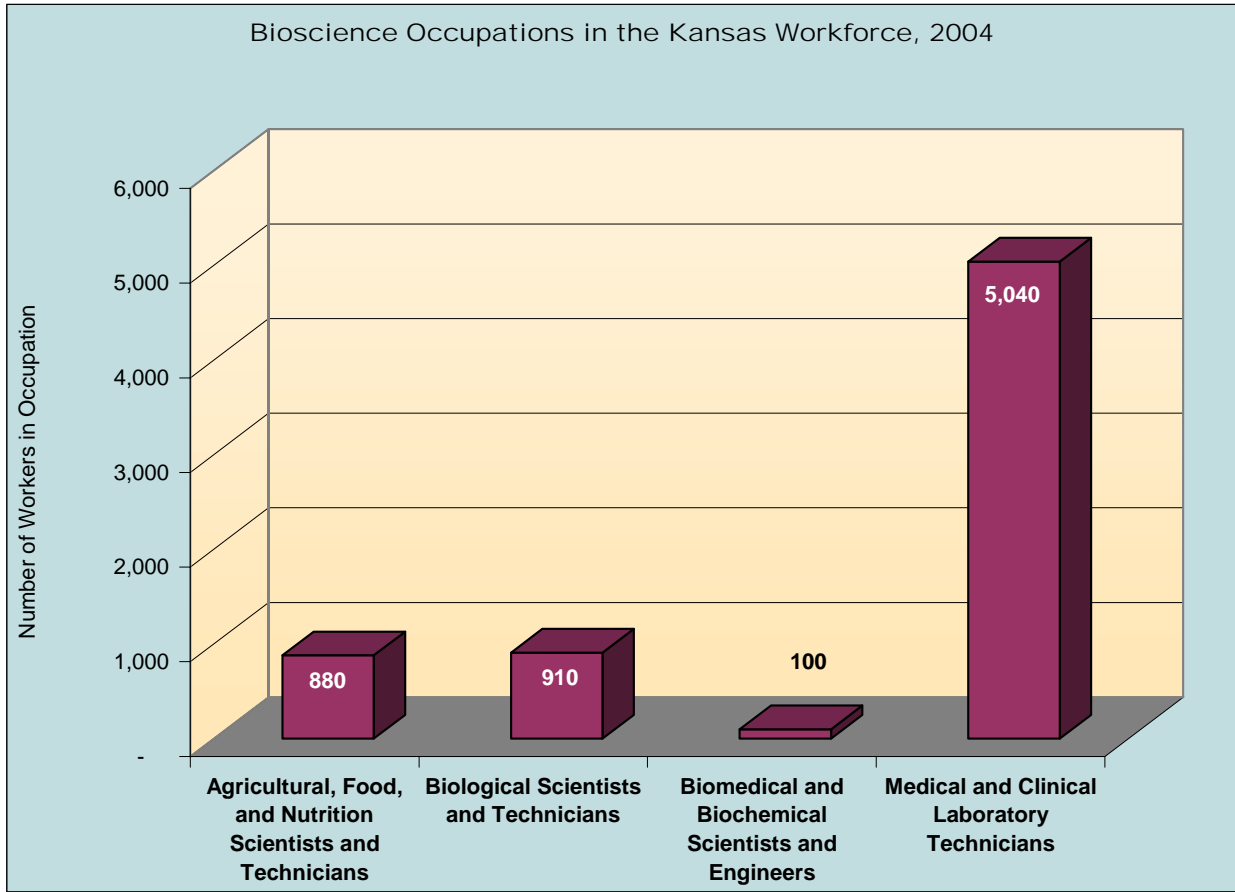
The Kansas Bioscience Organization is a not-for-profit organization that serves as the voice of the bioscience industry and research institutions in Kansas.

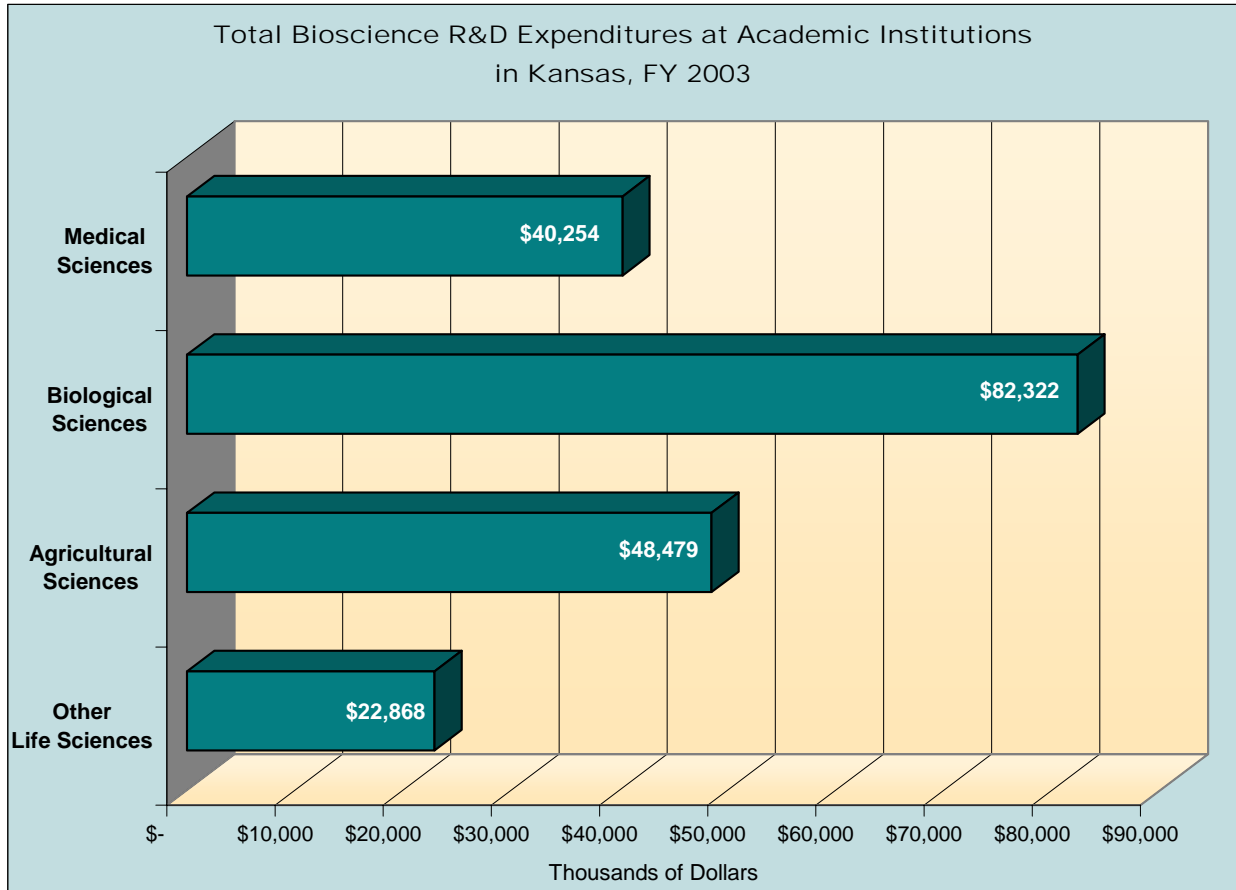
Angela Kreps
President, Kansas Bioscience Organization (KansasBio)
8527 Bluejacket Street
Lenexa, KS 66214
(913) 495-4334
akreps@kansasbio.org

Industry Subsector	Kansas	United States
Agricultural Feedstock & Chemicals		
Establishments 2004	39	2,111
2001-2004 Establishment % Change	0.1%	0.4%
Employment 2004	1,750	104,893
2001-2004 Employment % Change	-2.2%	-6.9%
Share of U.S. Employment	1.7%	100.0%
Location Quotient	1.72	n.a.
Average Annual Wage 2004	\$47,091	\$63,383
Direct-Effect Employment Multiplier	6.59	10.91
Total Employment Impact	11,524	1,212,094
Drugs & Pharmaceuticals		
Establishments 2004	18	2,589
2001-2004 Establishment % Change	-21.7%	-0.6%
Employment 2004	1,352	313,207
2001-2004 Employment % Change	32.9%	2.7%
Share of U.S. Employment	0.4%	100.0%
Location Quotient	0.45	n.a.
Average Annual Wage 2004	\$60,780	\$79,303
Direct-Effect Employment Multiplier	4.02	9.51
Total Employment Impact	5,429	2,731,321
Medical Devices & Equipment		
Establishments 2004	117	15,190
2001-2004 Establishment % Change	-17.6%	0.2%
Employment 2004	2,110	411,460
2001-2004 Employment % Change	-16.9%	-3.6%
Share of U.S. Employment	0.5%	100.0%
Location Quotient	0.53	n.a.
Average Annual Wage 2004	\$35,285	\$56,449
Direct-Effect Employment Multiplier	2.30	4.56
Total Employment Impact	4,846	1,817,705
Research, Testing, & Medical Laboratories		
Establishments 2004	188	20,565
2001-2004 Establishment % Change	14.4%	19.4%
Employment 2004	4,408	413,550
2001-2004 Employment % Change	10.5%	8.2%
Share of U.S. Employment	1.1%	100.0%
Location Quotient	1.10	n.a.
Average Annual Wage 2004	\$44,917	\$65,414
Direct-Effect Employment Multiplier	2.07	3.15
Total Employment Impact	9,144	1,272,936
TOTAL PRIVATE SECTOR		
Establishments 2004	76,920	8,156,137
2001-2004 Establishment % Change	1.5%	4.8%
Employment 2004	1,059,128	109,249,195
2001-2004 Employment % Change	-2.3%	-0.7%
Share of U.S. Employment	1.0%	100.0%
Location Quotient	n.a.	n.a.
Average Annual Wage 2004	\$33,011	\$39,003

Source: Battelle calculations -- based on Bureau of Labor Statistics QCEW data from the Minnesota Implan Group, RIMS II Employment Multipliers from the Bureau of Economic Analysis, and the Census Bureau's Economic Census.

Note: n.a. = metric is not applicable.





	Kansas	United States	Rank
University R&D Expenditures, FY 2003			
Total (\$thousands)	\$310,052	\$40,104,621	32
Life Science R&D (\$ thousands)	\$194,007	\$24,062,088	32
Percent of Total R&D	62.6%	60.0%	
Life Sciences Per Capita	\$71.23	\$82.74	
Change in Life Sciences FY 1999–2003	38.3%	52.7%	
NIH Support to Institutions, FY 2004			
Total (\$ thousands)	\$75,386	\$22,556,459	36
Per Capita Expenditures	\$27.68	\$77.56	
Change in Expenditures FY 2000–2004	41.7%	53.2%	
Higher Education Degrees in Bioscience Fields, AY 2004			
	1,593	111,329	26
Bioscience Occupations in the Workforce, 2004			
	6,930	616,140	28