



KANSAS POLICIES AND PROGRAMS

HIGHLIGHTS

- *Bioscience is one of five industry clusters targeted for development in Kansas' state economic development strategic plan*
- *The Kansas Bioscience Authority is a \$581 million initiative created by the Kansas Economic Growth Act of 2004 and funded, in part, by state income-tax withholdings generated by bioscience companies*
- *The Kansas City Area Life Sciences Institute (KCALSI), a collaboration of public and private organizations in both Kansas City, Kansas, and Kansas City, Missouri, has played a key leadership role in helping to secure public-private investments to build the region's bioscience development R&D and commercialization assets*

"With the Kansas Economic Growth Act in place, we have a solid foundation for success in the highly competitive bioscience industry. KTEC (Kansas Technology Enterprise Corporation) has been at the forefront of this effort, ensuring that Kansas reaps the benefits in terms of high-paying jobs and enhanced quality of life."

Former Governor Kathleen Sebelius
www.ktec.com

Kansas's Approach to Growing the Biopharmaceutical Industry

Bioscience is one of five industry clusters targeted in *Leveraging our Foundations and Designing the Future*, the 2007 state economic development strategic plan.³ The plan calls for increasing the quality of bioscience research that has commercial relevance for Kansas, fostering bioscience start-ups, facilitating expansions and attracting corporate activity that grows and strengthens specific bioscience clusters of excellence.

In fact, bioscience has dominated the state's economic development programming since the Kansas Bioscience Authority was created as part of the Kansas Economic Growth Act of 2004. The authority covers a broad portfolio of activities ranging from investment in bioscience research and commercialization to acting like a conventional economic development financing agency in making grants and low-interest loans for recruitment and retention of larger bioscience companies. Unique in the nation for any similar

"Bioscience continues to emerge as an important industry in the Kansas economy. Opportunities in biosciences span several industries with inherent strengths in Kansas. The state has recognized opportunities in the bioscience industry with the creation of the Kansas Bioscience Authority (KBA) to guide the state's investment of over \$580 million in these industries. Several inherent strengths already exist in the biosciences, including: animal health, human health, crop science and bio-fuels."

Governor Michael Easley
The 2007 Kansas Economic Development Strategic Plan
<http://www.kansasinc.org/pubs/working/2007StrategicPlan.pdf>

Kansas's Biopharmaceutical Industry

Kansas's biopharmaceutical sector is modest in size, although it has demonstrated broad impacts across the state economy.¹ Kansas biopharmaceutical firms employed 1,847 workers in 2006.² Output per worker in the state biopharmaceutical sector averages a sizable \$485,000, far above the national average. The total economic output supported by the biopharmaceutical sector was \$3.4 billion in 2006, including direct, indirect and induced impacts. Average annual wages in the biopharmaceutical sector were \$56,500 in 2006.

Biopharmaceutical Sector Performance Measures	KS	US
Direct Employment, 2006	1,847	686,442
Direct Employment Growth (CAGR), 1996-2006	1.3%	3.1%
Average Annual Wages (Direct Employment), 2006	\$56,523	\$88,929
Total Supported Employment (incl. Direct), 2006	18,463	3,233,920
Total Economic Output, 2006 (\$ billions)	\$3.4	\$294.6
Direct Output per Direct Employee, 2006	\$484,916	\$128,925
Active Clinical Trials, 2008	1,143	21,795

Source: Archstone Consulting, *The Biopharmaceutical Sector's Impact on the U.S. Economy*, prepared for PhRMA, 2009.

CAGR = Compound Annual Growth Rate

state-level program, this authority is financed by the growth in state income-tax withholdings in certain defined bioscience industry classification codes. Considering anticipated growth in these sectors, this mechanism is expected to yield between \$500 million and \$600 million over 10 years, although the legislature has begun to cap the amount actually transferred to the authority.⁴

In 2005, the Kansas Technology Enterprise Corporation—which was previously the state’s main agency for technology-based economic development—acted as the Kansas Bioscience Organization’s agent in commissioning a *Kansas Bioscience and Innovation Road Map*. This document identified drug discovery, delivery, and pharmacogenomics as among six “targets of opportunity” for the state in the bioscience field.⁵ KansasBio is leading an effort to develop a National Drug Development Accelerator, an effort aimed at marketing the region’s drug development assets, particularly among small- to mid-size pharmaceutical companies, and attracting new pharmaceutical companies to the area.⁶ One of the other major targets is animal health, a major industry strength of the bi-state Kansas City metropolitan area and a particular focus of Kansas State University.

Momentum for the state’s focus on the biosciences was stimulated by a process that unfolded earlier in the Kansas City metropolitan area, where in the late 1990s mutual-fund entrepreneurs James and Virginia Stowers bestowed a \$1.1 billion endowment on a new Stowers Institute for Medical Research. This gift, and the Stowers’ desire to see their institute develop a set of worthy peer institutions and a vibrant environment for commercialization, kicked off a business and civic dialogue on whether the region’s institutions were meeting their full potential in the biosciences. Convened by the Civic Council and the Area Development Council, this dialogue ultimately resulted in the creation in 2000 of the Kansas City Area Life Sciences Institute (KCALSI). KCALSI is a collaborative of 10 stakeholders on both sides of the Kansas-Missouri border, including the University of Kansas Medical Center on the Kansas side.

Major State Initiatives to Attract and Grow the Biopharmaceutical Industry

Kansas Bioscience Authority

The authority offers a comprehensive set of programs designed to attract and grow bioscience companies.⁷ They include:

- **Eminent Scholars and Rising Stars Programs** that provide large-scale grants to match university endowments for recruitment of faculty (up to \$5 million each over 5 years)

- **R&D Vouchers** of up to \$2 million over 2 years that can be used by Kansas bioscience businesses to pay for “proof-of-concept” and other development-stage projects at Kansas universities
- **Matching Fund Program** that matches 50 percent of Small Business Innovation Research Phase I and II awards and 50 percent up to a maximum of \$2 million for major federal competitions that require nonfederal matches
- An **Expansion and Attraction Program** that provides recruitment and retention incentives in the form of grants and low-interest loans
- **Centers of Innovation**, university-based centers that focus on R&D in core technology areas.

In addition to administering the above programs, the authority provides business assistance to bioscience companies delivered through a unit known as Heartland BioVentures and has funded two collaborative research centers, the Collaborative Biosecurity Research Center and the Collaborative Cancer Research Center. These centers, each funded with \$2.5 million from the authority, can make \$500,000 awards for collaborative research projects undertaken by academic, government or nonprofit organizations from any state who wish to collaborate with Kansas scientists and perform research in Kansas. The Collaborative Biosecurity Research Center is thought to have played a role in Kansas’s success in attracting the National Bio and Agro-Defense Facility sponsored by the federal Department of Homeland Security to Kansas State University.

In October 2009, the authority announced that it is investing \$50 million in eight venture capital firms that have committed to having an office in Kansas. Each of the funds has a focus in a specific area of the biosciences, such as human health, plant biology, bioenergy and biomaterials. The funds must raise a minimum of \$25 million each from private and institutional sources.⁸

In fiscal year 2009, the Kansas Bioscience Authority committed more than \$177 million to 32 bioscience projects. These investments bring total commitments to \$225 million since the authority’s inception—helping to stimulate 1,159 jobs, \$110 million in capital expenditures, \$44 million in research funding, and \$29 million in equity investments.

Kansas Bioscience Authority
www.kansasbioauthority.org

Kansas City Area Life Sciences Institute

As noted above, the overriding goal of the KCALSI was to raise the amount of external bioscience research sponsorship flowing into the region to \$500 million. To achieve this goal, KCALSI proposed an investment program of \$300 million over 10 years in buildings, recruitment, and other support functions.⁹ KCALSI itself has a modest operating budget of \$1 million annually and did not make these investments directly. Rather, business and civic leadership were coordinated to secure federal funding and, unquestionably, the organization of the Kansas City community helped lead to the state's creation of the Bioscience Authority. Some of these investments have been funded directly by corporate or philanthropic leadership in the region, others through federal line-item

funding secured again by business-civic cooperation, and others now through the Bioscience Authority. KCALSI uses its own funding in grants of up to \$50,000 at a time to stimulate collaborative grant proposals, albeit at a greater order of magnitude.

KCALSI also has been active in planning to replace the two very small wet-lab business incubators in the Kansas City region (both less than 6,000 square feet) with a much larger facility with capacity to support incubator "graduates."¹⁰ A report commissioned by KCALSI recently identified five options, requiring capital investments of between \$5 million and \$33 million and operating expenses up to \$1 million a year once fully in place. No financing source has been specifically identified.

Ewing Marion Kauffman Foundation Funds Institute for Advancing Medical Innovation at the University of Kansas

The Ewing Marion Kauffman Foundation announced an \$8.1 million grant to the University of Kansas to establish the Institute for Advancing Medical Innovation, a unique life science proof-of-concept model that draws support from higher education, philanthropy and industry experts to move medical innovations from the lab to the market. To enhance the impact of the Kauffman Foundation's support, the Kansas University Endowment Association will match the grant through contributions from other donors.

The Institute for Advancing Medical Innovation will focus on education and research that advances medical innovations, ultimately accelerating the number and quality of new drugs, medical devices and drug-medical device combinations from the bench to the bedside.

"The Institute's formation represents lessons we have culled from years of studying the models that strengthen the ability to bring new inventions and products to market," said Carl Schramm, Kauffman Foundation president and CEO. "We believe this Institute will become a world-class resource and help define best practices in moving innovation to the real world."

The grant includes seed funds for up to 24 proof-of-concept projects per year. Based upon the recommendations from the advisory board, the Institute may progress with a varying number of projects from year-to-year.

The University of Kansas
Biotechnology Innovation and Optimization Center,
News and Events, 12/10/2008
<http://www2.ku.edu/~biocenter/news.shtml>

¹ The biopharmaceutical sector is defined as including pharmaceutical and medicine manufacturing and scientific research and development services. The bioscience sector is broader and includes medical devices and agricultural feedstocks and chemicals in addition to biopharmaceuticals. Some states use the term life sciences or biomedical sciences, which often include hospitals and health care institutions as well.

² Archstone Consulting, *The Biopharmaceutical Sector's Impact on the U.S. Economy*, prepared for PhRMA, 2009.

³ *Leveraging our Foundations and Designing the Future: A Kansas Economic Renaissance, The 2007 Kansas Economic Development Strategic Plan*. Kansas inc., January 2008, <http://www.kansasinc.org/pubs/working/2007StrategicPlanExSumm.pdf>.

⁴ Kansas Office of the Governor, Press Release, 08/02/2004, http://www.ktec.com/pdf/press_releases/SebeliusAnnouncesBioAuthority.pdf.

⁵ *Kansas Bioscience and Innovation Road Map*, 2005, http://www.iowabiotech.com/econ_dev_reports/Kansas_roadmap_2005.pdf.

⁶ <http://www.nddaccelerator.com/>.

⁷ Kansas Bioscience Authority, "Programs", http://www.kansasbioauthority.org/how_we_can_help/.

⁸ Kansas Bioscience Authority, Press Release, 10/08/2009, <http://www.kansasbioauthority.org/news/Detail.aspx?id=81>

⁹ Kansas City Area Life Sciences Institute, About KCALSI, <http://www.kclifesciences.org/about/history/history.php>.

¹⁰ *Analytical Study Targeting Optimal Site and Characteristics for a Regional Wet Laboratory Incubator*, 04/30/2007, <http://www.kclifesciences.org/pdf/RegionalFlagshipIncubatorFinalreport43007.pdf>.

PhRMA 2009