



Kansas

Programs & Initiatives Advancing the Biopharmaceutical Industry



Key Programs & Initiatives

The opportunities generated by the biopharmaceutical sector as a leader in innovation and high quality job creation are not limited to just a few states, but have a substantial national footprint across states. States proactively pursue the development of the biopharmaceutical sector because it represents: a large-scale, geographically dispersed supply chain spanning R&D through to production and distribution; a key driver of the economy including the recent economic recovery; and a sector paying high wage rates in quality jobs. States are deploying a range of programs and initiatives to support and grow the biopharmaceutical industry, including: comprehensive state development strategies; investments in R&D and related infrastructure; programs to boost venture capital, entrepreneurship, and innovation development; advanced manufacturing; economic incentive initiatives; and programs working to advance STEM education and training. Kansas has identified the biosciences as a key industry and one of its primary target industries for economic development recognizing multiple research and industry strengths across the state.

Quick Guide: Kansas's Programs & Initiatives Advancing the Biopharmaceutical Industry



Comprehensive State Strategies to Support Biopharmaceutical Development:

- Kansas Department of Commerce
- Kansas Bioscience Organization
- Kansas City Area Life Sciences Institute (KCALSI)



R&D Investment:

- University of Kansas Biotechnology Innovation & Optimization Center
- KCALSI Research Development Grant Program
- National Center of Innovation for Biomaterials in Orthopedic Research



Biosciences Infrastructure Development:

- National Bio & Agro-Defense Facility
- Kansas City Animal Health Corridor



Venture Capital, Entrepreneurship, and Other Innovation Related Programs and Initiatives:

- Network Kansas
- Kansas Capital Multiplier Funds



Economic Incentives:

- R&D Tax Credit



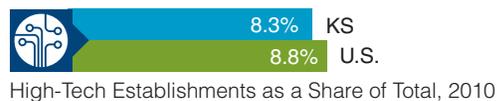
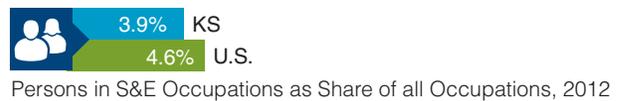
STEM Workforce & Education:

- Kansas City STEM Alliance
- University of Kansas Center for STEM Learning

Impacts

- **KansasBio** – through its scholarship funds, KansasBio has awarded more than \$50,000 in scholarships to graduate and undergraduate students.
- **KCALSI Research Development Grant Program** – the Program awarded 40 grants over the 2006-2010 period at a total of \$1.4 million. These grants led to further external funding being awarded that amounted to \$14.6 million in additional grants, 67 presentations at both the national and international levels, and 39 peer-reviewed publications.

Kansas by the Numbers



Source: National Science Foundation, Science & Engineering Indicators 2014.

Comprehensive State Strategies to Support Biopharmaceutical Development

Kansas Department of Commerce. Acting as the state's primary economic development agency, the Department of Commerce has identified five "key industries" in the state, one of them being the biosciences. The Department notes that the state has made the bioscience industry one of its "top target industries." Specific bioscience sectors that are of key importance to the state include: animal and human health, bio energy, and agriculture and bio-based products. The department offers funding assistance for bioscience companies wanting to locate or expand in the state, as well as funding for research and development endeavors through a voucher program with Kansas research institutions.

Kansas Bioscience Organization (KansasBio). KansasBio was started in 2004 by the Kansas City Area Life Sciences Institute and the Kansas Technology Enterprise Corporation (which has since been absorbed by the Kansas Department of Commerce). KansasBio works to attract and retain bioscience-related companies in the state, and works to support a workforce that caters to those companies. KansasBio works to educate the public and local government about advances and commercialization efforts that are being made in biosciences within the state. They also support a scholarship fund for undergraduate and graduate students, and works with local school districts to assist in bioscience exposure opportunities for K-12 students, as well as teachers.

- **Outcomes:** Through its scholarship funds, KansasBio has awarded more than \$50,000 in scholarships to graduate and undergraduate students.

Kansas City Area Life Sciences Institute (KCALSI). KCALSI was established in 2001 as a 501(c)3 not-for-profit organization focused on supporting and advancing the life sciences in the Kansas City region (spanning both Missouri and Kansas) through commercialization, research, and workforce development. The organization has six target initiatives that include bio-pharma drug discovery, animal health and nutrition, oncology, cardiovascular tissue engineering, and neurosciences.

- **Path to 2025:** In 2015 KCALSI, in partnership with Deloitte Consulting, published a 10-year plan called "Path to 2025." The report was developed based on responses to a survey that was sent to more than 1,200 people and interviews that were conducted with more than 150 industry leaders. The report identified life science strengths in the region

in areas like health IT and animal health, as well as areas of weakness for the region, including public and private capital investment and promoting innovation. With these strengths and weaknesses in mind, the report recommended establishing a life science collaboration accelerator, scaling regional venture and other capital investment, and creating a life science strategic marketing campaign, among other recommendations.

R&D Investment Programs and Initiatives

University of Kansas Biotechnology Innovation & Optimization Center (BIO Center). The BIO Center works with researchers at the University as well as with experts from around the world to transform discoveries into commercial products for patients. The Center provides key technologies and R&D services to academic and commercial researchers including drug delivery, solubilization, and stabilization services. The Center includes seven laboratories and associated office space. Specializations include analytical chemistry, pharmacokinetics and pharmacology. A sizable portion of the Center's research is in partnership with the KU Cancer Center, one of 67 NCI-designated Comprehensive Cancer Centers in the United States.

KCALSI Research Development Grant Program. The KCALSI's Research Development Grant Program was designed to help support researchers in gathering the data they needed to create competitive proposals. A thorough review process (modeled after a process used by the NIH) can result in one year grants ranging from \$25,000 to \$50,000 intended to support the development of proposals that will lead to additional external funding in the future.

- **Outcomes:** The KCALSI's Research Development Grant Program awarded 40 grants over the 2006-2010 period at a total of \$1.4 million. These grants led to further external funding being awarded that amounted to \$14.6 million in additional grants (\$4.3 million of which are pending), 67 presentations at both the national and international levels, and 39 peer-reviewed publications.

National Center of Innovation for Biomaterials in Orthopedic Research (CIBOR). Located in Wichita State University's Institute for Aviation Research, this organization is home to a collection of specialized labs and researchers that are focused on the development of composite materials for use in the bioscience and medical industries. CIBOR is sponsored by Wichita State University and the Via Christi health system, and provides services that span product research, designing, testing and commercialization. The Engineering Team at CIBOR assist in

design analysis, mechanical and environmental testing, and prototyping and manufacturing. The Biocompatibility and Animal Labs allows for in-vivo testing of medical devices, and also has radiographic imaging capabilities.

Programs and Initiatives to Build Bioscience Infrastructure

National Bio & Agro-Defense Facility (NBAF). A planned facility with operations expected to begin in 2022, the NBAF will be located in Manhattan, Kansas and will be a state-of-the-art biocontainment lab, primarily for use in studying diseases that could affect the agricultural sector and the general public. Established by the Department of Homeland Security, the NBAF is expected to play a lead role in bio and agricultural security and will work to foster public and private sector cooperation, technology transfer, talent development and other initiatives to enhance the regional economy.

Kansas City Animal Health Corridor. More than 300 animal health companies are located in the corridor, which makes it the largest concentration of animal health companies in the world. The corridor has established workforce development, public policy efforts, and animal health industry engagement as its main strategic priorities for the 2013-2015 period. The corridor offers a manufacturing technician certificate and vet tech specialized education program, as well as tax and incentive programs, research collaboration services, networking events and business relocation assistance. According to a 2014 report by the Kansas City Animal Health Corridor, companies within the KC Animal Health Corridor represent 56 percent of global pet food, animal health and diagnostics sales.

Venture Capital, Entrepreneurship, and Other Innovation Related Programs and Initiatives

Entrepreneurial Development

Network Kansas. Established in 2004 through the Kansas Economic Growth Act, Network Kansas works to be the connector between small business owners and the resources they need

to establish and grow their businesses in the state. Network Kansas partners with academic and business development organizations to help provide these services. Through the Network Kansas Referral Center, entrepreneurs can access an experienced staff of legal coordinators for free.

Venture Financing

Kansas Capital Multiplier Funds. Network Kansas offers two capital funds programs for small businesses:

- **Kansas Capital Multiplier Loan Fund:** Primarily provides gap funds to cover a variety of needs including equipment, working capital, etc. The minimum loan amount is \$25,000, with the maximum being \$100,000. The funds can match up to 9% of private capital invested, and have no early repayment penalties.
- **Kansas Capital Multiplier Venture Fund:** This program provides matching venture financing to small businesses. The funds can match up to 9% of private equity per round with a minimum investment amount of \$25,000 per round (maximum of \$250,000 per round).

Economic Incentives

R&D Tax Credit. A qualified corporation can apply for an R&D tax credit through the Kansas Department of Revenue. This credit amounts to 6.5 percent of the difference between the qualified R&D expenditure for the year and the average of actual expenditures made over the current tax year and the past two tax years.

STEM Workforce & Education Programs and Initiatives

Kansas City STEM Alliance. This not-for-profit network of industry members, educators and other organizations works to create a strong STEM workforce in the Kansas City region. It does this through engaging in community-based STEM efforts, increasing student's exposure to STEM learning, and supports and facilitates two national afterschool programs, Project Lead the Way and FIRST. The organization also works to increase industry involvement in STEM efforts in the region. The Alliance was established by a \$3.2 million donation by the Ewing Marion Kauffman Foundation in 2011.

University of Kansas Center for STEM Learning (CSTEM):

The University of Kansas created CSTEM in 2000 as a response to the recognized local and national challenges in STEM education from kindergarten through graduate school. CSTEM provides STEM education development for both students and teachers through helping educators write for and receive research grants, engaging in the UKanTeach Secondary Mathematics and Science Teacher Preparation program, and participating in the American Association of Universities STEM Initiative. CSTEM also supports mentoring opportunities and scholarship programs for science teachers. A number of organizations donate and support the center, including the Sprint foundation, the Kauffman Foundation, the National Science & Math Initiative and Elsie Fitzgerald Rowland.