



Meeting Notes
Kansas Bioscience & Innovation Summits
October 4-7, 2004

East Central Regional Bioscience and Innovation Summit
University of Kansas–Edwards Campus, Overland Park, Kansas
October 4, 2004

Northeast/East Central Regional Bioscience and Innovation Summit
University of Kansas, Lawrence, Kansas
October 4, 2004

North Central Regional Bioscience and Innovation Summit
Kansas State University, Manhattan, Kansas
October 5, 2004

Southwest/Northwest Regional Bioscience and Innovation Summit
Fort Hays State University, Hays, Kansas
October 6, 2004

South Central Regional Bioscience and Innovation Summit
Wichita State University, Wichita, Kansas
October 7, 2004

Southeast Regional Bioscience and Innovation Summit
Pittsburg State University, Pittsburg, Kansas
October 7, 2004



Meeting Notes
East Central Regional Bioscience and Innovation Summit
University of Kansas—Edwards Campus
Overland Park, Kansas
October 4, 2004

Summary Ideas

Performance Metrics
• # of started/successful companies still around
• Increase in all funded research; significant growth in all sources of funding
• Payroll associated with jobs – wage levels
• Investment in technology and hard assets
• Measurement of recognition in marketplace
• Speed from bench to bedside to market
• Reduce cost of time
• # of graduates/certificates in related skilled areas, that stay in Kansas
• Patent productivity
Gaps
• R&D to particular investment
• Capitalization (post seed, pre-VC)
• Place at table for high schools
• Private investors engaged
• Leveraging existing infrastructure
• SBIR access
• Amenable tax structure compared to other states
• Commercialization – getting products to market
• Tap into our other resources — foundations
• Role of hospitals/healthcare providers
Synchronization
• Coordination of outputs (patents)
• Compelling value proposition/collaboration
• Share successes/celebrate
• Promote state/region beyond the state
• Communication repository

<ul style="list-style-type: none"> • Open source innovation
Focus
<ul style="list-style-type: none"> • State’s military presence and relationship to biosciences (e.g., health, cleanup); military bases at the table
<ul style="list-style-type: none"> • Workforce development
<ul style="list-style-type: none"> • Truly connecting the 3 corners of the triangle – government, industry, academia
<ul style="list-style-type: none"> • Building investment capital
<ul style="list-style-type: none"> • Execute on existing legislation/activities
<ul style="list-style-type: none"> • Get up and running
<ul style="list-style-type: none"> • Sell quality of life to attract talent
<ul style="list-style-type: none"> • Make decisions on priorities
<ul style="list-style-type: none"> • Develop a portfolio of immediate (0-18 months), near term (18-36 months), and long-term (36+ months) opportunities
<ul style="list-style-type: none"> • Reversing the declining math/science education in K-12 schools
<ul style="list-style-type: none"> • Set the vision for what we want Kansas’ “face” to look like in 5 years
<ul style="list-style-type: none"> • Create a fertile environment; determine what environment we need to create



Meeting Notes
Northeast/East Central Regional Bioscience and Innovation Summit
University of Kansas
Lawrence, Kansas
October 4, 2004

Summary Ideas

Performance Metrics
• # of companies formed; still here in 5 years; sustain for growth
• # of patents
• # of SBIR/STTR grant awards
• Products/sales — Revenue
• # of jobs; portfolio of jobs; wages/payroll
• Property/sales tax revenue increase
• Amount of capital flowing into new ventures; seed/early stage capital; filling the \$1-3M gap
• Improve university rankings – e.g., KU to move into top 25 ranking
• Increase in the # of companies moving here/expansions; attraction of growing companies; expansion of vendor/supplier chain
• Effective branding of Kansas image/economic niche
• Evidence of true collaboration
Gaps
• Time to develop SBIR and other grants; patent applications — energy barriers to this type of activity
• Engaging the business and law schools, and political science areas
• Few people know that KU's School of Pharmacy is 2 nd in the U.S. in federal funding from NIH
• Understanding what industry needs
• Understanding what is valuable enough to patent
• Appropriate incentives to act
• Commercialization leadership
• Structure to commercialize with greater results

Synchronization
• Mechanisms for interaction between industry and academia
• Understanding who is doing what, where, when
• Synergies among interests
• Degree of collaboration – success
• Linking unrealized assets (e.g., military lessons learned)
• Promote KS assets
• Balanced, cohesive public relations messaging
• Information tool for linking efforts
• Define what is real collaboration
Focus
• Harvesting intellectual property to impact Kansas
• Oncology and neuroscience disciplines
• Links between engineering and biosciences (e.g., vaccines)
• Translational skill set/knowledge
• Make connections between universities and small businesses
• Develop a simple system that anyone can use to move grants/patents forward
• Wakeup sleeper patents
• Adjunct professors from industry
• Leadership/vision to take advantage of tools
• Behavioral science ties to genomic findings
• Expand talent/skills/roles
• Rules and regulations that need fixing to compete



Meeting Notes
North Central Regional Bioscience and Innovation Summit
Kansas State University
Manhattan, Kansas
October 5, 2004

Summary Ideas

Performance Metrics
<ul style="list-style-type: none"> • Ease of doing business <ul style="list-style-type: none"> ○ Predetermined IP sharing
<ul style="list-style-type: none"> • Growth of industry in specific industry sectors <ul style="list-style-type: none"> ○ Payroll/wages ○ Net new jobs
<ul style="list-style-type: none"> • Population growth in certain demographics
<ul style="list-style-type: none"> • Vendor/supplier chain growth/attraction
<ul style="list-style-type: none"> • Increased capabilities to take products to market <ul style="list-style-type: none"> ○ IP management/commercialization
<ul style="list-style-type: none"> • Manufacturing capabilities tied to advanced manufacturing skills
<ul style="list-style-type: none"> • Attraction of R&D <ul style="list-style-type: none"> ○ Based on characteristics of teams (e.g., increased # of graduate student applications)
<ul style="list-style-type: none"> • Connected to targets of opportunity
<ul style="list-style-type: none"> • Increased federal funding
Gaps
<ul style="list-style-type: none"> • Effective demonstration of industry's role/ROI/value proposition
<ul style="list-style-type: none"> • Lack of local jurisdiction collaboration, alignment of interests, use of resources
<ul style="list-style-type: none"> • Use of words/explain in layman's terms
<ul style="list-style-type: none"> • Concerned on holding to our knowledge capture versus being exported
<ul style="list-style-type: none"> • Resources really assist life sciences growth
<ul style="list-style-type: none"> • One stop shop
<ul style="list-style-type: none"> • Incentives to facilitate collaboration inter/intra university
<ul style="list-style-type: none"> • No direct relationship between a company's investment and incentive...why they should invest in Kansas is not clear
<ul style="list-style-type: none"> • Unclear whether tax structure is optimal for bioscience companies

<ul style="list-style-type: none"> • Lack of clarity in how intellectual property is maintained in university/industry partnerships
<ul style="list-style-type: none"> • Human resources — not enough people, not enough time; need the right people; same number of faculty doing more things
<ul style="list-style-type: none"> • Dwindling state budget affecting even most basic university services, research capabilities (e.g., lab technicians)
<ul style="list-style-type: none"> • Disincentive for junior faculty to be involved in entrepreneurial activities because of tenure track requirements
<ul style="list-style-type: none"> • Transition point failures in funding — e.g., SBIR grants Phase I not enough money; gap between \$1M-\$3M in start-up companies
<ul style="list-style-type: none"> • Lack of mentoring teams — good ideas die because no one is available to help take the idea forward
Synchronization
<ul style="list-style-type: none"> • Communicate between academia and industry
<ul style="list-style-type: none"> • Coordinate industry voice needs/demands
<ul style="list-style-type: none"> • Ease of partnering — pathways, knowledge sharing
<ul style="list-style-type: none"> • Communication repository
<ul style="list-style-type: none"> • Send message to out of state companies — Bring your company to our smart young people rather than luring them away
<ul style="list-style-type: none"> • Brand the initiative first by actions, second by promotion
<ul style="list-style-type: none"> • Need a fast, streamlined process
Focus
<ul style="list-style-type: none"> • Workforce skills at high school, community college, technical school, university <ul style="list-style-type: none"> ◦ Need career counseling
<ul style="list-style-type: none"> • Mechanisms to indicate success and failure
<ul style="list-style-type: none"> • Resource allocations <ul style="list-style-type: none"> ◦ Access to experts
<ul style="list-style-type: none"> • Co-education of both sides — industry and academia
<ul style="list-style-type: none"> • Develop a handful of science areas in the agricultural-base
<ul style="list-style-type: none"> • Go beyond improving production to value added agriculture
<ul style="list-style-type: none"> • Focus on environmental science, food safety and security, water resources
<ul style="list-style-type: none"> • Demonstrate what this means to the average citizen
<ul style="list-style-type: none"> • Help existing industries benefit from advances in biosciences
<ul style="list-style-type: none"> • Drill down on assets to focus better
<ul style="list-style-type: none"> • Biopharming
<ul style="list-style-type: none"> • Animal science
<ul style="list-style-type: none"> • Grain science
<ul style="list-style-type: none"> • Nanomaterials
<ul style="list-style-type: none"> • Food safety
<ul style="list-style-type: none"> • Biomaterials
<ul style="list-style-type: none"> • Utilize EPSCoR and COBRE programs as models for collaboration
<ul style="list-style-type: none"> • Be strategically proactive rather than reactive



Meeting Notes
Southwest/Northwest Regional Bioscience and Innovation Summit
Fort Hays State University
Hays, Kansas
October 6, 2004

Summary Ideas

Performance Metrics
<ul style="list-style-type: none"> • 3x increase in patents <ul style="list-style-type: none"> ○ Retain x% to convert to economic output
<ul style="list-style-type: none"> • 300% ROI — smart choices
<ul style="list-style-type: none"> • Retain X # top-flight bright students with good jobs vs. exporting them <ul style="list-style-type: none"> ○ Growing wages and payroll
<ul style="list-style-type: none"> • Increase federal funding of R&D <ul style="list-style-type: none"> ○ Leveraging \$ ○ Mechanism for increasing matching \$
<ul style="list-style-type: none"> • Increased training opportunities in our focus areas <ul style="list-style-type: none"> ○ Increased # of certifications (High School to post-doc)
<ul style="list-style-type: none"> • Increased # of partnerships between basic and applied research schools
Gaps
<ul style="list-style-type: none"> • Communication, communication, communication
<ul style="list-style-type: none"> • No “cheerleader” for the bioscience initiative and each of the potential participants
<ul style="list-style-type: none"> • Links between research and private enterprise is poor — infrastructure is there, but connections are not being made
<ul style="list-style-type: none"> • Need to increase ability to write grant applications
<ul style="list-style-type: none"> • High schools are lacking in exposure to new technologies/bioscience career opportunities
<ul style="list-style-type: none"> • Need greater flexibility for faculty, exposure to new skills and learning environment
<ul style="list-style-type: none"> • Need a leader/catalyst to connect research at universities to entrepreneurial activity externally
<ul style="list-style-type: none"> • Need a commercialization service to tie the various resources together
<ul style="list-style-type: none"> • Move agriculture away from commodity focused to specialized
<ul style="list-style-type: none"> • Little to no seed and venture capital sources
<ul style="list-style-type: none"> • Oversupply of assets that are not working purposefully in the state

Synchronization
<ul style="list-style-type: none"> • Develop a system to ascertain whether ideas are: <ul style="list-style-type: none"> ○ Dead on arrival ○ Strong opportunities ○ Riskier ○ Rural vs. Urban
<ul style="list-style-type: none"> • Create a central database to share resources/activities — who is doing what/where <ul style="list-style-type: none"> ○ Ensure that database is simple and everyone can use it
<ul style="list-style-type: none"> • Develop a communication repository and system <ul style="list-style-type: none"> ○ Newsletter ○ Central place on Web to find/share information
<ul style="list-style-type: none"> • Unite Western Kansas <ul style="list-style-type: none"> ○ Keep things started in Western KS here ○ Get message out that what is done in other areas can be done in Western Kansas ○ Build/focus Western Kansas funding sources to support the biosciences
<ul style="list-style-type: none"> • Hone the Western Kansas message <ul style="list-style-type: none"> ○ “We are open and ready to do business” ○ Let the world know what we are doing and Western Kansas is capable of
<ul style="list-style-type: none"> • Link industry and university activities <ul style="list-style-type: none"> ○ Need a liaison between industry and applied R&D
<ul style="list-style-type: none"> • Conduct forums/facilitated sessions to promote biosciences internally at FHSU and externally across the Western region
<ul style="list-style-type: none"> • Seek more collaborations between FHSU and other Kansas universities
Focus
<ul style="list-style-type: none"> • Determine Kansas’ strengths in developing/growing plant-made pharmaceuticals/nutraceuticals <ul style="list-style-type: none"> ○ Help growers understand the opportunity for using their land for this new venture in crop science
<ul style="list-style-type: none"> • Assess opportunities for developing and growing genetically modified plants <ul style="list-style-type: none"> ○ Drought resistant crops
<ul style="list-style-type: none"> • Explore natural resource opportunities in the biosciences <ul style="list-style-type: none"> ○ Water ○ Ecological/environmental ○ Energy ○ Land available to do research
<ul style="list-style-type: none"> • Stop the Brain Drain <ul style="list-style-type: none"> ○ Reactivate the “Home Again” database
<ul style="list-style-type: none"> • Develop a connectivity and understanding all the agendas and desired outcomes from each action/mechanism/organization
<ul style="list-style-type: none"> • Bring advanced equipment (e.g., MRI, DNA sequencers) to Western Kansas to train students and provide advanced diagnostics in rural areas
<ul style="list-style-type: none"> • FHSU could play a role in developing math and science resource centers, reaching out to high schools to increase exposure to math and science <ul style="list-style-type: none"> ○ Hold a day of science

<ul style="list-style-type: none">• Expand the Grant Facilitator position at FHSU to facilitate process
<ul style="list-style-type: none">• Increase flexibility for FHSU faculty to focus on strengths in applied research, teaching, service
<ul style="list-style-type: none">• Link FHSU's capabilities in applied research and teaching to state-wide bioscience initiative
<ul style="list-style-type: none">• Expose more students to technologically advanced equipment
<ul style="list-style-type: none">• Develop a Citizen Science Network to reach out to community, K-12 education
<ul style="list-style-type: none">• Explore applied science opportunities with organizations like:<ul style="list-style-type: none">○ John Deere (GPS field applications)○ Airforce/Northrup-Gruman (research modeling of the eye)
<ul style="list-style-type: none">• Promote the talent and abilities at FHSU



Meeting Notes
South Central Regional Bioscience and Innovation Summit
Wichita State University
Wichita, Kansas
October 7, 2004

Summary Ideas

Performance Metrics
• Federal grants/R&D dollars in Kansas
• Relationship of federal dollars to technological development
• Increased number of Ph.D. students
• Increase in the pipeline of competencies emerging from educational institutions
• Strong science and math education from all pathways of learning
• Job creation and growth (quality)
• Increased # of patents; utilization of patents; intellectual property
• Investment from industry, philanthropy, other sources
• Patent success in higher education
• Commercially viable products staying in Kansas
• Formation and expansion of bioscience employees
Gaps
• Strategic facilitation — not a plan; help the thinking, key metrics, accountability
• Lack of policy mechanisms to advance ideas – who to go to, how it is managed
• Champions and leaders to implement; execute the agenda
• Engagement of a broader stakeholder base — where are the other industries?
• Ph.D. program at WSU aligned with bioscience initiative goals
• Proprietary sharing
• Lead time for education system/curriculum to catch up with technological advancement
• Public distant from research ideas; hard to sell to legislature
• Widespread knowledge of research and expertise already in existence in South Central region
• Industry partnerships with academia
• Clear pathways to “do” implementation/have desired outcomes
• Growers acceptance of biotech plants
• Brain drain issues just as we begin this initiative

Synchronization
• Aviation/NIAR model that can be used across Kansas
• Understanding/implementation of Kansas Economic Growth Act
• Utilize the chamber driven regional economic development model
• Bring together a caucus of legislators to move bioscience initiative forward
• Need a state/regional clearinghouse
• A statewide WARF (University of Wisconsin) model for leveraging science
• Coordination among academic researchers throughout Kansas
• The “right people” need to convene the meetings — e.g., if the Governor or Don Beggs calls, the industry leaders will come to the meeting
• Make sure you have a story to tell...funding will follow — NIAR model
• Community leaders must pave the way; WSU must take a lead role
• Public awareness communication
• Promote the existing skills/quality of life
• Ability to handle the GMO/experimental crop issue
Focus
• Convergence of engineering/ non-metallic/ research in biology
• Bio-based materials — links between agriculture and biosciences; genetics and processing technologies
• Links between aviation and biosciences
• Breakdown silos within and across industry and academia
• Intellectual property management
• Ethanol — majority of construction in US done in Wichita area
• Manufacturing expertise
• Co-products of ethanol production — enzymes, feed
• Value added agriculture (e.g., byproducts from wheat harvest; alternative fuels)
• Bioengineering
• Orthopedic Research institute at Via Christi
• Opportunities in plastics industry
• More applied research; faster cycle time to commercialization
• Biochemistry linkages
• Build on South Central Kansas’ proven entrepreneurial spirit



Meeting Notes
Southeast Regional Bioscience and Innovation Summit
Pittsburg State University
Pittsburg, Kansas
October 7, 2004

Summary Ideas

Performance Metrics
<ul style="list-style-type: none"> • High paying jobs — characteristics to target; research, production, manufacturing; new information and data on jobs/future use • Success by person — productivity, skills competency • Growth rate (revenues, sales, # of jobs) • Success by region — population growth (e.g., new families moving into region) • Gross Region Product measurement • Jobs and quality of life and opportunity • Security/safety/environmental issues
Gaps
<ul style="list-style-type: none"> • Utilization of graduate students at PSU • “Brain stagnation” — using overqualified expertise; lowering expectations • PSU’s communication about what it is doing in the biosciences to the surrounding region • Widespread knowledge of PSU’s relationships with industry (e.g., Cargill) and research strengths (e.g., soy polymers, wood fiber) • Inadequate research facilities at PSU • Maintaining a high quality workforce in Southeast Kansas; must import talent from other areas, because talent stock is low • Lack of understanding about the commercialization process • Widespread knowledge of the breadth and depth of the patent portfolio in industry and academia in Southeast Kansas • Understanding the links between polymers as a discipline within the biosciences • Support for researchers — writing grants, basic administration infrastructure, supporting R&D versus time to teach
Synchronization
<ul style="list-style-type: none"> • Knowledge of strengths within region • Clearinghouse of regional and state information

<ul style="list-style-type: none"> • Promoting quality of life and link to economic outcomes
<ul style="list-style-type: none"> • Organize statewide community college knowledge system
<ul style="list-style-type: none"> • Market assets = good thing going in
<ul style="list-style-type: none"> • Celebrate opportunities
<ul style="list-style-type: none"> • Build network of relationships
<ul style="list-style-type: none"> • Communications repository
<ul style="list-style-type: none"> • Educate the public about biosciences
Focus
<ul style="list-style-type: none"> • Understand students' interests and match with efforts to attract industries to region; make the job linkage to interest areas
<ul style="list-style-type: none"> • People = educate/attract/retain
<ul style="list-style-type: none"> • Connection between Regents University (PSU) and network of surrounding community colleges
<ul style="list-style-type: none"> • Mount Carmel medical center
<ul style="list-style-type: none"> • Joint research between PSU and KUMC
<ul style="list-style-type: none"> • Involve Chambers and SEK, Inc. in helping to drive/coordinate bioscience effort in Southeast Kansas
<ul style="list-style-type: none"> • Increase appropriate research and incubation space in Southeast Kansas
<ul style="list-style-type: none"> • Ensure that students have the opportunity to work with advanced equipment in schools so they are prepared for high tech jobs