

MINUTES OF THE SENATE COMMERCE COMMITTEE

The meeting was called to order by Chairperson Karin Brownlee at 8:30 a.m. on January 21, 2010, in Room 548-S of the Capitol.

All members were present.

Committee staff present:

Ken Wilke, Office of the Revisor of Statutes
Reed Holwegner, Kansas Legislative Research Department
Kathie Sparks, Kansas Legislative Research Department
Marilyn Arnone, Committee Assistant

Conferees appearing before the Committee:

Reed Holwegner, Legislative Research
Kevin Karr, KTEC Chief Operating Officer
Kyle Elliott, Chairman, KTEC Board
Stan Ahlerich, Kansas, Inc.

Others attending:

See attached list.

Chairperson Brownlee introduced Reed Holwegner, Kansas Legislative Research Department, to present the KTEC Interim Report by the Special Committee on Kansas Technology Enterprise Corporation to the 2010 Legislature and the KTEC evaluation. (Attachment 1) The Kansas, Inc. evaluation was performed by Thomas P. Miller & Associates in Greenfield, IN and focused on the following questions: Is KTEC adhering to its statutory obligations; has KTEC initiated its statutorily defined programs and initiatives; and what have been the outcomes of KTEC investments. The report concluded the KTEC board was not engaged as required by statutes, and operations and procedures were not straight forward and transparent. In response to the evaluation, KTEC formed a strategic planning task force comprised of board members and staff to identify four areas of agency focus which include cluster development. The board changes are: improve reporting metrics; post minutes and annual reports on their website; survey their board to ensure the needs of the board are being met; and amend the Charter to include term limits for members. The Special Committee recommended KTEC address its investment strategy fully; and remain a stand alone agency.

Chairperson Brownlee asked Committee member, Senator Holland, who was on the Special Committee to make comments. Senator Holland said he sensed the Special Committee reaffirmed its commitment to KTEC; reaffirmed KTEC's mission; and thought Kansas, Inc. felt comfortable with what KTEC is doing and where it is going.

Chairperson Brownlee recognized Kyle Elliott, Chairman of the KTEC Board of Directors to address the Committee. (Attachment 2) Mr. Elliott became Board Chairman in June 2009 and immediately took steps to address the recommendations of the evaluation. Seven new board members were added and committees were reviewed and reconstituted for balance and to give every board member responsibilities. A Task Force was established and presented revised strategy to the board for going forward. KTEC is very important to Kansas to keep talented, educated young people in Kansas and to encourage businesses to keep these young people working in the State. Mr. Elliott believes that KTEC is well positioned to continue its goal of generating high-tech growth for Kansas.

Chairperson Brownlee questioned Mr. Elliott regarding education of board members and the board policy on conflict of interest. Mr. Elliot answered If there is a conflict of interest for a board member, that board member would abstain from a vote and the abstention would be recorded in the minutes of the meeting. Problems had occurred with Tracy Taylor. Mr. Elliott explained what happened with Mr. Taylor, and felt the situation had been handled properly and transparently and that situation will not happen again. If Mr. Carr becomes the permanent CEO of KTEC, he knows the board will be fair with him. Board members are paid a small stipend, about \$70 per board meeting. Advisory positions on the board are not voting positions. It is critical that the board members understand the role of the board and take that responsibility very

CONTINUATION SHEET

Minutes of the Senate Commerce Committee at 8:30 a.m. on January 21, 2010, in Room 548-S of the Capitol.

seriously.

Chairperson Brownlee introduced Kevin Carr, Interim Chief Operating Officer of KTEC. (Attachment 3) (Attachment 4) There is now more dependence on small business and one thing that drives the economy is highly innovative, high growth potential small businesses, and often, that means technology oriented businesses. About 100% of net job growth in the past three decades is from new firms. The federal government is beginning to play a role in stimulating small businesses and federal representatives have been in Kansas looking to help high innovation oriented businesses which can be a driver for the economy. KTEC promotes Kansas businesses and helps put Kansas in a competitive position. These businesses sell products outside the State regionally, nationally and globally to bring wealth into the State that becomes fuel to drive the economy. KTEC tries to improve the landscape for companies to flourish using a formal innovation network that involves academic research that is translated into commercial products. It involves networks, metrics and highly skilled individuals. It involves helping people access sources, high risk early type stage capital, and giving people access to business know-how.

The KTEC revised budget for FY 10 is \$8,006,871 with the largest amounts going for Centers of Excellence, Grants, Entrepreneurial Centers and Operations.

Creation of new jobs, jobs saved, start-up companies, sales revenues, private dollars leveraged and federal dollars leveraged have all increased over the past four years. The return on investment for 2009 was \$1.57. KTEC assisted 161 companies in all parts of the state and impacted 35 counties in 2009. Senator Kelsey noted the "job saved" aspect has become controversial and ask how job saved is measured by KTEC and how to know if a job has really been saved. Mr. Carr feels that category tends to be abused and often overstated. The method KTEC uses is essentially within the manufacturing systems program that works with small and medium sized companies and sponsored by a federal standard from the Department of Commerce that dictates data collection. It is a subjective matter, but KTEC has done its best to take a conservative approach in tracking the numbers.

Four positions are available on the Board of Directors and KTEC is working to get positions filled. Seven Directors are new since last May. KTEC set up a Task Force and one of the first things the Task Force reflected on was a matrix of collaboration/duplication for Economic Development.

The KTEC Focus Areas are Entrepreneurial Development, Increased Capital Availability, Technology Adoption, and Technology Cluster Growth with these programs intertwined. Highlights of the Programs are the Centers on Excellence, and the Manufacturing Technology Program At the core of KTEC is the ability to be a focus for the innovative technology companies in Kansas; to be a focus for the entrepreneur starting up a technology based business; to be a focus for those who can help stimulate everything from translating research into a commercial product to growing the economy which includes agencies and universities programs and angel investors. KTEC is moving forward with goals that include assisting entrepreneurs, increasing collaboration between universities and entrepreneurs, utilizing research assets to support clusters and reaching as many people as possible over the State.

Chairman Brownlee called on Stan Ahlerich for a brief report on Kansas, Inc. (Attachment 5) Kansas, Inc. was responsible for the evaluation of KTEC and was pleased with KTEC's response. Technology is paramount to the economy of the State and the Nation. As a State, we were not fully impacting the technology as we should. Kansas, Inc. is driven to understand technologies and opportunities for Kansas and realizes technology really matters. Kansas City and Wichita work because of their volume and density. Kansas needs to be serious about getting a technology base and refocusing resources that build and replicate the phenomena of volume and density in the rest of the State that takes place naturally in Kansas City and Wichita. Kansas, Inc. needs to move away from the direct impact of the investment dollars and look at some of the statutes and build a platform of services for the masses.

The next meeting is scheduled for January 28, 2010.

The meeting was adjourned at 09:30am

COMMERCE COMMITTEE GUEST LIST

DATE: 1-21-10

NAME	REPRESENTING
Ron Seeber	KARA
Lindsay Holwick	ICBA
TED HENRY	CAPITOL STRATEGISTS
Dan Karber	Kansas, Inc
Steve Ahlen	Kansas, Inc
Kathy Busch	KTEC
Kyle Elliott	SFBB
MAGNOLE WELAND	KTEC
Kevin Carr	KTEC
Bill Brady	Capitol Strategist

**Report of the
Special Committee on Kansas
Technology Enterprise Corporation
to the
2010 Kansas Legislature**

CHAIRPERSON: Senator David Wysong

VICE-CHAIRPERSON: Representative Lana Gordon

OTHER MEMBERS Senators Pete Brungardt, Carolyn McGinn, and Tom Holland; and Representatives Lisa Benlon, Richard Carlson, Pete DeGraaf, Doug Gatewood, John Grange, Dan Kerschen, Marvin Kleeb, and Jerry Williams

Senate Commerce Committee
Date: January 21, 2010
Attachment # 1-1

- Leverage the network of centers of excellence (business incubators) to help build more volume and more critical mass for economic expansion.

KTEC's recent actions are recognized as a work in progress. The Special Committee recommends that KTEC continue to report its progress on an annual basis to the Senate Committees on Commerce and Ways and Means; the House Committees on Economic Development and Appropriations; and the Joint Committee on Economic Development.

The Special Committee recommends that the state's policies should consider and help foster the growth of jobs and economic development. To that end, the Special Committee recommends that the Legislature reconsider its current policy on the Angel Tax Credit and the 10.0 percent "carry forward" position. This cap discourages investment when it is most needed.

Finally, the Special Committee expresses its gratitude to Kansas, Inc., for its evaluation work and presentations.

Proposed Legislation: None

BACKGROUND

The Special Committee on the Kansas Technology Enterprise Corporation (KTEC) was created by the Legislative Coordinating Council to review the most efficient structure to create and grow Kansas enterprises through technological innovation. The Special Committee was charged to review the recent evaluation of KTEC and to study the agency's current operations and funding.

COMMITTEE ACTIVITIES

The Joint Committee met on October 7 - 8, 2009, and heard testimony from evaluators, KTEC Board and staff members, entrepreneurs, certain state officials, and members of the public.

EVALUATION

Kansas, Inc., is statutorily charged to evaluate the state's economic development programs and policies. The KTEC evaluation was released publicly on April 8, 2009, and attempted to address the following questions:

- Is KTEC adhering to its statutory obligations;
- Has KTEC initiated its statutorily defined programs and initiatives; and
- What has been the outcome of the KTEC investments?

The firm Thomas P. Miller and Associates, headquartered in Greenfield, Indiana, performed the KTEC evaluation. A representative from the firm explained that after interviewing KTEC stakeholders and analyzing the agency's annual reports and other economic data, the following conclusions and recommendations were reached:

- KTEC should continue to identify unique technology clusters in Kansas around which the innovations economy can be built.
- KTEC needs to establish a clear and uniform set of metrics, collect and maintain information that supports these metrics, and regularly report progress. Metrics should reflect outcomes rather than activities.

Special Committee on Kansas Technology Enterprise Corporation

REPORT

CONCLUSIONS AND RECOMMENDATIONS

The Special Committee concludes that the Kansas Technology Enterprise Corporation (KTEC) is a viable entity to the State of Kansas and serves a specific purpose that the Department of Commerce and other economic development entities do not. KTEC needs to remain a stand-alone state agency.

Due to the 2009 evaluation report performed by Kansas, Inc., KTEC took major steps in restructuring its own leadership, and its board of directors made significant operational changes. The Special Committee recommends that the KTEC Board remain informed and engaged in all KTEC activities.

The 2009 evaluation report made several recommendations. KTEC representatives detailed their acceptance of these recommendations and have begun to implement changes, as listed in this report. The Special Committee commends KTEC's Board and revised leadership for implementing these recommendations.

The Special Committee looked at duplication of efforts for the state's economic development policies and programs. It found there were two areas that KTEC was duplicating efforts with the Kansas Bioscience Authority. KTEC has agreed that by the start of the next fiscal year, the agency will begin to vacate direct investments in the bioscience arena and end any duplication where possible.

There are many needs for economic development in the State of Kansas. KTEC needs to address its investment strategy fully. In addition to the steps outlined by the agency, the Special Committee recommends that KTEC further review its technology based economic development (TBED) investment strategy by considering the following:

- Build world-class discovery platforms to simulate across Kansas the "knowledge spillover," collaboration, and increased opportunity awareness that comes from urban density.
- Link state research and development support more tightly to the acquisition of federal research and development funding and strive to increase the number of Kansas-based researchers competing for federal funding related to scientific research and engineering.
- Maximize the resources directed to building the research infrastructure and collaborative business environment related to technology-based economic development and minimize the resources directed to investments in individual business ventures.

- In order to better serve stakeholders and foster a more entrepreneurial culture in Kansas, KTEC should post all annual reports, schedules, minutes, and other documents online.
- KTEC needs mechanisms in place to assure that the Board of Directors is fulfilling its fiduciary role and is operating in accordance to statute.
- Provide thorough and adequate information to the Board well in advance of Board meetings.
- Maintain the integrity of the Board nomination and selection process.
- Build the Board's capacity to ensure that the entrepreneurs, technology experts, intellectual property attorneys, and financial experts are represented on the Board.
- Work with existing companies to identify "orphan" technologies and identify persons that could develop those technologies to the proof-of-concept stage.
- Leverage existing entrepreneurship programs and consider extending the PIPELINE Program to meet the needs of entrepreneurs at different stages of development.

KTEC RESPONSE TO EVALUATION

KTEC's Board of Directors and staff prefaced their remarks by explaining the agency's budget and current operations. KTEC expressed its appreciation in the positive recognitions contained in the evaluation. Since the release of that report, the KTEC Board and staff began a process to address the identified issues. Those steps include:

- KTEC formed a strategic planning task force in June 2009 that is comprised of Board members and staff. The task force identified

cluster development as one of four areas for the agency to focus. KTEC has started to evaluate resources within Kansas to identify the technology clusters that should be supported. In September, KTEC started to evaluate the centers of excellence (business incubators) to determine how each center will be aligned with KTEC in the future.

- KTEC recognizes there is room for improvement in reporting metrics to the Board. To that end, metrics for each program area are to be annually reviewed in detail by the Board.
- Since April 2009, KTEC has posted all annual reports, the last three years of minutes, and future schedules on the agency's website. KTEC and the other state economic development agencies have collaborated to develop a matrix that should improve the understanding of how all agencies work together to provide economic development. By looking externally, KTEC identified areas of duplication with the Kansas Bioscience Authority. KTEC will begin to cease its duplication of effort by the start of the next fiscal year.
- KTEC surveyed all Board members prior to the June meeting to ensure their needs were understood and being met. Deficiencies that were raised were addressed prior to the Board's meeting in September 2009. From now on, the Board will be surveyed biennially to discern its decision-making needs. KTEC developed an intranet website that Board members can access. Board members now sit on each KTEC committee.
- All KTEC materials that require the Board's approval are posted to the intranet site a minimum of two days in advance of each meeting.

- In regard to the Board nomination process, KTEC notes that the process is controlled by the Legislature and the Governor, and no specific problems relating to it were cited in the report.
- The KTEC Board is comprised of members with the expertise specified by statute. The charter of KTEC's Investment Committee was amended in June to include term limits for members. Five new members have been added to that committee since May 2009. The current committee includes four Board members.
- In regard to "orphan" technology identification, KTEC's Proof of Concept Program has been in existence for two years. KTEC has funded projects at state universities totaling over \$100,000.
- KTEC will continue to evaluate services that enhance entrepreneur development. PIPELINE has begun to extend its offering to other entrepreneurs and high school students.

TECHNOLOGY BASED ECONOMIC DEVELOPMENT (TBED)

An economist from the Center for Applied Economics at the KU School of Business briefed the Special Committee on technology based economic development (TBED). TBED is primarily an urban phenomenon where both the volume of entrepreneurial activities and population density matter. Kansas has a disadvantage in both categories except for in the Kansas City and Wichita areas. At any one time, 10.0 percent to 15.0 percent of businesses in Kansas are new, and about the same percentage of businesses are dying. It is unclear when or how TBED initiatives will work, but this economic churning process—over time—will lead to increased productivity that then will build societal prosperity. The challenge is to be willing to let go of old jobs and industries in order to

create new economic activity. Universities can simulate the necessary entrepreneurial activities and population densities. It was suggested that the state's goal should be to grow out of the federal Experimental Program to Stimulate Competitive Research (EPSCoR) and be in the top half of research states.

The observation was made that while KTEC has had some successes, the agency has taken a role of picking winners and losers, similar to how a venture capitalist firm would operate. TBED success should be measured in terms of overall productivity, capital investment (especially in manufacturing), the gross number of business starts, federal research funding, and private industry research and development funding.

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1-6

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KANSAS TECHNOLOGY
ENTERPRISE CORPORATION

Senate Commerce Committee
January 21, 2010
Kyle Elliott

- I am Kyle Elliott, Chair of the KTEC Board of Directors and a partner in the Kansas City firm of Spencer Fane Britt & Browne. I would like to give you a brief overview of KTEC's activities over the past few months.

- In June, I accepted the position of Board Chair. We immediately took several steps to address the recommendations of Thomas P. Miller & Associates with regard to increased transparency and improved governance.
 - 7 new Board members have been appointed since last spring
 - Reconfigured KTEC committees, with Board representation on each committee

- In addition, we established a strategic planning task force comprised of Board members and KTEC staff.
 - The task force presented a revised strategy to the Board in September that included four key focus areas and the need for targeted cluster development going forward.

- I am pleased with the final report of the interim session that was published on January 11. I hope that you have had the opportunity to review it. I believe that KTEC is well positioned to continue its goal of generating high-tech growth for Kansas.

Senate Commerce Committee
Date: January 21, 2010
Attachment # 2-1



Senate Commerce Committee

January 21, 2010

Senate Commerce Committee

Date: January 21, 2010

Attachment # 3-1



Need for Innovation Entrepreneurism

12 million new jobs added in 2007, new businesses (1-5 years) responsible for nearly 8 million (two-thirds)

Net creation of jobs since 1980 has occurred in firms less than five years old

Most new firms are small, innovative businesses

Kauffman Foundation Research Series: Firm Formation and Economic Growth, "Where Will The Jobs Come From?", November 2009

"History should be our guide. The United States led the world's economies in the 20th century because we led the world in innovation. Today, the competition is keener; the challenge is tougher; and that is why innovation is more important than ever. It is the key to good, new jobs for the 21st century." President Barack Obama, August 5, 2009

"In the aftermath of the largest economic crisis since the Great Depression, we are collectively looking for solutions to project our nation forward. The answer rests with technology and how collectively – business and government – can join together to bring about an innovation nation." Rob Atkinson, President, Information Technology & Innovation Foundation

78% of Americans believe innovation will be more important to the U.S. Economy in the next three decades than it was in the last three. Newsweek-Intel Global Innovation Survey, November 2009

Need for KTEC

- Jobs created by tech companies pay two times the average salary of non-technology jobs.
- Reduces brain drain
- Diversifies tax base
- A region's economic prosperity is closely tied to its entrepreneurial capacity
- Entrepreneurial companies seek talent, capital, networks and infrastructure



KTEC Funding History

	FY 08	FY 09	FY 10
	Allocated	Allocated	Revised
Operations	1,870,276	1,636,168	1,282,564
Centers of Excellence	3,042,627	2,958,044	2,246,863
Grants - EPSCoR/Star	2,145,333	1,888,563	1,250,000
Investment	1,468,612	1,132,684	775,000
Entrepreneurial Centers	1,519,000	1,400,930	1,009,607
MAMTC	1,390,674	1,362,149	545,000
Pipeline	610,000	628,606	501,534
Consulting	555,122	641,330	396,303
Total	\$12,601,644	\$11,648,474	\$8,006,871
State Budget Allocation			7,000,000
Carry Forward			1,006,871



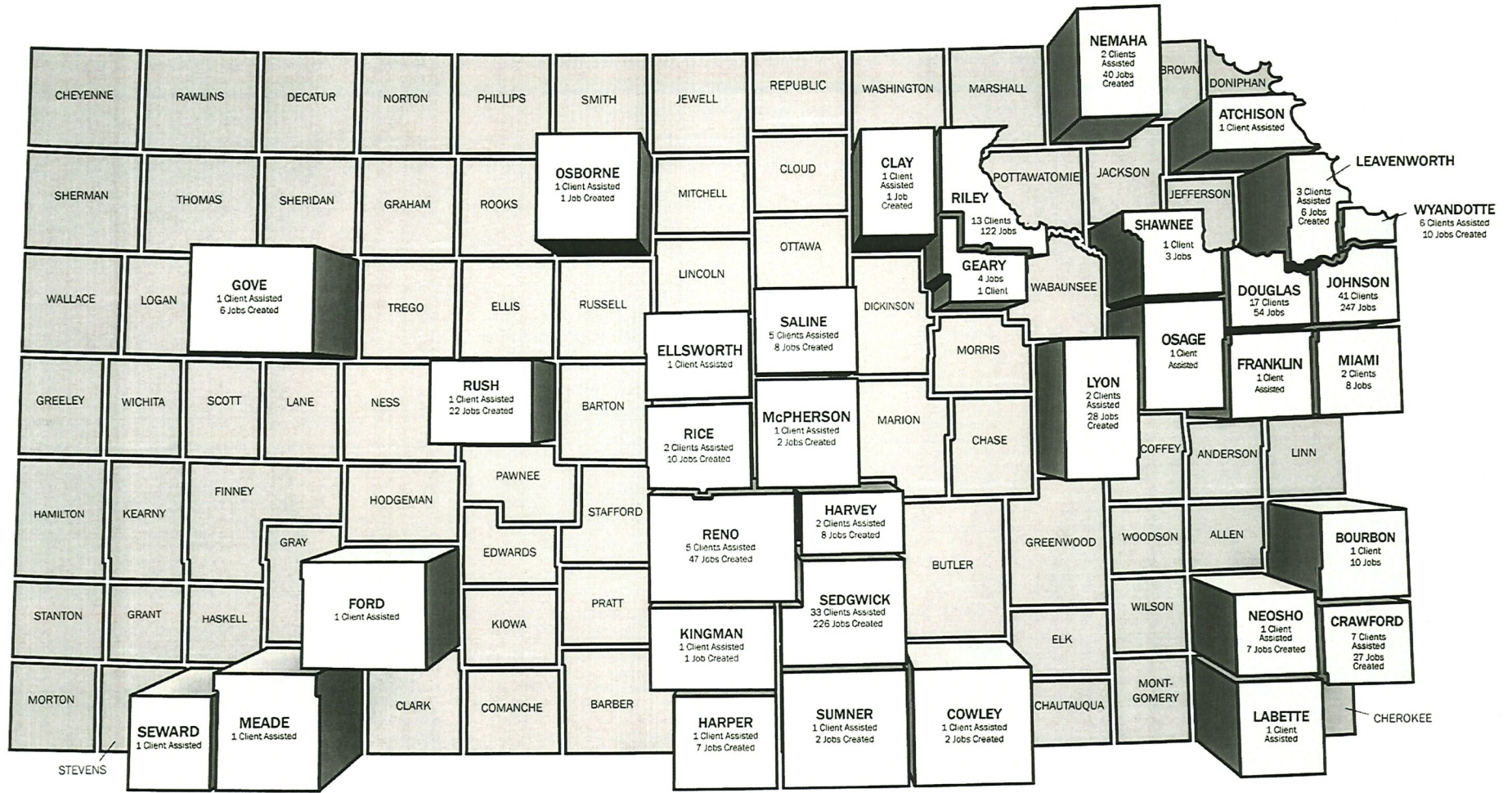
Impact On Kansas

“Cyberstates 2009”, ranks Kansas #1 in the nation for high-tech industry job growth.

The 2008 State New Economy Index ranks Kansas 8th in nation for “Gazelle Jobs.”
Rapid growth “Gazelle” companies account for 80% of new jobs created.

Commercialization	FY 2006	FY 2007	FY 2008	FY 2009	Total
New Jobs	294	420	504	501	1,719
Saved Jobs	258	366	429	408	1,461
Start-up Companies	15	17	20	8	60
Sales Revenues (in 000)	152,736	197,877	207,260	315,681	\$873,554
Private \$ Leveraged (in 000)	50,797	43,366	46,169	56,947	\$197,279
Federal \$ Leveraged (in 000)	85,731	63,799	93,903	124,750	\$368,183
Return On Investment (ROI):					
KTEC (\$ to 1)	0.73	0.96	1.00	1.57	1.06
Private \$ Invested in KS vs KTEC (\$ to 1)	31.34	23.12	46.85	126.54	42.00
Federal \$ Invested in KS vs KTEC (\$ to 1)	12.28	8.22	14.19	21.99	13.84
Companies Assisted	168	258	209	161	796
Counties Impacted	38	47	39	35	

KTEC Benefits Kansas



161 companies assisted in FY 2009

KTEC Board of Directors

David Brant *

Sr. Vice-President Product Engineering
Cessna Aircraft Corporation
Wichita

Thomas Cohen
Principal
Johnson Capital
Overland Park

Dr. Bruce Dallman
Dean of the College of Technology
Pittsburg State University
Pittsburg

Kyle L. Elliott *

Partner / IP Patent Attorney
Spencer Fane Britt & Browne
Kansas City

Representative Doug Gatewood
Kansas Legislature
Columbus

Senator Tom Holland *

Kansas Legislature
Baldwin City

Tom Lauerman *

Private Investor
Leawood

Dr. J. David McDonald *

Associate Provost for Research
Wichita State University
Wichita

Senator Carolyn McGinn
Kansas Legislature
Sedgwick

Robert Murdock
President
Osage Investors I, LLC
Hutchinson

House Speaker Michael O'Neal
Kansas Legislature
Hutchinson

Linda Reinhardt
Erie

Acting Secretary Joshua Svaty
Kansas Dept. of Agriculture
Ellsworth

Secretary Bill Thornton *
Kansas Dept. of Commerce
Topeka

Ron Trewyn
Vice President for Research
Kansas State University
Manhattan


Rusty Wilson
President
Wilson Management
Manhattan

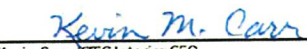
* Strategic Task Force Members

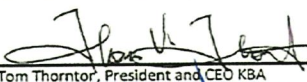


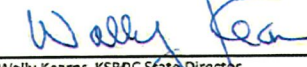
Kansas Tech-Based Economic Development


What	Eminent Scholars	Proof of Concept Grant	Matching Grants (SBIR/STTR)	Matching Grants (DOE, NIH, DOD, etc) - EPSCor State Match	Matching Grants (DOE, NIH, DOD, etc) - Other State Match	Inter-Institutional Research	Cancer Research	Research Innovations Translated to Marketable Products	Capital Expenditures (Bldgs/Equip)	Capital (Equity) Investment	Capital Needs Assessment/Assistance	Business Assistance - Strategy /Bus Plan Writing /Mkt Analysis	Business Assistance - Licenses/Permits/Filings	Entrepreneurial Education/Collaboration	Workforce, CDC, Mainstreet & Other Training	Equity Investment Tax credits	Job Creation & Capital Ex Tax Credits	Loans with a Match from CDC, KS Mainst or Other Public Sector Entity	Loans without Required Match	Facilitate Access to State Resources	Retention & Expansion Programs	Retention & Expansion Direct Services (mkt analysis, strategy, etc)	Business Recruitment	Workforce Training
Who																								
Med/Large Businesses									Comm		SBDC	SBDC	NetW	SBDC	Comm		Comm		Comm		Comm	SBDC	Comm	Comm
Small Businesses									NetW		SBDC	SBDC	NetW	SBDC	Comm		Comm	NetW	Comm		Comm	SBDC	Comm	Comm
Entrepreneurs - Start-ups:																								
Non High Tech/Bio									NetW		SBDC	SBDC	NetW	SBDC	Comm		Comm	NetW	Comm		Comm	SBDC	Comm	Comm
High tech		KTEC	KTEC							KTEC	KTEC	KTEC	NetW	KTEC		KTEC	Comm		Comm					
Bio Start-ups/Companies		KBA	KBA		KBA	KBA	KBA		KBA				NetW	KTEC		KTEC	Comm		Comm		KBA			
Research:																								
Universities	KBA		KBA	KTEC	KBA	KBA	KBA	KTEC	KBA															
Bio Centers of Innovation	KBA	KBA	KBA		KBA	KBA	KBA	KBA	KBA															


 David D. Kerr, Secretary of Commerce


 Kevin Carr, KTEC Interim CEO


 Tom Thornton, President and CEO KBA


 Wally Kearns, KSBD State Director


 Steve Redley, Director Network Kansas

Kansas Department of Commerce
 Kansas Bioscience Authority
 Kansas Technology Enterprise Corp.
 Network KS (thru CDCs, Regional Foundations & KS Mainstreet)
 Small Business Development Center

Overlap KTEC&KBA - under discussion
 All Economic Development Agencies Listed

KTEC Focus Areas



3-9

Entrepreneurial Development

Current Execution

6 Entrepreneurial Centers

- Networking
- Angel capital
- High-tech start-up
- Expertise
- Office space
- Training

Pipeline

- Networking
- Training
- Expertise

KTEC Staff

- Capital
- Expertise
- Networking
- Event sponsorships

Increase Capital Availability

Current Execution

KTEC Staff

- Direct capital investment
- Facilitate additional investments
- Attract state and national capital
- Facilitate effective networking
- Capital event sponsorships
- Angel tax credits
- Proof of concept grants

6 Entrepreneurial Centers

- Angel investment groups
- Direct capital investment
- Facilitate additional investments
- Attract state and national capital
- Facilitate effective networking



KTEC Focus Areas

Technology Adoption

Current Execution

Match companies to new technology:
 MAMTC
 Eureka Program - the first internet networked marketplace that matches inventors and companies

New Objective

- Match technology to an entrepreneur:**
- Aggressively pursue technologies that support new technology clusters
 - Work with university tech transfer offices closely to assist with matching technology to entrepreneurs

In Process

SBIR:

- Improve competitive process expertise and assistance with SBIR grants
- Match small companies with SBIR funding through Entrepreneurial Centers
- Provide matching funding

Technology Cluster Growth

Current Execution

Centers of Excellence		EPSCor/Star Fund
ITTC	IT	Grants
BIOC	Pharma	
KPRC	Materials	
AMI	Manufacturing	
MAMTC	Manufacturing	
NIAR	Aviation	

New Objective:

- Identify, research & create new technology clusters
- Brainstorm potential clusters with Economic Development Groups
- Evaluate current COE's to determine possible clusters
- Research existing KS footprint
- Research market

In Process



Identified to date:
 Cleantech -
 Wind Energy



Entrepreneurial Development

Entrepreneurial Centers

The program is comprised of an established network of Entrepreneurial Centers focused on high-tech start-ups throughout the state. Such start-ups come not only from the entrepreneurial community at large, but also from businesses formed around patents from technology created by the state universities.

The entrepreneurial network provides a continuum of services that include:

- Corporate organization
- Recruitment of management team
- Market analysis
- Stock offerings
- Revenue and business modeling
- Capital formation including “road show” presentations to investors
- Shared tenant services
- Direct seed capital investment
- Marketing strategy formulation
- Sales organization establishment

2007-2008-2009

<u>Entrepreneurial Centers</u>	<u>Funding</u>	<u>New Jobs</u>	<u>Jobs Saved</u>	<u>Total Jobs</u>	<u>Total Revenues</u>	<u>Capital from Angels & VC's</u>
Alliance for Technology Commercialization	\$174,000	10	32	42	\$18,014,844	\$3,553,500
Enterprise Center of Johnson County	\$900,000	126	62	188	\$48,940,024	\$28,125,962
Lawrence Regional Technology Center	\$924,000	103	163	266	\$56,359,044	\$78,530,717
National Institute for Strategic Technology Acquisition & Commercialization	\$900,000	38	19	57	\$23,032,904	\$2,750,500
Quest Business Center	\$105,000	12	1	13	\$5,422,427	\$0
Wichita Technology Corporation	\$945,000	117	115	232	\$81,205,335	\$23,889,159
	\$3,948,000	406	392	798	\$232,974,578	\$136,849,838



Entrepreneurial Development

PIPELINE

PIPELINE focuses on entrepreneur development - creating leaders who can build and scale businesses and drive economic growth for years to come. The program is unique as it focuses on the business opportunity along with the entrepreneur. PIPELINE is designed to identify high potential technology entrepreneurs, match them with the best available training, resources and mentors and facilitate their dynamic growth in Kansas.

PIPELINE fellowship participants are provided with an intensive training program in how to grow entrepreneurial ventures. They are also linked with mentors and business coaches based in both Kansas and across the U.S. In addition to the focus on the "class" of innovators, the program works with alums, mentors and youth throughout the state on an ongoing basis and provides two-day training courses that benefit significant numbers of Kansans.

	2009
New Jobs	79
Jobs Saved/Retained	82
Total Jobs	<u>161</u>
Total Revenues	\$26,402,374
Capital from Angels & VC	\$2,945,000
Federal \$ Leveraged	\$500,000

PIPELINE's first year of operation was 2007 – 2009 is the first fiscal year for surveys

Increase Capital Availability

Access To Capital

Investments

The Investment Program provides funds to new and existing small Kansas companies for the purpose of completing technology development and entering into the early stages of translating products into a business. The stage of KTEC investment is not only pre-bank financing, but also pre-venture capital, as the private equity market does not typically invest in product development and market entry. The role of such financing is to buffer the risk which small companies incur when developing innovative products, giving Kansas a broader pipeline of potential high growth companies.

	2007	2008	2009	TOTAL
New Jobs	133	260	83	476
Jobs Saved/Retained	101	49	76	226
Total Jobs	234	309	159	702
Total Revenues	\$69,131,820	\$117,206,494	\$84,537,609	\$270,875,923
Capital from Angels & VC	\$29,159,979	\$33,967,057	\$24,455,063	\$87,582,099
Federal \$ Leveraged	\$370,703	\$1,607,414	\$154,768	\$2,132,885



Increase Capital Availability

Access To Capital

Angel Tax Credits

The program provides angel tax credits to new and existing small Kansas companies for the purpose of attracting capital investment. The cost of researching and developing new technology with global market potential far exceeds the means of most entrepreneurs. The program promotes angel investing into Kansas early-stage companies through a tax incentive. The incentive effectively reduces the risk to the investor, making the overall investment into the company more financially attractive.

	2005	2006	2007	2008	Total (from inception)
Total Angel Tax Credits Issued	\$1,932,500	\$1,833,833	\$3,002,701	\$6,606,083	\$13,375,117
Number of Investors Receiving Credits	98	121	129	218	566
Number of Companies Receiving Investments	12	17	16	28	73
Total Capital Raised	\$9,245,753	\$27,656,188	\$44,486,719	\$37,437,499	\$118,826,159
Total Annual Payroll	\$5,814,987	\$7,695,310	\$15,559,743	\$22,426,253	\$51,496,293
Total Revenue	\$5,804,987	\$17,864,942	\$38,347,350	\$57,409,422	\$119,426,701
Jobs					
<i>New Jobs</i>	37	33	55	122	247
<i>Preserved Jobs</i>	60	9	19	48	136
Total	97	42	74	170	383
Estimated Effect on the Kansas Economy (factor of 2.5)	243	105	185	425	958



Technology Adoption

Mid-America Manufacturing Technology Center (MAMTC)

MAMTC is a not-for-profit corporation (subsidiary of KTEC) established to assist Kansas small and mid-sized manufacturers. Funded by KTEC, the federal government and client fees, MAMTC is committed to helping Kansas manufacturers. MAMTC serves all existing Kansas manufacturers that have from one to 500 employees.

MAMTC helps close the loop on research, innovation and entrepreneurial support by ensuring that products are manufactured in Kansas. MAMTC operates the Kansas Innovation Marketplace as one of only four state sites on the National Innovation Marketplace. MAMTC trains universities, inventors and entrepreneurs to translate their technology into business language. The marketplace allows manufacturers to search through the technologies for new products to bring to market. Additionally it can connect suppliers, who have often depended on one customer for years or decades, to large manufacturers in new industries, thus allowing them to diversify and grow.

	2007	2008	2009
New Jobs	113	103	155
Jobs Saved/Retained	253	358	223
Total Jobs	366	461	378
Total Revenues	\$57,686,404	\$33,793,180	\$42,541,681
Federal \$ Leveraged	\$1,485,264	\$1,611,847	\$1,746,200
Cost Savings	\$8,745,200	\$9,624,460	\$14,476,490
Industrial Plant & Equipment	\$16,884,000	\$14,615,842	\$17,022,428

Technology Cluster Growth

Grant Programs

EPSCoR/STAR - The Experimental Program to Stimulate Competitive Research (EPSCoR) is a federal program aimed at improving the competitiveness of academic research in states that have not historically fared well in attracting federal research funds. Through EPSCoR, small state grants leverage much larger federal grants for advanced research at Ph.D.-granting Regents universities. Kansas is eligible to compete in the following EPSCoR competitions, all of which require matches from the state:

- Department of Defense (DOD)
- Department of Energy (DOE)
- Environmental Protection Agency (EPA)
- National Aeronautics Space Administration (NASA)
- National Science Foundation (NSF)

The STAR Fund (Strategic Technology Research) is an extension of EPSCoR. The fund is used to support projects which may not receive federal EPSCoR funding per se, but have potential to attract significant other federal or industry leverage and create commercial spin-offs in the state.

	EPSCoR & SBIR		
	2007	2008	2009
New Jobs	25	27	15
Jobs Saved/Retained			
Total Jobs	25	27	15
Federal \$ Leveraged	\$31,323,331	\$25,370,121	\$19,328,196
Industry \$ Leveraged	\$1,816,058	\$1,595,772	\$1,824,511



Technology Cluster Growth

Centers of Excellence

The Centers of Excellence are university-based research centers with an economic development component at the heart of their mission. Each has its own technology specialization. The Centers conduct innovative research and provide technical assistance with the overlapping aims of creating new companies, strengthening existing companies, and serving as an expert resource to other KTEC programs and the state. Centers are focused on the discovery stages of innovation and producing leading edge technologies and also function as product designers and developers for small companies. They serve the state as a driver of innovation as well as a source for highly skilled employees. The Centers provide the following services to client companies: basic and applied research, product and process development, technical consulting, training, seminars, and networking.

<u>2007-2008-2009</u>	<u>Funding</u>	<u>New Jobs</u>	<u>Jobs Saved</u>	<u>Total Jobs</u>	<u>Total Revenues</u>	<u>Capital from Angels & VC's</u>
Centers						
Advanced Manufacturing Institute	\$1,896,338	383	104	487	\$262,276,158	\$8,521,580
Biotechnology Innovation & Optimization Center	\$2,145,178	12	29	41	\$1,574,206	\$13,530,731
Higuchi Bioscience Center	\$1,087,000	13	30	43	\$1,062,434	\$14,663,311
Information & Telecommunication Technology Center	\$1,713,854	36	12	48	\$12,204,326	\$2,270,000
Kansas Polymer Research Center	\$930,762	5	5	10	\$6,881,487	\$600,223
National Institute for Aviation Research	\$1,399,499	33	15	48	\$8,378,400	\$662,723
	\$9,172,631	482	195	677	\$292,377,011	\$40,248,568

Cleantech Definition

Cleantech represents a diverse range of products, services, and processes that:
Provide superior performance at lower costs, while
Greatly reducing or eliminating negative ecological impact, at the same time as
Improving the productive and responsible use of natural resources

Industry Segments:

Agriculture

- Natural Pesticides
- Land Management

Recycling & Waste

- Recycling
- Waste Treatment

Water & Wastewater

- Water Treatment
- Water Conservation
- Wastewater Treatment

Energy Generation

- Wind
- Solar
- Biofuels
- Geothermal
- Other

Energy Storage

- Fuel Cells
- Advanced Batteries
- Hybrid Systems

Energy Infrastructure

- Management
- Transmission

Energy Efficiency

- Lighting
- Buildings
- Glass
- Other
- Construction

Transportation

- Vehicles
- Logistics
- Structures
- Fuels

Air & Environment

- Cleanup/Safety
- Emissions Control
- Monitoring/Compliance
- Trading & Offsets

Materials

- Nano
- Bio
- Chemical
- Other

Manufacturing/Industrial

- Advanced Packaging
- Monitoring & Control
- Smart Production



Cleantech Involvement

Energy			Environmental		
Efficiency	Infrastructure	Generation	Remediation	Green Product/Process	Materials
Lighting	Power Mgmt	Wind rotors/components	Air Quality	Manufactured Products	Eco-friendly Composites
AMI	ITTC	NIAR (lg. scale components)	Heartland Tech	AMI	KPRC
EcoFit	mPathX	AMI (small/mid size components)			NIAR
ReLight	Garmin (ITTC)	MAMTC (supply chain)	Hazardous Mat/Waste	Eco-friendly Production	HiPer Tech
Heatron (AMI)	Westar (ITTC)		CEBC	MAMTC (adoption)	
			KPRC	AMI (equip/process design)	
Equip/Trans Efficiency	Gas Transmission		Nanoscale		
AMI	Scavengetech		Water/Waste Stream		
NIAR			Adaptive Ozone		
MAMTC			AMI (KEMA)		
Rhythm Engineering			Carbon Capture		
Rush Tracking (exit)			AMI		
Winglet					
Efficient Production					
AMI (process design)					
MAMTC (adoption)					

Process

Identify KTEC assets/existing efforts

Identify Kansas efforts we can complement

e.g. - Wind

KDOC	Kansas Wind Supply Chain Conf.
Investor Groups	Great Lakes WIND Network
Federal Resources	Cluster Study
Communities	

KTEC – Moving Forward

Entrepreneurial Development

- Create entrepreneurial culture
- Continue to seek ways to develop and assist entrepreneurs
- Work harder to match entrepreneurs with technology

Increase Capital Availability

- Continue to generate deal flow
- Cultivate angels and later stage VCs

Technology Adoption

- Increase collaboration between universities and entrepreneurs
- More efforts to match intellectual property with existing companies and the right entrepreneur
- More conscious effort around a few high-potential innovations

Technology Cluster Growth

- Utilize research assets to support clusters – targeted role in existing sectors
- Serve as a funding model for research investments
- Foster multi-disciplinary R&D
- Ramp-up SBIR/STTR federal grants awarded to the state
- Be more strategic with our matching grants for research – translational research

Executive Summary

Enhanced prosperity through enhanced business-sector productivity defines a core goal of a technology-based economic development strategy. Productivity enhancement must take place on the frontlines of individual businesses through risky investments and a complex process of trial and error.

- Technology-based economic development represents a broad range of economic activities, from the commercialization of new inventions to the broad implementation of proven innovations. Every part of the broad range of activities contributes to the quest for greater productivity, so Kansas should seek a balanced approach that does not create a policy bias toward any particular activity.
- Industry funds and conducts most research and development activity in the U.S., except for basic research, which is primarily federally funded and conducted by universities and colleges.
- All technology-based economic development (and investment-driven economic development in general) has inherent risks. Diversification usually offers the most appropriate way of managing such risks. It makes economic sense for specific businesses to specialize. It makes much less economic sense for the state of Kansas to specialize based on economic predictions about the potential of any particular technology or business model.
- The odds of successful technology-based economic development can increase if the Kansas Legislature directs resources toward building an investment platform that expands the volume and diversity of experimentation in a way that motivates better adaptation to the complex trial and error process associated with technology-based economic development.
- The state government of Kansas has the potential to execute better than any other organization three important parts of the technology-based economic development process. These parts represent the “public goods” components of the value chain, most of which occur at the early stages of the process: (1) basic research and certain types of applied research; (2) expanded networking and educational opportunities that create “knowledge spillover” and a greater awareness of business opportunity; and (3) value-added business incubation services that help lower the cost of business creation but that cannot survive unaided in the “thin” markets that characterize much of Kansas. The competent provision of each of these three items, combined with appropriate investment policies open to all businesses, can substantially increase the productivity of the state government’s resources by promoting greater volume and diversity with regard to economic experimentation. Research supports the view that a diversity—rather than a specialization—of activities better promotes innovation.

The vision that informs Kansas policy must come to terms with the drivers of technology-based economic development: complexity fed by a high volume of experimentation that typically accompanies the dense populations and commercial activity characteristic of cities.

- Innovation and the growth of high-tech businesses occur primarily as an urban phenomenon. Innovation tends to happen in places characterized by a density of complementary types of commercial activity that can result in lower costs of production through better specialization and increased competition.
- Innovation feeds off density primarily because the trial and error required to implement new ideas happens more readily in places with abundant producers and consumers in combination with deep and broad pools of human talent.
- A vital—but hard to measure—virtue of density emerges from the ability of diverse groups of people to easily and frequently interact face-to-face. Face-to-face interaction plays an especially prominent role in the economics of innovation. It offers a superior way to communicate experienced-based, intuition-type knowledge characteristic of the innovation process.

- Volume and density matter with regard to innovation. In this respect, Kansas has a natural disadvantage. Kansas is one of the top-10 states in the nation with regard to the number of small cities that are not adjacent to a metropolitan area.

Kansas has hosted a relatively fast-growing number of businesses across a variety of technology areas and industries. The evidence supports the notion that most of this growth happened independently of any particular policy actions taken by the state of Kansas to explicitly promote technology-based economic development.

- As is characteristic of the nation, the growth in Kansas of “high-tech” businesses has occurred in the state’s urban areas. Much of this growth occurred in a broad array of businesses that deal with technologies related to aerospace, communication, computer systems, and life sciences, particularly in the manufacturing elements of these technologies.
- Following the 1991 economic recession, Kansas has grown the number of “high-tech” businesses at a faster rate than either the U.S. or the Plains states.
- Most of the Kansas growth in high-tech businesses has occurred in the Kansas City area—specifically, the counties of Douglas, Johnson, and Leavenworth. Johnson County accounts for about 50 percent of the high-tech businesses in Kansas and about 30 percent of the high-tech jobs. Wichita (Sedgwick County) accounts for about 17 percent of the high-tech businesses and about 55 percent of the high-tech jobs (driven, in large measure, by the aircraft industry).

Volume and density are key themes in this report. The recommendations below seek to channel resources toward policies that promote and leverage volume and the virtues of density. They focus on value-added roles related to technology-based economic development that the state government of Kansas can potentially execute better than any other organization.

Recommendation #1: Build world-class discovery platforms to simulate across the state of Kansas the “knowledge spillover,” collaboration, and increased opportunity awareness that comes from urban density.

Economic research clearly reveals that large cities promote innovation because the density associated with cities facilitates experimentation and knowledge spillover that comes with frequent face-to-face interaction. Kansas faces natural disadvantages with regard to density, and few entities other than the state have an incentive to simulate the general economic benefits that result from density-driven knowledge spillover. The goal is easy to state: maximize the potential for Kansas businesspeople and scholars to communicate and interact with each other—and their peers from around the world—on a regular and consistent basis to motivate high-levels of regular face-to-face interaction as a means of cross-pollinating ideas related to innovation.

Recommendation #2: Link state research and development support more tightly to the acquisition of federal research and development funding and strive to increase the number of Kansas-based researchers competing for all manners of science- and engineering related federal funding.

Federal funding dominates the areas of basic research and university-related applied research. Kansans could conceivably dedicate the entire GDP of Kansas to basic and applied research, with unpredictable results. The legislature has established clear statutory guidance about how to allocate limited funds toward technology-related research and account for the funding decisions. The state can work to expand the overall diversity of its research base by building broad-based grant programs to underwrite the process of Kansas scholars competing for all manner of federal grants. The goal is to substantially expand, without bias, the diversity and volume of basic and applied technology-related research. Economic research shows that universities can simulate the virtues of density in smaller-size cities, like those characteristic of much of Kansas.

Recommendation #3: The state of Kansas should maximize the resources directed to building the research infrastructure and collaborative business environment related to technology-based economic development and minimize the resources directed to investments in individual business ventures.

Only the state government has the incentive and ability to build a competitive business platform. Networks of businesspeople and scholars have a superior ability and incentive to manage a large—and highly distributed—volume of technology-related experimentation. State resources spent on building strong networks to match private investors with new or mature Kansas-based companies creates superior potential for handling volume and complexity. The evidence presented in this report indicates that the active-investor role played by the state has had, at best, a minor influence on technology-based economic development activity in Kansas. In exceptional cases, when the state may be the most appropriate organization to help underwrite the development of a technology, the question remains as to whether such development is better underwritten in the non-profit realm based on infrastructure-building grants instead of the for-profit realm based on some form of direct financial participation by state government in a private company. Companies and technologies come and go, but research infrastructure endures as a productive state asset.

Recommendation #4: Leverage the network of regional technology centers (business incubators) to help build more volume and critical mass.

The regional technology centers (business incubators) spread throughout Kansas (Great Bend, Hutchinson, Lawrence, Lenexa, Manhattan, Pittsburg, and Wichita) can play a strong facilitation role in the process related to Recommendation #1. Each of the KTEC-sponsored regional technology centers in Kansas has unique strengths. These strengths can help build volume by building better critical mass and better alignment of complementary skill sets. The dispersed physical locations can help connect individuals.

Business incubators play an important role in the technology-based economic development value chain. First, scientists or other inventors may have poor business training or acumen. Incubators that provide competent business and legal assistance help lower the cost of starting new enterprises and allow the individuals involved to focus on their relative strengths. Second, incubators can offer expert services that might not have commercial viability in the many thin markets of Kansas.

Kansas, Inc. Presentation to the Senate Commerce Committee

*Technology-Based Economic Development in Kansas:
Issues, Opportunities, and Strategies*

January 21, 2010



About Kansas, Inc.

- Strategic Planning
 - *Leveraging our Foundations and Designing the Future: A Kansas Economic Renaissance*
- Research and Analysis
- Evaluation and Benchmarking
 - Commerce, KTEC, KBA, NetWork Kansas



1

Senate Commerce Committee

Date: January 21, 2010

Attachment # 5-1

“All Economic Development is Personal”



2

TBED in Kansas - Background

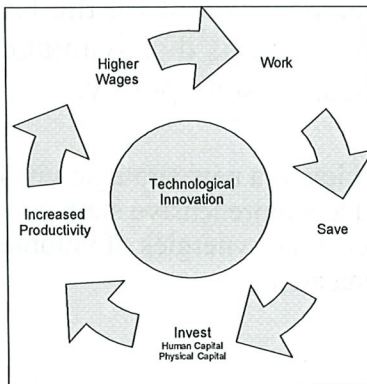
- The strategic planning process emphasized the importance of utilizing science and technology to leverage and support existing and new economic opportunities. Based on this premise, Kansas, Inc. commissioned this study.
 - Based on the study, Kansas has performed well in the growth of high-tech businesses; however, TBED is primarily an urban phenomenon.



3

TBED in Kansas - Background

The Economic Growth Process – how technological innovation is central to the economic development process that generates productivity-driven economic growth.



 Kansas, Inc.

3

TBED in Kansas - Overview

- Volume matters, as innovation is a “numbers” game because it is an inherently risky enterprise that requires much trial and error.
 - Success is the goal, but failure is a key aspect of the overall discovery process.
- Density matters, as dense populations and commercial activity help support volume. More importantly, they assist the innovation process by making it less costly to experiment.
- - A key virtue of density related to innovation is the ease with which diverse groups of individuals can interact face-to-face.

 Kansas, Inc.

3

TBED in Kansas - Overview

- Kansas has a natural disadvantage in regards to volume and density, except for the KC and Wichita areas. Dealing with this disadvantage can be an appropriate focus of state policy.
 - By thinking bigger, a new strategic vision can expand our potential and a comprehensive state policy must find a way to replicate the synergies of volume and density found in urban areas.



3

Enhancing prosperity through TBED

- Enhanced prosperity through enhanced business productivity defines a core goal of a TBED strategy.
 - TBED represents a broad range of economic activities, from commercialization to implementation - Every part contributes, so Kansas should seek a balanced approach.
 - Industry funds and conducts most R&D activity in the U.S., except for basic research.
 - TBED has inherent risks, diversification offers the most appropriate way of managing those risks.
 - It makes less sense for the state to specialize based on economic predictions.



3

Enhancing prosperity through TBED

- The odds of successful TBED can increase if resources are directed toward building an investment platform that expands the volume and diversity of experimentation (trial and error process) within TBED.
- State government has the best potential to build three important parts of the TBED process:
 - Basic/applied research
 - Expanded networking/educational opportunities (knowledge spillover)
 - Value-added business incubation services that lower the cost of business creation
- Diversity, rather than specialization of activities better promotes innovation.



3

A TBED Vision

- The vision that informs Kansas TBED policy must recognize the drivers – complexity fed by a high volume of experimentation that typically accompanies the dense populations and commercial activity of cities. (volume and density matter)
 - Innovation and growth of high-tech business occur primarily as an urban phenomena. (density)
 - Innovation feeds off of density through trial and error that happens more readily.
 - A vital but hard to measure virtue of density emerges through face-to-face interaction and communication.



3

Kansas TBED Characteristics

- Kansas has hosted a relatively fast-growing number of businesses across a variety of technology and industry areas. This evidence supports the notion that most of this growth happened independently of any state policy actions.
 - The growth of Kansas' high-tech businesses has occurred in the state's urban areas
 - Aerospace, communication, computer systems, life sciences, manufacturing, etc



3

Kansas TBED Characteristics

- Following the 1991 recession, Kansas has grown the number of high-tech businesses at a faster rate than either the U.S. or Plains states.
- Most of Kansas' growth has occurred in the KC area.
 - Johnson County accounts for 50 percent of the state's high-tech businesses and about 30 percent of the high-tech jobs.
 - Wichita accounts for about 17 percent of the high-tech businesses and about 55 percent of the high-tech jobs. (aerospace)



3

Key Themes – Volume and Density

- Volume and density are key themes in this report. The recommendations seek to channel resources toward policies that promote and leverage volume and the virtues of density. They focus on value-added roles related to TBED that the state can potentially execute better than any other organization.

Recommendation 1

- Build world-class discovery platforms to simulate across the state the “knowledge spillover,” collaboration and increased opportunity awareness that comes from urban density.
 - The goal is simple – maximize the potential for Kansas business individuals and scholars to communicate and interact with each other – and their peers – on a regular consistent basis to motivate high-levels of regular face-to-face interaction related to innovation.

Recommendation 2

- Link state R&D support more tightly to the acquisition of federal R&D funding and strive to increase the number of Kansas-based researchers competing for all manners of science- and engineering-related federal funding.
 - Federal funding dominates the areas of basic research and university-related applied research.
 - The state can work to expand the overall diversity of its research by building broad-based grant programs to underwrite the process of Kansas scholars competing for federal grants.
 - The goal is to substantially expand, without bias the diversity and volume of basic and applied technology-related research – universities can simulate the virtues of density in smaller-size cities.



3

Recommendation 3

- The state should maximize the resources directed to building the research infrastructure and collaborative business environment related to TBED and minimize resources directed to investments in individual business ventures.
 - Only the state has the incentive and ability to build a competitive business platform.
 - State resources spent on building networks to match investors with Kansas companies create superior potential for handling volume and complexity.
 - Companies and technologies come and go, but research infrastructure endures as a productive state asset.



3

Recommendation 4

- Leverage the network of regional technology centers (business incubators) to help build more volume and critical mass.
 - Regional technology centers (Great Bend, Hutchinson, Lawrence, Lenexa, Manhattan, Pittsburg, Wichita) can play a strong facilitation role in the process related to Rec. 1. Each KTEC center has unique strengths
 - Strengths build volume, critical mass and better alignment of complementary skill sets.
 - Incubators provide competent business and legal assistance
 - Incubators offer expert services that may not have commercial viability in thin markets



3

End of Slideshow

□ Questions/Comments?

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