

Approved: 2-7-95
Date

MINUTES OF THE HOUSE COMMITTEE ON ECONOMIC DEVELOPMENT

The meeting was called to order by Chairperson Bob Miller at 3:30 p.m. on February 6, 1995 in Room 423-S of the Capitol.

All members were present except: Rep. Jim Long - excused
Rep. Nancy Kirk - excused
Rep. Kent Glasscock - excused
Rep. Kenneth King - excused

Committee staff present: Lynne Holt, Legislative Research Department
Bob Nugent, Revisor of Statutes
Bonnie Fritts, Committee Secretary

Conferees appearing before the committee: Richard Bendis, President, Kansas Technology Enterprise Corporation

Others attending: See attached list

The meeting was called to order at 3:30 p.m. by the Chairperson Bob Miller. The minutes of January 26, 1995 were distributed and approved.

Richard Bendis gave slide presentation on National Economic/Technology Trends, Economic Overview, and State of the Kansas Economy, outlining grant programs, funding sources, and results (Attachment 1).

Meeting was adjourned at 4:40 p.m.

The next meeting is scheduled for February 7, 1995.

HOUSE ECONOMIC DEVELOPMENT COMMITTEE
GUEST LIST

DATE: 2-6-95

NAME	REPRESENTING
Wosner	KTEC
James Rutherford	KTEC
Craig A. Mueller	KTEC
Robert Miller	KS Inc
Mark Barcellina	KDOCAH
Cindy Diehl	KTEC
Rich Bendis	"
Greg Kressek	KS Dept. of Ag
Roger Fraude	KS Gov Consulting
Dave Schneider	Kansans For Life At Its Best
David Kurt	KVAC



Presentation to

**House
Economic Development Committee**
February 6, 1995

by

Richard A. Bendis, President

Kansas Technology Enterprise Corporation

112 SW 6th, Suite 400, Topeka, KS 66603

913/296-2120

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HOUSE ECO. DEVO.
2-6-95
ATTACHMENT 1

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ATTACHMENT 1



National Economic/ Technology Trends

Defense Spending

Fortune 500 Growth

Basic/Applied Research

Phones, Fax, Computer

Local Networking

Technology Evolution

Defense Conversion

Downsizing/Increased Productivity

Directed Research

Internet/Electronic Communication

Global Networking

Formal Commercialization Process

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Economic Overview

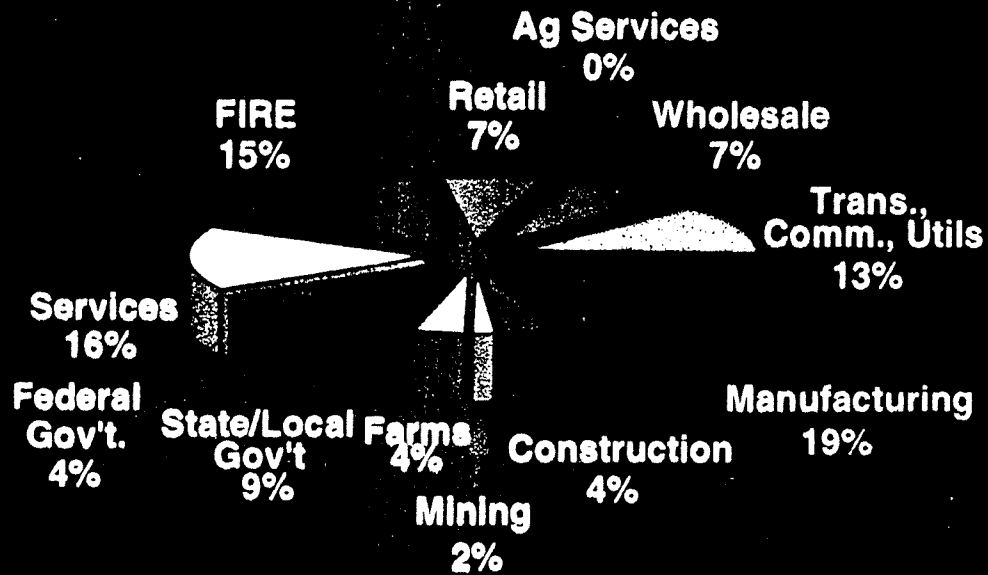
- **Kansas is a small business state**
 - **Kansas has 73,716 businesses**
 - **64,888 have 19 or fewer employees**
 - **161 businesses have 500 or more employees**

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State of the Kansas Economy

Gross State Product

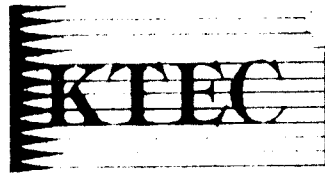


Source: Kansas Inc. 1995 Annual Report.

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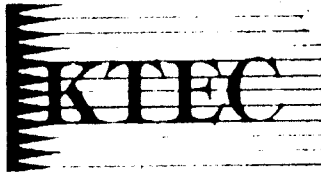
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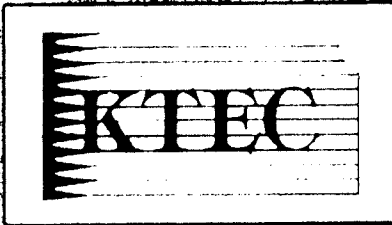
Economic Overview

- **Kansas can implement one of two strategies**
 - **Recruit and relocate**
 - **Grow our own**



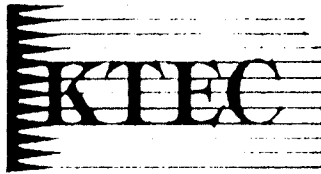
Economic Overview

- It's important to recruit, however, the profile of companies available to recruit is changing dramatically
- Fewer large corporations,
 - many, because of consolidation, are down-sizing to be more productive
- Expensive to move large businesses



Economic Overview

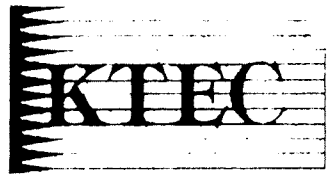
- **Small businesses are critical to Kansas**
- **Technology-based businesses are premium economic development targets for all states**
- **Every state has created some type of science and technology economic development infrastructure**



Economic Overview

- How does Kansas rate?
- Legislature has made a commitment to science and technology infrastructure over past 12 years
- Investment of EDIF funds has grown slowly, based on positive economic impact of KTEC programs

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Economic Overview

- **Kansas is**
 - 32nd in population
 - 8th in spending per capita for Science and Technology
 - 12th in 3-year spending rate
- **Nebraska is**
 - 36th in population
 - 3rd in spending per capita
 - 13th in 3 year spending rate
- **Oklahoma is**
 - 28th in population
 - 17th in spending per capita
 - 16th in 3-year spending rate

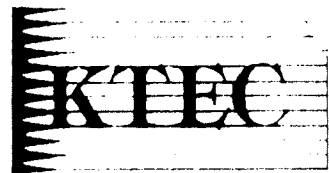
*Statistics from the Battelle Compendium.

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Economic Overview

- **Kansas is now recognized as one of the leading states in the U S with a comprehensive science and technology and commercialization infrastructure which can support technology through every stage of evolution**



Economic Overview

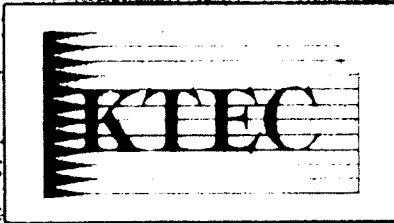
- **KTEC is working with**
 - the Kansas Department of Commerce & Housing
 - the Kansas Cavalry**to aggressively recruit promising, emerging technology-based companies that can be supported by our science and technology infrastructure.**



KTEC™ History:

- 1983** **Kansas Advanced Technology Commission (KATC)**
Established within the Department of Economic Development
- 1986** **Kansas Technology Enterprise Corporation (KTEC™)**
Created by the Kansas Legislature; established as a state-owned corporation
- 1987** **KTEC™ became operational**

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Kansas Economic Development Organizations



Kansas Technology
Enterprise Corporation

Kansas Governor
and Legislature

Kansas, Inc.

Kansas Department
of Commerce & Housing

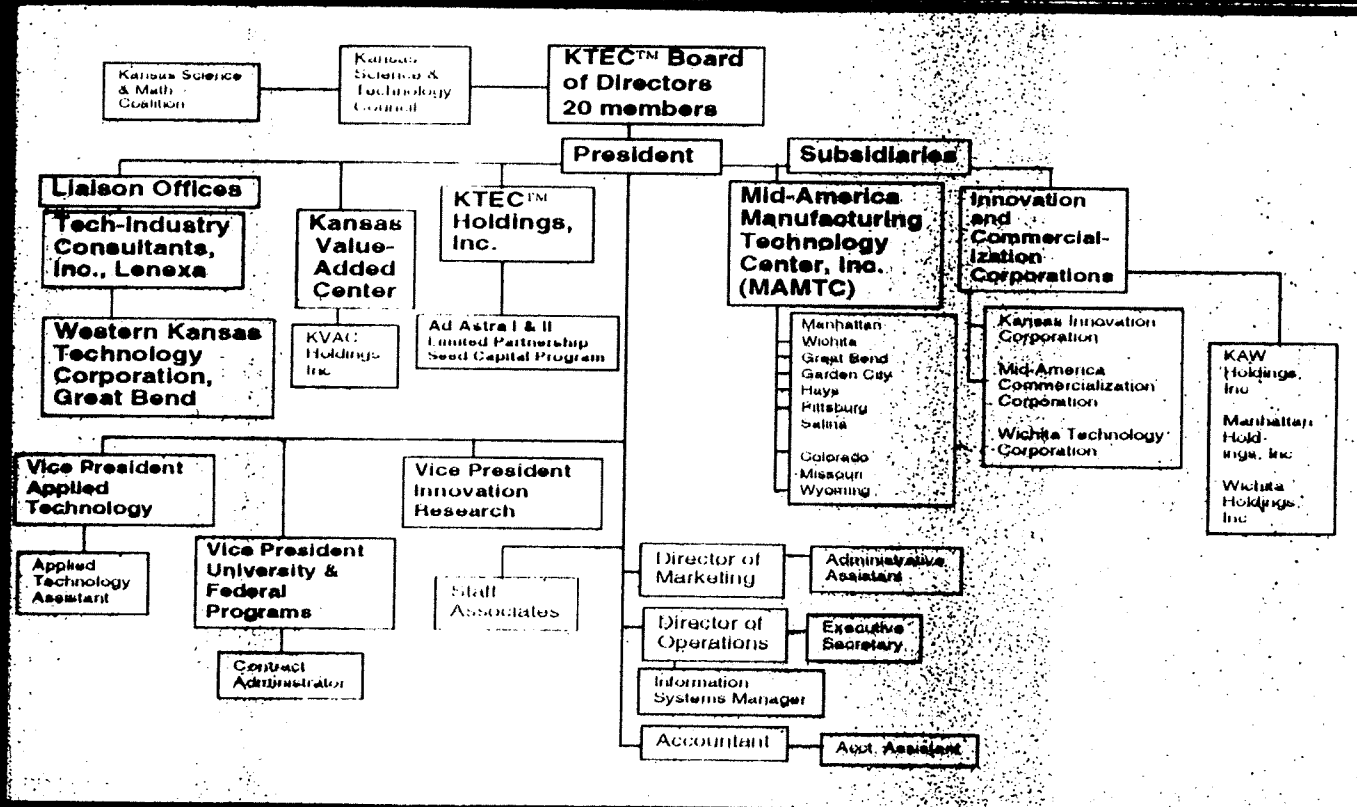
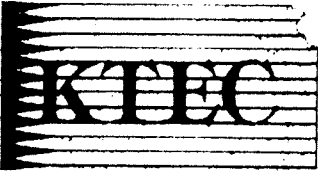
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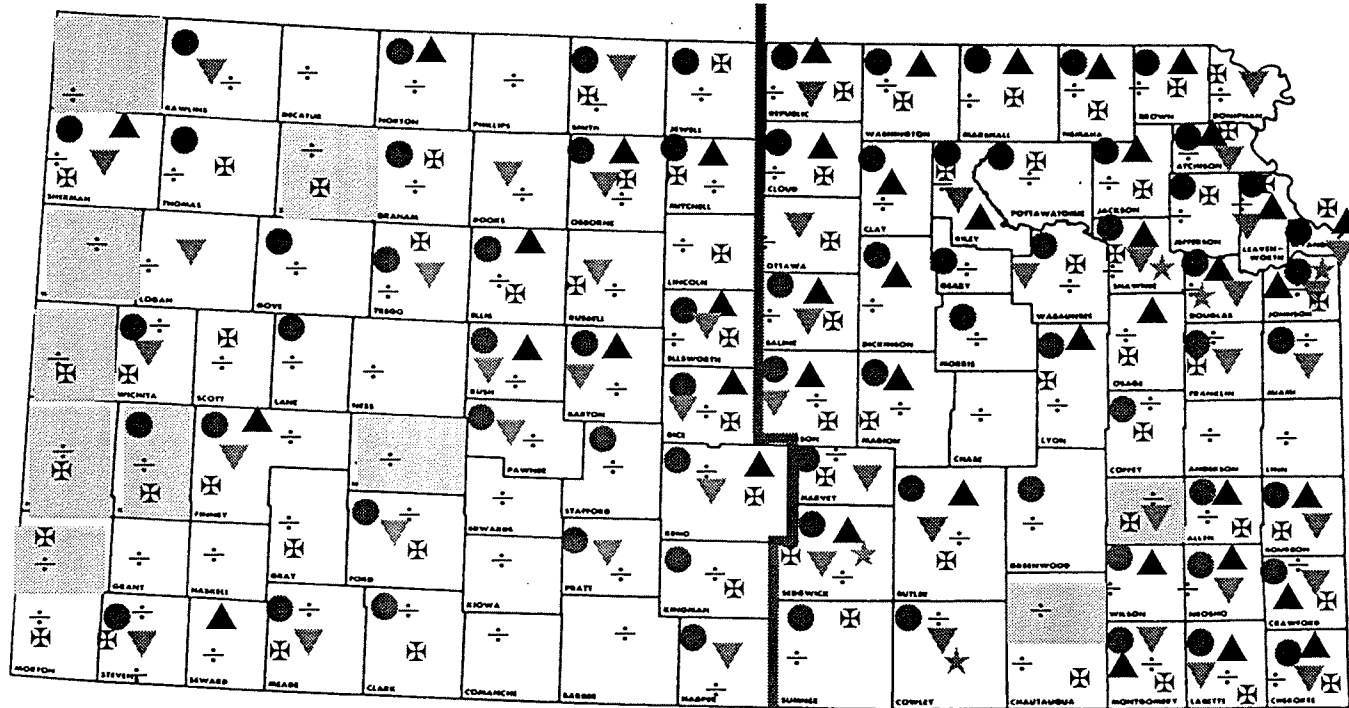
KTEC™ Mission:

**“Foster technological innovation
and the creation, growth, and
expansion of Kansas enterprises.”**

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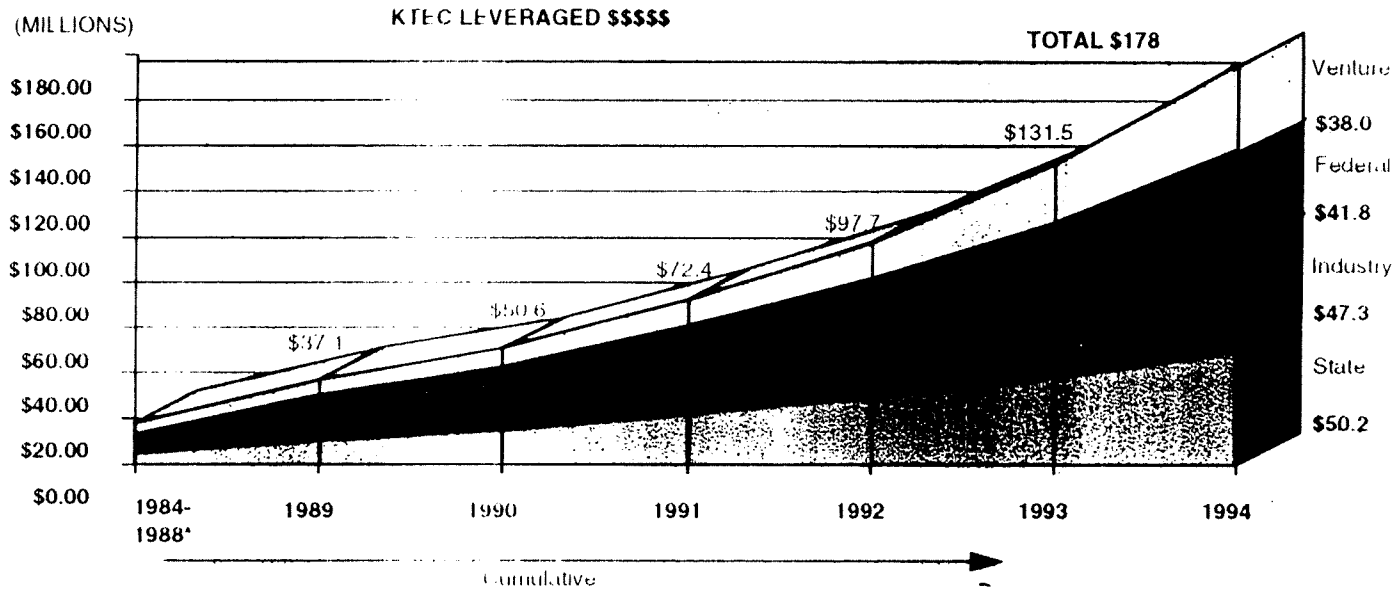
Statewide Projects by County



★ Ad Astra	Population:	422,670	(16.8%)	Population:	2,092,650	(83.2%)
● MAMTC	Employees:	123,592	(14.2%)	Employees:	747,922	(85.8%)
▲ Centers	Est. Firms:	14,451	(20.7%)	Est. Firms:	55,263	(79.3%)
▼ Grants	KTEC Projects:	274	(17.5%)	KTEC Projects:	1287	(82.5%)
⊠ KVAC						
▨ Counties with no manufacturers						
÷ KICIN						



Summary Report



1984-1994 Accomplishments

Investments

\$50.1 million in state funding
 \$47.3 million in industry funding
 \$41.8 million in federal funding
 \$38 million venture capital
 \$8 million in institutional funding

TOTAL \$178.0 Million

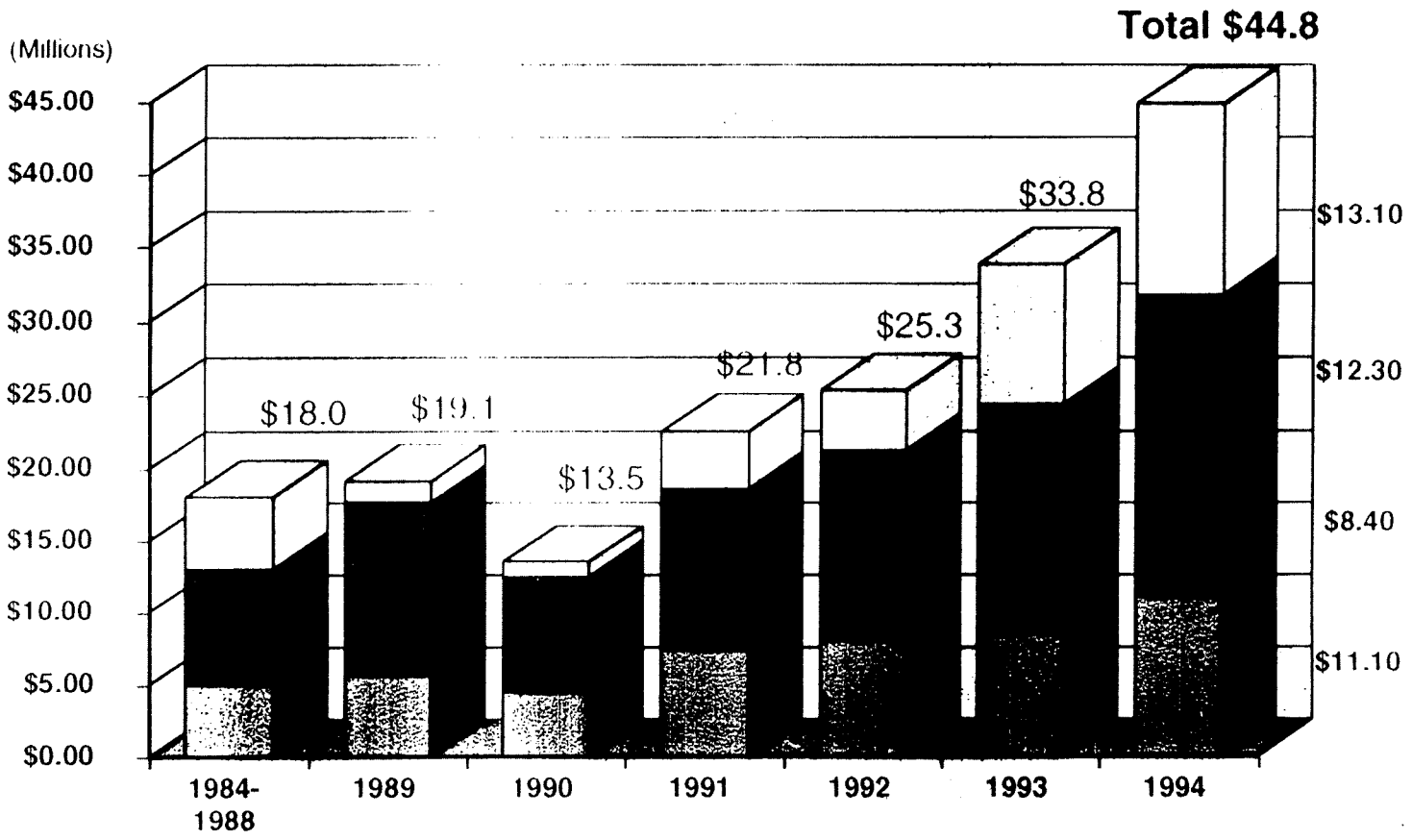
Results

\$118.4 million in increased sales
 114 company start-ups
 36 company expansions
 5,187 jobs created
 6,642 industry employees trained
 2,228 manufacturing plant visits

252 technologies developed
 95 patents issued
 447 inventors assisted

- Venture
- Federal
- Industry
- State

KTEC Leveraged Funding by Fiscal Year

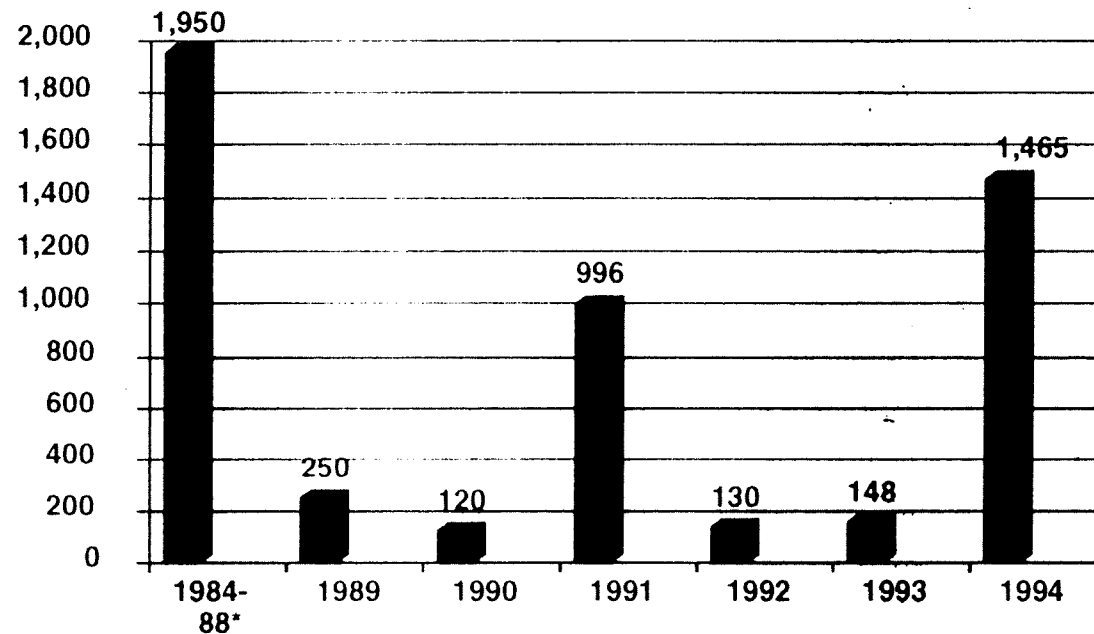


*Includes activities of KTEC's predecessor, the Kansas Advanced Technology Commission

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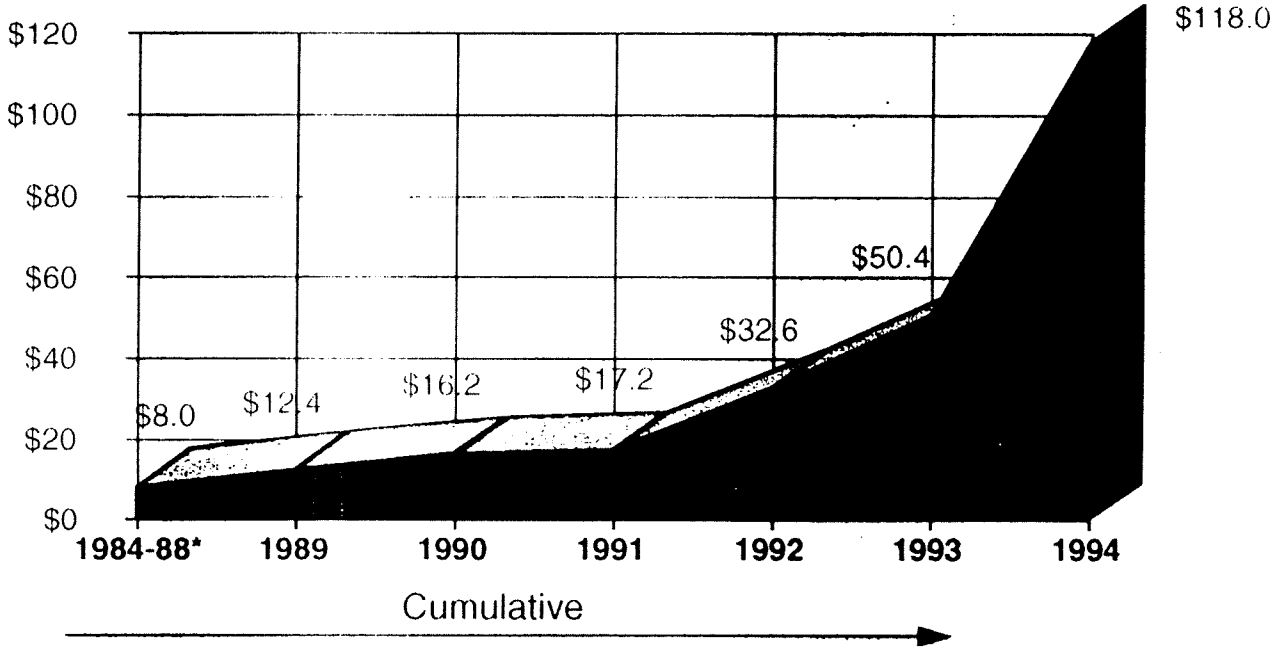
Jobs Created or Saved Through KTEC Programs by Fiscal Year



*Includes activities of KTEC's predecessor, the Kansas Advanced Technology Commission

KTEC • 1994

Increased Sales Reported by Companies Associated with KTEC

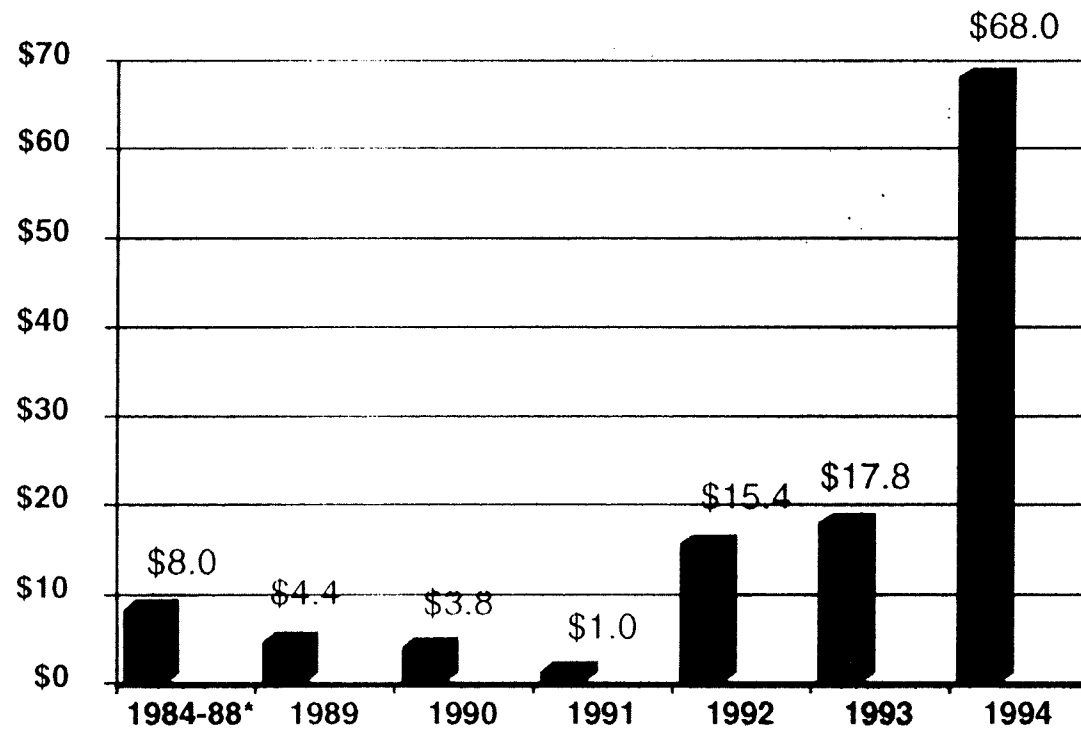


*Includes activities of KTEC's predecessor, the Kansas Advanced Technology Commission

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Increased Sales Reported by Companies Associated with KTEC by Fiscal Year



*Includes activities of KTEC's predecessor, the Korea's Advanced Technology Commission

KTEC - 1994

Examples of KTEC Assistance

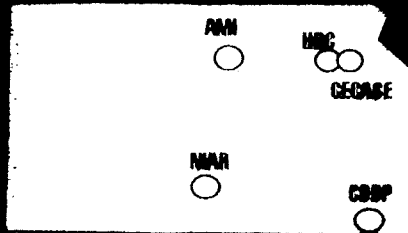
<u>County</u>	<u>Beneficiaries</u>	<u>Type of Assistance</u>
Butler	Cardwell International	Research grant to develop method of connecting concrete bridge and pavement decks; working with KSU Advanced Manufacturing Institute.
Doniphan	Midway Products	Assisted start-up business in seeking capital, development of marketing ideas.
Harvey	26 MAMTC clients	26 Harvey county entities, mostly manufacturers, have received MAMTC assistance in shop floor problems, production and training.
Johnson	TIC assistance	Tech-Industry Consultants has provided technology assistance to 160 Jo.Co. companies & directed 1/3 of these to KTEC's other programs.
Rice	5 WKTC clients	Western Kansas Technology Corporation has assisted five clients in market development, human resources, product design.
Riley	AMI spin-offs	KSU's Advanced Manufacturing Institute has spun off three high-tech companies, and has assisted three local existing companies as well as many companies statewide.
Saline	Moss Sales & Service	Used research grant to prototype liquid-dry fertilizer applicator; product now on market.
Sedgwick	NIAR, MAMTC	WSU's National Institute for Aviation Research has assisted 57 local companies in research and technology; MAMTC has assisted 235 local companies.
Shawnee	Biocore	Ad Astra Fund & research grants provided start-up capital; successfully marketing collagen-based wound dressings; expanding into environmental and nutritional products.
Sumner	MAMTC clients	Eight companies have been assisted by MAMTC in production/manufacturing issues, training.
Wyandotte	KCK Comm. College	Two training equipment grants: (1) lab for simulating instrumentation in manufacturing situations; and (2) mobile environmental training.



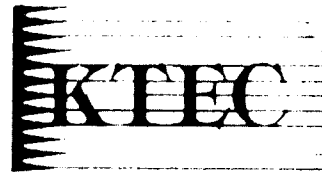
Centers of Excellence

University-based research centers providing product development, seminars, basic and applied research, consulting, networking and training.

Each Center has its own technology focus as well as a bi-annual review by a panel composed of nationally recognized technical experts who match the technology expertise of the Center.



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Centers of Excellence

**Advanced Manufacturing Institute
Kansas State University
AMI**

Improve manufacturing with areas of specialization including automated and flexible manufacturing and assembly systems, process planning, and processing of engineering materials.

**Center for Design, Development
and Production
Pittsburg State University
CDDP**

Focus is on the research, testing and development of plastic, wood and printing products and processes.

**Center of Excellence in Computer-
Aided Systems Engineering
University of Kansas
CECASE**

Mission is to assist Kansas companies with computer-aided analysis and design of advanced engineering systems.

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Centers of Excellence

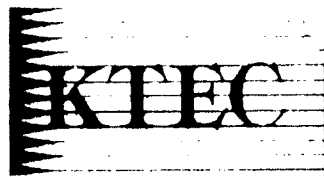
Higuchi Biosciences Center
University of Kansas
HBC

Pre-clinical drug delivery, drug development, drug testing and research are the strengths of this center.

National Institute
for Aviation Research
Wichita State University
NIAR

Research and technology transfer in the areas of advanced materials, aerodynamics, avionics, composites and cryogenics.

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Grant Programs

Training Equipment Grants
Matching monies awarded to two-year academic institutions
for the purpose of providing advanced equipment for
workforce training.

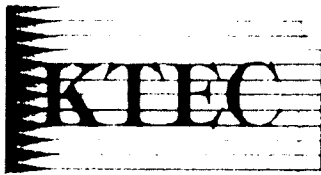
1993--Cowley County Community College
1993--Ft. Scott Community College
1993--Pratt Community College
1993--Wichita Area Vo-Tech School

1992--Garden City Community College
1992--Hutchinson Community College
1992--Wichita Area Vocational Technical School

1991- Wichita Area Vocational Technical School
1991- Garden City Community College
1991- Cowley County Community College

1989- Neosho County Community College
1989- Wichita Area Vocational Technical School
1988- Kansas City Kansas Community College
1987- Garden City Community College

KTEC 1995



Grant Programs

Applied Research Matching Fund

KTEC™ finances academic/Industry research which leads to new or improved products.

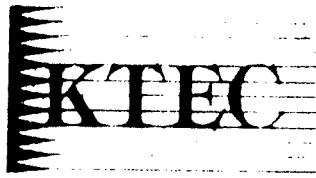
The state, through KTEC™, funds 40% of the cost of research while the participating company funds 60% of the project. If the product becomes commercially successful, KTEC™ receives a royalty on product sales.

In FY 1994 KTEC

- **awarded 29 ARMs**
- **26 projects were completed**
- **royalties in the amount of \$51,870 have been received**

Royalty relationships exist with more than 90 companies

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Grant Programs

Small Business Innovation Research Awards
Support proposal preparation for Federal Small Business Innovation Research awards, including visits to Federal agencies to evaluate collaborative efforts.

KTEC has assisted in 18 proposals to date in FY 1995.

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Mid-America Manufacturing Technology Center (MAMTC)

Mission is to improve the technical capabilities of existing small manufacturers by providing engineering, consulting and other technical assistance.

MAMTC is a subsidiary of KTEC™, awarded by the National Institute of Standards and Technology, which is a division of the Federal Department of Commerce.

Through KTEC™, MAMTC receives state funding.

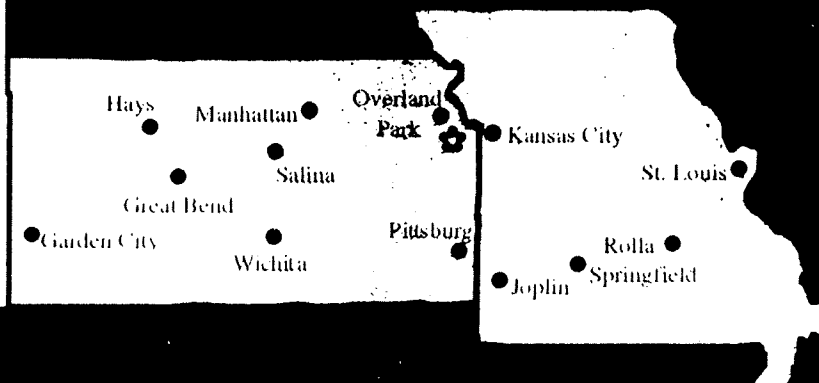
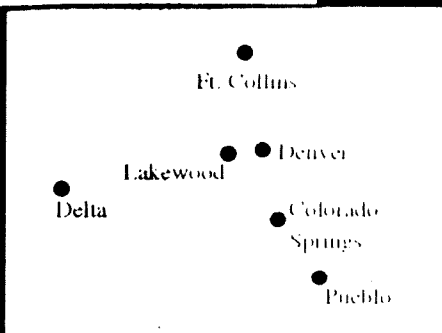
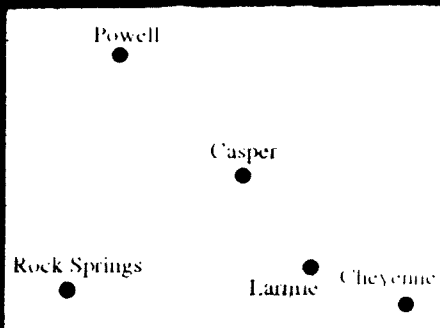
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MAMTC Region



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Industrial Liaison

Originally created to retain and expand Kansas businesses, the liaison mission has expanded to assist any size firm, including start-ups, in identifying and solving technical problems, new product development, grant proposal preparation, and research and development strategic planning.

They will undergo their first peer review in FY 1995.

Two offices:

Tech-Industry Consultants (TIC), Lenexa

**Western Kansas Technology Corporation (WKTC),
Great Bend, Garden City, Hays**

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Ad Astra Fund I

Seed capital monies provided to start-up or early-stage companies with an advanced technology base.

Funding is provided by the State and leveraged with private sector investments. Ad Astra I is fully invested in 10 companies, including the following:

BioCore, Inc., Topeka
Cypress Systems, Inc., Lawrence
Janus Technologies, Inc., Lenexa
Interactive Concepts, Inc., Lawrence
Midwest Superconductivity, Inc., Lawrence
Novatech, Inc., Kansas City
Oread Laboratories, Inc., Lawrence
Sitback Technologies, Inc., Lenexa
3D Biomedical Imaging, Inc., Shawnee

KTEC 1995



Ad Astra Fund II

Ad Astra II was funded July 1, 1993, currently has four investments, including:

**Agri-Technology, Inc., Winfield
AeroComm, Inc., Overland Park
CyDex, L.C., Overland Park
Macrodyne, Inc., Wichita**

Solicitation for the fund will close on April 30, 1995.

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Kansas Integrated Commercialization Information Network (KICIN™)

Problem: Disparity of Access to Economic Development Information

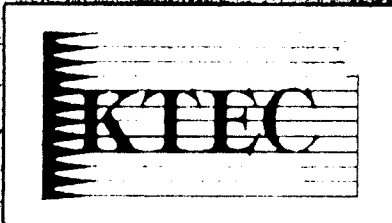
Remedy: Web of 200 "virtual satellite offices" using internet and the Information Network of Kansas (INK) as delivery tool for interactive economic development information exchange.

Use of INK permits infrastructure to be easily and inexpensively adapted to other public service needs.

Placement of personal computers and staff training at public libraries, SBDC's, and approximately 200 "economic extension offices".

Trained local service providers will assist users in rural areas to learn, ask questions, and receive responses through the system.

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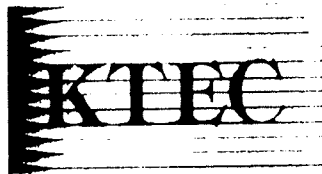


**Kansas Integrated Commercialization
Information Network (KICIN™)**

Partners:

**KTEC™
Center for Excellence in Computer-Aided Systems
Engineering
Information Network of Kansas
Kansas State Library System
School Library and Information Management at
Emporia State University
Kansas Department of Commerce & Housing
Kansas Inc.
Kansas Rural Development Council**

KTEC 1995



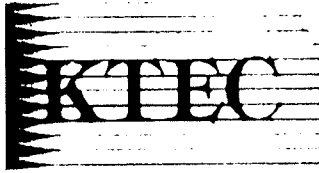
Innovation and Commercialization Corporations

Public-private entrepreneurial partnerships in which managerial, financial and research capabilities are uniquely combined to assist start-up companies and transfer new technologies to the marketplace.

501(c)3 Corporations include:

**Kansas Innovation Corporation (KIC), Lawrence
Mid-America Commercialization Corporation (MACC),
Manhattan
Wichita Technology Corporation (WTC), Wichita**

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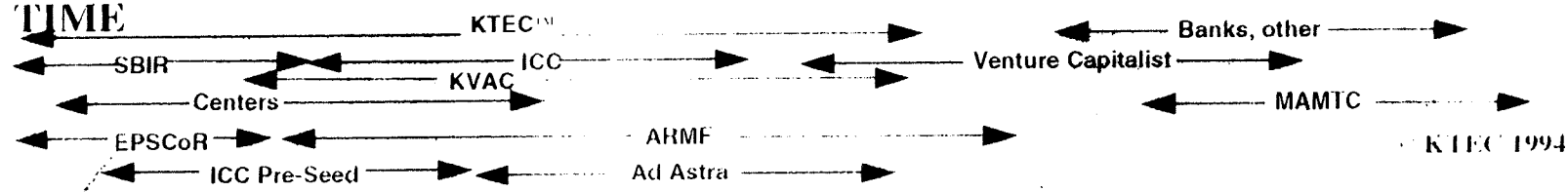
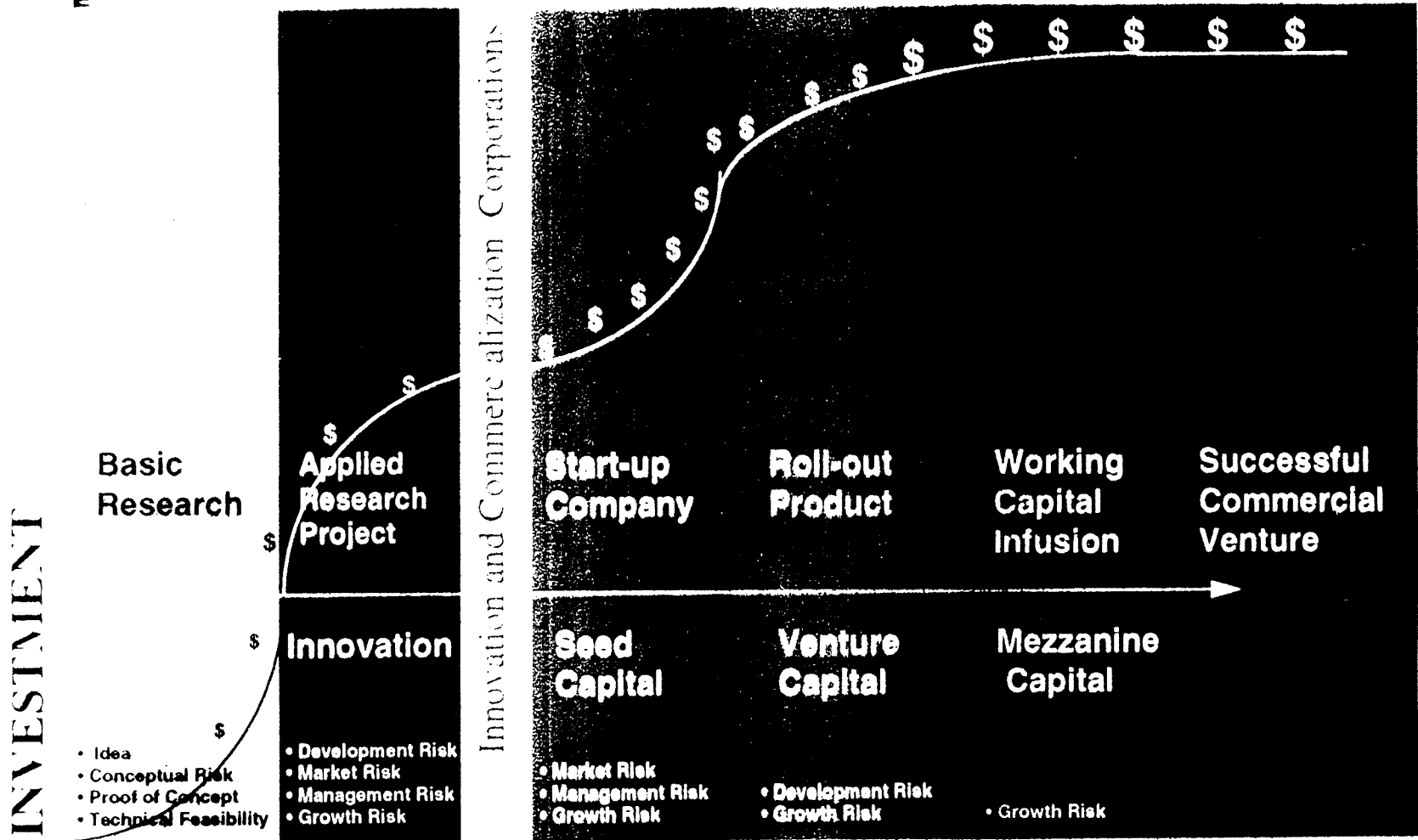
Innovation and Commercialization Corporations

- **Each Commercialization Corporation has developed a for-profit holding company to manage its investments.**
- **These are called:**
 - **Kaw Holdings, Inc., Lawrence**
 - **Manhattan Holdings, Inc., Manhattan**
 - **Wichita Holdings, Inc. Wichita**

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Technology Life Cycle



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Investment
Grade
Technologies

*Innovation
and
Commercialization Corporations*

Independent 501(c)(3) not-for-profit
Independent Board of Directors
President with commercialization experience

- Business Plan Consulting
- Financial Expertise
- Management & Operations Consulting
- Marketing & Sales Strategies
- Guidance in Accessing Financing
- Training
- Market Research
- Due Diligence
- Technical Review



General Incubator
Services

Development Risk

Applied Research Project

Innovation

- Development Risk
- Market Risk
- Management Risk
- Growth Risk

Start-up Company

Market Risk

Seed Capital

- Market Risk
- Management Risk
- Growth Risk

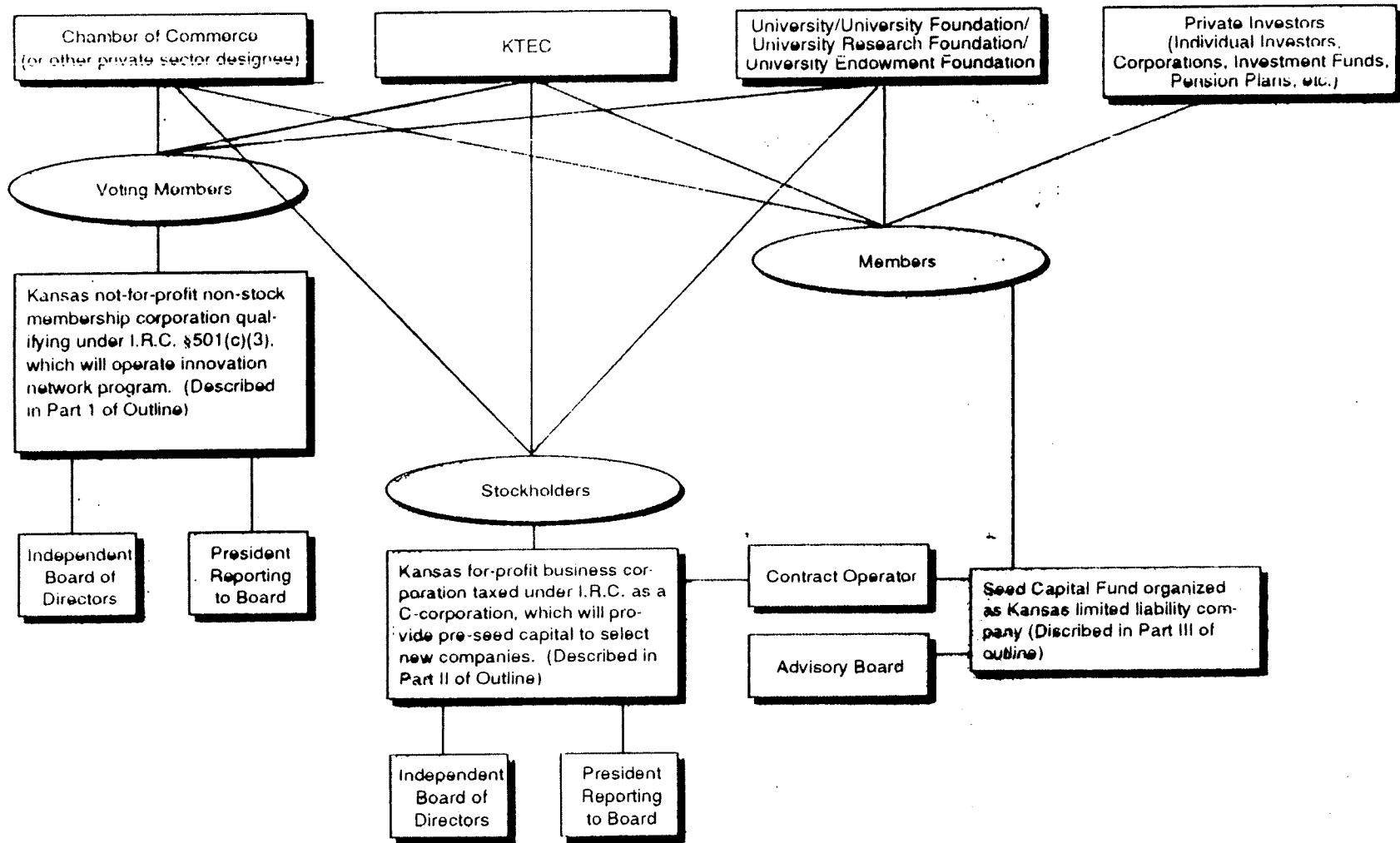
Quality
Investments

Ad Astra

KTEC™

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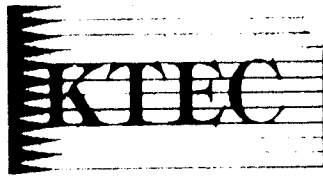
Kansas Technology Innovation Network Program



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Sources of Technologies

Universities

Corporations

License Conversion

Federal Labs

Entrepreneurs

Scientists

Market

Information

Assistance

Commercialization Corporation

Pre Seed Capital Fund

Investment Grade Technologies

Innovative Seed Capital Fund

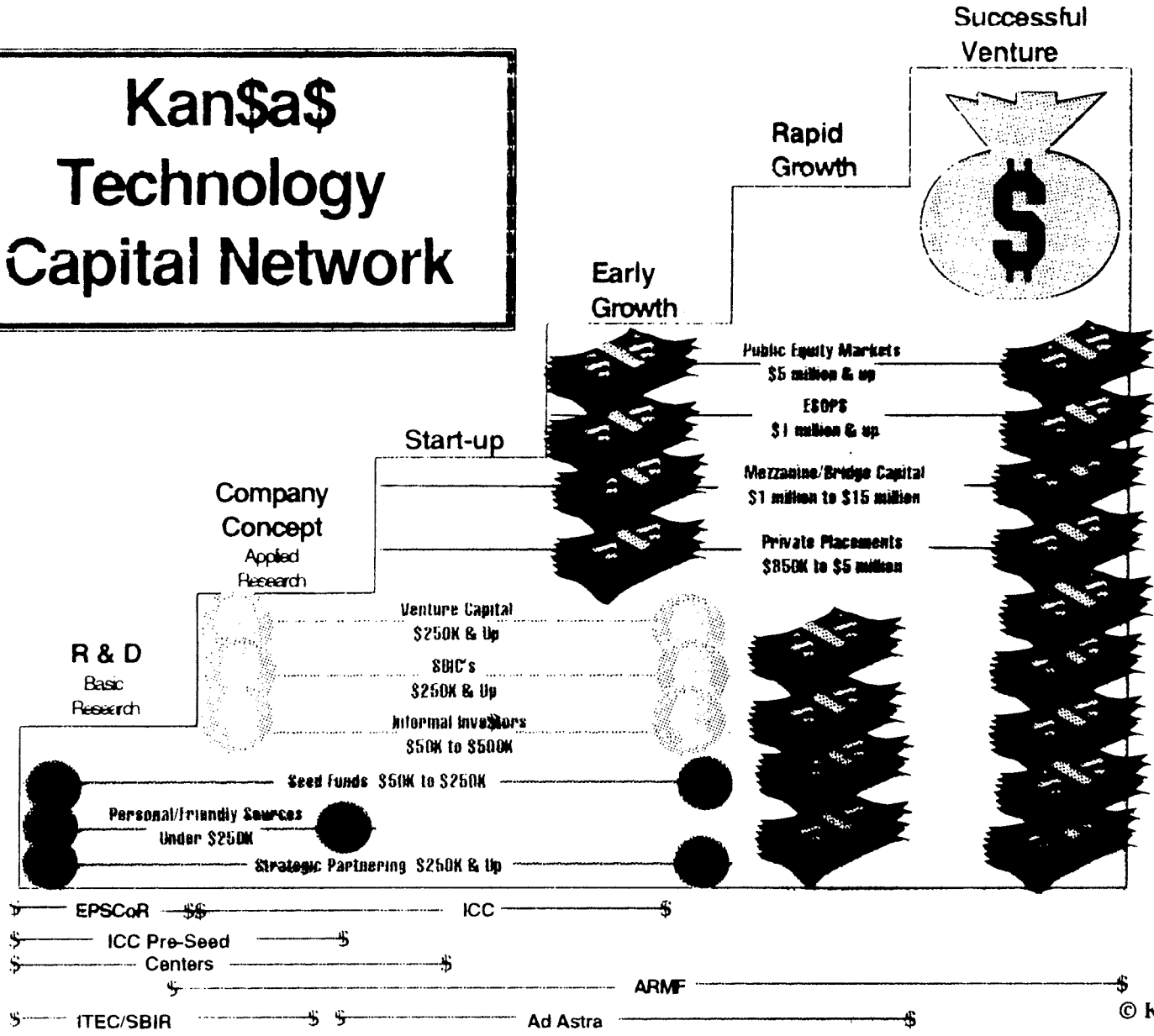
- 1. New Products for Existing Businesses
- 2. New Products with which to Begin New Businesses

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Kan\$a\$ Technology Capital Network



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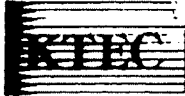
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Commercialization Capital Network

	<i>Basic Research</i>	<i>Applied</i>	<i>Start-up</i>	<i>Roll Out</i>	<i>Commercialization</i>	<i>Growth</i>
KTEC NS	Futures Fund	Pre-Seed KHI MHI WHI	Local Seed Lawrence Manhattan Wichita	SBIR Bridge	Technology SBIC	
Federal	Federal R & D SBIR I	SBIR II	ATP TRP Micro/Loan	SBA	SBIC	
Other			Private Place			
	\$222222	\$25 - 100 K		\$100-500K	\$500K-\$2.5M	\$2.5M+

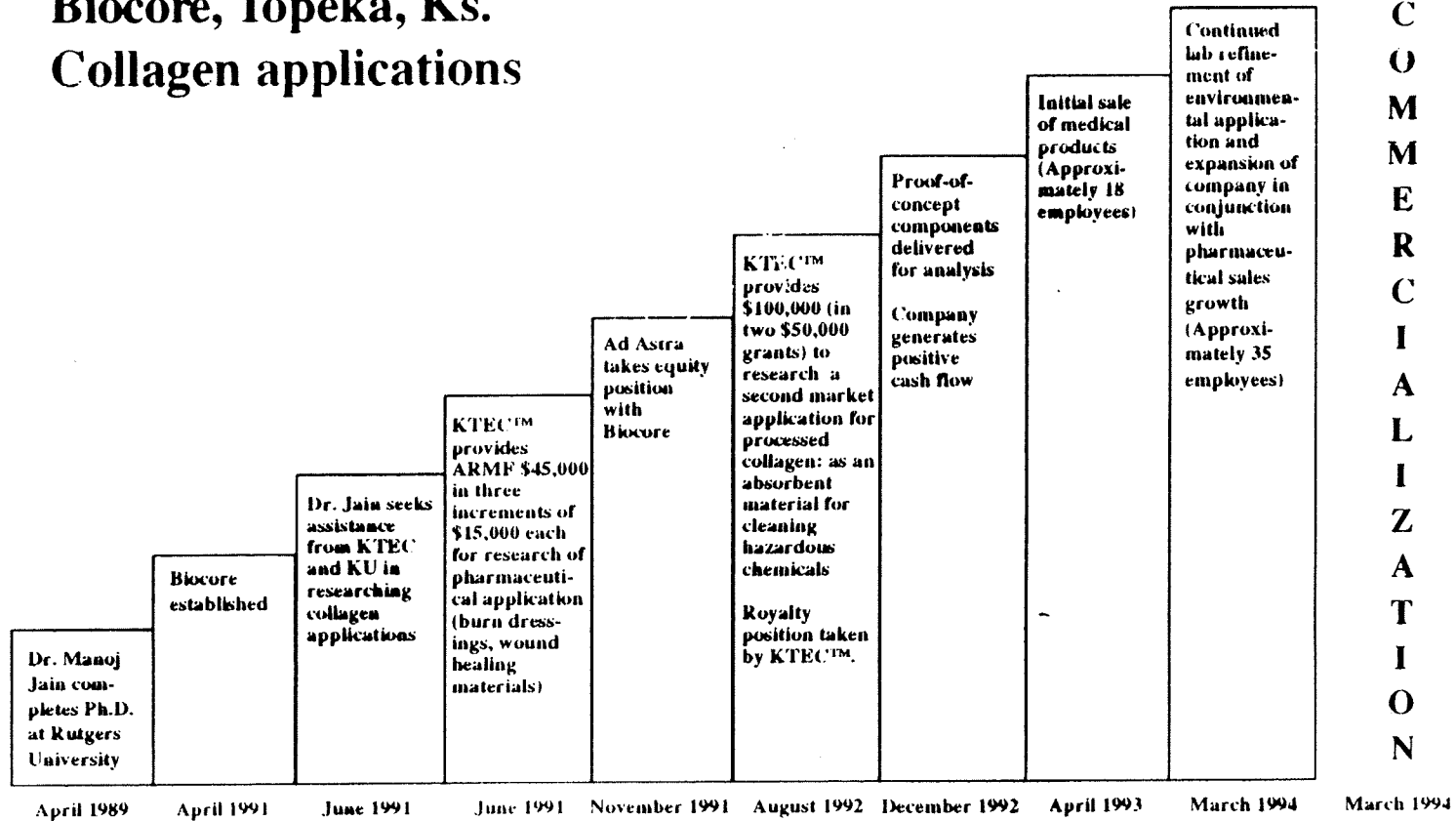
KTEC 1991



Economic Impact:

- **New company formed--BioCore**
- **New partnership created**
 - BioCore, Wilch Manufacturing**
 - New revenues**
 - New jobs at BioCore (30 so far)**
 - Potential new jobs at Wilch**
- **Royalty generation**
 - Kansas Technology Enterprise Corporation**
- **Equity appreciation through Ad Astra Fund**
- **New money injected into the local and state economy**

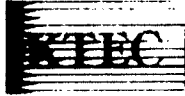
Commercialization Case History: Biocore, Topeka, Ks. Collagen applications



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Commercialization Opportunity

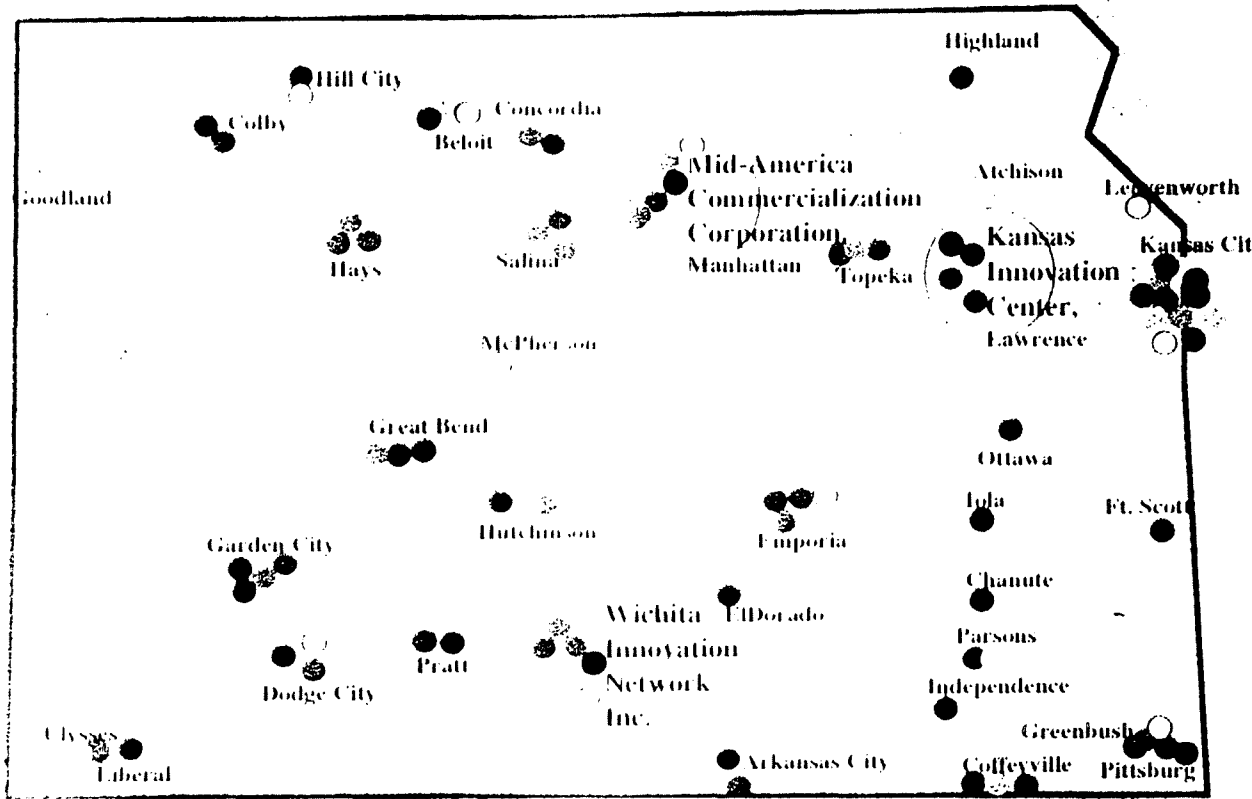
Overview:

Collagen is a waste product of the meat-packing industry which, prior to 1992, had very little use.

In 1991, BioCore, joined forces with Wilch Manufacturing to develop a product utilizing collagen. The first product was a burn/wound dressing. Additional products have steered into the environmental and food uses arenas.



KTEC™ Commercialization Corporation Network



- Centers of Excellence
- Certified Development Company
- Commercialization Corporations
- Community Colleges
- Kansas Dept. of Commerce & Housing
- ✱ Kansas Value-Added Center
- Incubators (current)
- ✱ Incubators (proposed)
- ⊗ MAMTC Offices
- Small Business Development Centers
- State Colleges
- Vocational-Technical Schools
- KU Med Center
- Kauffman Foundation Center for Entrepreneurial Leadership
- Coder/decoder sites



RESULTS

Innovation and
Commercialization Centers

Directed Research

Reduce Risk

Reduce Investment

Increase Opportunities

Increase Success

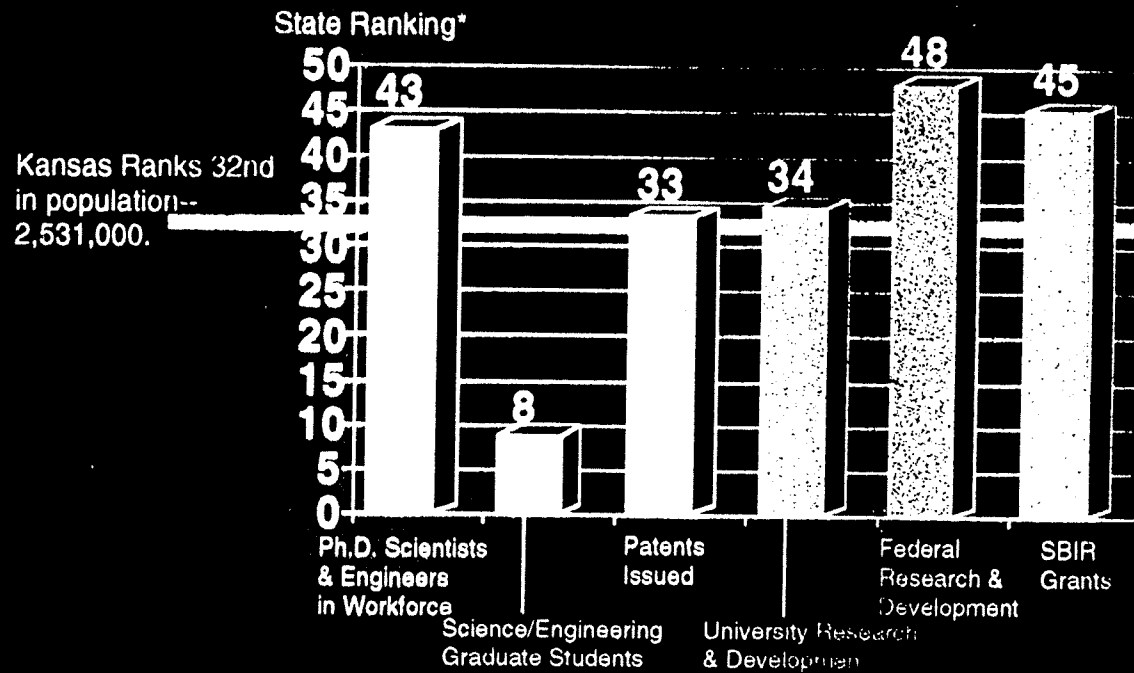
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Development Capacity Index Measures 1994 Report Card of the States How Kansas Ranks



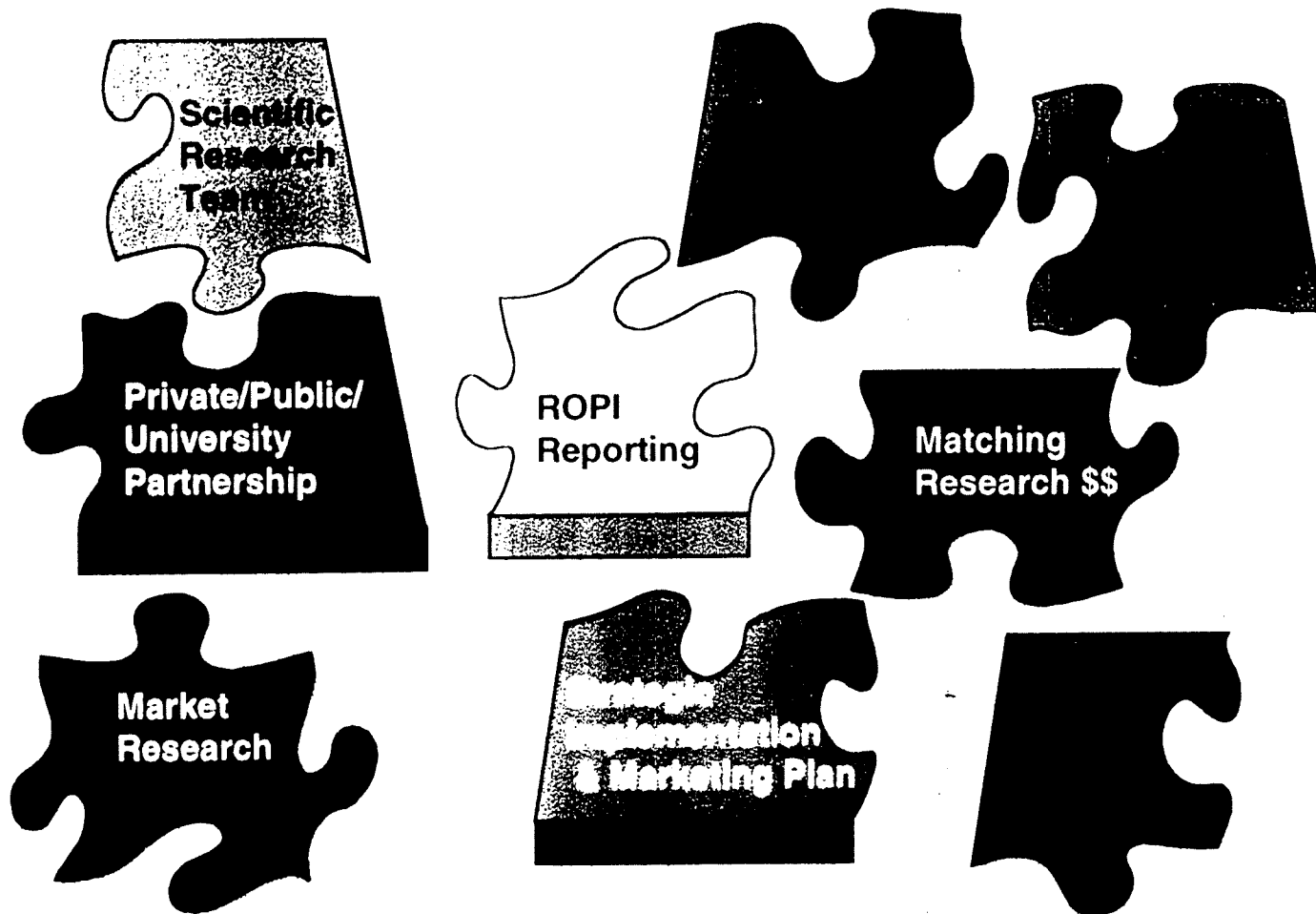
*A low number ranking is best.

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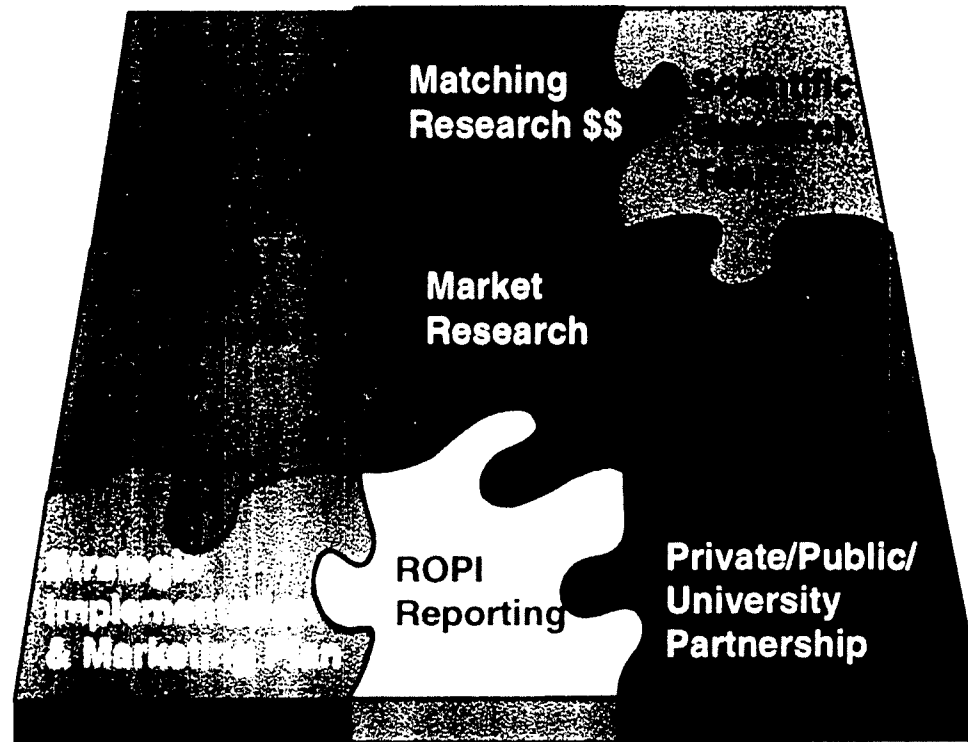
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The Road from Basic Research to Commercialization



Has many complex pieces!

The Road from Basic Research to Commercialization



All of the puzzle pieces must come together early in order for the project to have any hope of commercial success

What Kansas has to offer--

- **Qualified university & industry researchers**
- **Integrated science & technology research
and commercialization programs**
- **Capital**
- **Legislative support & presence**
- **Pride**
- **Desire to compete???**

What Kansas has to do better to compete--

- **Become more aware of opportunities**
- **Be qualified to do meaningful research**
- **Submit quality proposals**
- **Assemble experienced research teams**
 - **University Researchers**
 - **Industry Researchers**
 - **State and Federal Partners**
 - **Commercial Partners**
- **Technology with commercialization potential**
- **Access matching funds & resources**
- **Cooperative university teaming**
- **Develop a Strategic Action Plan!**



Summary

Kansas is not dependent upon defense industry but has an excellent environment for technology transfer.

Kansas is a small business state, our large corporations are downsizing, so entrepreneurial and technology support is essential.

Kansas has developed a comprehensive infrastructure to support technology development at any stage through TECHNOLOGY ALLIANCES.

Kansas is focusing on directed research which leads to greater commercialization success through the Kansas Commercialization Network.



Conclusions

- **Increased investment in Science and Technology in Kansas through appropriate allocation of EDIF funds**
- **Focus on growing our own high technology based businesses**
- **Creation of high wage, high skilled jobs which will improve quality of life in Kansas**
- **Strong Science and Technology leadership with global perspective**
 - **NGA Science and Technology Council**
- **Greater Kansas participation in federal R & D funding programs**

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