

Approved: 1-25-93  
Date

## MINUTES OF THE HOUSE COMMITTEE ON ECONOMIC DEVELOPMENT.

The meeting was called to order by Chairperson Wanda Fuller at 3:30 p.m. on January 20, 1993 in Room 423-S of the Capitol.

All members were present except:

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

Conferees appearing before the committee:  
Dr. William Brundage, President, KTEC  
Paul Clay, Jr., Chief Executive Officer, MAMTC

Others attending: See attached list

The Chair presented each member of the committee a copy of the "Committee Rules". These rules will be followed in committee, however, if committee rules do not apply in some instance, House Rules shall govern. (Attachment 1)

The first conferee to appear before the committee was Dr. William Brundage, President, Kansas Technology Enterprise Corporation. He stated KTEC was created in 1987 by the Legislature to help existing Kansas businesses and to foster start-up businesses. (Attachment 2)

The Chair next introduced three guests from Northern Ireland who were visiting the committee. They were: Councillor Samuel Walker, Deputy Mayor of the District Council, Councillor Seamus Doyle, Chairman of the Economic Development Committee and Gerry McGivern, a city official and in charge of promoting the new "Banbridge Better by Far" campaign and for developing an economic development strategy for the region. Their trip to Kansas is the first step toward the establishment of a sister-state relationship between Banbridge District and Kansas. The committee welcomed the guests.

The Chair then called on Paul E. Clay, Jr., Chief Executive Officer of the Mid-America Manufacturing Technology Center. He stated MAMTC's primary mission was to improve manufacturing competitiveness. (Attachment 3) He also gave the members a brochure on MAMTC. (Attachment 4)

Following testimony by the conferees they stood for questions from the committee.

Chairperson Fuller adjourned the meeting at 4:45 p.m. The next meeting of the House Economic Development Committee will be Thursday, January 21, 1993 in Room 423-S.

## GUEST LIST

COMMITTEE: Economic Development DATE: 1-20-93

[illegible]

# State of Kansas

REPRESENTATIVE WANDA FULLER

Chair: Economic Development Committee



Topeka Address  
State Capitol Building  
Topeka, Kansas 66612-1504

Wichita Address  
2805 Sennett  
Wichita, Kansas 67211-3848

## House of Representatives

### COMMITTEE RULES

1. A substitute motion is in order, but no additional substitute motion shall be in order until the prior substitute motion is disposed.
2. Amendments to motions are not in order.
3. A motion requires a second to be in order.
4. A motion to take from the table shall be in order only when such item is on the agenda or is taken up by the chair. The motion requires a simple majority and is non-debatable.
5. No conferee shall be interrupted during presentation of their testimony, except with the permission of the chair.
6. Questioning of a conferee shall be limited to the subject matter of the agenda for the day.
7. Granting excused absences is reserved to the chair.
8. A request from any member that their own vote be recorded shall be granted.
9. All conferees are requested to submit enough copies of written testimony for all committee members and staff.
10. Smoking is prohibited in committee rooms.
11. Adjournment is reserved to the chair.
12. In any case where committee rules do not apply, House Rules shall govern. All powers, duties and responsibilities not addressed above are reserved to the chair.

**TESTIMONY TO  
THE  
HOUSE  
ECONOMIC DEVELOPMENT  
COMMITTEE**

**JANUARY 20, 1993**

**BY:  
WILLIAM G. BRUNDAGE  
PRESIDENT  
KANSAS TECHNOLOGY ENTERPRISE CORPORATION**



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# **WHAT IS KTEC?**

# **KANSAS TECHNOLOGY ENTERPRISE CORPORATION (KTEC)**

112 West Sixth, Suite 400, Topeka, KS 66603-3869; (913) 296-5272

## **MISSION:**

"Foster technological innovation and the creation, growth and expansion of Kansas enterprises."

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## **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
- 

## **BACKGROUND:**

In 1986 the Kansas Legislature and the Executive Branch joined forces to create KTEC. This bipartisan initiative was undertaken to expedite development of the Kansas economy to assure it a secure place in the global economy of the 21st Century.

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## **ADMINISTRATION:**

KTEC is administered by eight staff members and a 20-member board of directors representing the private sector, government and academia. Effectiveness has been enhanced because enabling legislation allows KTEC to operate like a business, yet maintain all of the controls necessary when utilizing public funds.

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## **PUBLIC/PRIVATE PARTNERSHIPS:**

The complexity of competing globally demands new partnerships between government, academia, and the private sector. These partnerships allow us to leverage our resources and proceed with a common goal.

Since 1987, KTEC has established an effective and unique network that capitalizes on scientists, engineers, financiers, accountants, marketers, and various academic and government agencies. It is a cost-effective manner in which to achieve our vision, "To achieve substantial and sustainable growth for the Kansas economy through the advancement of technology."

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## **FUNDING:**

KTEC is funded entirely by appropriations from the Economic Development Initiatives Fund (EDIF), i.e., gaming revenues. In FY 1992 that amount was \$7,178,544.

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## **ACCOUNTABILITY:**

According to a 1991 evaluation of KTEC, completed by the National Association of State Development Agencies (NASDA), KTEC's "accountability systems in place (comprehensive tracking system, use of the State's procurement and budget offices, annual independent audits, extensive use of peer review, and an independent board of directors) are among the most advanced in the country."

Accountability mechanisms include:

- 20-member board of directors representing specific sectors of the Kansas economy;
- audits performed by the Division of Post Audit at their discretion;
- annual audit by private accounting firm;
- evaluation criteria for all KTEC programs;
- peer review by some of the nation's best managers of technology development programs;
- oversight by Kansas Inc;
- a business plan and a strategy document;
- all funds process through Division of Accounts and Reports;
- annual budget prepared as requested by Division of Budget; AND
- regular reports to the Legislative Economic Development committees.

Other activities which demonstrate accountability:

- Return on Public Investment (ROPI) - KTEC is developing a Return on Public Investment Model. Initial testing is underway to evaluate the impact of KTEC's programs on the State's economy.
- Committees - Advisory committees comprised of experienced individuals from business and government, assist KTEC with reviewing and making recommendations concerning its grant and center programs.
- Tracking System - KTEC has implemented a computerized system that enables it to manage information pertaining to the Centers of Excellence and grant programs—including the capability to track a company's progress long after completion of a project.

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#### KTEC PROGRAMS:

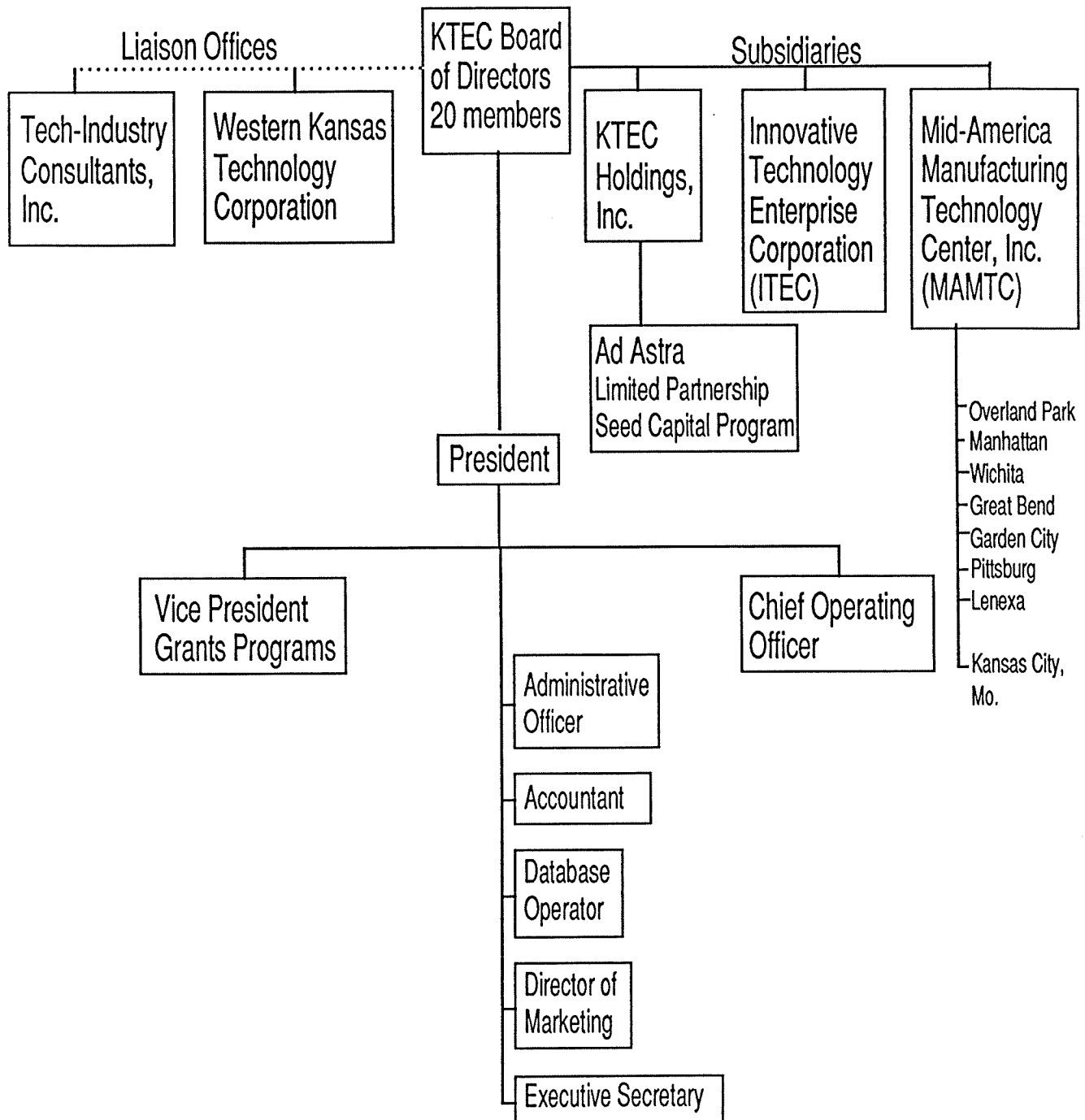
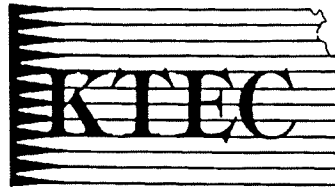
- Centers of Excellence—Advanced Manufacturing Institute, Kansas State University; Center for Technology Transfer, Pittsburg State University; Center of Excellence in Computer-Aided Systems Engineering, University of Kansas; Higuchi Biosciences Center, University of Kansas; National Institute of Aviation Research, Wichita State University.
- Applied Research Matching Grant Program
- Training Equipment Grant Program
- Small Business Innovation Research Grants
- Industrial Liaison
- Special Projects
- Ad Astra Fund

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#### SUBSIDIARY CORPORATIONS:

- KTEC Holdings, Inc., was established in 1988 expressly to act as KTEC's nominee for the purpose of holding title to various seed capital investments acquired through the Ad Astra Fund.
- The Innovative Technology Enterprise Corporation (ITEC) grew out of a Special Project funded by KTEC. In 1991, ITEC became KTEC's first subsidiary corporation, serving the needs of inventors and entrepreneurs with a variety of fee-based services and seminars.
- The Mid-America Manufacturing Technology Center (MAMTC) was established in 1991 following KTEC's receipt of a \$12.9 million, six-year grant from the National Institute of Standards and Technology. MAMTC works closely with more than 2,600 small and mid-sized manufacturers in Kansas and the Kansas City metropolitan area.

1/13/93



# **BOARDS AND COMMITTEES ASSOCIATED WITH KTEC**

NSAS TECHNOLOGY ENTERPRISE COOPERATION  
BOARD OF DIRECTORS\*

Lloyd T. Silver, Jr., Chairman  
LSC, Inc.  
1900 West 75th Street  
Prairie Village, Kansas 66208  
(913) 362-2121 FAX (913) 362-1900  
Term Expires 4-13-93

Carol Wiebe, Vice Chairman  
Hillsboro Development Corp.  
109 S. Main, P.O. Box 84  
Hillsboro, Kansas 67063  
(316) 947-3458  
Term Expires 4-13-94

Richard A. Bendis, President  
Management Resources of America  
11005 Delmar  
Leawood, Kansas 66211  
(913) 491-0310 FAX (913) 451-9655  
Term Expires 4-13-94

Dr. John Breazeale  
225 S. Ridgewood  
Wichita, Kansas 67218  
(316) 684-6426  
Term Expires 4-13-91

R.T. Breidenthal, Jr.  
Mid-America Bank & Trust  
P.O. Box 2947  
Shawnee Mission, KS 66201-1347  
913-384-3450 FAX (913) 676-6870  
Term Expires

Sam Brownback, Secretary  
Kansas State Board of  
Agriculture  
109 SW 9th, Room 103  
Topeka, Kansas 66612  
(913) 296-3556 FAX (913) 296-2247

Representative Rochelle  
Chronister  
Route 2, Box 321A  
Neodesha, Kansas 66757  
(316) 325-2622  
(316) 325-2026 FAX (316) 325-5380

Representative George Dean  
2646 Exchange Place  
Wichita, Kansas 67217  
(316) 267-6009

Senator Paul Feleciano, Jr.  
815 Barbara  
Wichita, Kansas 67217  
(316) 522-7875

Senator Dave Kerr  
Box 2620  
Hutchinson, Kansas 67504  
(316) 663-1225

Bob Knight, Secretary  
Kansas Department of Commerce  
700 SW Harrison, Suite 1300  
Topeka, Kansas 66603  
(913) 296-3481 FAX (913) 296-5055

Dr. Theodore Kuwana  
Regents Distinguished Professor  
2095 Constant Avenue/West Campus  
University of Kansas  
Lawrence, Kansas 66046  
(913) 864-3096 FAX (913) 864-3093  
Term Expires 4-13-94

Dr. Gale Simons, Assoc. Dean  
and Director, Engineering  
Experiment Station  
148 Durland Hall  
Kansas State University  
Manhattan, Kansas 66506  
(913) 532-5844 FAX (913) 532-7810  
Term Expires 6-2-93

Dr. F. Victor Sullivan, Dean  
School of Tech. & Applied Sci.  
Pittsburg State University  
1501 S. Broadway  
Pittsburg, Kansas 66762  
(316) 235-4366 FAX (316) 231-4231  
Term Expires 4-13-92

Ivan W. Wyatt  
Kansas Farmers Union  
P.O. Box 1064  
McPherson, Kansas 67460  
(316) 241-6630  
(316) 274-4231 FAX (316) 241-8054  
Term Expires 4-13-95

\*There are currently five  
vacancies on the KTEC  
Board of Directors.

KANSAS TECHNOLOGY ENTERPRISE CORPORATION  
APPLIED RESEARCH MATCHING FUND COMMITTEE

Kevin M. Carr, Chairman  
KTEC  
112 W. 6th, Suite 400  
Topeka, KS 66603  
(913) 296-5272  
FAX (913) 296-1160

Repr. Rochelle Chronister  
Route 2, Box 321A  
Neodesha, KS 66757  
(316) 325-2622/2026  
FAX (316) 325-5380

Dr. John Breazeale  
225 S. Ridgewood  
Wichita, KS 67218  
(316) 684-6426

Senator Norma Daniels  
Box 128  
Valley Center, Kansas 67147  
(316) 755-0394  
FAX (316) 755-0872

Mr. Howard M. Gadberry  
Midwest Research Institute  
425 Volker Blvd.  
Kansas City, MO 64110  
(816) 753-7600  
FAX (816) 753-8420

Dr. Theodore Kuwana, Director  
Center for BioAnalytical Research  
2095 Constant Avenue/West Campus  
Lawrence, KS 66046  
(913) 864-3096  
FAX (913) 864-3093

Dr. Gale Simons, Assoc. Dean  
Research & Director, Engineering  
Experiment Station  
Kansas State University  
148 Durland Hall  
Manhattan, KS 66506  
(913) 532-5844  
FAX (913) 532-7810

Dr. Victor Sullivan, Dean  
School of Technology & Applied  
Science  
Pittsburg, State University  
1701 S. Broadway  
Pittsburg, KS 66762  
(316) 235-4366  
FAX (316) 235-4231

Mr. Phillip R. Dick  
Lewis, Hooper & Dick  
P.O. Box 699  
Garden City, KS 67846  
(316) 275-9267  
FAX (316) 275-8936

Dr. Edwin Kittner  
604 East Avenue  
Blue Rapids, KS 66411  
(913) 226-7677

Dr. Stanley Koplik  
Executive Director  
Kansas Board of Regents  
400 SW 8th, Suite 609  
Topeka, KS 66603  
(913) 296-3421  
FAX (913) 296-0983

Dr. Robert Stutz  
4210 Shawnee Mission Parkway  
Suite 100-A  
Shawnee Mission, KS 66205  
(913) 432-6520  
FAX (913) 362-9406

Donald G. Grunke  
Route 2, Box 4-A  
Valley Center, KS 67147  
(316) 755-0871

Ivan W. Wyatt  
Kansas Farmers Union  
PO Box 1064  
McPherson, KS 67460  
(316) 241-6630/274-4231  
FAX (316) 241-8054



KANSAS TECHNOLOGY ENTERPRISE CORPORATION  
CENTERS COMMITTEE

Senator Dave Kerr, Chair  
Box 2620  
Hutchinson, KS 67504  
(316) 663-1225

Carol Wiebe, Dir. Econ. Dev.  
Hillsboro Development Corp.  
109 S. Main, P.O. Box 84  
Hillsboro, KS 67063  
(316) 947-3458

Rep. George Dean  
2646 Exchange Place  
Wichita, KS 67217  
(316) 267-6009

Robert Kessler  
Allied-Signal Aerospace Co.  
KC Div., Dept. 263  
Mail Code 1C41, PO Box 4  
Kansas City, MO 64141-6159  
(816) 997-4672  
FAX (816) 997-2536

Sam Campbell  
Campbell-Becker, Inc.  
1321 Wakarusa Dr., Suite 2102  
Lawrence, KS 66049  
(913) 841-7120  
FAX (913) 841-7268

Vern Silvers  
Phillips Lighting Co.  
3861 S. 9th  
Salina, KS 67401  
(913) 826-3581

Patrick W. Connelly, Jr.  
President & CEO  
ICE Corporation  
240 Levee Dr.  
Manhattan, KS 66502  
(913) 776-6423

Bruce Peterman  
Sr. V.P. for Operations  
Cessna Aircraft Co.  
PO Box 7704  
Wichita, KS 67277  
(316) 941-8100  
FAX (316) 941-6300

Bob Dougherty  
Dougherty & Assoc.  
P.O. Box 8149  
Shawnee Mission, KS 66208-0149  
(913) 649-3515  
FAX (913) 648-7411

**KTEC SEED CAPITAL COMMITTEE**

Richard Bendis, Chairman  
Management Resources of America  
11005 Delmar  
Leawood KS 66211  
913-491-0310  
FAX: 913-451-9655

Jerry Stabenow  
Silicon Prairie Tech Assn  
11140 Lackman Road  
Lenexa KS 66219  
913-888-6807  
FAX: 913-888-6885

Kurt Mueller  
Ernst & Young  
One Kansas City Place  
1200 Main St Suite 2000  
Kansas City MO 64105-2143  
816-283-5507  
FAX: 816-283-5555

Bob Sherwood  
Center for Business Innovation  
4747 Troost Ave  
Kansas City MO 64110  
816-561-8567  
FAX: 816-756-1530

Charlie Becker  
Campbell-Becker Inc  
1321 Wakarusa Drive #2102  
Lawrence KS 66049-3833  
913-841-7120  
FAX: 913-841-7268

Sam Campbell  
Campbell-Becker Inc

Carolyn Shelton  
Campbell-Becker Inc

John D. Lock, Jr.  
George K. Baum & Co.  
12 Wyandotte Plaza  
120 W 12th St  
Kansas City MO 64105  
816-283-5273  
FAX: 816-283-5325

Raymond Smilor  
Ewing Marion Kauffman Foundation  
4900 Oak  
Kansas City MO 64112-2776  
816-932-1094  
FAX: 816-932-1100

Michie Slaughter  
Ewing Marion Kauffman Foundation  
4900 Oak St  
Kansas City MO 64112  
816-932-1075  
FAX: 816-932-1100

Steve Kelly  
Kansas Dept. of Commerce  
400 SW 8th, 5th Fl  
Topeka, KS 66603-3957  
913-296-5298  
FAX: 913-296-5055

Rex Wiggins  
Kansas Venture Capital Inc.  
6700 Antioch, Suite 460  
Overland Park, KS 66204  
913-262-7117  
FAX: 913-262-3509

Paul Clay  
Mid-America Manufact. Tech. Ctr.  
10561 Barkley, Suite 602  
Overland Park KS 66212  
913-649-4333  
FAX: 913-649-4498

Bill Brundage - KTEC

MID-ATLANTIC MANUFACTURING TECHNOLOGY CENTER  
Board of Directors

William G. Brundage  
President  
Kansas Technology Enterprise Corp.  
112 S.W. Sixth Street, Suite 400  
Topeka, KS 66603  
(913) 296-5272  
FAX: (913) 296-1160

Representative Diane Gjerstad  
2701 Lulu  
Wichita, KS 67216  
Cessna: (316) 941-7980  
FAX: (316) 941-7865  
Capitol: (913) 296-7616  
FAX: (913) 296-1153

Barbara Henry  
Secretary Treasurer  
Henry Enterprises  
Route 3, Box 6  
Concordia, KS 66901  
(913) 243-4188  
OR: (913) 243-4444

John McKelvey  
President & CEO  
Midwest Research Institute  
425 Volker Blvd.  
Kansas City, MO 64110  
(816) 753-7600, Ext. 203  
FAX: (816) 931-7126

Representative Robert H. Miller  
Rural Route 1  
Wellington, KS 67152  
(316) 326-3159  
Capitol: (913) 296-2302  
FAX: (913) 296-1154

Senator Marge Petty  
106 Woodlawn  
Topeka, KS 66606  
Home: (913) 232-4907  
Office: (913) 296-7365

Jack Pierson, President  
PRECO Industries, Inc.  
9501 Dice Lane  
Lenexa, KS 66215  
(913) 541-0066  
FAX: (913) 541-9088

Bill Pritchard  
President  
Wichita Tool Company, Inc.  
2100 S. West Street  
Wichita, KS 67260-0146  
(316) 942-5222  
FAX: (316) 942-1758

Senator Alicia Salisbury  
1455 S.W. Lakeside Drive  
Topeka, KS 66604  
(913) 272-2557 (Home)  
Capitol: (913) 296-7374  
FAX: (913) 296-1153

Pack St. Clair  
President  
Fiberglass Engineering, Inc.  
Box 29, Industrial Park  
Neodesha, KS 66757  
(316) 325-2653  
FAX: (316) 325-2361

Jerry Stogsdill  
President  
Silicon Prairie Technology Association  
11140 Lackman Road  
Lenexa, KS 66219  
(913) 888-6807  
FAX: (913) 888-6885

Stan Thibault  
President  
Osborne Industries, Inc.  
P.O. Box 388  
Osborne, KS 67473  
(913) 346-2192  
FAX: (913) 346-2194

Jimmy Tieben  
President  
My-D-Han-D Manufacturing Co., Inc.  
West McArtor Road  
Dodge City, KS 67801  
(316) 225-0269  
FAX: (316) 225-1807

Bert W. (Bill) Von Aspe  
Director of Manufacturing Research & Development  
Boeing Commercial Airplane Group  
P.O. Box 7730, Mallstop Kil-68  
Wichita, KS 67277  
(316) 526-7434  
FAX: (316) 526-2847

INNOVATIVE TECHNOLOGY ENTERPRISE CORPORATION  
BOARD MEMBERS

Ted Ayres, General Counsel  
Kansas Board of Regents  
400 SW 8th, Suite 609  
Topeka KS 66603  
(913) 296-3689

Kevin Carr (Chairman)  
Vice President, KTEC  
112 W 6th, Suite 400  
Topeka KS 66603  
(913) 296-5272

Sage Joyner, Ph.D.  
President, Kinetic Corporation  
PO Box 8161  
Wichita KS 67208  
(316) 778-1903

Clare A. Gustin  
Dir., Small Business Dev. Ctr.  
Fort Hays State University  
1301 Pine  
Hays KS 67601  
(913) 628-5343 X6286

Lois Tully-Gerber  
Manager, Technology Transfer  
KEURP  
400 W 8th, Suite 314  
PO Box 1007  
Topeka KS 66601  
(913) 354-1821

KTEC's Western Kansas Liaison Office  
WESTERN KANSAS TECHNOLOGY CORPORATION BOARD MEMBERS

JANUARY 11, 1993

MIKE BENDER  
ALO USA, INC.  
P.O.BOX 327  
STERLING, KS. 67576  
316-278-3641  
FAX 278-2388

VACANCY

RICHARD FRENCH  
THE QUEST CENTER  
1 EAST 9th.  
HUTCHINSON, KS. 67501  
316-665-8468  
FAX 665-7619

NORMAN HEYING (VICEPRES.)  
HEYCO INC.  
P.O.BOX 1038  
GARDEN CITY, KS. 67846  
316-275-6101  
FAX 275-3865

DR. GARY JARMER  
G.C.C.C.  
801 CAMPUS DRIVE  
GARDEN CITY, KS. 67846  
316-276-9521  
FAX 276-9630

TAUNCE MATHIASON (CHAIRMAN & PRES.)  
FIDELITY STATE BANK  
P.O.BOX F  
GARDEN CITY, KS. 67846  
316-276-5722  
FAX 316-276-5735

R. MIKE PIVONKA  
FLAME ENGINEERING  
HIGHWAY 4  
LaCROSSE, KS. 67548  
913-222-2873  
FAX 913-222-3619

MAX BENNETT  
GREAT BEND MFG., CO.  
P.O.DRAWER 829  
GREAT BEND, KS. 67530  
316-792-1701  
FAX 792-1668

DR. EDDIE ESTES  
WESTERN KS. MFG. ASSOC.  
P.O.BOX 1382  
DODGE CITY, KS. 67801  
316-227-8082  
FAX 227-8090

PAUL HAYSE  
M-C COMPANY, INC.  
P.O.BOX 1002  
PRATT, KS. 67124  
316-672-5335  
FAX 672-7351

VACANCY

LEROY LYON (SEC. TREASURER)  
MID-KS.ECON. DEV.  
2015 LAKIN  
GREAT BEND, KS. 67530  
316-792-1375  
FAX 792-3406

MAX MIZE  
MIZE & CO., INC.  
300 INDUSTRIAL AVE.  
KINGMAN, KS. 67068  
800-835-1016  
FAX 316-532-2459

KIEC's Eastern Kansas Liaison Office  
Board of Directors  
October, 1992  
TECH-INDUSTRY CONSULTANTS

**CHARLES (BUD) W. KELLER**  
2601 West 70th  
Prairie Village, Kansas 66208

(913) 677-2260

**ED WOLLMUTH**  
Senior Vice President  
The Wyandotte Bank  
78th & State Avenue  
Kansas City, Kansas 66112

(913) 299-9700

FAX: (913) 299-9656

**GARY R. ZIMMERMAN**  
Director, Business Development  
& Licensing  
Miles Inc.  
Box 390  
Shawnee Mission, Kansas 66201

(913) 268-2551

FAX: (913) 268-2548

**ERIC T. JAGER**  
President  
Windcrest Investment  
Management  
4800 Main Street, Suite #600  
Kansas City, Missouri 64112

(816) 753-6300

FAX: (816) 753-0062

**GEORGE A. POWELL**  
Director, Marketing &  
Development  
Board of Public Utilities  
700 Minnesota Avenue  
Kansas City, Kansas 66101

(913) 573-9151

FAX: (913) 573-9990

**ROBERT A. DOUGHERTY**  
President  
Dougherty & Associates  
Post Office Box 8149  
Shawnee Mission, Kansas 66208-0149

(913) 649-3515

FAX: (913) 648-7411

**Copy of Board Notices to:**

**AL SERVISS**  
President  
Container Supply Company  
Post Office Box 5006  
Kansas City, Kansas 66119

(913) 621-1250

FAX: (913) 621-1290

**LLOYD T. SILVER, JR.**  
President  
LSC, Inc.  
1900 West 75th Street  
Shawnee Mission, Kansas 66208

(913) 362-2121

FAX: (913) 362-1900

KTEC/  
**KANSAS INDUSTRIAL AGRICULTURE INITIATIVE**

INDUSTRIAL AGRICULTURE COMMITTEE

- Sam Brownback, Chair
- Rochelle Chronister, State Representative
- Carol Wiebe, Hillsboro Development Corp.
- Bill Brundage, KTEC

ADVISORY PANEL

- Joan Huber, Chair
- David Bodde, Midwest Research Institute
- Kurt Mueller, Ernst & Young, Inc.
- Sam Campbell, Campbell-Becker, Inc.
- Bob Sherwood, Center for Business Innovation
- Dick Hahn, KVAC
- Ray Burns, Kansas Board of Agriculture
- Eldon Fastrup, Kansas Board of Agriculture
- Bob Mead, Kansas House of Representative (R) (Pawnee Rock)
- Dave Heineman, Kansas House of Representative (R) (Garden City)
- Jerry Karr, Kansas Senate (D) (Close)
- Janis Lee, Kansas Senate (D) (Kensington)
- Ladd Seaberg, Midwest Grains
- Steve Graham, Kansas Wheat Commission
- Les Mitscher, Chairman, Medicinal Chemistry, KU
- L.T. Fan, Department of Chemical Engineering, KSU
- Lloyd T. Silver, LSC, Inc.
- Lee Reeve, Reeve Agri Energy
- George Ham, Assoc. Dean of Agriculture, KSU
- Sheila Frahm, Kansas Senate (R) (Colby)
- Jerry Moran, Kansas Senate (R) (Hays)
- Richard R. Reinhardt, Kansas House of Representative (D) (Erie)
- George Teagarden, Kansas House of Representative (D) (LaCygne)
- Charles Warren, Kansas Inc.

# **WHY DOES KTEC EXIST?**



In 1987, KTEC was created  
by the Legislature  
to help existing Kansas businesses  
and  
to foster start-up businesses.



"The economic future of any state or nation  
is dependent upon a solid foundation  
of scientists and engineers."



# **KTEC's Role Is Technology Economic Development**

As the State's technology economic development arm, KTEC has the responsibility to assure the establishment of this foundation for Kansas.

# **WHAT IS KTEC'S PLAN FOR KANSAS?**

# KTEC's VISION

**"To achieve substantial and sustainable  
growth for the Kansas economy  
through the advancement of technology."**



# KTEC's MISSION

"Foster technological innovation  
and the creation, growth and expansion  
of Kansas enterprises."

# KTEC's GOALS

1. Stimulate technological innovation
2. Develop a formal process to commercialize technologies
3. Generate new and/or improved career and job opportunities in technical fields
4. Establish measurement systems for return on investment
5. Enhance effective communication among the private sector, academia and government
6. Promote technical education and training

## **WHAT IS KTEC DOING?**



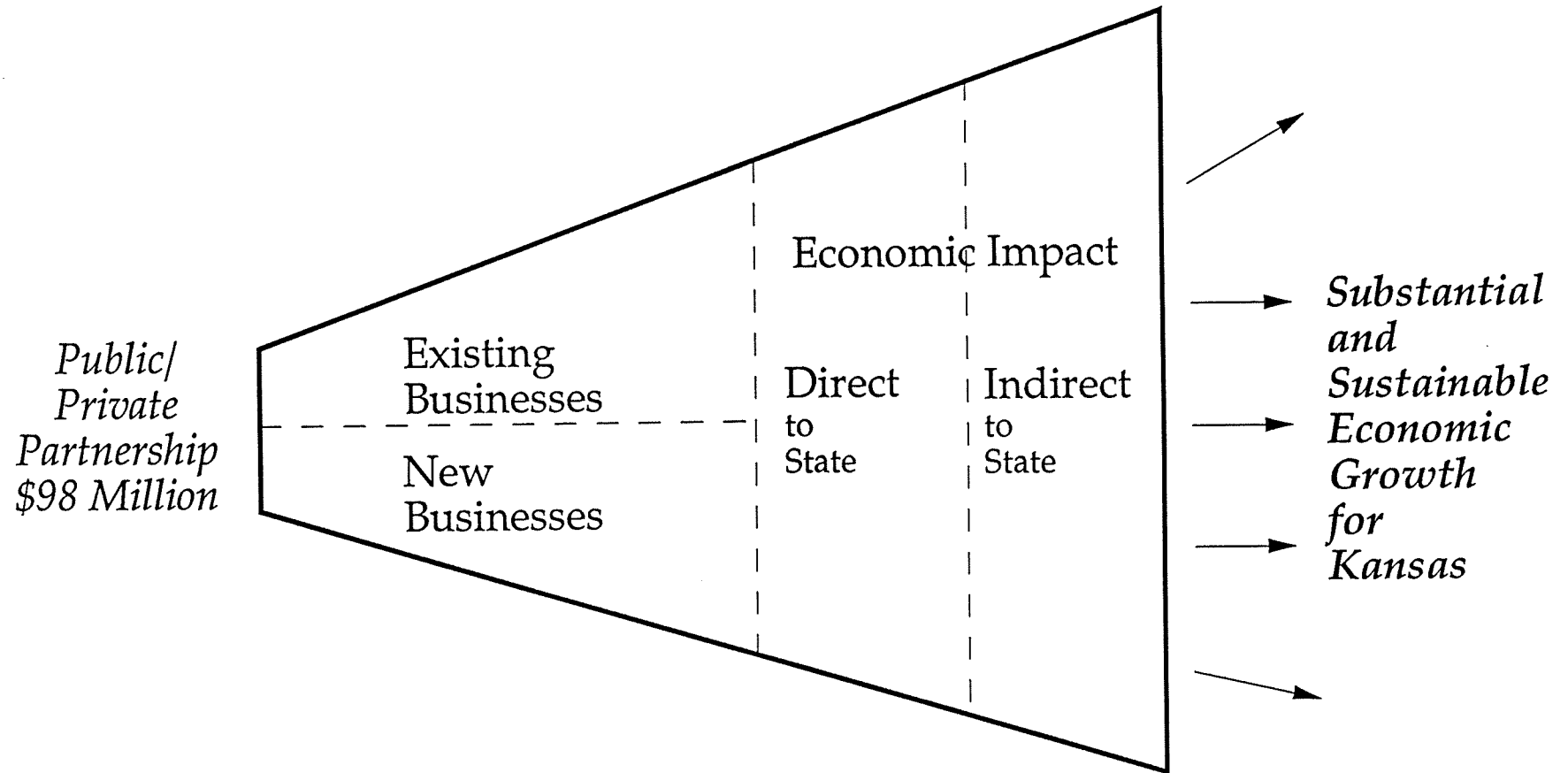
KTEC Is An Investment  
Not An Expenditure.

# Leverage of State's Investment through KTEC

Lottery EDIF	Leverage	Industry Federal	Total Economic Development
\$30.5 M.	→	\$67.5 M.	→ \$98 M.



## KTEC Is An Investment Not An Expenditure.



**Total funding for KTEC and All Programs  
Summary Report,  
FY 1984-FY 1992\***

**Investments:**

\$30.5 million in state funding

**Leveraged with:**

\$30.9 million in industry funding

\$20.7 million in federal funding

\$15.6 million venture capital

\$.3 million institutional funding

**Results:**

\$32.6 million in increased sales

66 company startups

25 company expansions

3,446 jobs created

1,163 industry employees trained

112 new technologies

64 patents issued

193 inventors assisted

	<b>\$30.5 Million in state funding</b>
<b>+</b>	<b>\$67.5 Million leveraging</b>
	<hr/>
	<b>\$98 Million in technology economic development for Kansas.</b>

**By Program:**

**KTEC Centers of Excellence**

**FY 1984-FY 1992\***

\$12.13 million in state funding

\$13.83 million in industry funding

\$18.33 million in federal funding

**Applied Research Matching Grant**

**Fund, FY 1984-FY 1992\***

\$8.45 million in state funding

\$14.8 million in industry funding

250 grants awarded

125 projects completed

**Mid-America Manufacturing  
Technology Center**

**FY 1992 (est.. Oct., 1991)**

\$1 million in state funding

\$9,000 in industry funding

\$.5 million in federal funding

760 manufacturing plant visits

148 technical assistance projects

36 seminars and workshops

\$700,000 increased sales

\$318,000 cost reductions

16 jobs created

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

## **WHAT ARE KTEC'S PROGRAMS?**

- Centers of Excellence
- Applied Research Matching Fund
- Seed Capital
- Special Projects
- Training Equipment Grants
- Industrial Liaison
- Innovative Technology Enterprise Corporation
- Mid-America Manufacturing Technology Center

## Centers of Excellence

Five Centers of Excellence at four state universities are the focal point for KTEC's goal to provide affordable and accessible research and development for Kansas businesses. Each of the centers has its own technology focus, and provides applied and fundamental research, product development, networking programs, training, seminars and technical consulting for client companies.

Each center is expected to meet three objectives:

1. To build high quality, focused and comprehensive research programs;
2. To develop and transfer technology to industry, and to commercialize technology; and
3. To assist in the expansion of existing companies and the formation of new companies.

Annually, KTEC reviews the Centers of Excellence and measures their achievements by a comprehensive set of quantitative and qualitative criteria. Every other year, the Centers undergo a peer review by a team of nationally recognized individuals with expertise that matches the various Center's research focus.

In FY 1992 KTEC provided core funding in the following amounts:

- \$725,000 to the Advanced Manufacturing Institute, Kansas State University;
- \$300,000 to the Center for Excellence in Computer-Aided Systems Engineering, University of Kansas;
- \$360,000 to the Center for Technology Transfer, Pittsburg State University;
- \$1,050,000 to the Higuchi Biosciences Center, University of Kansas; and
- \$780,000 to the National Institute for Aviation Research, Wichita State University.

## **Applied Research Matching Fund**

Affordable and accessible are the words most often used by businesses when discussing research and development of new products, processes and technologies. The Applied Research Matching Fund is the program KTEC offers to meet the "affordable" part of that equation.

To be eligible, projects must apply current scientific and technological knowledge, and lead to new developments that can have a positive impact upon the Kansas economy. Proposal review includes more than simply an examination of the research and the budget, it also looks beyond the completion date to the impact the project might have in the marketplace.

The Applied Research Matching Fund Committee draws upon the expertise of a wide network of technical and business experts in making its recommendations as to which projects should receive funding. The KTEC Board of Directors has final approval on all projects requesting more than \$15,000. KTEC funds 40 percent of the research with the participating company providing the remaining 60 percent of costs.

In FY 1992, 68 proposals were submitted to KTEC for their potential to lead to innovation, new knowledge or technology. Based upon staff evaluation, and committee recommendations, 41 projects received funding. KTEC invested \$1,349,684 in these research projects. The industry match of \$2,734,113 created a total investment of over \$4 million in new research and development for businesses in the State of Kansas.

## Seed Capital -- Ad Astra Fund

When opportunity knocks, the State of Kansas has to be ready to answer--that's the belief that preceded the creation of the Ad Astra Fund in 1988.

In anticipation, the State appropriated \$1.8 million in seed capital to invest in companies whose technology has broad market appeal and has highly motivated, capable, and dedicated management. Then, in 1988 KTEC formed a limited partnership called the Ad Astra Fund, L.P. Private sector investors were approached, and their investments increased the Ad Astra Fund to \$2.6 million. The management team of Campbell-Becker in Lawrence has administrated the fund since its inception.

The companies selected for Ad Astra investment include:

- BioCore, Inc., Topeka;
- Crescendo Systems, Inc., Overland Park;
- Cypress Systems, Inc., Lawrence;
- Diagnostics Concepts International, Inc., Shawnee Mission;
- 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.



## **Special Projects Fund**

KTEC utilizes the Special Projects Fund to take advantage of those unexpected opportunities that could spell success in the economic development arena.

Special projects in the past have included the protection of intellectual properties, the purchase and installation of coder/decoders for a statewide telecommunications network, establishment of the patent depository library, and developing the proposal for the Mid-America Manufacturing Technology Center (MAMTC).

See complete list following.

## Special Projects by Name and Project Number

*(This report details the expenses of only those projects considered "grants" or "contracts". It does not reflect funds spent on Other Operating Expenses (OOE) budget items. In addition, it does not reflect the annual expenses of the Kansas State Fair in Hutchinson, nor the contribution KTEC makes to the operation budget of the Governor's Satellite Office in Wichita.)*

### **250001    Candidates for the position of Managing General Partner of \$5,000    FY88 the Kansas Seed Capital Fund**

KTEC contracted with ExecuSearch, Inc. of Kansas City, Mo. to conduct a national search for a managing general partner for the Kansas Seed Capital Fund, now known as the Ad Astra Fund. The contract period ran from June 6, 1988 through Sept. 30, 1988. The firm submitted 9 candidates, none of whom were selected.

Further advertising and review of applicants was undertaken by the KTEC Board. More than 90 applications were received.

### **250002    Strategic Plan for Biotechnology Development                      \$34,401    FY88**

In June 1988, KTEC's Board of Directors approved a proposal to develop a strategic plan for biotechnology in Kansas. The board committed \$45,000 from the Special Projects Fund. Ultimately, only \$34,401 was expended.

It appeared that a modest investment in biotechnology research and development by the State of Kansas could be leveraged with significant grants from federal agencies and the private sector. The National Science Foundation and the National Institutes of Health both continue to increase their funding of biotechnology research. Additionally, it was anticipated that the private sector would invest billions of dollars in the commercialization of biotechnology discoveries. This has proven to be true.

The plan targeted specific areas, and by logically assessing current and potential strengths, establishing goals, and setting priorities, it appeared that Kansas could achieve success.

More than 60 people representing 20 businesses, four universities and three state agencies joined to together in this analysis. Dr. Charles Decedue, then director and senior scientist for the University of Kansas Biochemical Research Laboratory, jointed KTEC as the Biotechnology Program Director and completed the strategic plan in early 1989. The plan is entitled, "Bio-Tech, Ks."

<b>250003</b>	<b>Job Candidate Information System</b>	<b>\$10,000</b>	<b>FY89</b>
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In 1989 KTEC responded to a request by the Silicon Prairie Technology Association to assist them in completing a Job Candidate Information System. The system, based upon existing technology and software currently in use, would assist member businesses, the community, and economic development agencies in identifying workforce for companies wishing to relocate to the Kansas City area.

The system, named "CareerPath", was completed in the Fall of 1989 by Professional Resource Centers in Leawood. KTEC's Executive Committee approved the expenditure from Special Project Fund in June 1989.

<b>250004</b>	<b>Science and Technology Center Proposal to the National Science Foundation</b>	<b>\$5,800</b>	<b>FY89</b>
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In 1989 the Center for Bioanalytical Research (CBAR) in cooperation with other research groups at the University of Kansas sought KTEC's support in preparation of a proposal for a Science and Technology Center. The proposed center National Science Foundation would inject \$3 million into the Kansas economy each year over a five year period. Kansas was not a recipient of the award.

<b>250005</b>	<b>Redwood/Technology Transfer and Industry Liaison Study in Europe to Enhanced Kansas Industry</b>	<b>\$3,000</b>	<b>FY90</b>
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While in Scotland in 1990, Dr. Anthony Redwood of the Institute for Public Policy and Business Research at the University of Kansas committed 25 days to investigate agencies, institutions and programs that contribute to university-industry liaison in Europe. Specifically he sought to identify the broad public policy approach undertaken in the United Kingdom and West Germany. He reviewed the science and technology foundations of the private sectors, the program elements, perceptions of relative effectiveness and the problems and issues as perceived by both policy makers and universities. KTEC agreed to fund these research expenses in advance of special project #250006.

**250006 Technology Transfer Study****\$7,000****FY90**

In the spring of 1990 the Institute for Public Policy and Business Research at the University of Kansas completed a lengthy report entitled, "Technology Transfer and Industrial Liaison for Kansas Economic Development". It offered a comprehensive model of technology transfer and higher education-private sector liaison for Kansas economic development, taking into account the nature and characteristics of Kansas industry, the capacity of Kansas higher education, the experience of other states with similar programs, and Kansas' own economic development goals. This study was the basis for KTEC's implementation of the Industrial Liaison program in mid-1990.

**250007 Telecommunications Special Project****\$40,571****FY90.  
FY91**

In 1988 KTEC embarked upon the process of evaluating the need for a statewide teleconferencing network. The envisioned network would make national and international teleconferencing facilities accessible to Kansas researchers and small businesses. The goal was world class technology development and enhanced worldwide marketing efforts.

In August 1989, KTEC's Executive Committee approved \$53,885 from the Special Project Fund for the management of the Kansas Telecommunications Consortium of providers and users. This money would fund preparation of a strategic plan for the state of Kansas and hire a part-time director. The executive committee tentatively earmarked another \$250,000 for future use by the telecommunications consortium.

Initially, four demonstrations stemmed from KTEC's involvement. The first demonstration, held in November 1989 linked Interactive Concepts, Inc., a Lawrence-based software company and the Government of Hong Kong.

The second demonstration occurred with Kansas became the first state in the continental United states to hold legislative hearings by two-way interactive video. The hearings were conducted on February 15, 1991 and connected legislators via two-way interactive video to their constituents in Girard and Ulysses.

The third demonstration was a joint effort between the Department of Economic Development in Oklahoma and the Kansas Telecommunications Consortium. A two-way interactive video teleconference was held between the Mid-America World Trade Center in Wichita and London, England.

The fourth demo connected the Bureau of Information Systems, AT & T, and Compression Labs, Inc., between Wichita and Topeka State agencies to evaluate its application state-wide.

**250008 Intellectual Property Rights Program****\$75,910****FY90  
FY91**

The protection of intellectual property through copyrights, trademarks and patents is a vital concern to innovators. To address this need, KTEC initiated a proposal to develop a comprehensive strategy for assisting innovative Kansans.

In August 1989, KTEC's Executive Committee approved a range of \$68,385 to \$79,885 for hiring a full time director of the program and the program's expenses. Ultimately, \$71,865 was expended to establish this program.

During the summer of 1990, the KTEC Board of Directors committed an additional \$25,000 to the intellectual property effort, specifically for an assistance program called "Invention Development Assist Program". During Fiscal 1990, \$4,044 was expended from the IDAP funds. Thus the Intellectual Property Rights program was funded by \$71,865 plus the \$4,044 for a total of \$75,910.

By February 1991, it was evident that the intellectual property program established by KTEC would spin off and become a subsidiary of KTEC, called the Innovative Technology Enterprise Corporation (ITEC). When this occurred, the balance of the \$25,000 IDAP money was transferred to ITEC for continuation of the IDAP program.

**25009 Proposal to NIST for Manufacturing Technology Centers****\$9,000****FY91**

A technical writer was employed from August to November, 1990 to assist with drafting the Kansas NIST proposal. The KTEC Board of Directors approved the expenditure from Special Projects at their September 5, 1990 meeting.

<b>250010</b>	<b>Application and Entrepreneurship in the Electronic Heartland</b>	<b>\$2,500</b>	<b>FY91</b>
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The Docking Institute of Public Affairs at Ft. Hays State University solicited \$2,500 from KTEC as a co-sponsor of a proposal submitted to the U.S. Department of Labor. The proposal was to encourage the western Kansas workforce to address the training implications of the information age technology, especially fiber optics, two-way interactive video and telecommunications. Education and training of human resources is essential if effective use of the technology is expected.

Some of the aspects of the proposal promoted delivery of educational programs, applications of telemedicine, job creation through global networking and access to worldwide databases. In addition, the proposal advocated the creation of user groups, cooperatives and support systems designed to facilitate telecommunications in business.

The request was approved by the KTEC Board of Directors at the December 1990 meeting.

<b>250011</b>	<b>Polymer Science Project</b>	<b>\$11,750</b>	<b>FY91</b>
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At their December 1990 meeting the KTEC Board of Directors earmarked \$11,750 from the Special Project Fund for the development of a collaborative polymer plastics research proposal. Participants in the program include, KTEC, the Center for Technology Transfer, Pittsburg State University, and the University of Southern Mississippi. The proposal led to development of a consortium between the two universities toward engineering of plastic prototypes using advanced techniques.

<b>250012</b>	<b>Kansas Quality Improvement Network Plan</b>	<b>\$25,000</b>	<b>FY91</b>
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In December 1990, KTEC's Board of Directors approved a plan to implement the Kansas Quality Information Network (KQIN). Following a six-month planning period, a mechanism will be in place to support a program giving Kansas an international reputation as a source of knowledge and experience in the practice of Total Quality Management.

KTEC will receive identification of at least six locations as regional quality resource centers; a mechanism for support for local areas; identification of customers and their needs in each region; a mechanism for the coordinated flow of information to the central state office; and an organizational structure for KQIN and the best mechanism for coordination of the activities around the state.

250013 250014	<b>Patent Depository Library</b>	<b>\$52,000</b>	<b>FY91</b>
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The 1990 Kansas Legislature directed KTEC to recommend to the U.S. Patent and Trademark office a location for the first Kansas Patent Depository Library. Proposals were due in November 1990, with KTEC's Board of Directors making a final decision in January 1991. Kansas' Patent Depository Library will be established at Wichita State University's Ablah Library by late 1991.

KTEC provided \$52,000 from its Special Projects Fund to meet one-half of the one-time expenses necessary for the document collection and related equipment.

Proposals were received from both Wichita State University and Kansas State University. A four-person evaluation team reviewed the proposals, conducted site reviews and established a rating system for the proposals including a review of capabilities, services offered, facilities and operating conditions, user access, linages to support network and other factors.

250015 - 250019	<b>Telecommunications</b>	<b>\$200,000</b>	<b>FY91</b>
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The Kansas Telecommunications Consortium has as its goal to demonstrate the benefits of two-way interactive video to Kansas industry--in other words, show businesses how the technology could make them more competitive. The main focus is business-to-business connections through state-wide conferences, business-to-business meetings, and other appropriate means.

Over a two-year trial period, the project would place coder/decoder units (codecs) in as many as 16 locations for use by businesses, KTEC organizations, communities, academic institutions, and hospitals.

Four codecs have been purchased and will be located at the following sites:

Southeast Kansas Education Service Center, Greenbush  
University of Kansas Medical Center, Kansas City  
Western Area Health Education Service Center, Hays  
Advanced Manufacturing Institute, Manhattan.

The funding for the Telecommunications project was approved by the KTEC Board of Directors via conference call on January 15, 1991.

<b>250020</b>	<b>Innovative Technology Enterprise Corporation for the Intellectual Property Rights</b>	<b>\$115,955</b>	<b>FY91</b>
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The activity and interest generated by the Intellectual Property Program has been phenomenal. In addition, the initiative demonstrated by the program's director, provided the KTEC Board of Directors with the plan to make the program a spin-off company and eventually it will be self-supporting. The Innovative Technology Enterprise Corporation became a subsidiary of KTEC in in early 1991.

ITEC's goal is to assist entrepreneurs and inventors in moving new ideas and products into the marketplace.

The KTEC Board approved \$95,000 of Special Projects Fund to establish the new corporation. In addition, the \$20,955 remaining in the Invention Development Assist Program was transferred to ITEC for continuation of that program.

<b>250021</b>	<b>Kansas Association of Inventors Newsletter</b>	<b>\$5,000</b>	<b>FY91</b>
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The Kansas Association of Inventors requested a one-time grant of \$5,000 to assist in the establishment of a monthly or bi-monthly publication. KTEC agreed citing that a publication of this type is an effective means of promoting inventions to manufacturers, promoting chapter meetings and interest, and circulating articles on assistance that might be available to inventors.

<b>250022</b>	<b>National Science Foundation, Experimental Program to Stimulate Competitive Research (EPSCoR)</b>	<b>\$5,000</b>	<b>FY91</b>
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EPSCoR is a program offered to states that have in the past not received much research funding from NSF. KTEC agreed to assist with funding to prepare the initial proposal. The proposal will analyze the current state of science and technology in Kansas.

The EPSCoR planning grant from the Special Projects Fund was approved by the KTEC Board of Directors at its June 1991 meeting.

Funding for two grants was actually approved--one each of \$5,000 to come out of FY 91 and FY 92 Special Projects Fund.

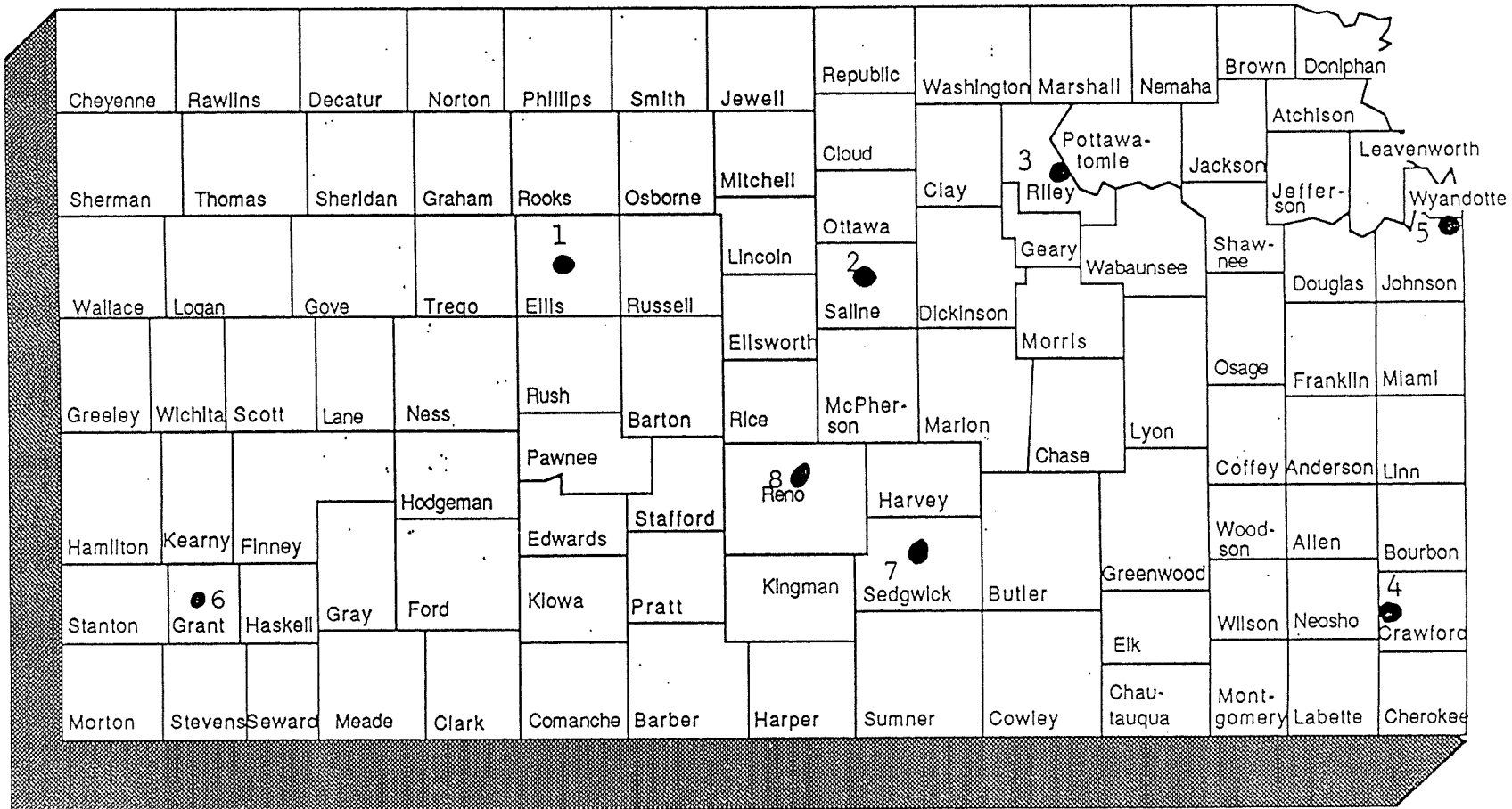


<b>250023</b>	<b>Mid-America Manufacturing Technology Center</b>	<b>\$58,069</b>	<b>FY91</b>
	<p>In November 1990 KTEC submitted a proposal to establish a Manufacturing Technology Center with a grant from the National Institute of Standards and Technology, an arm of the U.S. Department of Commerce.</p> <p>In February 1991, Kansas became a finalist for the award, and in March, KTEC was notified that it had been named a recipient of \$12.9 million award over the next six years.</p> <p>KTEC's commitment to this project included \$100,000 from the Special Projects Fund in addition to other in-kind match through its programs and services.</p>		
<b>250024</b>	<b>National Science Foundation, Experimental Program to Stimulate Competitive Research (EPSCoR)</b>	<b>\$5,000</b>	<b>FY92</b>
	<p>This commitment from the Special Project Fund is a continuation of Project number 250022. The preparation period ends January 1992.</p>		
<b>250025</b>	<b>Public Information Director</b>	<b>\$45,750</b>	<b>FY92</b>
	<p>Individual attends community and civic organization meetings throughout the state, presenting a colorful and dynamic look at KTEC.</p>		
<b>250026</b>	<b>Kansas Inc.</b>	<b>\$25,000</b>	<b>FY92</b>
	<p>The National Association of State Development Agencies (NASDA), of Washington, D.C., was selected by the Governor and Kansas Inc. to conduct KTEC's evaluation.</p>		
<b>250027</b>	<b>Industrial Agriculture</b>	<b>\$100,000</b>	<b>FY92</b>
	<p>Expanded opportunities for agricultural resources through new technology, processing or manufacturing are the focus of this special project.</p>		
<b>250028</b>	<b>Commercialization</b>	<b>\$100,000</b>	<b>FY92</b>
	<p>Establishing the network necessary to move technologies quickly and efficiently from the Centers to the marketplace.</p>		
<b>250029</b>	<b>Innovative Technology Enterprise Corporation</b>	<b>\$50,000</b>	<b>FY92</b>
	<p>On-going funding of KTEC's subsidiary.</p>		

<b>250030</b>	<b>National Science Foundation, Experimental Program to Stimulate Competitive Research (EPSCoR)</b>	<b>\$5,500</b>	<b>FY92</b>
	Phase II proposal preparation to seek additional monies from the National Science Foundation for Kansas Researchers.		
<b>250031</b>	<b>Kansas Quality Improvement network</b>	<b>\$30,000</b>	<b>FY92</b>
	Establishment of a network designed to assist Kansas businesses and MAMTC in quality improvement initiatives.		
<b>250032</b>	<b>Kansas Association of Inventors</b>	<b>\$8,500</b>	<b>FY92</b>
	KTEC assisted in funding a new educational program for entrepreneurs entitled, "At the Crossroads."		
<b>250034- 250035</b>	<b>Telecommunications</b>	<b>\$70,000</b>	<b>FY92</b>
	Coder/decoder units purchased and installed at the Media Resources Center, Wichita State University; Southwest Plains Regional Service Center, Ulysses; a third site at Hutchinson Community College was recommended FY 1993.		

# COMPRESSED VIDEO NETWORK

## KTEC, January 1993



1. Western Area Health Education Center
2. Kansas College of Technology
3. Advanced Manufacturing Institute
4. Southeast Kansas Education Center
5. University of Kansas Medical Center

6. High Southwest Plains Network, Ulysses
7. Wichita State University, Wichita
8. Hutchinson Community College, Hutchinson

## Training Equipment Grants

Going into partnership with industry to provide state-of-the-art equipment for training students and manufacturing employees is the purpose of Training Equipment Grants. The goal is to supply the Kansas workforce with skills to operate modern production equipment used by Kansas industry.

Community colleges and area vocational technical schools can offer their communities the tools for training and retraining the workforce for advanced technology fields. KTEC funding has assisted in training skilled machinists, aircraft powerplant mechanics, and employees in the meat-packing industry of southwest Kansas.

In FY 1992, KTEC awarded \$150,000 in three training equipment grants from a field of five proposals. The proposals were reviewed in cooperation with the State Board of Education and MAMTC.

The award recipients and amounts:

- **\$50,000 to Garden City Community College** to educate and retrain potential workers in a new technical program entitled Power Plant Technology. Purchases of new electronics and Computer Numerical Controlled (CNC) teaching equipment also supports existing courses in Drafting and Industrial Production Technology at the college. Sunflower Electric Power Cooperative, Hays, and Electron Weigh, Inc., Garden City, contributed \$65,250 in-kind to match KTEC's award. The partnership includes the use of Sunflower's coal-fired generating station at Holcomb as a classroom for students, as well as the smaller plant located in Garden City.
- **\$38,000 to Hutchinson Community College** for the purchase and installation of a simulated computer integrated manufacturing laboratory. The new equipment will allow for an inter-disciplinary approach to training persons for a multitude of new jobs in the manufacturing process, i.e., technicians who will be able to design mechanical parts for industry, process the designs through SMART CAM software, determine manufacturing specifications, program computer-based machines, and assemble these parts in a computer supported assembly line. Master Machine Tools, Inc. of Hutchinson, contributed \$50,000 as in-kind match.
- **\$62,000 to Wichita Area Vocational Technical School** to purchase equipment essential to manufacturing in the Wichita community, including two conventional lathes, two conventional mills and one computer numerically controlled mill. This award expands the ability of the school to provide education that addresses a critical labor shortage in the area. A number of Wichita businesses and professional associations joined WAVTS in this partnership.

## **Industrial Liaison**

Retention and expansion of current Kansas businesses is the priority of KTEC's Industrial Liaison program. Industrial Liaison offices were established in 1990 primarily to help firms identify and solve production or other technical problems, improve production processes, and capitalize on advanced production techniques and technologies.

Tech-Industry Consultants, Inc. (TIC), located in Lenexa, operates under contract with KTEC to serve eastern Kansas. The Western Kansas Technology Corporation (WKTC) with offices in Great Bend, Garden City, and Dodge City, serves KTEC in western Kansas.

During FY 1992 each office received seed funding from KTEC in the amount of \$150,000. In addition, each office serves as a regional office for the Mid-America Manufacturing Technology Center (MAMTC).

### **Tech-Industry Consultants, Inc.**

TIC interacted with more than 300 companies and entrepreneurs providing technical, management, financial and marketing assistance to more than 200 companies this year.

Highlights for TIC included:

- achieved an 80% growth in corporate revenues over the previous year.
- provided management and administrative support to the Mid-America Manufacturing Technology Center's during its first seven months of operation.
- established as KTEC-MAMTC regional office.
- addition of two engineers to support MAMTC project.
- assisted regional companies in obtaining \$1.2 million in KTEC Applied Research Matching Funds.
- acquired an equity position in an exciting new company.
- presentations made to 20 service organizations and civic groups.

### **Western Kansas Technology Center (WKTC)**

WKTC operations cover a total of 48 counties and 41,546 square miles in western Kansas. In spite of this logistical problem, the engineers of WKTC managed to contact nearly 100 companies and to provide technical assistance to 30 percent of those companies.

Highlights for WKTC included:

- addition of one engineer.
- notification that Mize Wire Company, Kingman, was issued a patent on a PVC plastic electrical wire connector for which WKTC provided the patent application drawings.
- testing and market research completed by WKTC for a cardboard pallet project for TransPac Inc., Garden City.
- organizing an outreach session that brought scientists from the Higuchi Biosciences Center and the Center for Computer-Aided Systems Engineering, both at the University of Kansas, to Great Bend.
- established as a KTEC-MAMTC regional office.

## **Innovative Technology Enterprise Corporation (ITEC)**

Assisting entrepreneurs and inventors has been a high priority of KTEC for several years. In 1991 the Innovative Technology Enterprise Corporation was created as a subsidiary corporation of KTEC.

In FY 1992, ITEC provided assistance to more than 100 inventors. In addition, an equity position was taken in several projects to generate future revenues. Seminars, lectures and public speaking opportunities are an important aspect of the inventors program. In addition, a new marketing seminar was pilot-tested for implementation in FY 1993.

## **Mid-America Manufacturing Technology Center (MAMTC)**

KTEC received a six-year \$12.9 million federal contract from the National Institute of Standards and Technology to establish the Mid-America Manufacturing Technology Center (MAMTC). KTEC formed MAMTC as its wholly-owned subsidiary. MAMTC's mission is to improve manufacturing competitiveness in the region. Through KTEC, MAMTC also received \$1 million in state funding in FY 1992.

Officially started in October, 1991, MAMTC has accumulated an impressive list of accomplishments in its first year. MAMTC assists small- to medium-sized manufacturers in improving quality, eliminating production bottlenecks, and increasing productivity. The primary mechanisms for assistance are consulting, training, workshops and seminars, equipment and software demonstrations, industry networking groups, product testing, vendor and technology searches, and product testing.

During this first year, considerable effort was devoted to establishing a management team. In addition, 16 field engineers and 9 technical specialists were employed. Regional offices were networked throughout the state to provide better access to services. The regional offices are located at: the Advanced Manufacturing Institute, Manhattan; the Center for Technology Application, Wichita; the Western Kansas Technology Corporation, Great Bend, Dodge City and Garden City; the Missouri Center for Manufacturing Technology, Kansas City, MO; Tech-Industry Consultants, Inc., Lenexa; and the Center for Technology Transfer, Pittsburg. Multi-state regional offices in Oklahoma and Colorado are planned for FY 1993.

The MAMTC headquarters is located in Overland Park.

# MAMTC

*Giving manufacturers the edge.*

## MAMTC's Presentation to Senate Commerce Committee January 14, 1993

Paul Clay

- I. What Does MAMTC Do?
  - A. Mission Statement
  - B. Description of Services/ Products
  - C. Technical Focus Areas
  - D. Sample Problem Areas
- II. How Does MAMTC Do It?
  - A. Connection to KTEC
    - 1. Proposal
    - 2. Award
    - 3. Subsidiary
    - 4. Funds Flow
  - B. NIST and the MTC Program
    - 1. Metalworking Changes
    - 2. Productivity Growth
    - 3. Small vs. Large Company Productivity
    - 4. Crosscut Diagram (government/business/university partnership)
    - 5. Map of MTC's
  - C. Organizational Chart
  - D. Regional Offices - locations and company density
  - E. Field Engineers
    - 1. Functions
    - 2. Typical Profile
  - F. Other Resources Available
- III. What Has MAMTC Done?
  - A. Client Interaction Numbers with Map
  - B. Other FY 93 Accomplishments





*Giving manufacturers the edge.*

Presentation to  
House Economic Development Committee

January 20, 1993

Paul E. Clay, Jr.  
Chief Executive Officer  
NIST/Mid-America Manufacturing Technology Center

January 20, 1993  
Economic Development  
Attachment 3

**NIST/Mid-America Manufacturing Technology Center**

10561 Barkley, Suite 602 Overland Park, KS 66212  
913/649-4333 (Fax) 913/649-4498

Kansas Technology Enterprise Corporation



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**MAMTC**

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## **MAMTC's Mission:**

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**Improve Manufacturing Competitiveness**

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## MAMTC's Product

Primary service is hands-on consulting to identify and solve problems in the manufacturing process. Services include:

- Hands-on consulting
- Seminars and workshops
- Vendor and technology searches
- Customized training
- Product/ process testing and analysis
- Industry cooperatives and networking groups

## General Technology Focus Area

- **Process Design**
- **Quality Improvement**
- **Computer Aided Design / Manufacturing (CAD/CAM)**
- **Electronic Data Interchange**

## Sample Problem Areas

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- **Quality**
- **Product Design**
- **Plant Layout**
- **Cost Measurement**
- **Equipment and Software Selection**
- **Meeting Environmental Standards**
- **Inventory Control**
- **Materials Handling**
- **Scheduling**
- **Inspection**
- **Electronic Communication**
- **Statistical Process Control**

# MAMTC

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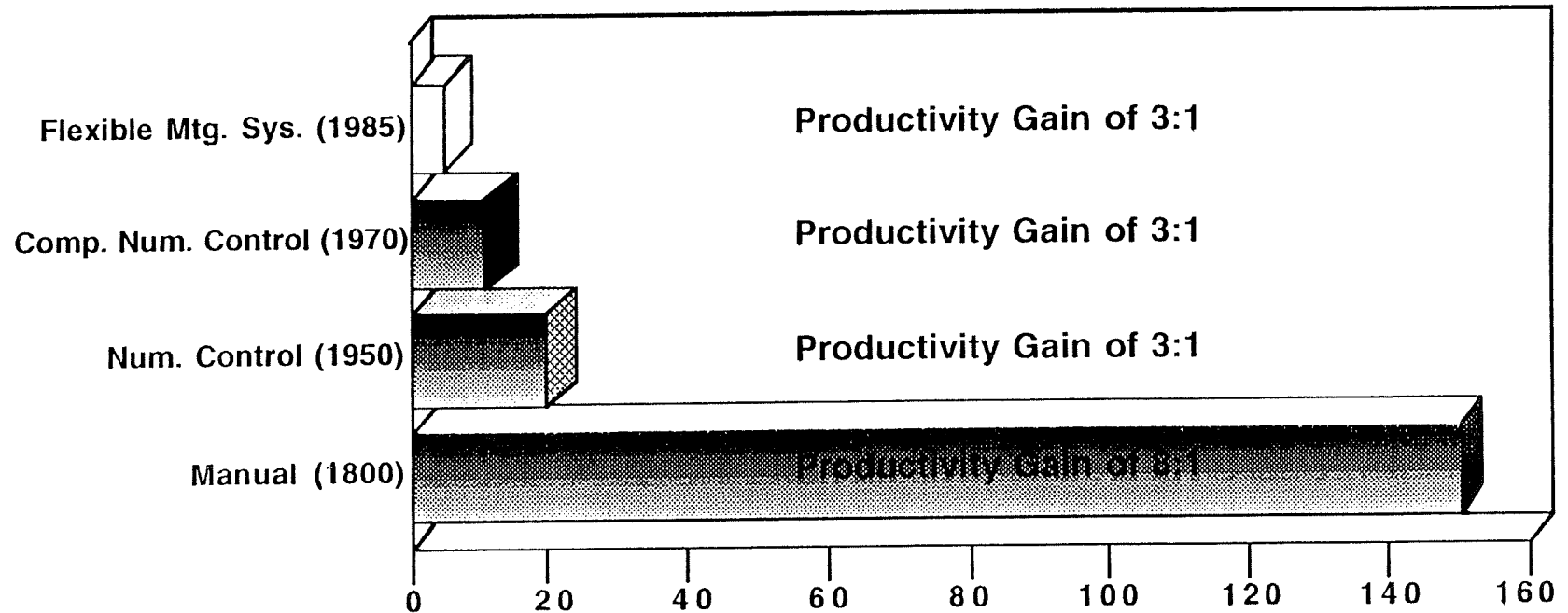
National Institute for Standards and Technology

Kansas Technology Enterprise Corporation

Mid-America Manufacturing Technology Center



# Advances in Metalworking Technology



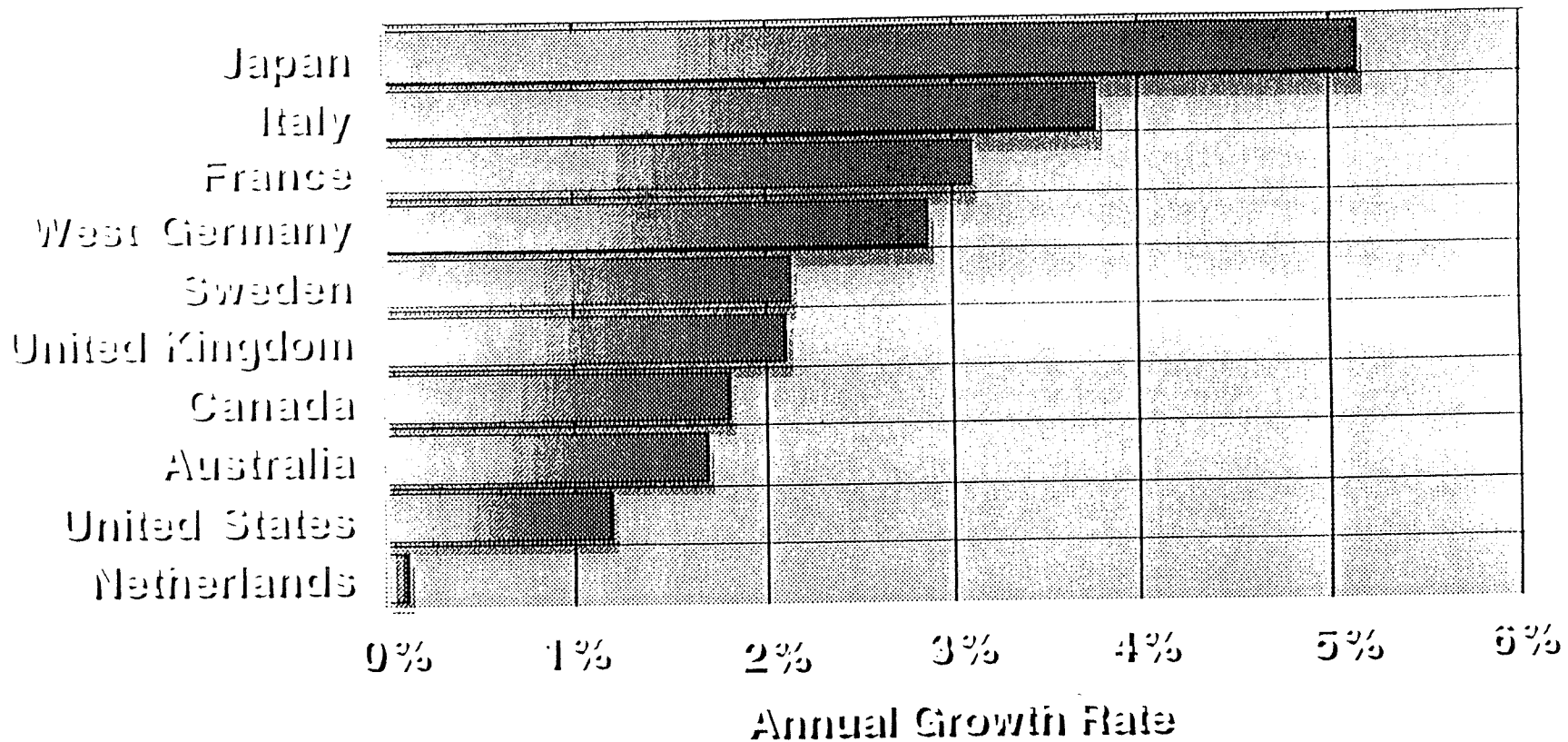
R. Jaikumar  
Harvard Business School, 1988

**Years as Technology Leader**

MIAMTC

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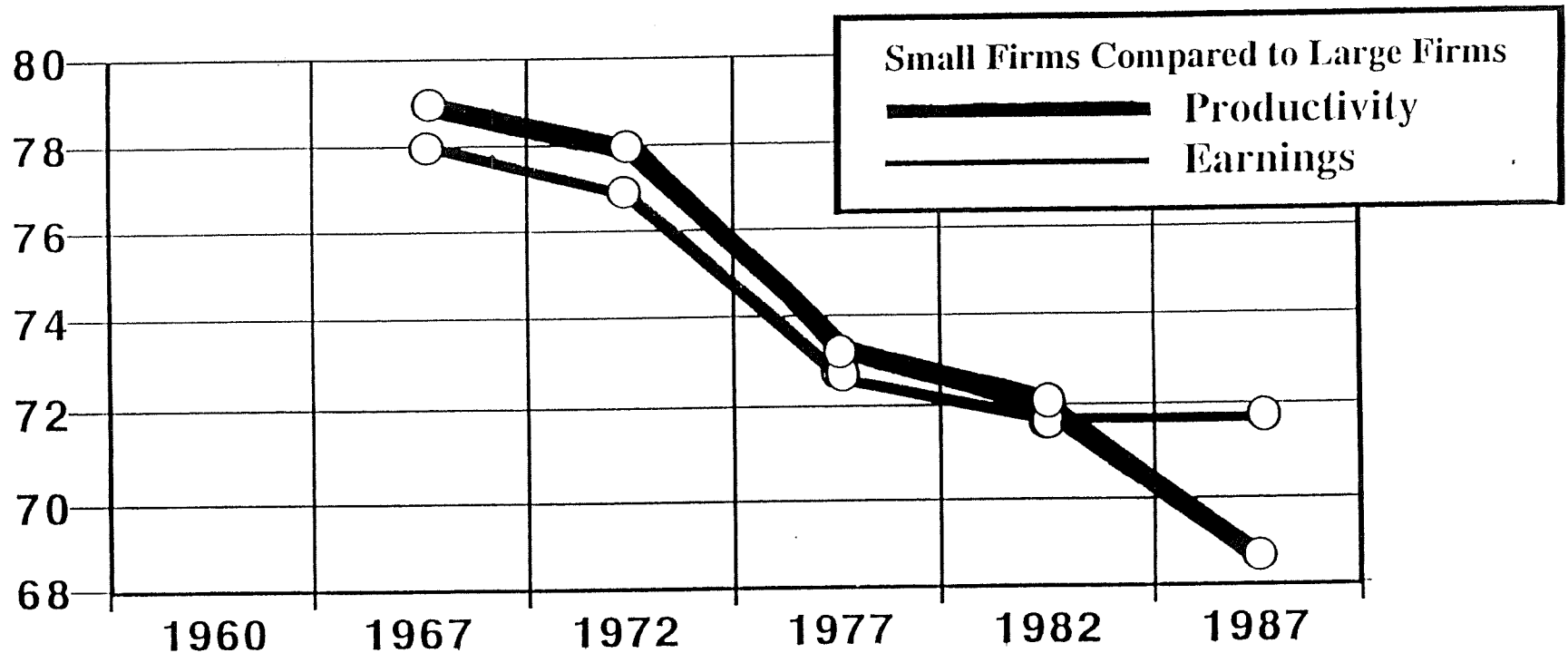
## Manufacturing Productivity Growth 1960-1990



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## Lower Productivity Holds Down Wages of Manufacturing Workforce

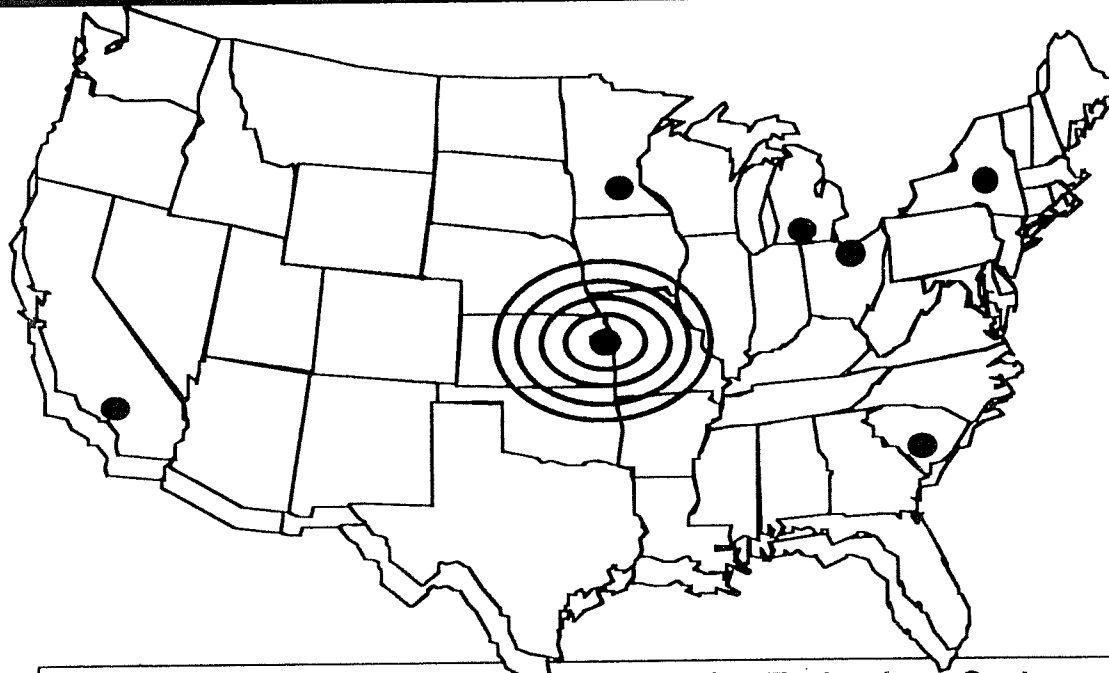


Source: Industrial Technology Institute

# MAMTC

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## NIST Manufacturing Technology Centers



California

Kansas

Michigan

Minnesota

New York

Ohio

South Carolina

California Manufacturing Technology Center

Mid-America Manufacturing Technology Center

Midwest Manufacturing Technology Center

Upper Midwest Manufacturing Technology Center

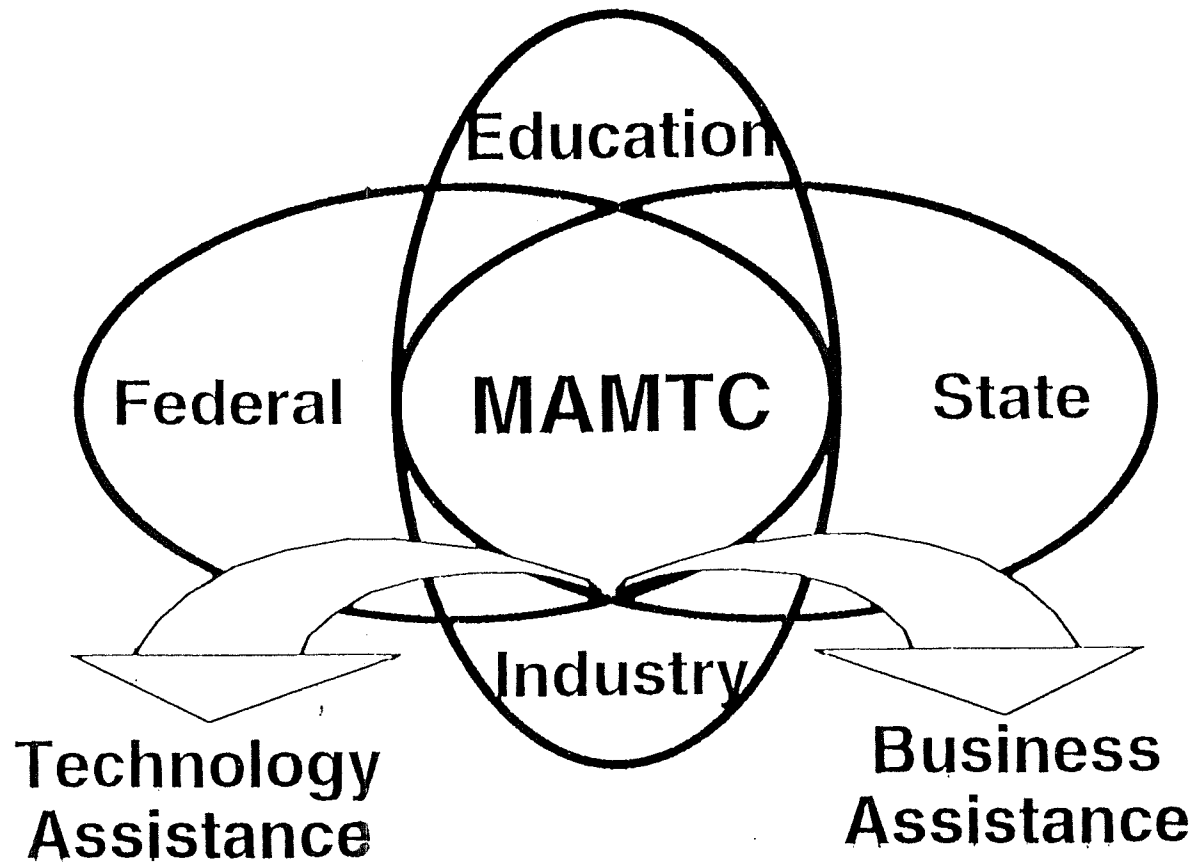
Northeast Manufacturing Technology Center

Great Lakes Manufacturing Technology Center

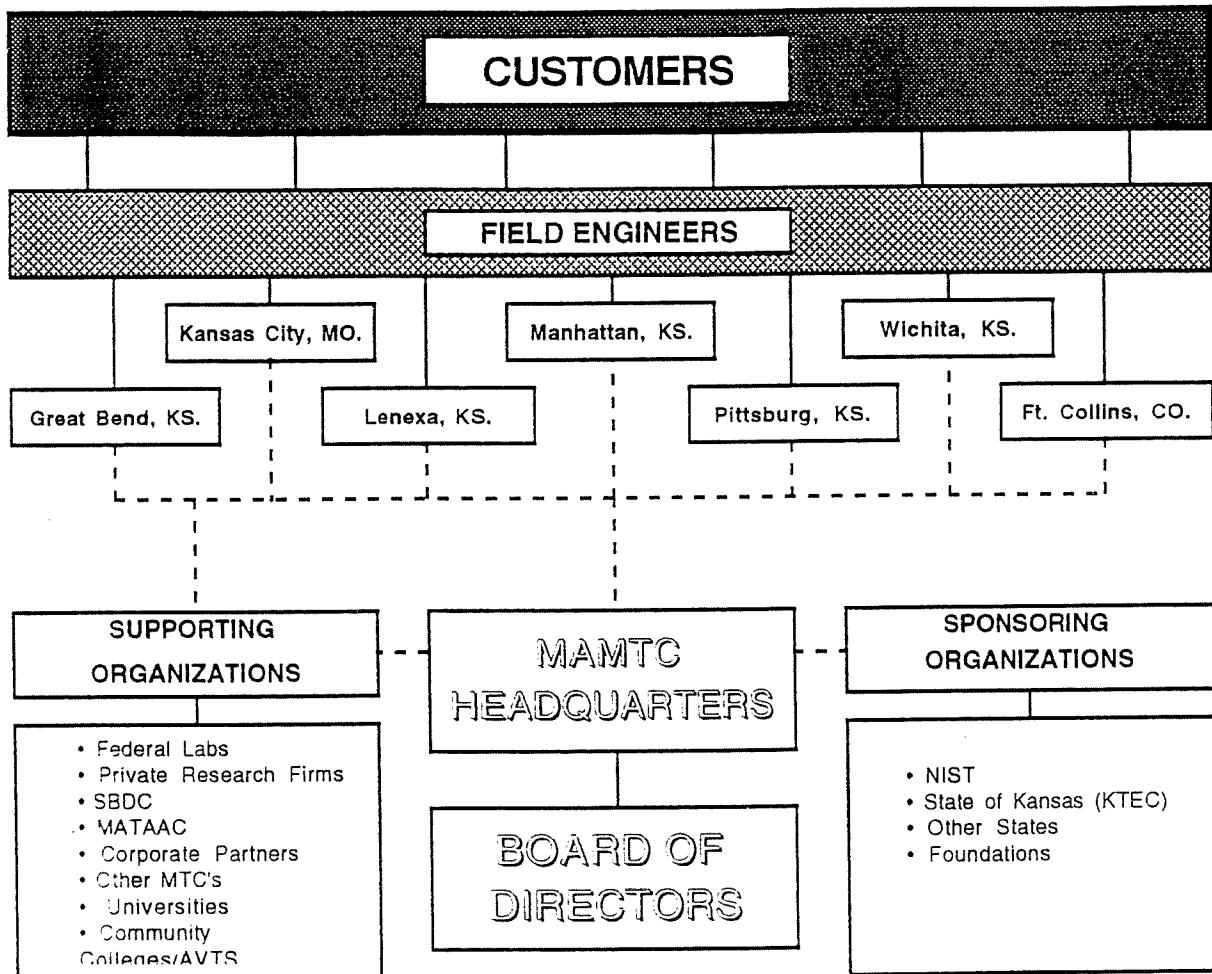
Southeast Manufacturing Technology Center

# MAMTC

*Giving manufacturers the edge*

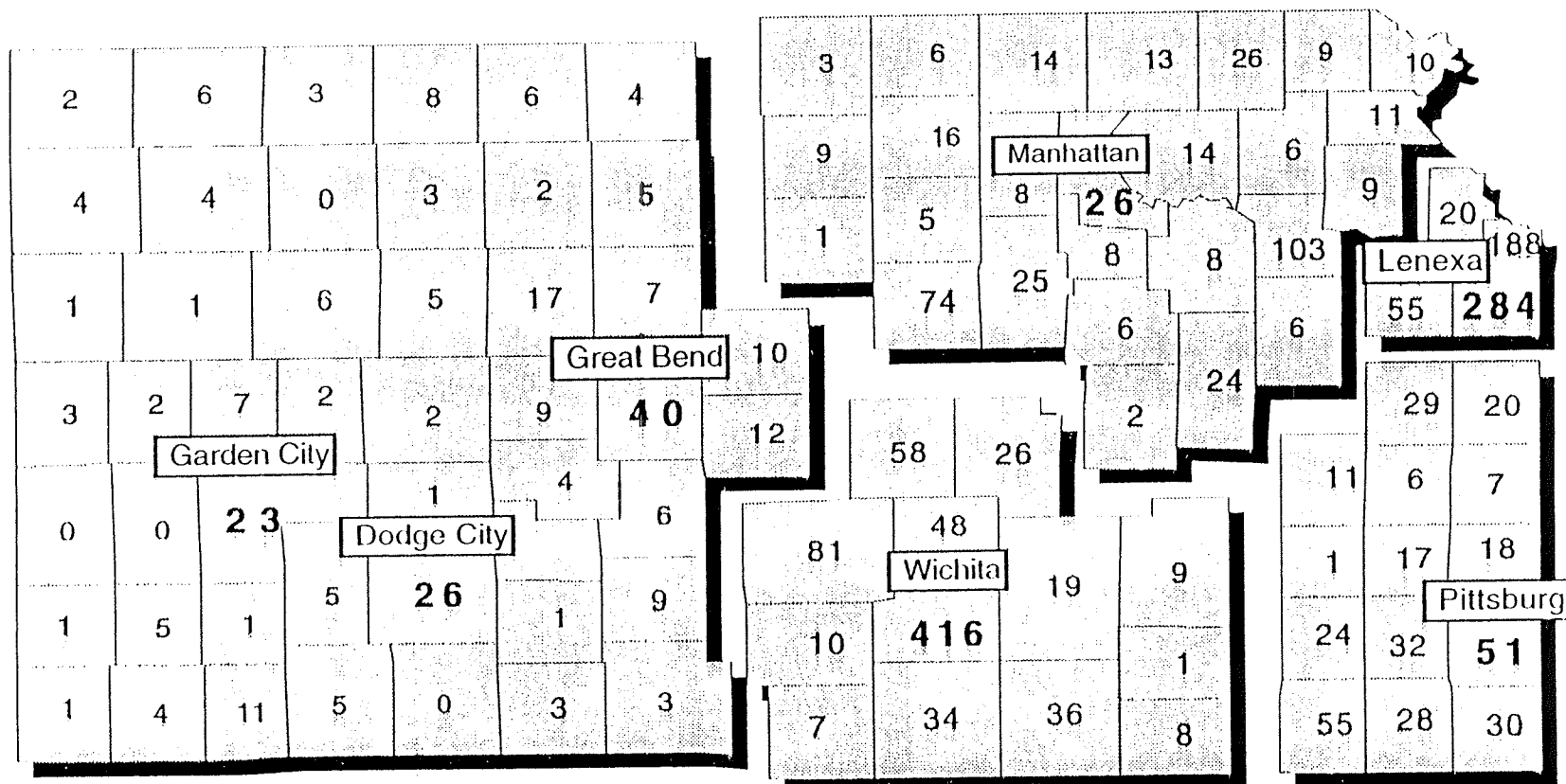


## MAMTC ORGANIZATIONAL CHART





# Kansas Service Area



\* Figures indicate number of Manufacturers in each county-KDOCH 2/92

## **Field Engineer Functions**

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- **Respond to Manufacturers' Requests**
- **Analyze Problems - Need Analysis**
- **Develop Proposals**
- **Identify Resources**
- **Project Management & Implementation**
- **Establish Networking Program**
- **Customer Service**

## **Profile of Typical MAMTC Field Engineer:**

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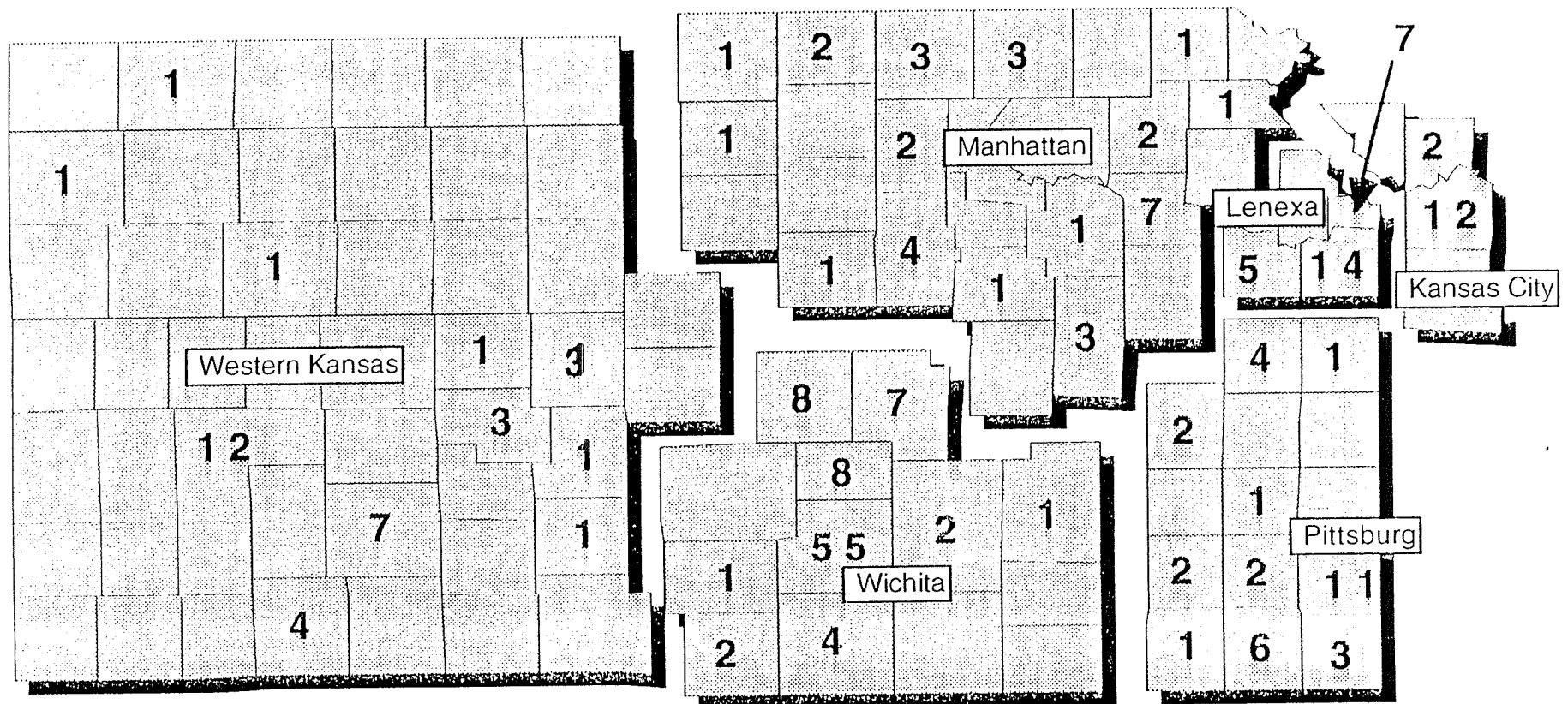
- **Eight or more years of experience**
- **Engineering degree**
- **Two years hands-on manufacturing experience**
- **Two years sales experience**
- **Understanding of project management**
- **Results oriented**

## **Resources Available to MAMTC and Manufacturers:**

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- **Small Business Development Center**
- **Agricultural Extension**
- **Industrial Extension**
- **Small Business Administration**
- **Community Colleges**
- **Area Vocational-Technical Schools**
- **Department of Commerce**

## Clients Served in 1992



NIST / Mid-America Manufacturing Technology Center

# MAMTC

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## FY 1993 ACCOMPLISHMENTS

### Customer Results

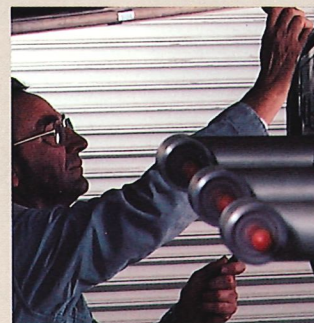
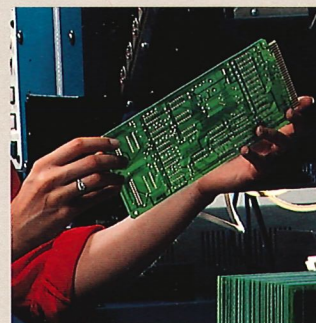
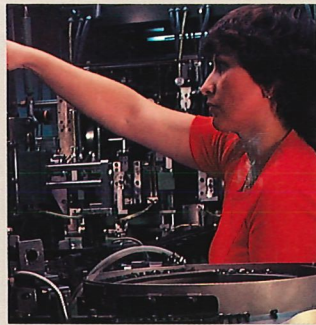
- Increases in annual sales	\$316,000
- Annual cost reductions	\$700,000
- New employees	16
- New products on the market	3

### Interactions with Small Manufacturers (or Activity Measures)

- Visits to manufacturing plants	1,053
- Technical assistance projects	
- client contracts	97
- informal technical assistance projects	162
- Seminars and workshops held	57
- Attendance at seminars and workshops	1,375
- Active industrial networking groups	5



# DRIVING MANUFACTURERS THE EDGE



## MAMTC

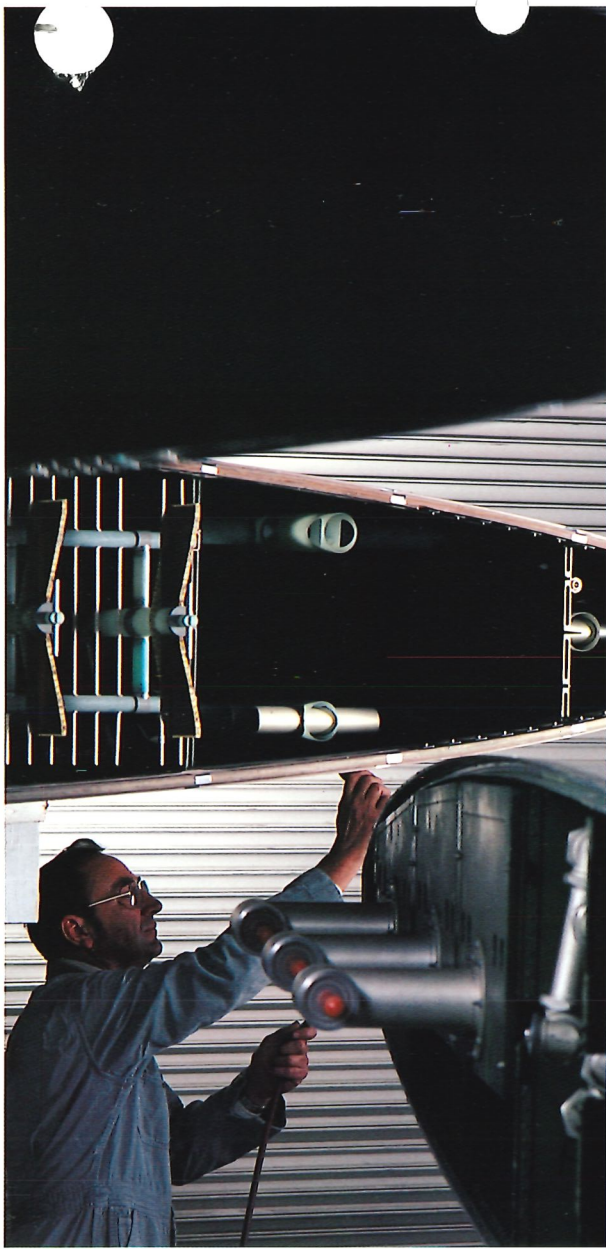
January 20, 1993

Economic Development

Attachment 4

NIST/MID-AMERICA MANUFACTURING TECHNOLOGY CENTER





MAMTC works with a variety of industries including aviation, food processing, fabricated metal, agricultural equipment, plastics, printing, electronics and many more. Companies need not be technology-based to benefit.

## THE COMPETITIVE EDGE

What will it take to make your company more competitive?

Perhaps just a phone call to the Mid-America Manufacturing Technology Center. MAMTC.

MAMTC is a non-profit organization whose purpose is to make manufacturers like you more productive and competitive. Our primary service is hands-on consulting. We identify and help solve problems in your manufacturing process and related areas.

Through one-on-one consultation, training, workshops, industry networks, technology searches and other resources we can help you improve quality, reduce costs and increase your company's productivity.

From nuts and bolts issues like quality assurance, inventory control, plant layout, cost estimation and product design to your most involved questions concerning CAD/CAM, technology upgrades and electronic communication, MAMTC can provide you with access to expert, informed consultation. Real world advice from experienced, knowledgeable people who'll work with you in complete confidentiality.

We'll help you identify problems in your manufacturing process, introduce you to the latest technologies that can improve those operational areas, evaluate the ones which would be best for you and help you adopt these improvements in the easiest and most cost effective way.

MAMTC provides you with solutions that can make a measurable difference in your bottom line.

All with complete objectivity and total confidentiality.

We're ready to assist companies of virtually any size, manufacturing any type of product, using any sort of process or technology.

MAMTC.

We have the answers that can give you the edge.



MAMTC's help in implementing a Statistical Process Control program is reducing scrap and rework costs for Manufacturing Development, Inc.

## THE MAMTC PROCESS

### CALL

Call our toll-free number or the MAMTC office nearest you. We'll explain the MAMTC program in more detail and get basic information about what your company needs.

### VISIT

A MAMTC Field Engineer will come to your facility, talk to your key people, determine your needs and look for those areas in which we can provide technology and planning assistance.

OR

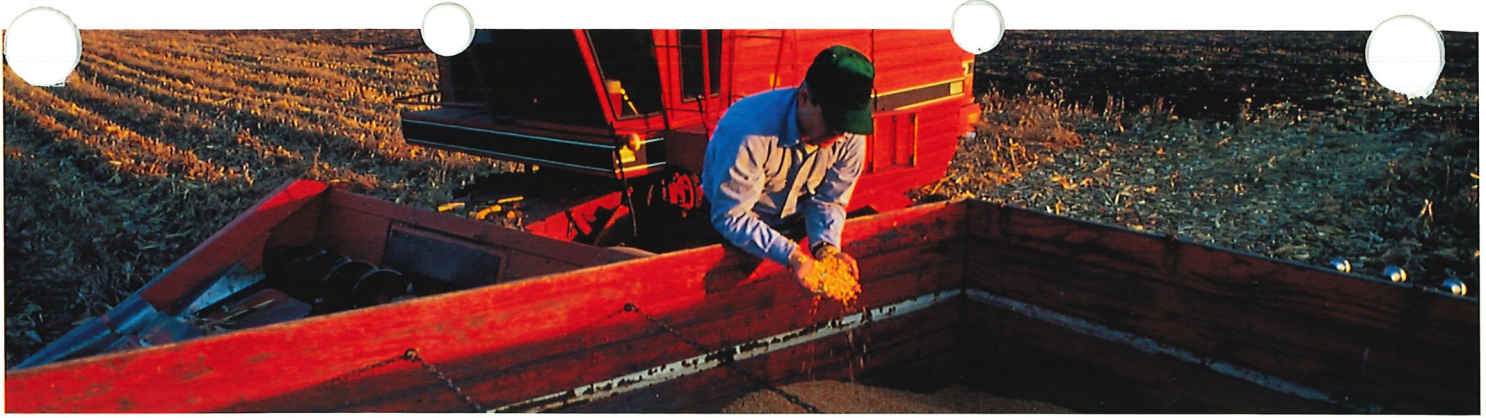
### PROPOSAL

If hands-on work is needed, our staff will develop a proposal, short or long-term, outlining the services we'll provide and the direct benefits you can expect from MAMTC.

Depending on your needs the Field Engineer may arrange for you to participate in seminars, training, industry networks, or help locate the information you need.

### INFORMATION





## THE EXPERIENCE EDGE

Work with MAMTC and you work with people who understand manufacturing.

Our staff of Field Engineers includes individuals who have worked in a variety of industries, large and small. They have hands-on experience in manufacturing, sales and project management. They are engineers and many have degrees in business and other fields and, in some instances, have owned or managed facilities like yours. Other MAMTC technical staff have expertise in areas such as quality improvement techniques, plastics, CIM, and computer simulation and automation.

In addition to our own highly qualified staff we can bring in experts from other organizations--we look for the best resources to meet your specific needs. Because we have access to a wide variety of technical leaders we can tailor the right solution for you. What kind of experts? They include:

**Private Industry.** Consultants and leading companies in hundreds of fields and technologies, from Total Quality Management and computer integration to environmentally conscious manufacturing and accounting systems.

**Colleges and Universities.** Faculty from many universities, community colleges, and vocational schools can offer high quality research and training programs that are critical to manufacturers.

**Federal Laboratories.** Experts from more than 600 laboratories throughout the country and the National Institute of Standards and Technology.

We can also refer you to management and financial experts and to economic development financing programs in the region. And no matter where we access resources for your project, MAMTC Field Engineers still manage the project to ensure all work is completed on time and to your complete satisfaction.

Finally, we can provide you with access to our own facilities and equipment. We can demonstrate the benefits of certain equipment and software, test your products, and provide training on key software and machinery. A wide variety of equipment is available for your use including CAD/CAM, CIM, CNC, data acquisition systems, and rapid prototyping systems, as well as wood, plastics, materials and testing laboratories. And our computer resources include personal computers, Apple Macintoshes, IBM AS/400, Sun workstations and VAX computers.

MAMTC.

We give you access to the edge of experience.

### AGREEMENT

Once you agree to the proposal you'll sign a contract that clearly spells out a "not-to-exceed" price for our services.

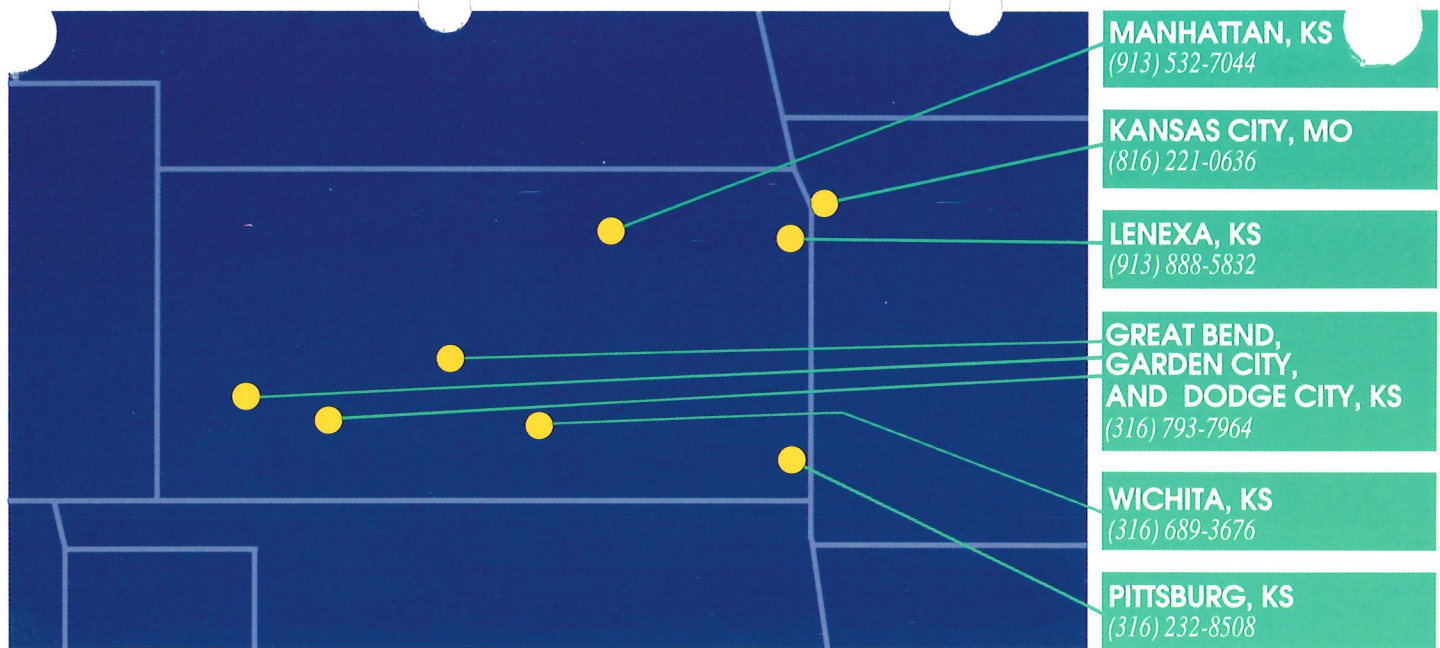
### PROJECT

The MAMTC Field Engineer will manage your project from start to finish, coordinating the work of MAMTC staff and outside experts, and making sure the project fully meets all expectations.

### UPDATES/COMPLETION

You'll receive periodic updates on the status of the project and opportunities to offer input and gauge results throughout the project. The Field Engineer works directly with you and your staff to ensure total satisfaction.





## GIVE YOUR COMPANY THE EDGE

Can MAMTC make a difference to your company?

It costs absolutely nothing to find out.

One phone call to MAMTC headquarters or to the regional MAMTC office nearest you will put you in touch with people who are ready to help make your company more successful.

MAMTC.

We may be just the edge you need.

*MAMTC is a non-profit organization created to improve manufacturing competitiveness. One of an elite group of 7 Manufacturing Technology Centers throughout the United States, MAMTC was established and funded through the cooperative efforts of the National Institute of Standards and Technology (NIST) and the Kansas Technology Enterprise Corporation (KTEC). NIST and its Manufacturing Technology Centers have a cooperative relationship and share a wide variety of resources.*

# MAMTC

*Giving manufacturers the edge.*

### NIST/MID-AMERICA MANUFACTURING TECHNOLOGY CENTER

10561 Barkley, Suite 602  
Overland Park, Kansas 66212  
800/653-4333  
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MAMTC is a company of the Kansas Technology Enterprise Corporation

