

MINUTES OF THE HOUSE COMMITTEE ON ECONOMIC DEVELOPMENT.

The meeting was called to order by Chairperson Barbara P. Allen at 3:30 p.m. on January 25, 1996 in Room 423-S of the Capitol.

All members were present except: Rep. Glasscock - excused
Rep. King - excused

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

Conferees appearing before the committee: Ralph Lagergren, Agri Technology L.P.
Christopher M. Coburn, V.P. Technology Partnership Practice,
Batelle Memorial Institute, Cleveland, OH
Dan Berglund, Executive Director, State Science and Technology
Institute

Others attending: See attached list

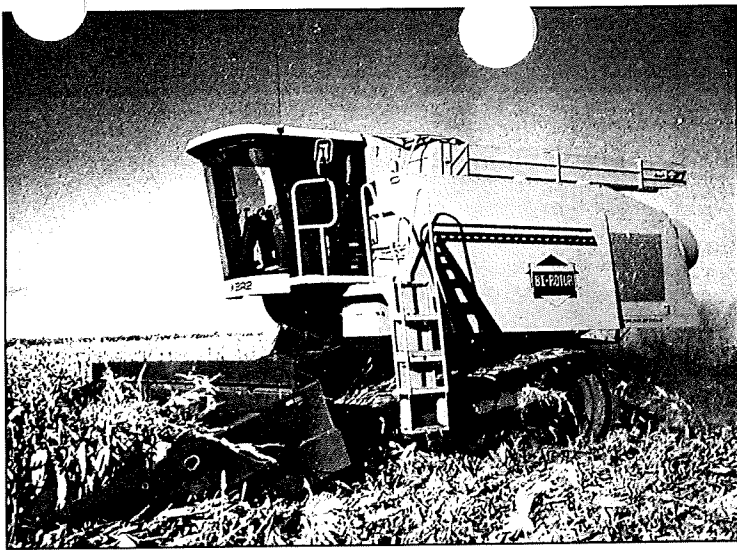
Ralph Lagergren, Agri Technology L.P., briefed the committee on the design and building of the Bi-Rotor Combine. John Deere Inc. recently purchased the patent and design rights from Agri Technology to do ongoing testing of the technology (Attachment 1).

Christopher Coburn, VP Technology Partnership Practice, also editor and co-author of *Partnership: A Compendium of State and Federal Cooperative Technology Programs.*, gave a briefing of what a state needs to do to be an effective partner with the Federal Government (Attachment 2).

Dan Berglund, Executive Director, State Science and Technology Institute, Co-author of *Partnership: A Compendium of State and Federal Cooperative Technology Programs*, gave a briefing on state cooperative programs (Attachment 3).

The meeting adjourned at 4:40 p.m.

The next meeting is scheduled for January 29, 1996.



Kansans' prototype Bi-Rotor combine.

Deere Buys Rights to Kansans' Combine

What began as one farmer's dream in the late '70s has emerged as a revolutionary force in grain harvesting equipment.

Burr Oak farmer Mark Underwood had a vision of a combine with a simpler, more efficient thresher and fewer working parts. With the help of his cousin, Ralph Lagergren, who's background is in marketing, a company called Agri-Technology L.P. was formed to cultivate Underwood's dream.

A team of six engineers and designers was recruited to help build and test Underwood's invention — the Bi-Rotor combine, winner of the American Farm Bureau Federation's Farmer Idea Exchange Contest in 1992.

What emerged from the collaboration was a machine surpassing Underwood's original concept. The combine Agri-Tech developed is not only simpler and more efficient, but it also has a larger storage bin, a shorter frame and the ability to be used in wet, muddy conditions.

John Deere Inc. saw the machine's potential and recently purchased the patent and design rights from Agri-Tech. Deere and Agri-Tech will be conducting ongoing testing of the technology. As Lagergren explains it, the partnership will complete the process of "building the entrepre-

neurial spirit with outstanding resources and engineering."

Lagergren hopes others will unleash their entrepreneurial spirits as they learn more about the Bi-Rotor project. A large portion of the recently released book, *Dream Reaper*, is dedicated to the future of grain harvesting equipment and Mark Underwood, the man who visualized the future more than 15 years ago.

"I am pleased with the deal made with Deere and hope to see this technology on the market in the future," Lagergren said. "It has been a long, hard road, but it will be a proud day if this technology is put in the hands of the farmer. That has been the driving force of why we pursued this mammoth project."

77th Annual Meeting Or. Ta. November 16 - 18

Plans are in full swing for the 77th KFB annual meeting to be held in Wichita, November 16 - 18, 1995.

This year's meeting, with the theme "Remembering the Past, Forging Our Future," will feature a scheduled appearance by House Agriculture Committee Chairman Pat Roberts and an evening of patriotism commemorating the anniversary of World War II.

Tentatively scheduled mini-conferences include: Beef Imagery; Captive Supply; Farm Bureau Image and the Media; Wheat Breeding; Kansas Environmental Issues; Being Sold on Farm Bureau Policy; and International Opportunities for Ag Producers.

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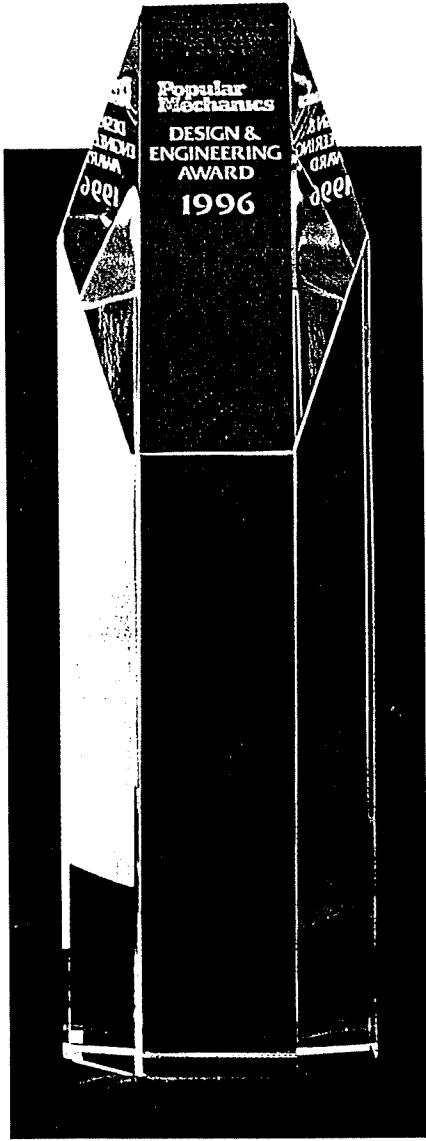
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1996 DESIGN & ENGINEERING AWARDS

● The Design & Engineering Awards program is our yearly homage to great invention, clever innovation and just plain terrific ideas. It's our chance to salute the brightest people, in the smartest organizations, who originated the best thinking of the year in the fields that we cover editorially—automobiles, home improvement, boating, outdoors, electronics, photography, science, technology and telecommunications. A POPULAR MECHANICS Design & Engineering Award is our recognition that you, if you're a recipient, are among the best of the best, truly one of the great innovators of the year.

What are the criteria for winning a POPULAR MECHANICS Design & Engineering Award? There are none. Anyone can nominate anything for a Design & Engineering Award. Then,



it's up to our editors, all experts in their own fields, to meet to discuss the nominees and select the winners.

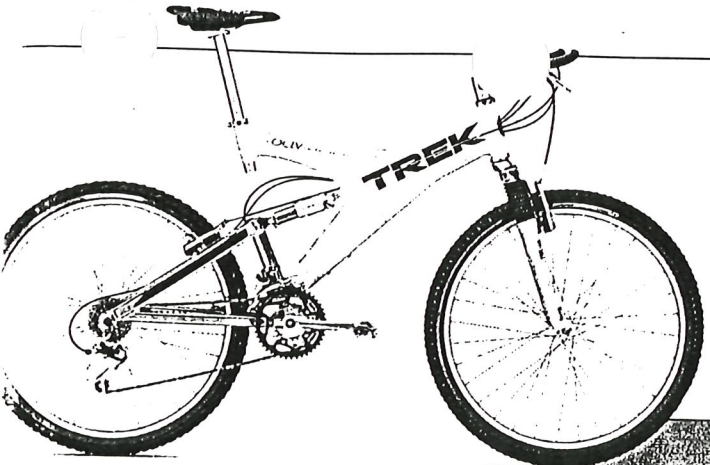
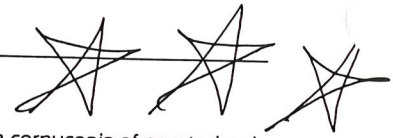
No, there are no written rules for selection, no published criteria, no rules for judging. But with so many years of experience in their fields, so much expertise, trust me, POPULAR MECHANICS editors know innovation when they see it. And this year they saw it 23 times.

This year's Design & Engineering Awards recognize innovations that run the gamut from a simple joystick handle that puts a new spin on the way to polish your car, to the docking system used to link up the U.S. Space Shuttle *Atlantis* and the orbiting Russian *Mir* Space Station. Our winners have created products that are unique and significant. In short, the best of 1996.

—Joe Oldham

(over)

1-2

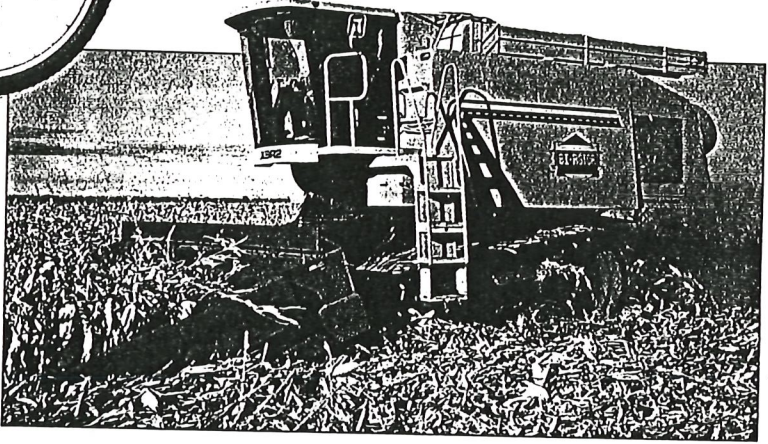


TREK Y-33 COMPETITION BIKE
Trek USA

Mountain bikes with suspension systems front and rear have been around for quite a while. But frankly, they haven't worked very well. Now, the third-generation Trek Y-33 establishes the ultimate standard for these systems. Compared to rear suspension systems that use two and three pivot points, the Y-33 uses only one. Since it's on a transverse tube—not a downward one—there's no power lost while pedaling. The unique Y-shaped, carbon-fiber frame is also the lightest in a fully suspended mountain bike, so riders have twice the competitive edge over their rivals.

BI-ROTOR COMBINE
Agri-Technology LP

Combine harvesters haven't reaped a cornucopia of new technology in recent years. But a new combine with a unique high-speed threshing chamber—where the grain and chaff are separated—is a significant development. The Bi-Rotor provides a much greater separating surface, so the threshing area can be half the normal size. And the design uses half as many moving parts as more conventional harvesters. This, in turn, provides room for a double-size grain tank, allowing the combine to carry 400 bushels. Now that's the way to separate the wheat from the chaff.



BLACK & DECKER
BULLET SPEED TIP
MASONRY DRILL BIT

The Black & Decker Corp. Bits that drill through masonry are nothing new. But the Bullet Speed Tip will do the job twice as fast as any other masonry bit in history. The new bit is a rotary type and does not use the hammer mode. It's also sharper than competitive bits and uses a new grade of carbide steel. That's what provides its speed and resistance to breakage. The Bullet Speed Tip features an unusual flute design that helps it quickly eject debris, increasing performance and reducing user fatigue. And when driven by a cordless drill, this efficiency allows more holes on a single charge. And, after all, holes are what drill bits are all about.

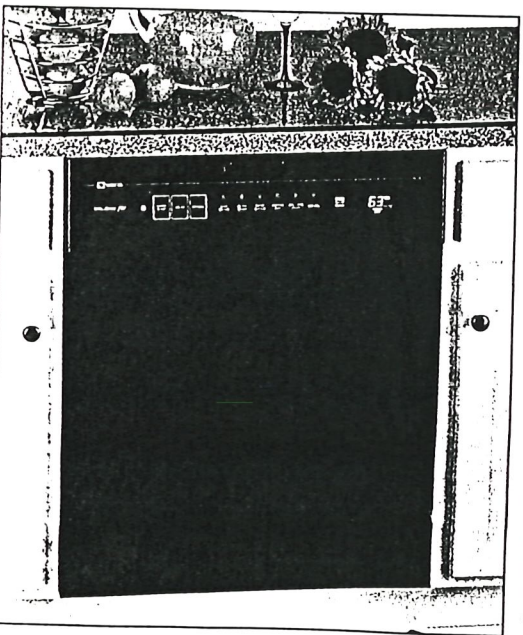


PORTER-CABLE SANDER KIT
Porter-Cable Corp.

In a perfect world, you'd never have to sand moldings because routers and shapers would cut them flawlessly, and chemical strippers would peel paint off them perfectly. Too bad that world doesn't exist. The fact is that contoured areas and corners often do need sanding. And now there's a kit to make the job easier and more accurate. The power tool can move a contoured or flat sanding pad at 6000 linear strokes per minute. You cut and apply adhesive-backed sandpaper to any of the convex or concave pads that come in the kit, and you instantly have the perfectly shaped sander for whatever job you're working on. There's nothing easier. The Porter-Cable Sander Kit—because we live in the real world.

MAYTAG INTELLISENSE
DISHWASHER

Maytag and Admiral Products Advanced technology prompts some dishwasher manufacturers to pack in so many features to impress consumers that the simple act of washing dishes takes on the complexity of docking the space shuttle. Maytag's new intelligent dishwasher senses the amount of food soil in the dishwasher, the presence of detergent and rinse aid, wash-arm rotation and water temperature. It also tracks the amount of time between loads so it can adjust for dried-on food soil, and it even takes into account the number of times you open its door—assuming you're probably loading more dishes each time. Based on all of this, the washer chooses the right cycle to get your dishes clean. So the newest idea in an automatic dishwasher is to make it, well, automatic.



CHRISTOPHER M. COBURN

**Vice President, Technology Partnership Practice
Battelle Memorial Institute
Cleveland, Ohio U.S.A.**

SUMMARY

Mr. Coburn is a recognized authority on public/private technology development partnerships. He has spoken and testified throughout North America and in 17 countries on almost every issue related to these initiatives. Additionally, he led one of the most respected state technology development programs in the United States. He is the editor and co-author of *Partnerships: A Compendium of State and Federal Cooperative Technology Programs*, the first comprehensive catalogue of government-industry technology initiatives of the federal government and the 50 states.

At Battelle, Mr. Coburn directs a unit working with public and private organizations in the initiation, management and evaluation of cooperative technology development, commercialization and transfer programs. Mr. Coburn is Executive Director of a regional industrial assistance organization that assists hundreds of companies in the Great Lakes region and serves as staff director of the State-Federal Technology Partnership.

GENERAL

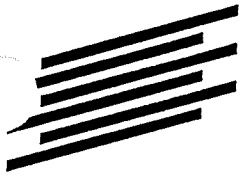
As Vice President, Technology Partnership Practice, Mr. Coburn leads a unique effort—drawing from Battelle's 8,000 scientists, engineers, other professionals and its worldwide experience—designed to provide services to the range of organizations involved in the emerging discipline of cooperative technology development. He served as staff director of the task force on states of the Carnegie Commission on Science, Technology and Government.

Mr. Coburn was Executive Director of Ohio's Thomas Edison Program and Science and Technology Advisor to Ohio Governor Richard F. Celeste. He was responsible for the \$380 million Thomas Edison Program, one of the largest public/private high technology programs in the United States and advised the Governor on issues of science policy. He founded the Science and Technology Council of the States. He and the programs he has directed have been featured in the *New York Times*, *Wall Street Journal*, *Fortune*, *Washington Post*, *U.S. News and World Report* and more than 400 other periodicals.

He served as Assistant Director of the Ohio Washington Office and has held positions at the National Aeronautics and Space Administration and the National Institutes of Health. He also worked in the United States Congress as an aide to Representative Louis Stokes. He is an Alternate Member of the Industrial Research Institute and an Associate Member of the Government-University-Industry Research Roundtable.

12/95

*Economic Development
January 25, 1996
Attachment 2*



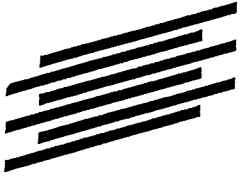
The State-Federal Technology Partnership Task Force

Presentation to the
Kansas Senate
Commerce Committee

Chris Coburn
Staff Director, State Federal Technology Partnership Task Force
Vice President, Battelle Technology Partnership Practice

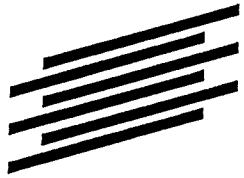
January 25, 1996

Christopher M. Coburn
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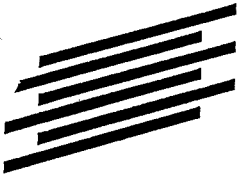
Origins

- **Carnegie Commission report *Science, Technology, and the States in America's Third Century* (1992)**
- **State-Federal Partnership established to implement report's recommendations (1993)**
 - **Colloquium - Airlie House, Virginia, September 1993**
 - ***Partnerships: A Compendium of State and Federal Cooperative Technology Programs* (1995)**
- **State-Federal Technology Partnership Symposium - Washington, D.C., January 1995**
 - **Dr. John Gibbons announces Task Force to develop recommendations for the President**



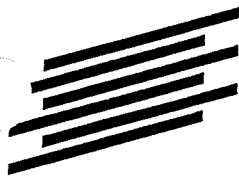
Mission Statement

To make recommendations that lead federal and state governments to take specific steps to improve the effectiveness and expand the benefits of the national science and technology system.



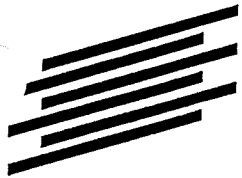
Membership - Task Force

- **Co-chaired by former Governors Celeste (Ohio) and Thornburgh (Pennsylvania)**
- **Four sitting Governors**
 - Gov. Arne Carlson (Minnesota), Gov. Jim Geringer (Wyoming), Gov. James B. Hunt, Jr. (North Carolina), Gov. Ben Nelson (Nebraska)
- **Two State Senators**
 - Sen. Janet B. Johnson (Minnesota), Sen. Dave Kerr (Kansas)
- **Seven industry Presidents/CEOs**
- **Five university Presidents/Directors**



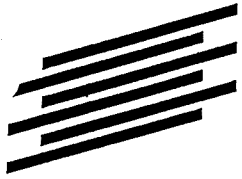
Participating Organizations

- **American Society of Mechanical Engineers**
- **Carnegie Commission on Science, Technology, and Government**
- **National Conference of State Legislators**
- **National Governor's Association**
- **White House Office of Science and Technology Policy**



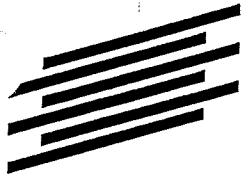
Task Force Activities

- **Three meetings in Washington, D.C.**
 - April 25, May 26, July 14
- **Targeted research and drafting efforts into four primary working groups:**
 - Principles
 - Case Studies
 - Recommendations
 - Implementation
- **Entire Task Force created final report and is now engaged in implementation process**



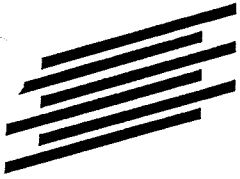
Principles

- **Examined the underlying principles of successful partnerships**
- **Collected and assessed over 70 principles, concepts, and ideas**
- **Consolidated and focused list down to nine key principles of success**
 - **Three Overarching principles**
 - **Six Operational principles**



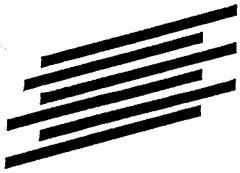
Principles (continued)

- **Overarching Principles**
 - **Shared Ownership**
 - **Broad Participation/Diversity of Interests**
 - **Champions/Advocates**
- **Operational Principles**
 - **Partnership Formalization**
 - **Merit-Based Decisions**
 - **Flexibility**
 - **Cost-Sharing**
 - **Evaluation**
 - **Stability/Long-Term Commitment**



Case Studies

- **Eleven case studies were conducted on current and past state-federal partnerships**
 - **Eight “successful” partnerships**
 - **Three “unsuccessful” partnerships**
- **Standardized assessments**
 - **Goals and achievements**
 - **State and federal partners involved**
 - **Mechanisms of partnership governance**
 - **Success Principles used or neglected**



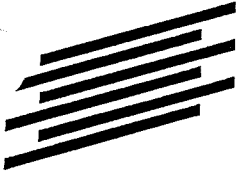
Case Studies (continued)

“SUCCESS” PARTNERSHIPS CASE STUDIES

- 1. Agricultural Cooperative State Research, Education, and Extension Service (CSREES)**
- 2. Building Energy Standards Program (BESP)**
- 3. Experimental Program to Stimulate Competitive Research (EPSCoR)**
- 4. Interstate Oil and Gas Compact Commission (IOGCC) State Review Process**
- 5. National Rural Development Program (NRDP)**
- 6. National Spatial Data Infrastructure (NSDI)**
- 7. Transportation Research Board (TRB)**
- 8. State/Industry/University Cooperative Research Centers (S/IUCRC)**

“FAILURE” PARTNERSHIPS CASE STUDIES

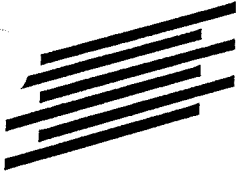
- 9. Civilian Industrial Technology Program (CITP)**
- 10. State Science Engineering and Technology (SSET) Program**
- 11. State Technical Services (STS) Program**



Recommendations

1 Renewing the National Science and Technology System

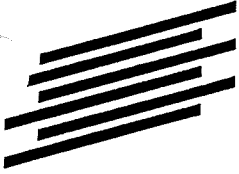
- Science and technology critical to national growth
- Establish a joint high-level state-federal policy advisory mechanism focused on science and technology issues
 - Established by a Presidential directive
 - Built upon defined shared goals of the Office of Science and Technology Policy (OSTP), the Office of Management and Budget (OMB), and the Science and Technology Council of the States (STCS)
 - Supported by a national forum on state-federal technology partnership held by OSTP and STCS



Recommendations (continued)

2 Building the Role of the States in the National Science and Technology System

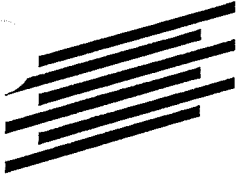
- State governments, individually and collectively, should work to engage the federal government in partnership**
- Governors encouraged to establish state-unique science and technology strategies**
- Governors, through the NGA, encouraged to create a gubernatorial-level mechanism to represent states at the highest national policy level on science and technology issues**



Recommendations (continued)

3 Catalyzing Private Sector Investments in Technology

- Nation should maintain stimulation of research and development in small businesses through the fixed proportions of federal R&D budgets**
- Nation should ensure benefits of applied research by stimulating market-related technology development**
- State-federal partnerships in both above objectives should recognize unique roles and capabilities of each partner**

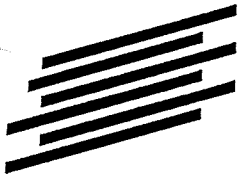


Recommendations (continued)

4 Building National Excellence in Manufacturing

– States, the federal government, and industry should jointly undertake a national manufacturing excellence initiative

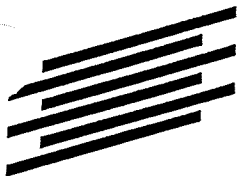
- Close cooperation between all state and federal manufacturing related programs**
- A state-federal program built on NIST's Manufacturing Extension Partnership (MEP) targeted at small and medium sized manufacturers**



Implementation

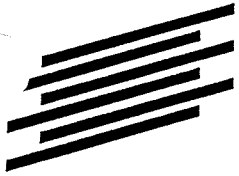
- **The time is right for prompt engagement of all parties (State and Federal) necessary to reap synergistic benefits**
 - **Tight federal budgets for R&D**
 - **Overall budget restrictions and shrinking programs**
 - **Tight industrial budgets for R&D**
 - **Increasing focus on near-term bottom-line**
 - **Increasing interest from industry for partnering with governments and universities**
 - **Survey of over 400 fastest growing companies shows 60% higher productivity for those using university partnerships***

* Coopers and Lybrand



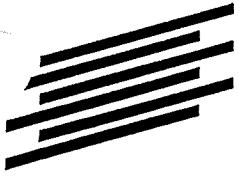
Implementation (continued)

- **Phase I complete**
 - **Drafting and transmittal of Task Force report**
- **Phase II progressing**
 - **Action plan engaged for each key participant in technology partnerships**
 - **White House/Federal Executive Branch**
 - **Anticipating Presidential Executive Order soon**
 - **Top-level advisory committee to be announced in next 60 days**
 - **Congress**
 - **Engaging members and staff**



Implementation (continued)

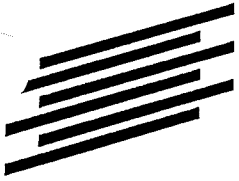
- **State Governments**
 - **Task Force members engaging States**
 - **Visits planned to many states by Co-Chairs and other members**
 - **Address technology forums**
 - **Meet with governors, legislators, and business leaders**
 - **Governors**
 - **Task Force visits**
 - **Activity at NGA winter meeting**
 - **Legislatures**
 - **Task Force visits**
 - **Seeking to identify individual legislative leaders in each state that can participate in the national science and technology partnering process**



Implementation (continued)

- **Task Force final report**
 - Continuing wide distribution of Task Force report
 - Nearly 1,500 delivered to date
 - Reprint of 1,500 additional copies underway

- **Home Page created on the World-Wide Web**
 - State-Federal Technology Partnership site established for:
 - Obtaining Task Force report
 - Reading recent science and technology news
 - Linking to other federal, state, and industrial science and technology sites
 - <http://www.csn.net/~sue/sftp.html>



Summary

- **Task Force Phase I complete**
 - **Broad-based assessment conducted**
 - **Final report released with wide distribution to an enthusiastic audience**
- **Task Force Phase II underway**
 - **New opportunities nationally and within each state to develop dialogue between government levels and reap benefits of increased partnering on technology programs**

18-21

What a State Needs To Do To Be An Effective Partner with Federal Agencies

A Presentation to the
Kansas Senate Commerce Committee
and the
House Economic Development Committee
January 26, 1996

Louis D. Higgs
Senior Fellow for Technology & Innovation
Center for the New West

A. Key Themes:

- **New Research and Technology Environment Requires New State Role**
- **Why Kansas Is a Model For the New State Role**
- **Additional Steps Which Kansas and the Federal Government Might Take**

Background:

- **NSF Experimental R&D Incentives Program**
 - *Early 70's*
- **OMB Task Force on Intergovernmental Management**
 - *Mid 70's*
- **Four Corners Regional Commission**
 - *Early 80's*
- **NSF EPSCoR Project**
 - *Early 90's*

B. Key Elements of the New Research and Technology Environment:

1. Growing Role of Technology in the Economy Means Feds No Longer The Sole or Even Primary Research & Technology Player

- *Primary Needs in Commercial, Not Government Sector; Primary Driver Is Competitiveness of American Business, Not Military Security of the Nation*
- *Growing Demand For Technology in a Period of Shrinking Public Resources Creates Need to Pool and Leverage Public and Private Resources*
- *Increasing Emphasis on Public Investment in Technology Commercialization; Get a Return on Public Investment in Research and Development*
- *State Governments & Local Communities Increasingly Important Stakeholders in Technology Development and Commercialization*
- *Geographical Patterns of Industry Concentration Are Important Factors In Determining Potential Investment Partners in S & T Based Innovation*

B. Key Elements of the New Research and Technology Environment:

2. Growing Importance of Small & Medium Size and New Start-up Businesses As Generators and Users of New Technology

- *Justifies Federal and State Investment in Technology Commercialization to Compensate for Market Failure To Provide Support for Early Stages of Technology Commercialization By New, Small, and Medium Sized Businesses*
- *Fosters Growing Recognition of Need to Use Market Forces to Engender Flexibility, Adaptability, and Accountability in Use of Public Funds to Strengthen the Economy*

3. Growing Recognition That Commercialization of Publicly or Privately Developed Technology Is Essentially a Business and Not a Technical or Political Process That Requires:

- *Experienced Business Leadership*
- *Business Management and Accountability Structures*
- *Inoculation from Political Processes*

C. Key Elements of New State Role:

1. Catalyst to Bring Key Business, Industry, Research & Development, Financial and Government Stakeholders and Resources Together To:

- Establish or Identify and Use the Technological, Business, Legal and Financial Infrastructure of Institutions, Resources, and Services to Encourage and Support the Creation, Growth, and Expansion of Enterprises Through Technology Innovation*
- Develop Channels and Mechanisms for State Government, Industries in the State and Local Communities to Participate in Federal Science and Technology Policy and Program Development and in New Public/Private Investment Partnerships for Technology Development and Commercialization*

2. Develop State Science and Technology Strategies That:

- Identify and Highlight Key Technologies for the State*
- Create a State Science and Technology Infrastructure Network*
- Designate a Lead Mechanism to Manage the Network*

D. The Strengths of the Kansas Model –An Outsider’s Perspective:

- 1. Encompasses the Whole R & D Spectrum from Basic Research Through Technology Commercialization and Manufacturing Modernization**
- 2. Encompasses the Complete Range of Support Services Including Technological, Business, Marketing, and Financial Assistance**
- 3. Establishes the Framework, Catalyzes, and Provides Baseline Financial Support for the Above Activities and for Stakeholder Participation in and Federal and Private Sector Support for Such Activities**
- 4. Presents a Clear Vision and Mission for Making Research and Technology Development a Major Instrument for Strengthening the Economy and Improving the Quality of Life in the State**

**D. The Strengths of the Kansas Model
–An Outsider’s Perspective:**

- 5. Relies Heavily on Private Sector Leadership and Market Driven Mechanisms**
- 6. Relies Heavily on Distributed Network of Cooperating Organizations Rather than Hierarchical “Main Frame” Organizational Approach**
- 7. Emphasizes Pragmatics, Not Ideology; Investment Not Funding; Continuity of Purpose, Leadership, and Funding; Continuing Self Assessment**

E. Some Additional Steps That Kansas Might Take:

- 1. Develop Mechanisms That Enable the State & Key Stakeholders in the State to Participate In and Contribute to Relevant Federal Policy and Program Decisions**
- 2. Engage Federal Agencies on an Equal Footing by Encouraging the Kansas Congressional Delegation to Promote Reciprocal Match Programs in which Federal Agencies Match State Programs**
- 3. Examine the Utility and Equity of Tax Credits for Investments in State Sponsored Technology Commercialization Corporations**
- 4. Expand the Science and Technology Network to Include Education and Training and Telecommunications Utilization**
- 5. Continue and Expand Self Assessment Efforts**

F. Some Additional Steps The Federal Government Needs to Take:

- 1. Increase the Support for Technology Commercialization and Diffusion**
- 2. Fund Phase 3 SBIR Programs and Increase the Role of the States in the Selection of SBIR Awards**
- 3. Invest in State Commercialization Infrastructure As a Limited Partner**
- 4. Provide Tax Incentives for Private Investment in the Commercialization of New Technology**
- 5. Take Greater Account of State Priorities in Program Design and Implementation**
- 6. Do Not Distort State Priorities By Forcing National Priorities on States When Funding Generic R &D Programs**

DAN BERGLUND

Dan Berglund is the executive director of the State Science and Technology Institute, a non-profit organization designed to enhance initiatives that apply science and technology for economic growth, particularly at the state level. This is accomplished through information, research, and education services that assist Institute sponsors, program practitioners, and participants. The Institute also works to advance cooperation in science and technology between the states and the federal government.

Mr. Berglund is also the co-author of *Partnerships: A Compendium of State and Federal Science and Technology Programs*, the first comprehensive description of cooperative technology programs. The publication provides an in-depth review of the state and federal government's programs, including their goals, administration, and their results.

Mr. Berglund has wide experience in science and technology and economic development programs. He served as the Director of Ohio's Thomas Edison Program and the Ohio Technology Transfer Organization (OTTO), Ohio's largest public/private economic development programs. The Edison Program is widely recognized as a national leader in business/university cooperation in the development and implementation of new technology. OTTO was one of the nation's oldest industrial extension agent programs.

During Mr. Berglund's tenure as Director, he implemented an extensive restructuring of the OTTO program, expanding the organization's base of service providers and increasing the technical expertise of its staff. Mr. Berglund managed a comprehensive assessment of the Edison Seed Development Fund, a matching grant program for businesses working with academic institutions on a research project. The assessment included the use of focus groups, extensive user surveys, and the guidance of a distinguished advisory board and resulted in a streamlined program that improved the quality of applicants and coordination with other programs, and reduced administrative overhead.

Prior to his appointment as Director, Mr. Berglund served as the Assistant Deputy Director of the Ohio Department of Development's Division of Technological Innovation. In this role, Mr. Berglund participated in the development of Ohio's science and technology strategic plan, the creation and implementation of Ohio's Small Business Innovative Research (SBIR) Program, and the evaluation and funding for the Edison Technology Centers and Edison Incubators.

*Economic Development
JANUARY 25, 1996
Attachment 3*

Briefing on State Cooperative Technology Programs

Presentation by:

Dan Berglund

Executive Director

State Science and Technology Institute

January 25, 1996

Definition

State Science & Technology Institute

- ❑ Initiatives involving government & industry, often universities
- ❑ Sponsor development and use of technology and improve practices
- ❑ Primary goal economic growth

State Science and Technology Institute

State Science & Technology Institute

□ Mission

- Enhance initiatives that apply S&T for economic growth, particularly at the state level
- Advance cooperation in S&T between the states and the federal government

□ Funders

- Carnegie Corporation, Kauffman Foundation
- NIST, NASA and NTTC
- States

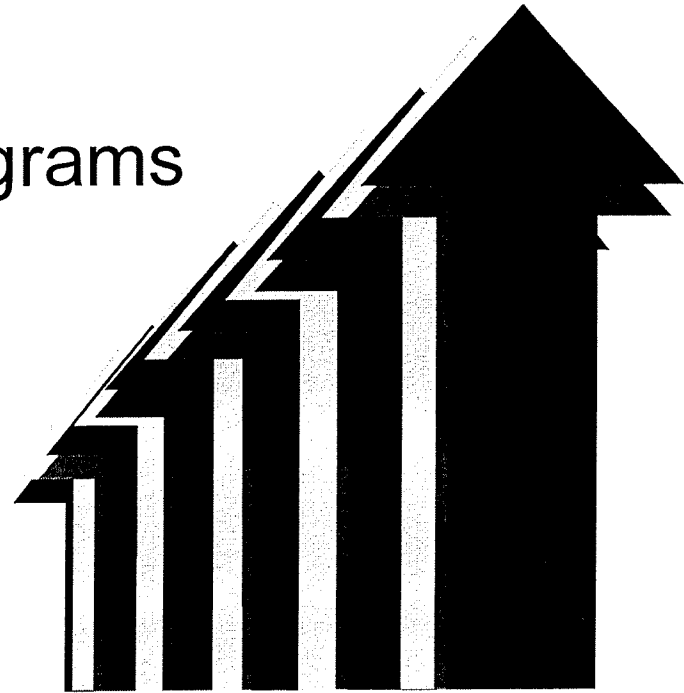
SSTI Activity Areas

- ❑ **Information**
 - Track state and federal programs
 - Analyze trends in cooperative tech programs
- ❑ **Research**
 - Address questions of interest to program managers
- ❑ **Education**
 - Conferences, seminars on best practices and other topics

Status

State Science & Technology Institute

- ❑ Programs sponsored by all 50 states
- ❑ Greater diversity in programs
- ❑ Spending is increasing



Evolution

- ❑ **1960s:**
 - Investment in Research Triangle in NC
 - Creation of industrial extension programs in GA & PA

- ❑ **Late 1970s, early 1980s:**
 - Recession devastates Rust Belt
 - Multi-faceted programs created in PA, OH & NY
 - Focus on tapping into university expertise

Evolution cont'd

❑ Early 1990s

- Widespread acceptance of programs
- Increased federal involvement in programs
- Greater focus on technology extension

❑ Mid 1990s

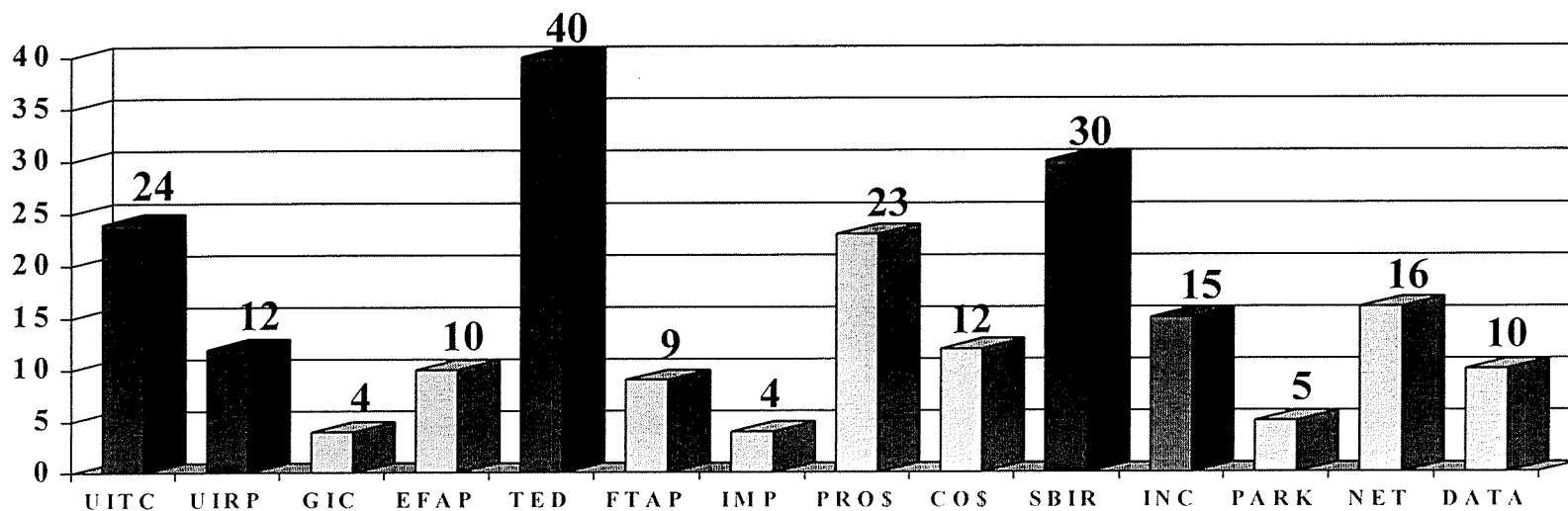
- Potential for decreased federal activity
- Continued state growth

Purposes

- A. Technology Development**
Research and applications for products and processes
- B. Industrial Problem Solving**
Identifying and resolving company needs through technology and best-practice applications
- C. Technology Financing**
Public capital or help in gaining access to private capital
- D. Start-up Assistance**
Aid to new small technology-based businesses
- E. Teaming**
Help in forming strategic partnerships

Distribution of Program Activities

State Science & Technology Institute



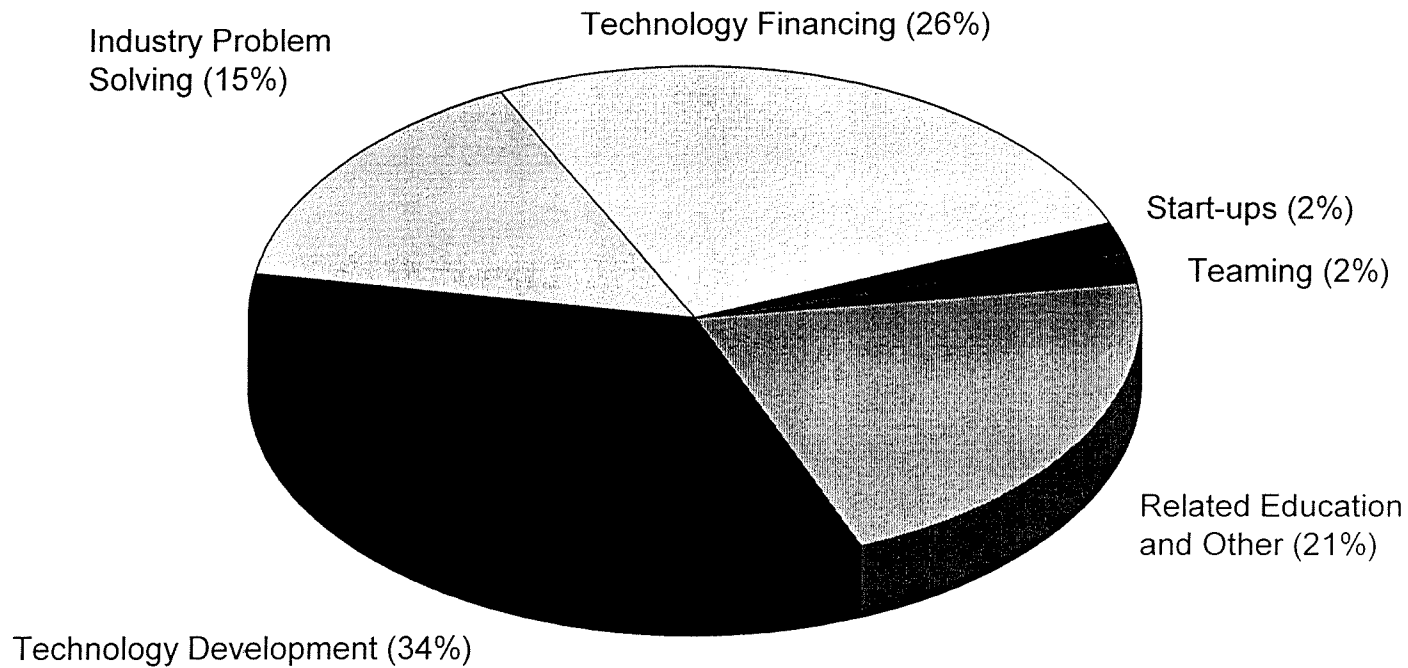
Key to programs:

UITC - University-Industry Technology Centers
 UIRP - University-Industry Research Partnerships
 GIC - Government-Industry Collaborations
 EFAP - Equipment/Facility Access Programs
 TED - Technology Extension/Deployment Programs
 FTAP - Federal Technology Application Programs
 IMP - Industrial Modernization Programs

PRO\$ - Project Financing Programs
 CO\$ - Company Financing Programs
 SBIR - State SBIR Assistance Programs
 INC - State Incubator Programs
 PARK - Research Parks
 NET - Networks & Regional Technology Programs
 DATA - State Database Programs

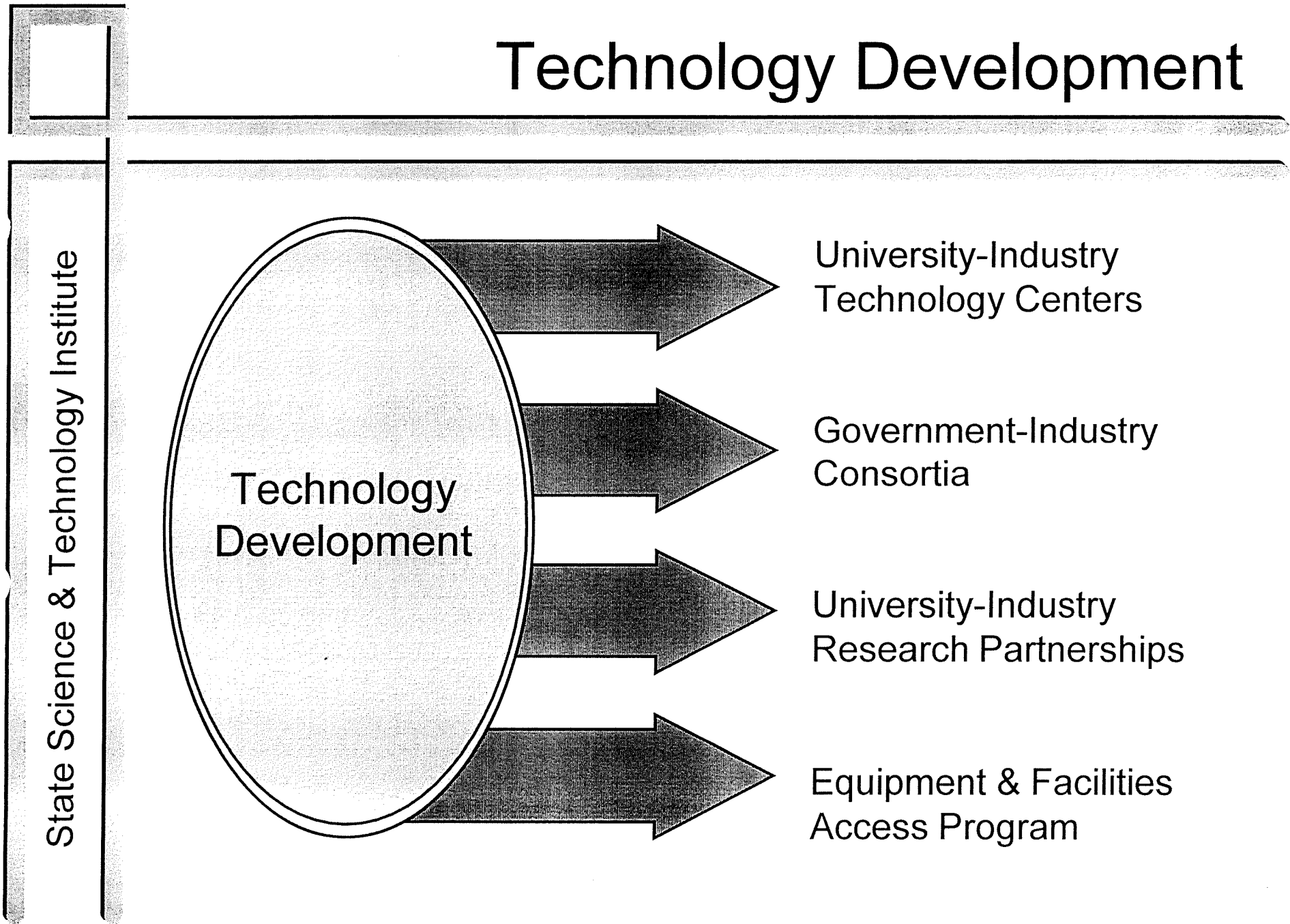
State Spending by Category

State Science & Technology Institute



Technology Development	\$127,499	Industrial Problem Solving	\$59,506
Technology Financing	101,811	Start-ups	7,238
Related Education and Other	82,635	Teaming	5,907

Technology Development



State Science & Technology Institute

Technology Development

University-Industry
Technology Centers

Government-Industry
Consortia

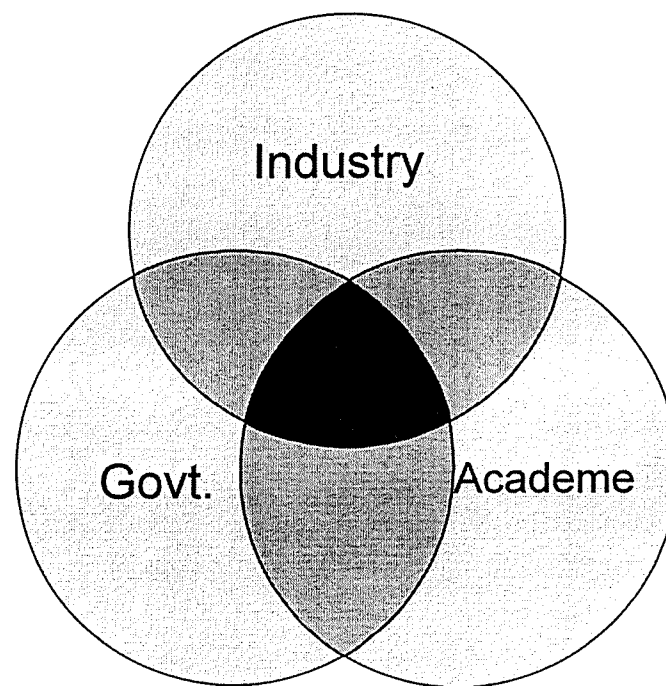
University-Industry
Research Partnerships

Equipment & Facilities
Access Program

Industrial Problem Solving

State Science & Technology Institute

- ❑ Technology Extension/
Deployment
- ❑ Federal Technology
Applications Programs
- ❑ Implementation Grants



Technology Financing

State Science & Technology Institute

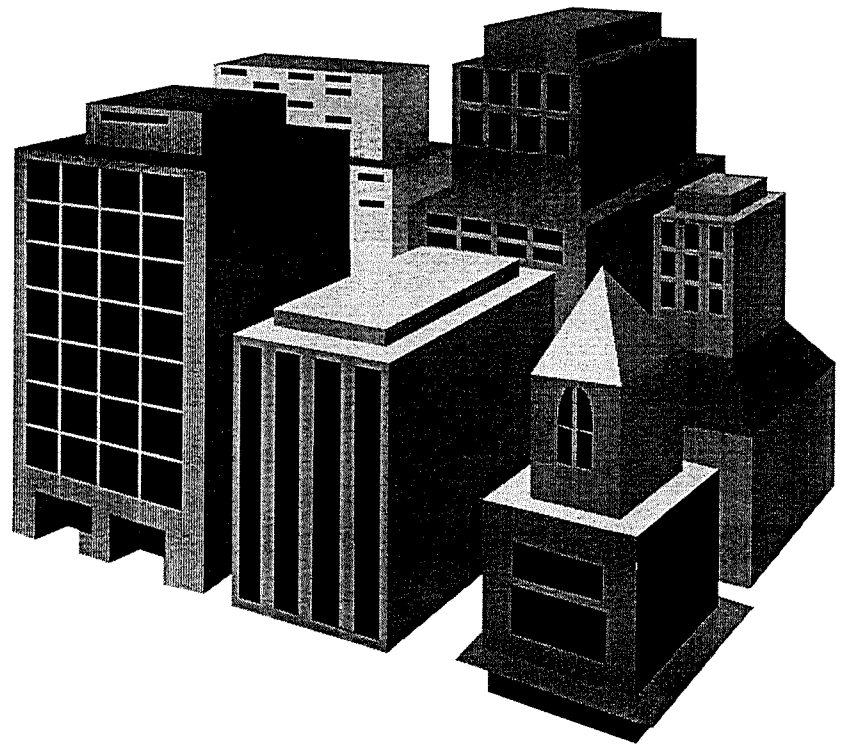
- ❑ State-sponsored Federal Outreach
- ❑ Company Financing
- ❑ Project Financing



Start-up Assistance

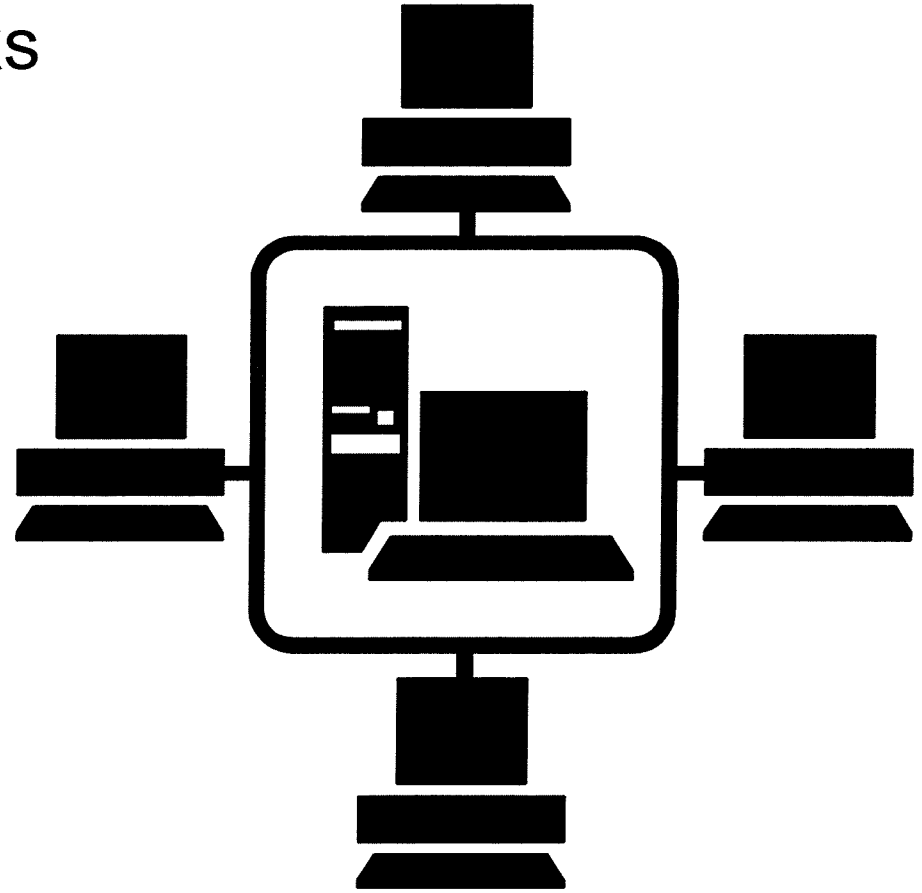
State Science & Technology Institute

- ❑ Incubators
- ❑ Research parks



Teaming

- ❑ Industrial Networks
- ❑ Interactive Databases



Key Kansas Statistics

State Science & Technology Institute

- ❑ 32nd in population
- ❑ 31st in gross state product
 - *largest sector is manufacturing (19.2% vs. 18.6% for US)*
- ❑ 12th in spending on coop tech programs
 - *\$11.1 million in FY94*
- ❑ 8th in spending per capita
 - *\$4.40 per person in FY94*

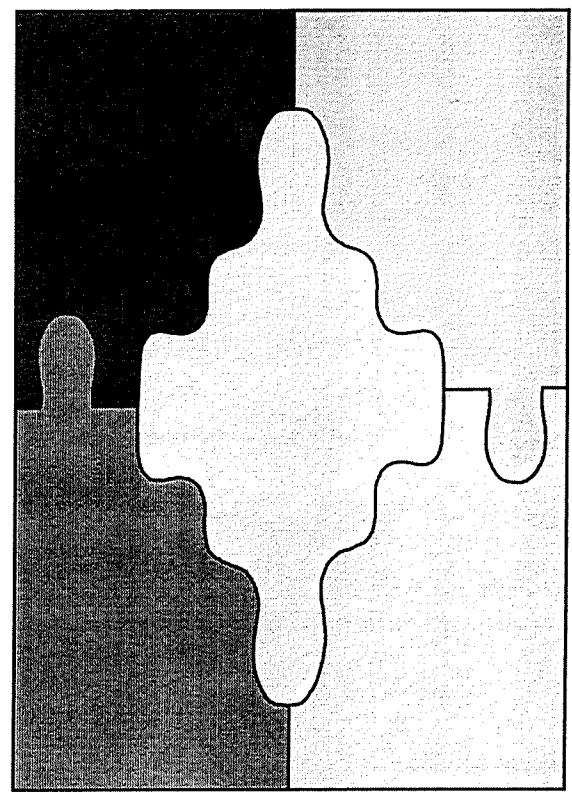
Organization

- ❑ **Centralization**
 - Minnesota
- ❑ **Central coordinating organization with regional delivery services**
 - Kansas and Ohio
- ❑ **Minimal central authority with highly autonomous local organizations**
 - North Carolina and Maryland
- ❑ **Decentralization**
 - Georgia

Kansas Activities

State Science & Technology Institute

- ❑ University-Industry Technology Centers
- ❑ Equipment & Facility Access Program
- ❑ Technology Extension/Deployment
- ❑ State-sponsored Federal Outreach
- ❑ Project Financing
- ❑ Company Financing
- ❑ Industrial Network
- ❑ Database
- ❑ Related Educational Initiative



Comparison with neighboring states

	KS	OK	MO
UITC	✓	✓	✓
UIRP			
EFAP	✓		
TED	✓	✓	✓
Project \$	✓	✓	
Company \$	✓		
SBIR	✓	✓	
Incubator			✓
Res Parks			✓
Databases	✓	✓	