

# ***Iowa Innovation Council – Board of Directors Meeting Innovation Intermediaries Strategies That Work***



***Presented by:  
Richard A. Bendis  
President and CEO  
Innovation America***

***October 22, 2010***



# The World Has Changed

- Convergence of Complex Challenges
- Loss of Jobs
- Growing US Trade Deficit
- Greater International Competition in manufacturing and service industries
- Competitive advantages are increasingly tied to human capital and innovation
- Economic growth is closely related to education/workforce, energy, climate change, environmental, natural resource and geopolitical issues
- China! China! China!
- **“Innovation Matters”**



# Why Is Innovation Essential?

***“INNOVATION  
DISTINGUISHES  
BETWEEN A LEADER  
AND A FOLLOWER.”***

**-STEVE JOBS**



# What is Innovation?



- **Radical Innovation:** a new product, process, or system that replaces its accepted predecessor and renders it obsolete.
- **Ideation** is applied knowledge; **Creativity** is applied ideation; **Invention** is applied creativity; and **Innovation** is the successful commercialization or adoption of radical invention
- **Innovation** results when a new approach is applied to an old problem that makes lasting and far-reaching changes in behavior
- "A new match between a **Need** and a **Solution**"

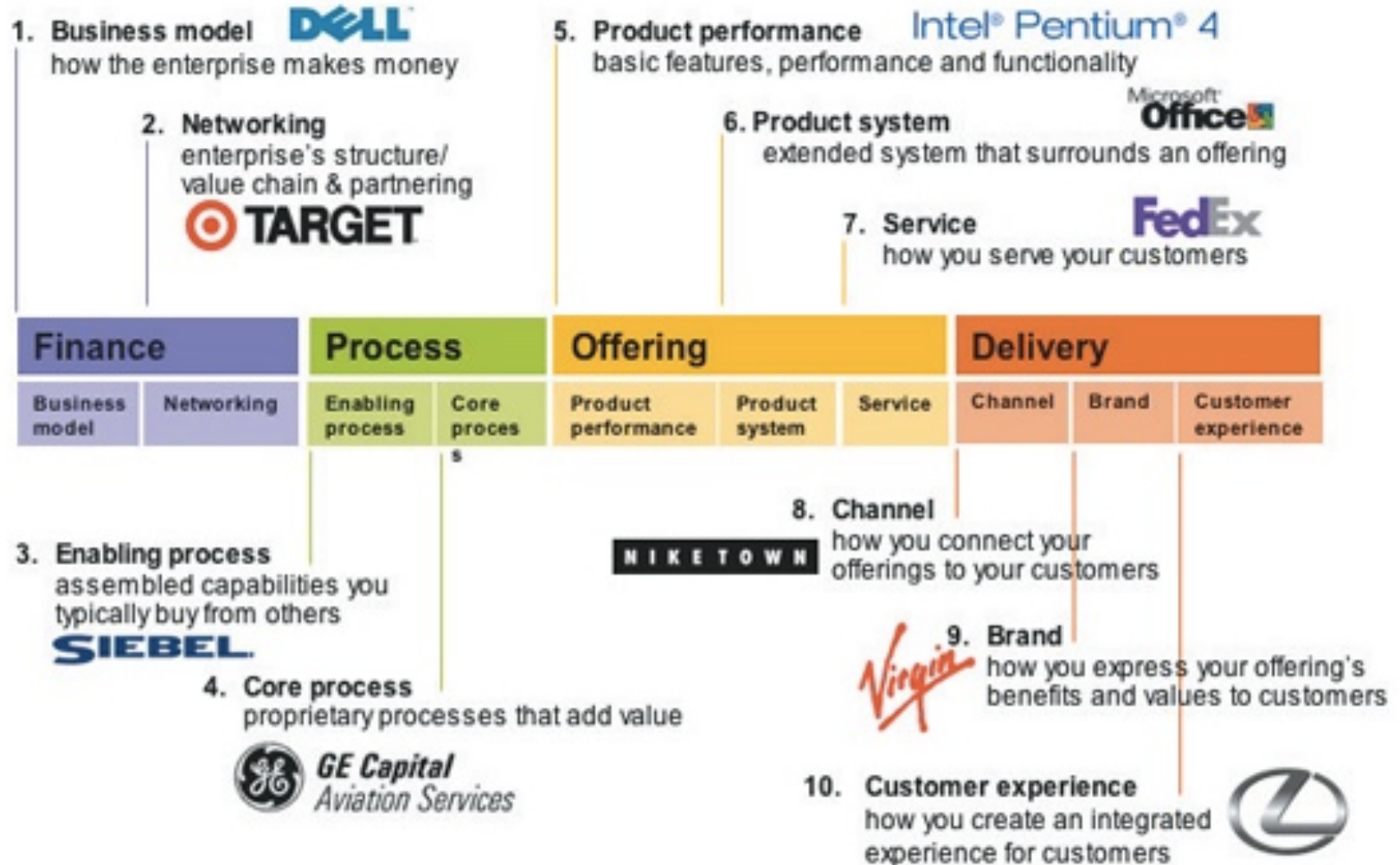


# Global Innovation Network

## Global Innovation Network

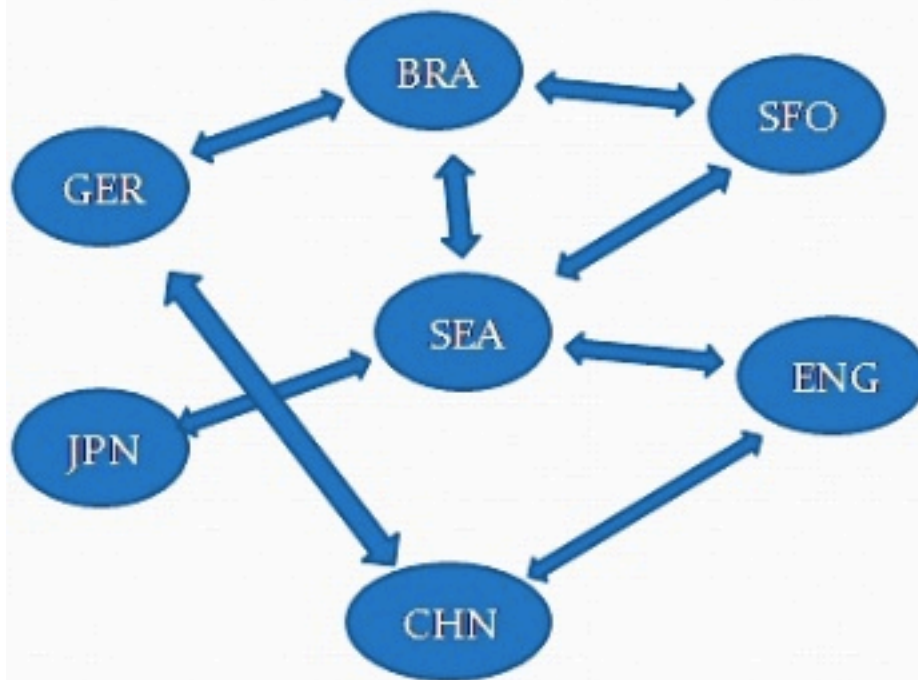


# 10 Types of Innovation



# Global Innovation Networks

## New Model: Regional Clusters making up Global Innovation Networks

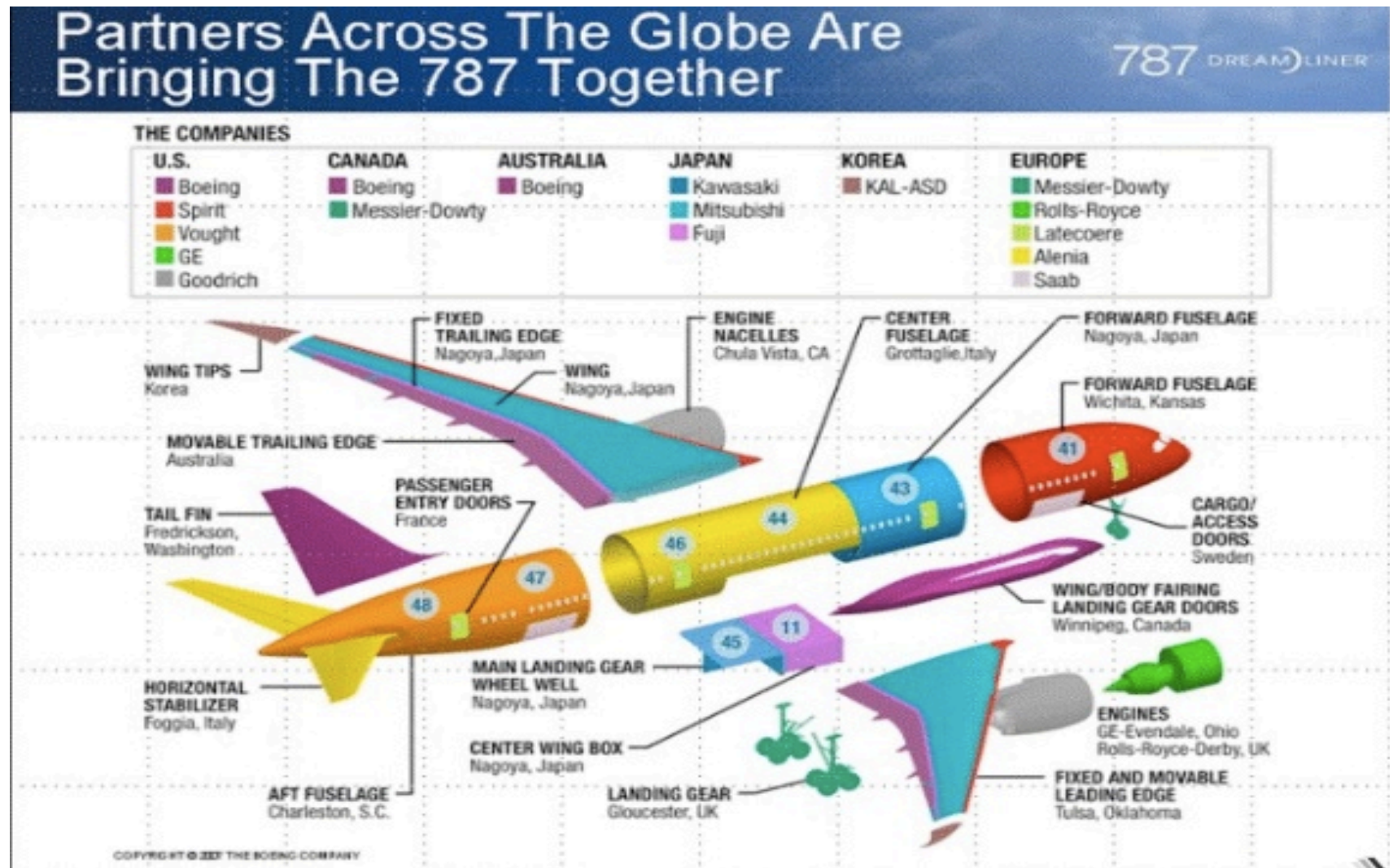


### Exchange of

- Ideas
- Talent
- Investment
- Supply Chain Linkages
- Design
- Manufacturing
- Sales
- Marketing

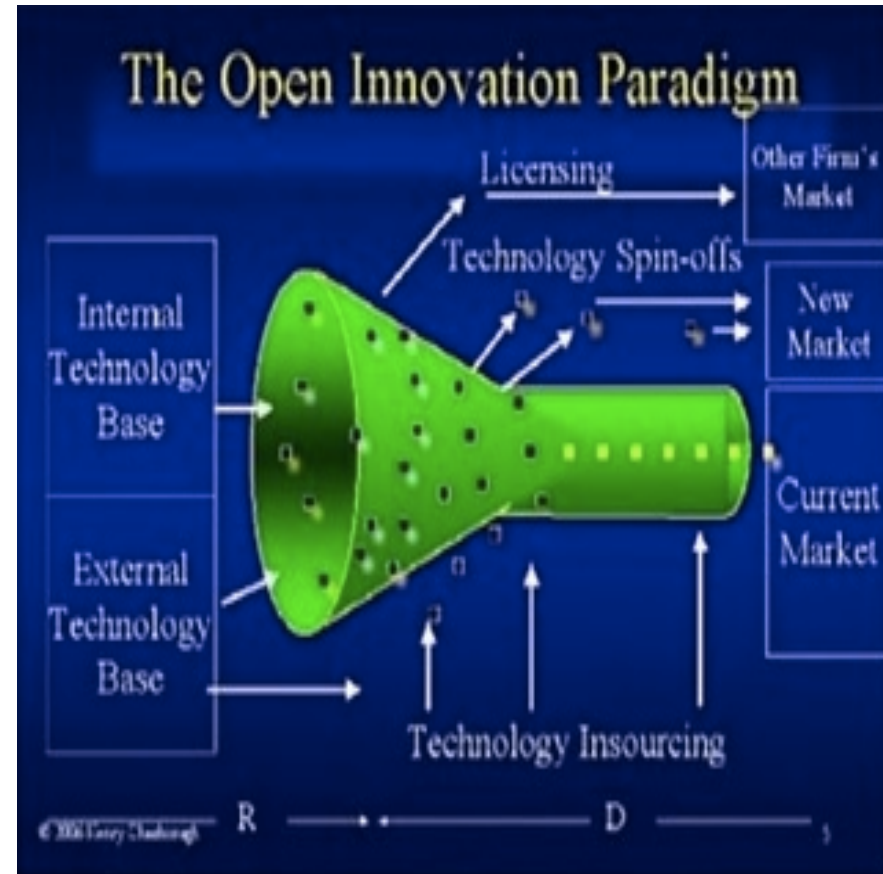


# Global Innovation Networks



# Open Innovation

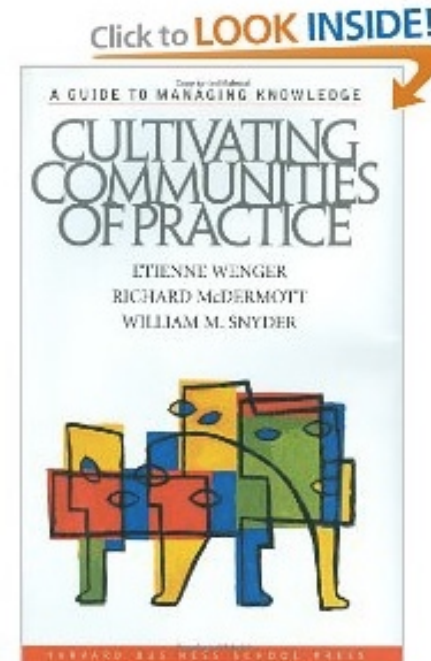
Open innovation is what happens when big companies collaborate on a large scale with outsiders – university researchers, suppliers, small tech start-ups – to get new products or services to market.





# Communities of Practice

- Group of people who share a common concern, a set of problems or a passion about a topic.
- Deepen their knowledge and expertise by interacting on an ongoing basis.
- Follow a particular methodology which is based on theories of learning in action – learning while doing



# Crowdsourcing

- **Crowdsourcing** is the act of outsourcing tasks, traditionally performed by an employee or contractor, to a large group of people or community (a crowd), through an open call.
- **Crowdfunding** is the raising of a small amount of risk capital from a large number of people.



# The Millennials

# The Millennials

- Millennials, an abbreviation for *millennial generation*, is a term used by demographers to describe a segment of the population born between 1980 and 2000 (approximately).
- **76** million Millennials in the United States
- **186** million Millennials in Europe?
- As a result of growing up with the Internet and associated devices, Millennials are often said to be the most technologically savvy generation to date.

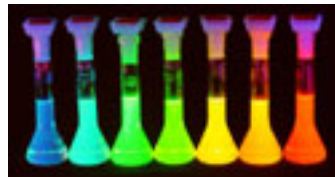
# ★ AMERICA'S TOP STATES FOR BUSINESS 2010 ★ | A CNBC SPECIAL REPORT

Overall	State	<u>Cost of Business</u>	<u>Workforce</u>	<u>Quality of Life</u>	<u>Economy</u>	<u>Transportation</u>	<u>Technology &amp; Innovation</u>	<u>Education</u>	<u>Business Friendliness</u>	<u>Access to Capital</u>	<u>Cost of Living</u>
32 (tie)	California	48	31	15	18	16	1	31	49	1	49
24	New York	50	49	18	2	22	2	2	45	3	43
5	Massachusetts	39	23	6	17	39	3	1	14	2	41
1	Texas	30	16	29	1	1	4	30	19	7	8
15	Washington	33	30	8	18	35	5	22	34	5	35
20	Pennsylvania	40	42	25	15	16	6	4	32	11	30
41	Michigan	32	41	36	47	24	7	35	35	18	24
27	Maryland	43	36	28	18	43	8	10	16	12	45
22	New Jersey	44	32	14	28	32	9	2	35	4	47
2	Virginia	26	9	18	11	12	10	13	2	9	27
8 (tie)	Minnesota	31	34	12	5	11	16	9	20	19	15
29	Wisconsin	24	46	23	31	14	21	12	27	30	17
6	Iowa	1	20	17	10	32	29	16	12	36	17

# Implementing a New Innovation Paradigm

- Willingness to deviate from traditional and parochial perspectives
- Encourage public investment and risk taking
- Developing trust through collaboration
- Ensuring the paradigm is responsive to partners' missions
- Building consensus of all constituents through education, participation, and positive outcomes
- Move from technology-based economic development to

## **Innovation-Based Economic Development**





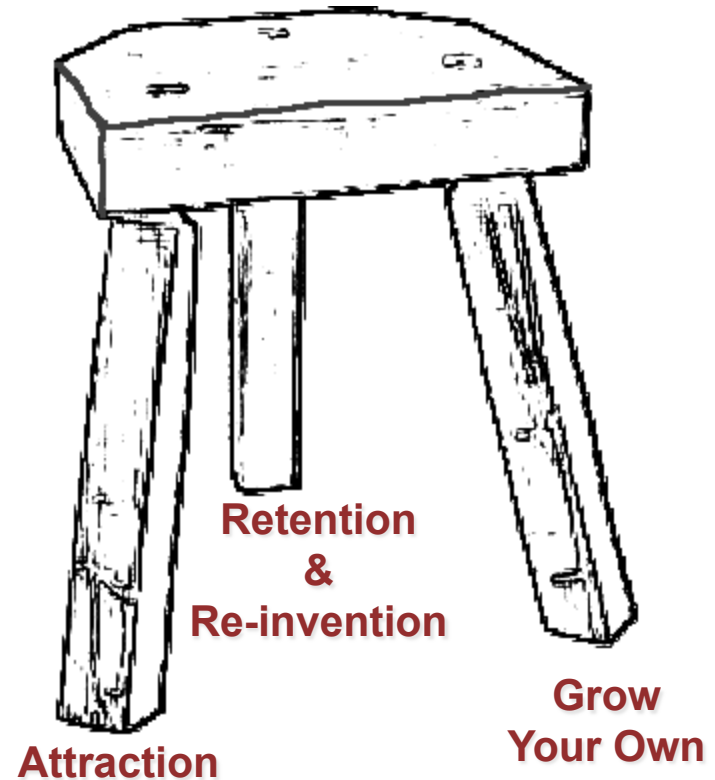
# Goals of Innovation-Based Economic Development

*Intervene at the margins of private sector investment flows of capital (financial and intellectual) to:*

- Address economic transition
- Capture the benefit of investments in research and development, higher education
- Build entrepreneurial cultures
- Help existing industries modernize
- Diversify both rural and urban economies
- Develop global innovation network

# Economic Development

- Economic Development is a three-legged stool:
  - **Attraction**
  - **Retention & Re-Invention**
  - **Grow Your Own**
- IBED requires patience and persistence, continuity and consistency.
- Working with early-stage companies takes time.
- A balanced portfolio economic development strategy is best!

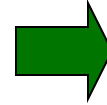


# Traditional & Innovation-Based Development

## Traditional

- Competitive Basis

Natural resources  
Highways / Rail  
Proximity  
Costs



## Innovation

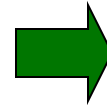
Specialized talent  
Networks, information  
University research / professors  
Market understanding  
Global Reach

i.e. PHYSICAL

i.e. KNOWLEDGE

- Key values / offerings

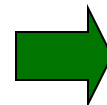
Business parks  
Incentives



Access to research  
Workforce competencies  
Lifestyle

- Lead Organization

Chambers /  
EDCs



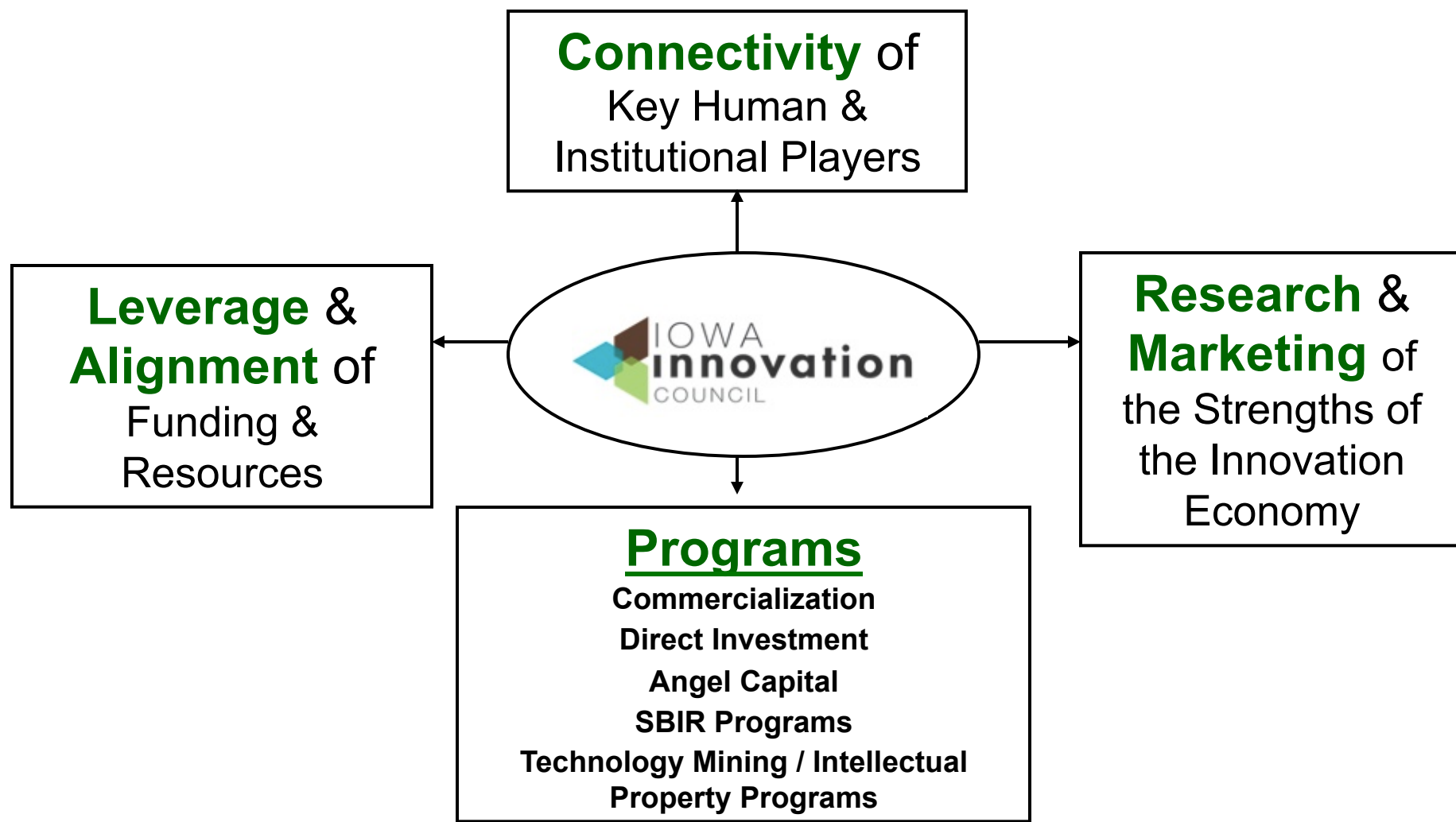
**Innovation  
intermediaries,**  
Economic developers

# What is an Innovation Intermediary?

An Organization at the Center of the region's, state's or country's efforts to align local technologies, assets and resources to work together on advancing Innovation.



# 21<sup>st</sup> Century Innovation Intermediary





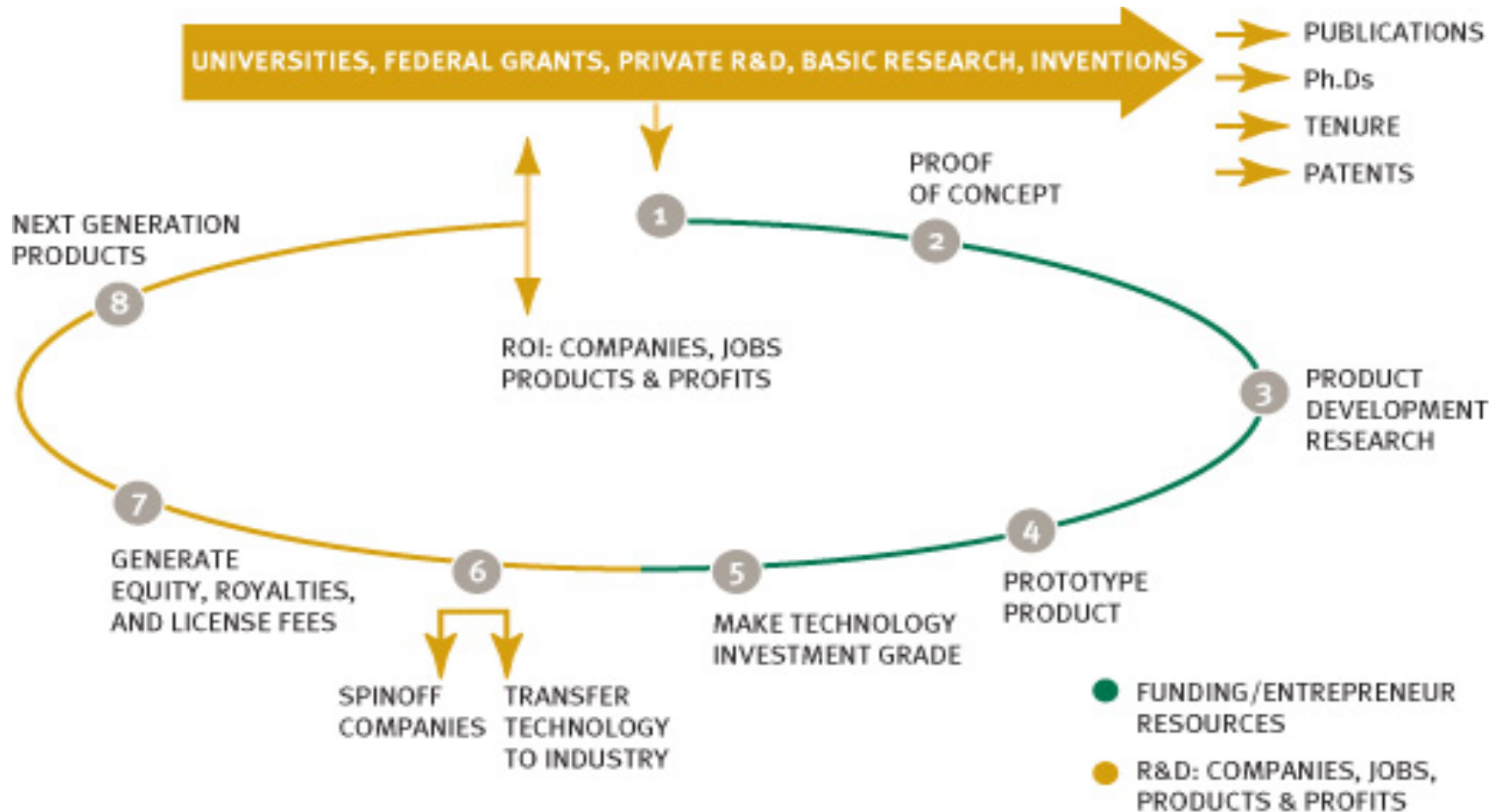
Innovation Intermediary Commercialization Structure			
Investigation	Technical	Market	Business
Proof of Concept	Technology Concept Analysis	Market Needs Assessment	Venture Assessment
Development Phase			
Feasibility	Technology Feasibility	Market Study	Economic Feasibility
Planning	Engineering Prototype	Strategic Marketing	Strategic Business Plan
Introduction	Pre-Production Prototype	Market Validation	Business Start-Up
Commercial Phase			
Full Scale Production	Production	Sales and Distribution	Business Growth
Maturity	Production Support	Market Diversification	Business Maturity

# Intermediary Best Practices

- Longevity
- Bipartisan Support & Champions
- Independent Organizations
- Continuous Reinvention
- PRIVATE SECTOR LEADERSHIP
- Understand Return On Investment
- Sustainability In Funding
- Accountable
- Innovative
- Effective Leadership

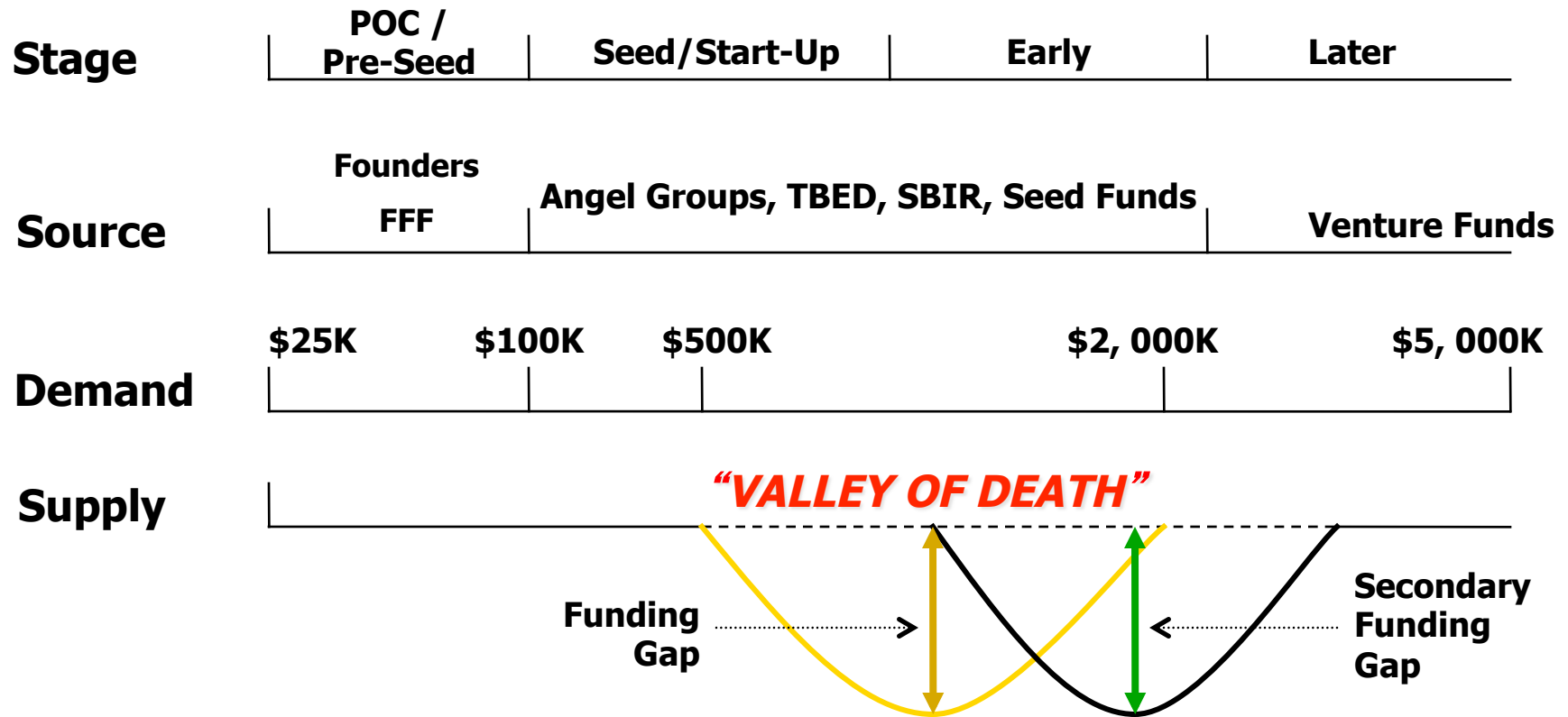


# Innovation Commercialization Model



# Innovation Capital Valley of Death

## “VALLEY OF DEATH”



# Bootstrapping

The term comes from the German legend of Baron Münchhausen pulling himself out of the sea by pulling on his own bootstraps.



**Definition:** “*The act of starting a business with little or no external funding*”



# New Popular Venture Financing Programs

## ***Mentorship programs:***

- Help startups ideate
- Form founding teams
- Build initial products.



## ***Super Angels:***

Provide capital and guidance to:  
hire non-founder employees  
further product development  
market the initial product (usually to  
early adopters) and  
raise follow on VC funding.



# What These Programs Offer Entrepreneurs



# New Popular Venture Financing Programs

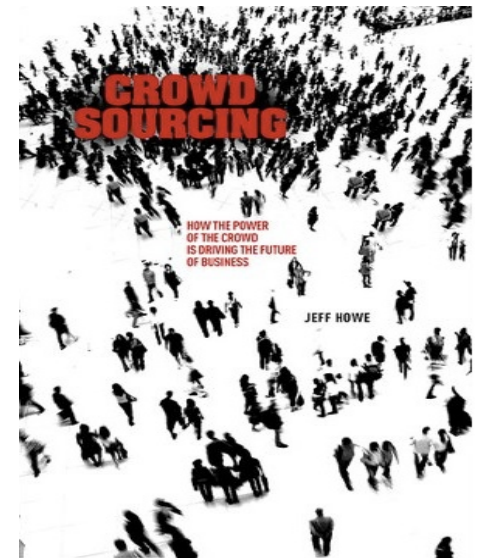
## *Tradition VC's - (Sequoia, Kleiner, etc)*

- Help companies scale and get to profitability.
- Access to broad networks to help with hiring, sales, bizdev and other scaling functions.
- They are also experts at selling companies and raising follow-on financing.



***Accelerator funds*** - Focus on providing partial liquidity and preparing the company for an IPO or big M&A exit.

- VC's played all of of these roles (lifecycle" investors).
- They incubated companies, provided seed financings & and later stage liquidity.
- Mostly the mentorship and angel investing roles were played by entrepreneurs who had expertise but shallow pockets and limited time and infrastructure.



**Jobs! Jobs! Jobs!**

# **Does Seed Investing REALLY Create Jobs?**



# Public Investment In Job Creation

Category	CDVCA*	State of PA	State of MI	State of UTAH	Stimulus Bill
Funds Invested	\$26M	\$90M	\$291M	\$60M	<b>\$800B</b>
Jobs Created	3,700	8,150	28,854	2,047	<b>1,000,000 To 4,000,000</b>
\$ Per Job Invested	\$7,100	\$11,000	\$11,728	\$29,300	<b>\$800,000 To \$200,000</b>

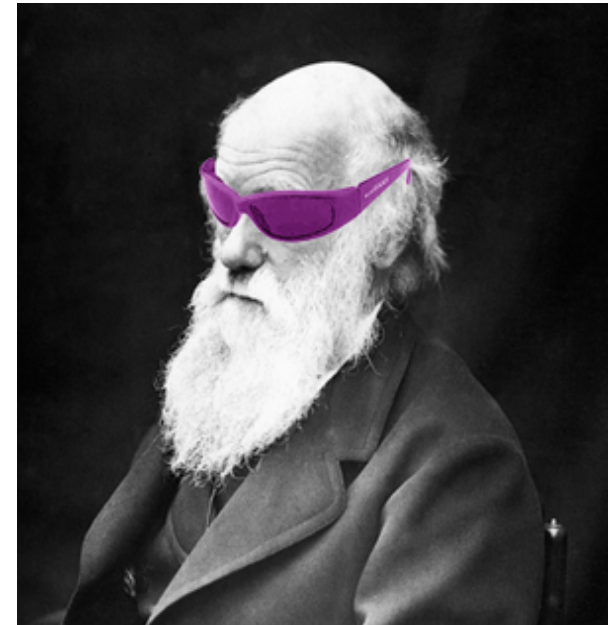
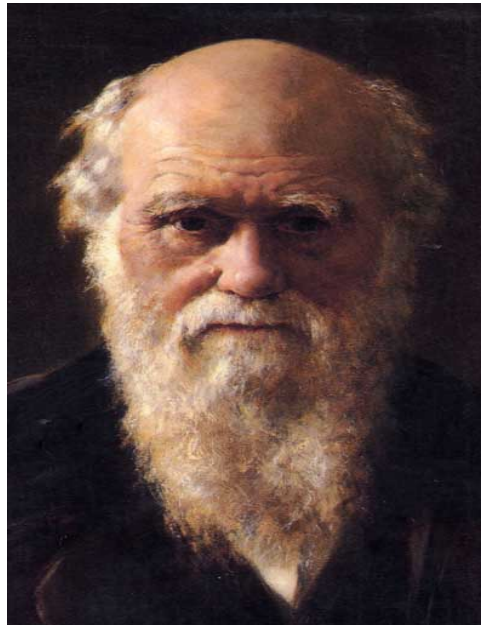
\*Community Development Venture Capital Association



# Change Is Inevitable

“ It is not the strongest of species that survive, nor the most intelligent, but the ones most responsive to change.”

-Charles Darwin



# Key Innovation Road Map Elements

1. Asset Mapping
2. Cluster analysis
3. Innovation Benchmarking (Peer 2 Peer)
4. Innovation and Entrepreneurship resource identification
5. Innovation Economic Development organizational analysis and matrix
6. Gap Analysis (programs & services)
7. Public policy recommendations
8. Strategic Plan with Recommended organizational structure, governance, budget and funding sources (Private Public Partnership)
9. Organizational leadership and staffing
10. Program portfolio/implementation
11. Economic Impact Analysis
12. Branding and Market Research



# Regional Innovation Clusters

## Five Key Components to Consider When Defining Unique Regional Assets

*What you make, including  
your existing &  
prospective industry  
clusters*

**ECONOMIC  
BASE**

**ENTRE-  
PRENEURSHIP**

*Your capacity to create  
companies wholly new or  
from existing firms*

*What you do: your  
workforce skills & human  
capital base*

**TALENT**

**INNOVATION  
& IDEAS**

*Your capacity to innovate  
and generate new ideas*

**Location, Infrastructure, Amenities,  
Factor Costs, Natural Resources**

*The basic conditions defining the  
economic milieu of the region*

# U.S. State IBED Programs



Ben Franklin  
Technology PArtners

Ohio

Third Frontier  
Innovation Creating Opportunity



OCAST»



GEORGIA  
RESEARCH  
ALLIANCE



# Best Practices in IBED



**Third Frontier**  
Innovation Creating Opportunity

The Ohio Third Frontier represents an unprecedented and bipartisan commitment to expand Ohio's technological strengths and promote commercialization that leads to economic prosperity throughout Ohio. Designed to build world-class research programs, nurture early-stage companies, and foster technology development that makes existing industries more productive, Ohio Third Frontier creates opportunity through innovation.

***"Ohio's \$700M Third Frontier initiative is a comprehensive, professionally run effort to build world-class research capacity, promote interaction between research and industry, and commercialize R&D." –***

National Governor's Association and Pew Center for the States



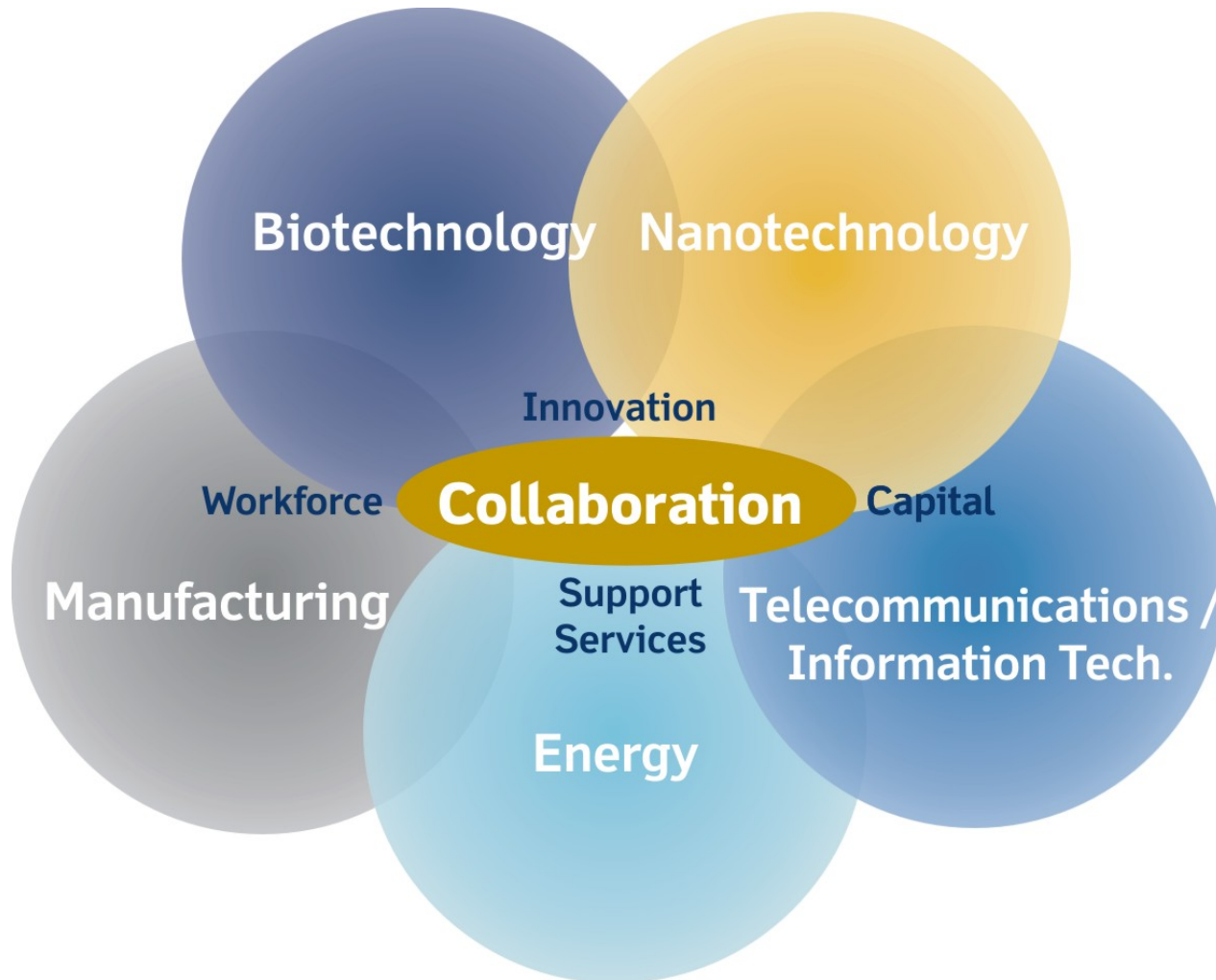


# Pennsylvania's Sustainable Government Innovation

- Pennsylvania Governors Thornburgh and Ridge, as well as current Governor Ed Rendell, discuss the importance of committing to economic development through science, innovation & technology
- The governors focused on the effects that short-term decisions would have on long-term goals
- Three important ideas:
  - Think outside of the box
  - Measure your results and
  - Tell your story well.



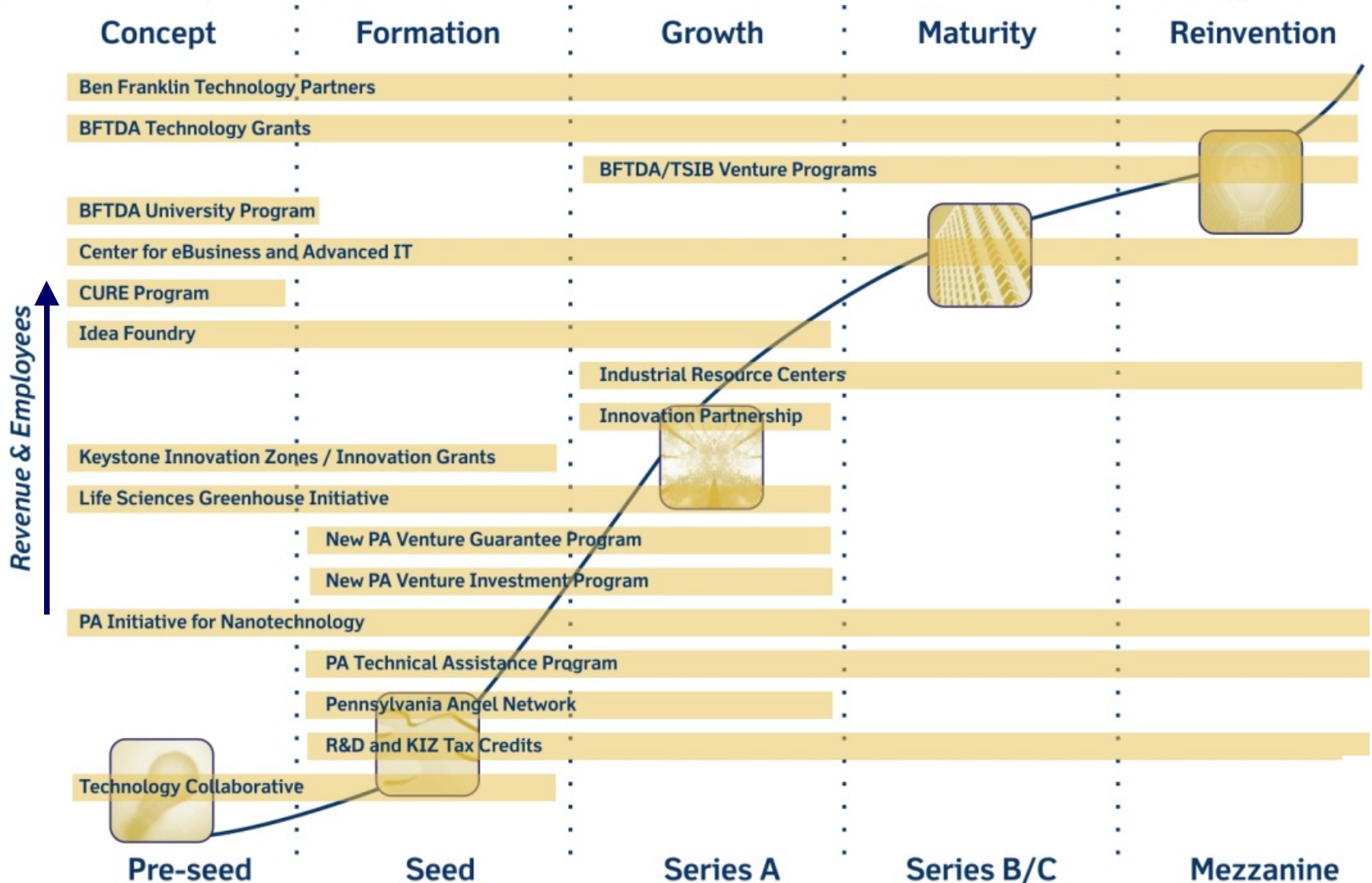
# Pennsylvania's Industry Clusters



# Technology Investment

## Technology-based Economic Development Tools Along the Continuum

> ready > set > succeed





# Kansas Strategic Technology Cluster Assessment and a Plan for the 21st Century



## *Purpose of the Study:*

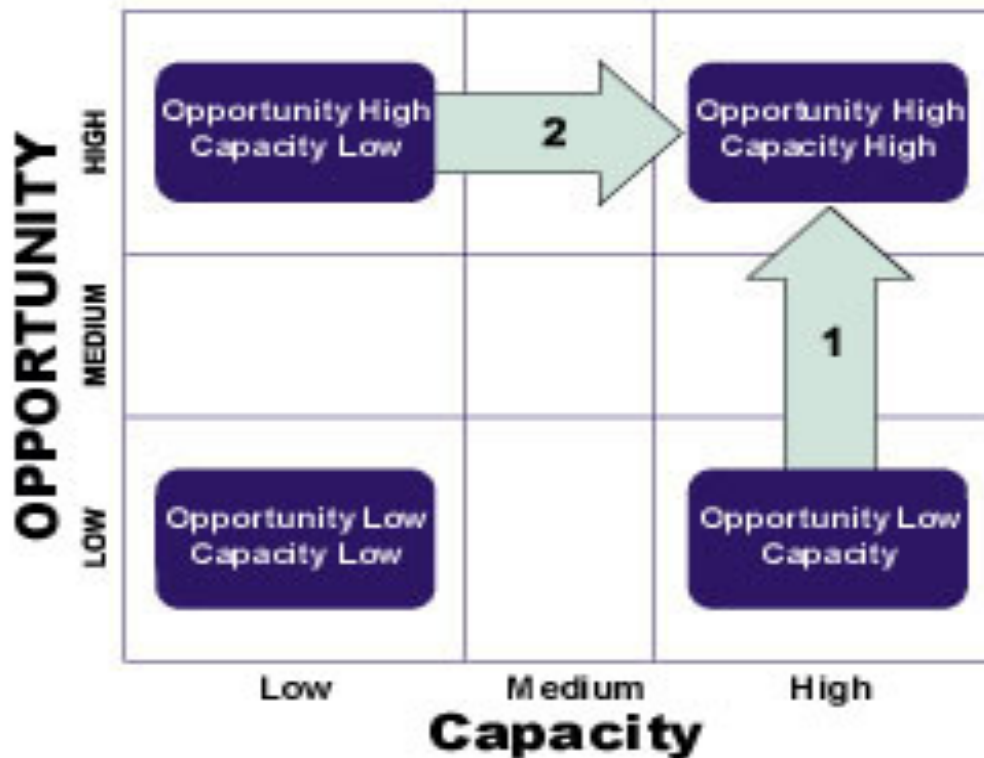
- Technology revolution affecting the economy.
- We must map our course in this new innovation economy.
- Focus our resources on strategic technology clusters in order to compete.

Published by The  
Kansas Technology  
Enterprise Corporation

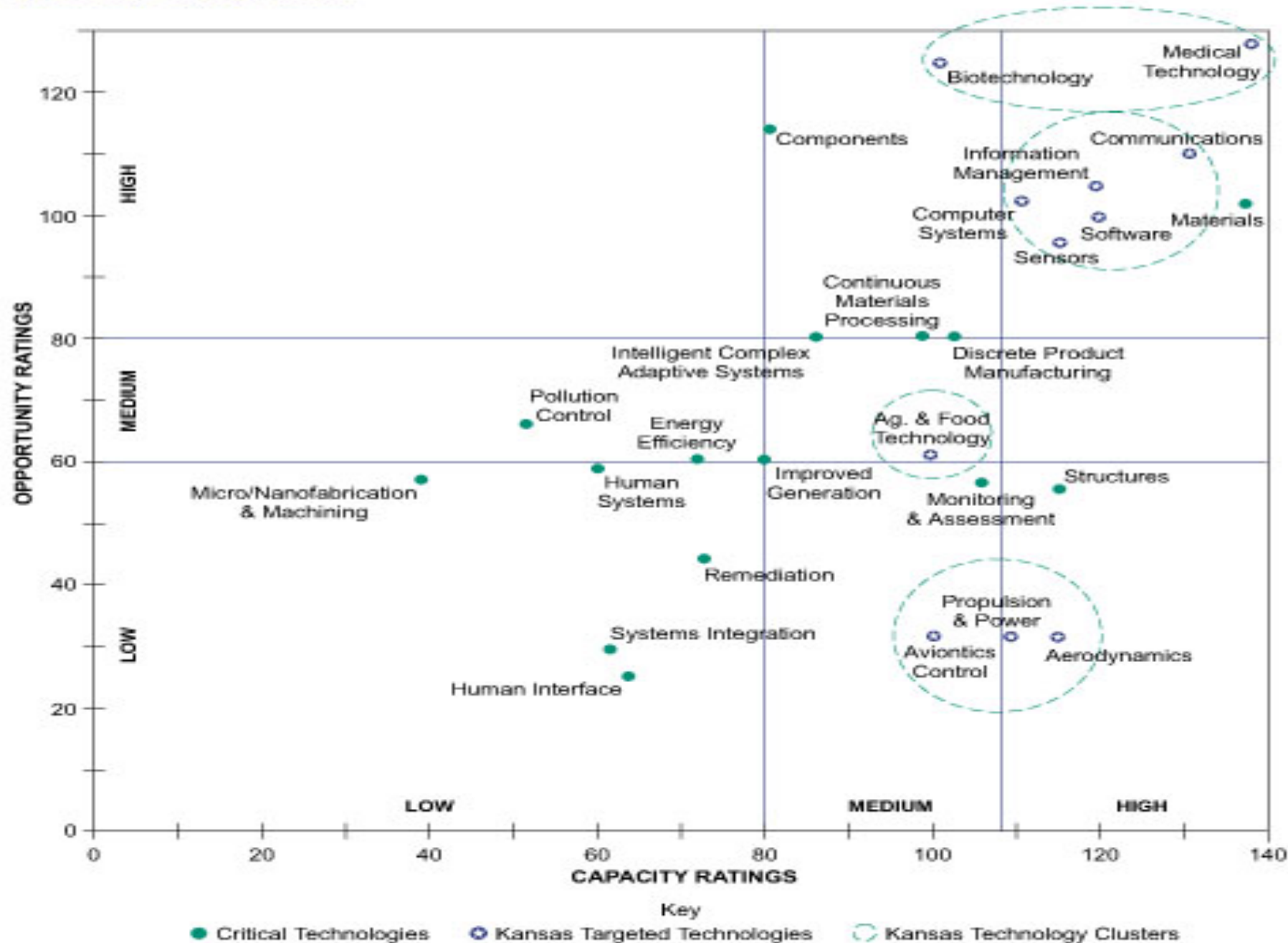
# Linking Opportunity With Capacity

- Standardized rating system
- Determine level of capacity and opportunity for critical technologies

Figure 1-2  
Linking Opportunity & Capacity:  
An Assessment Model







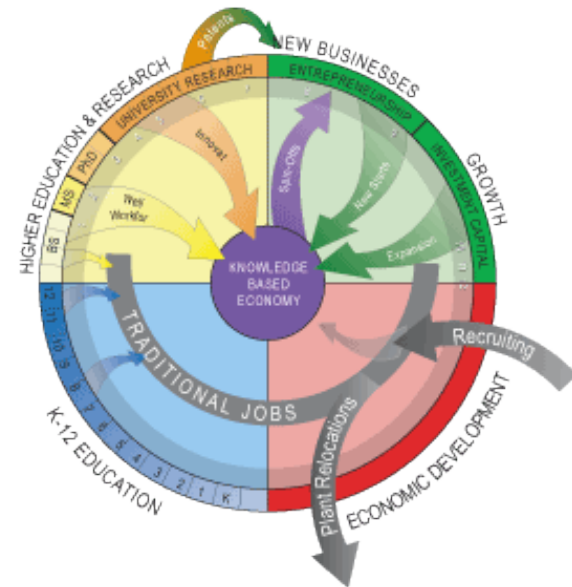
The technology areas with high levels in both categories represent logical targets for investment activity. Other technologies which may not have scored as well may be so important to Kansas' economy as to also warrant consideration.

# The Kansas Experience - 2009

CLUSTER	ORGANIZATION	OUTCOMES
<b>Human BioSciences</b>	<b>Kansas BioScience Authority (KBA)</b> <a href="http://www.kansasbioauthority.org">www.kansasbioauthority.org</a>	<ul style="list-style-type: none"> <li>•\$581m Fund</li> <li>•Build world-class research capacity, growth of bioscience startups, expansion of the state's bioscience clusters and facilitate industrial expansion and attraction.</li> </ul>
<b>Value-added Agriculture and Ag Bio</b>	<b>National Agricultural Biosecurity Center (NABC)</b> <a href="http://nabc.ksu.edu/content">http://nabc.ksu.edu/content</a>	<ul style="list-style-type: none"> <li>•\$650m Research Center</li> <li>•Focused on protecting America's agricultural infrastructure and economy from endemic and emerging biological threats.</li> </ul>
<b>Aviation</b>	<b>National Institute for Aviation Research (NIAR)</b> <a href="http://www.niar.wichita.edu">www.niar.wichita.edu</a>	24 year-old research and tech-transfer center established to advance the nation's aviation industries that may benefit from aviation-related technologies.
<b>Information and Telecommunications &amp; Computing</b>	<b>Software and Technology Association of Kansas (SITAKS)</b> <a href="http://www.sitaks.com">www.sitaks.com</a>	Advocate for Kansas' software and information technology sector to help Kansas' software and IT companies grow and succeed.

# Kansas Bioscience Authority

- \$581 million state-funded independent bioscience TBED organization
  - \$75.5 million program budget; \$3.5 million operating budget
  - 18 employees (8 “deal” people)
- Investment priorities
  - Expand the quantity and quality of bioscience research
  - Focus on the commercialization of bioscience discoveries
  - Foster formation and growth of bioscience companies
  - Position Kansas for international leadership in key clusters



# Board of Directors

# KTEC Program Structure

## KTEC Staff

## Federal Initiatives and Partnerships

### Research

For Inventors, Entrepreneurs and  
University & Industry Scientists

- Advanced Manufacturing Institute (AMI)
- Kansas Polymer Research Center (KPRC)
- Information Technology & Telecommunications Center (ITTC)
- Higuchi Biosciences Center (HBC)
- National Institute for Aviation Research (NIAR)
- EPSCoR

### Investments

For Inventors, Entrepreneurs and  
New & Existing Companies

- Small Business Innovation Research (SBIR) Awards
- SBIR Bridge Funding
- State-Sponsored SBIR
- Applied Research Matching Fund (ARMF)
- ACE-Net
- Ad Astra Funds I & II
- Kaw Holdings (KIC)
- Wichita Ventures (WTC)
- Manhattan Holdings (MACC)
- Prairie Investments
- Quest Ventures
- KU Medical Center Research Institute Pre-Seed Fund
- Alliance for Technology Commercialization

### Business Assistance

For Inventors, Entrepreneurs, Scientists  
and New & Existing Companies

- Kansas Innovation Corporation (KIC)
- Mid-America Commercialization Corporation (MACC)
- Wichita Technology Corporation (WTC)
- Mid-America Manufacturing Technology Center (MAMTC)
- Capital for Manufacturers (CFM)
- Information Research Corp. (IRC)
- Kansas Integrated Commercialization Information Network (KICIN)
- Intern Program
- Business Residency Program
- Inventor Development Assistance Program (IDAP)

# Tennessee Investco Program

- Provides no less than \$140,000,000 of financial capital to be invested in small businesses in Tennessee
- Funded by deferred insurance premium tax credits
- Focused on early stage, equity investments
- Targeting high-growth companies for “transformational” outcomes
- 10 new professionally managed private sector funds
- Creates the opportunity for financial return to state government
- Access to Capital:
- A New Program..... A New Approach...





# Minnesota's Angel Tax Credit

*Provides incentives to investors or investment funds that put money into startup and emerging companies focused on high technology or new proprietary technology.*

- Provides a 25% individual income tax credit for qualified investors

Is refundable.

- Non-Minnesota residents (including residents of foreign countries, are eligible for the credit)
- Maximum credit of \$125,000 year/individual
- Maximum credit of \$250,000 married/filing jointly
- Funding for the years 2011-2014 is set at \$12 million per year.
- Businesses get the capital they need to grow
- Investors can manage the risk associated with investing a in new businesses or technology
- Minnesota workers and the state's economy benefit because the tax credit kick-starts emerging businesses and creates jobs.



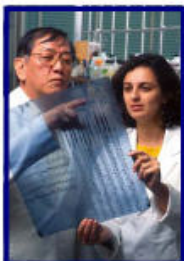
# Agricultural Technology Innovation Partnership Network

## ATIP



United States Department of Agriculture  
Agricultural Research Service

### Partnership Intermediary Agreements (PIA) and Technology Transfer



#### What is a Partnership Intermediary Agreement (PIA)?

PIAs allow federal research agencies to enter into an agreement with a non-profit organization (partnership intermediary) to assist the federal agency with its technology transfer efforts.

The partnership intermediary's services complement those of the federal laboratory and increase the likelihood of success in conducting cooperative or joint activities between the federal agency and a partnering organization (businesses, universities, or other federal agencies).

These agreements can help strengthen state and national economic development and help U.S. businesses compete globally in the marketplace.

The ARS Office of Technology Transfer (OTT) facilitates and manages PIA agreements for USDA.



#### What's in it for the Partnering Organization?

PIAs give the partnering organization access to more than 2,000 ARS researchers located at more than 100 research facilities nationwide—including four state-of-the-art pilot plants located in California, Illinois, Louisiana, and Pennsylvania. The partnering organization becomes part of our Agricultural Technology Innovation Partnership (ATIP). Any business that enters into an agreement with ARS resulting from a PIA partnership becomes an ATIP affiliate. ATIP is a forum created and managed by ARS-OTT that fosters interactions between businesses, universities, and ARS professionals nationwide.

#### What's in it for Businesses?

Through the partnering organization, businesses gain:

- marketing assessments and business plan development assistance,
- identification of funding source (state funds, angel investments, venture capital, and SBIR and other federal grants),
- early notification of "ARS Technology Showcase" events,
- access to facilities, equipment and research expertise through formal agreements, and
- assistance in matching USDA technologies with business needs.

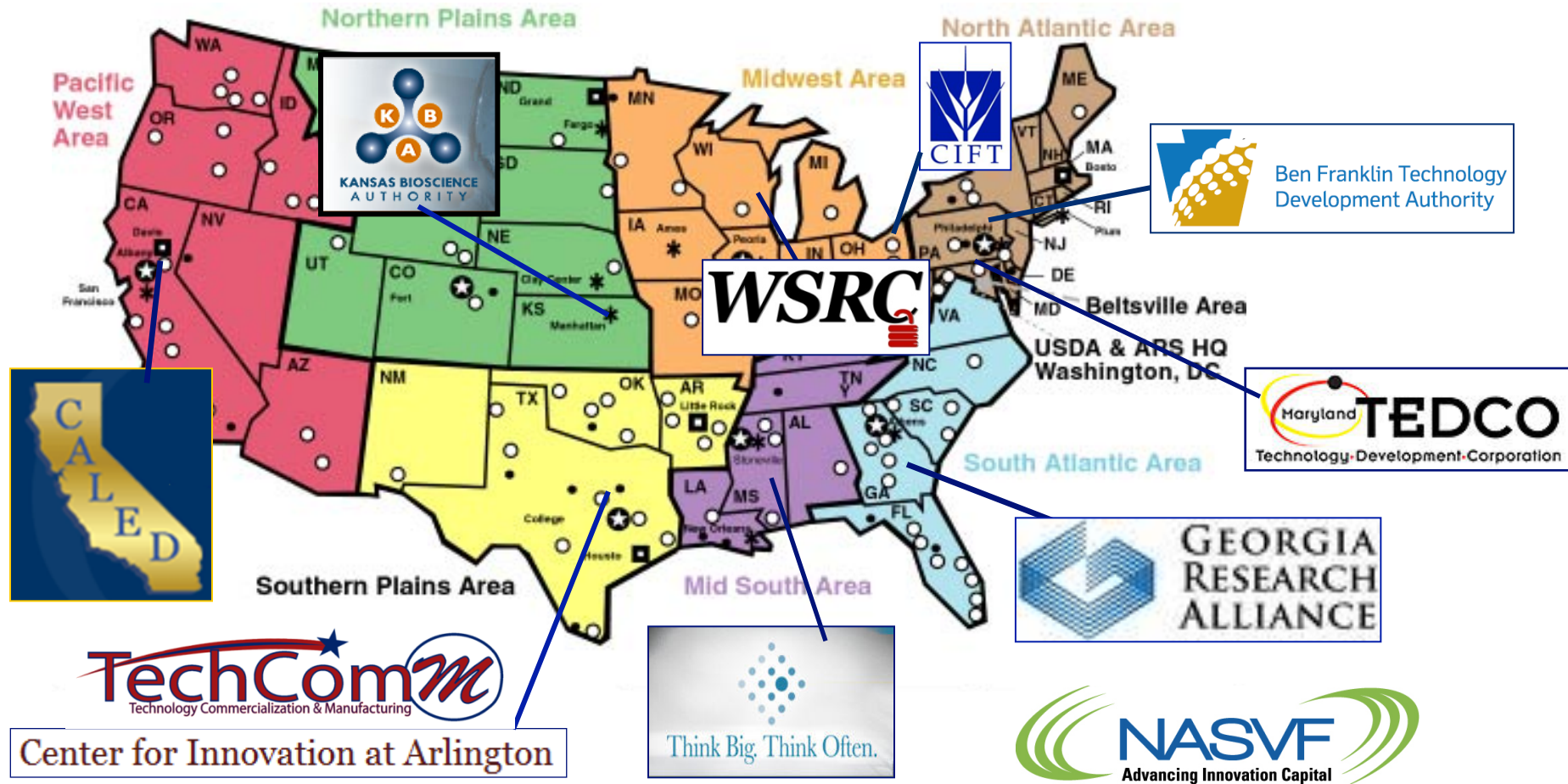


#### What's in it for ARS?

The partnering organization offers many benefits to ARS researchers, including:

- identifying potential research partners and licensees,
- increasing access to a variety of businesses,
- providing industry perspective on ARS technologies,
- increasing the likelihood of impact from research outcomes,
- identifying potential funding sources for research scientists, and
- expanding customer and stakeholder interactions with the private sector and other federal agencies, e.g., food safety and environmental agencies.

# Agricultural Technology Innovation Partnership Network



# IOWA INNOVATION COUNCIL



## MISSION:

***An active partnership between state government, industry and academia to leverage Iowa resources and accelerate the rate of innovation and commercialization with new and existing Iowa businesses.***



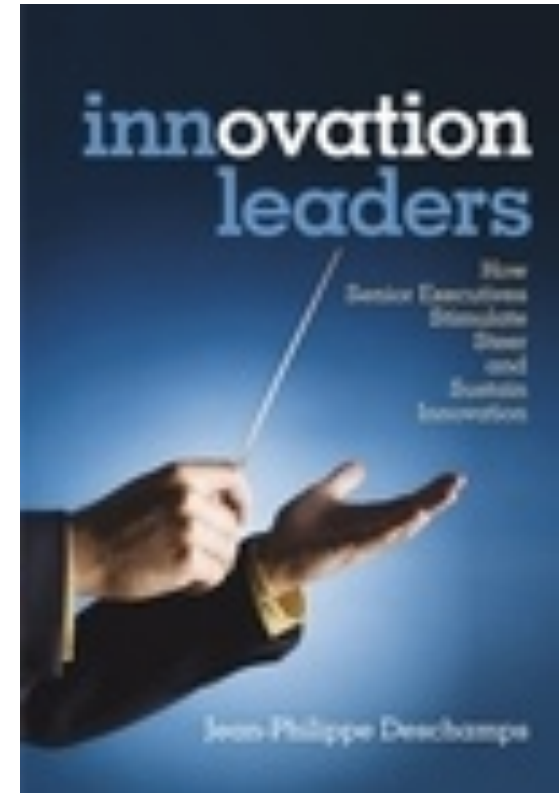
# Iowa Innovation Council Program Structure

INVESTMENT	TECHNICAL ASSISTANCE & COMMERCIALIZATION	TRANSLATIONAL & INDUSTRY R&D	MARKETING, BRANDING & MARKET RESEARCH	OPERATIONS & ADMINISTRATION	NATIONAL& GLOBAL NETWORK DEVELOPMENT
<u>EXISTING</u> 1. Demonstration Fund <u>PROPOSED</u> 2. SBIR and other federal grant assistance 3. Proof of relevance program 4. Angel training and education 5. EB5....immigrant investor program 6. Entrepreneurial Ventures Assistance Program	<u>EXISTING</u> 1. Iowa Integrated Innovation and Commercialization Network (IIICN) <ul style="list-style-type: none"> <li>a. Mentors program</li> <li>b. Talent Net</li> <li>c. Network workgroup</li> <li>d. AngelSoft</li> <li>e. SBIR Reviews</li> </ul>	<u>PROPOSED</u> 1. Industry & university R&D investments	<u>EXISTING</u> 1. Website 2. Asset mapping <u>PROPOSED</u> 3. Innovation Index 4. Resource Guide 5. Strategic Plan 6. Annual report 7. Metrics reporting 8. Newsletter 9. Ongoing analysis of economic data and market trends	<u>PROPOSED</u> 1. Legal 2. Accounting 3. Policy development	<u>PROPOSED</u> 1. Intermediary relationship role with: <ul style="list-style-type: none"> <li>• SSTI</li> <li>• NASVF</li> <li>• NBIA</li> <li>• ACA</li> <li>• Federal funding agencies</li> </ul>
Innovation Partner Programs	Innovation Partner Programs	Innovation Partner Programs	Innovation Partner Programs	Innovation Partner Programs	Innovation Partner Programs
1. Statewide seed fund 2. Regional seed & angel funds	1. MEP	1. EPSCoR	1. IBC Competitiveness program	1. Innovation workforce 2. Business associations	1. IDIED international offices 2. Intelligent Manufacturing Systems Program



# The New Tasks of Innovation Leaders

1. Be Proactive
2. Begin with the End in Mind
3. Seek First to Understand, then to Be Understood
4. Put First Things First
5. Think Win-Win, Be Inclusive
6. Synergize
7. **FOCUS**



# Implementing Innovation Connectivity

Effective Intermediaries strive for the **5C's** of **INNOVATION CONNECTIVITY**:

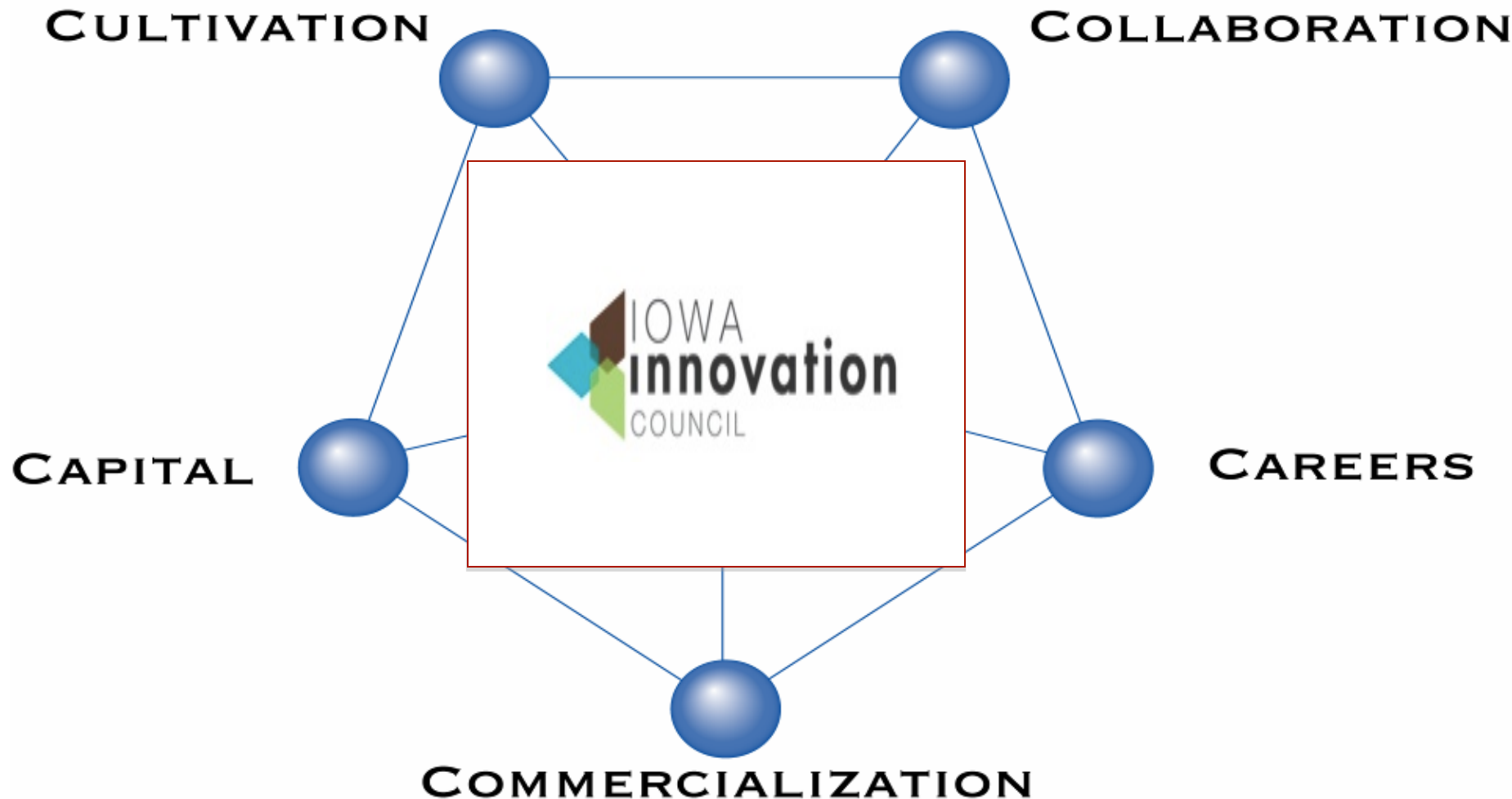
- Cultivation
- Collaboration
- Capital
- Careers
- Commercialization



# Iowa's Innovation Eco-System



# Innovation Paradigm



THE  
BEST WAY TO  
**PREDICT**  
THE FUTURE  
IS TO **CREATE**  
**IT**





# Bill Gates - Microsoft

**“Never before in history has innovation offered promise of so much to so many in so short a time.”**





**Richard A. Bendis**  
**President and CEO**  
**Innovation America**

2600 Centre Square West  
1500 Market Street  
Philadelphia, PA 19102

**(215) 496-8102**

[rbendis@bendisig.com](mailto:rbendis@bendisig.com)

[www.innovationamerica.us](http://www.innovationamerica.us)

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