

# ERIK ACTION and INTERREGIONAL COOPERATION – Upgrading the Innovation Capacity of Enterprises through Interregional Transfer

Tuesday 11 May 2010 – Palazzo degli Affari, Florence, Italy

## Good Practices from the USA

Richard A. Bendis  
President & CEO  
Innovation America  
May 11, 2010  
Palazzo degli Affari  
Florence, Italy



# 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



# Europe's Future is Determined By the Present



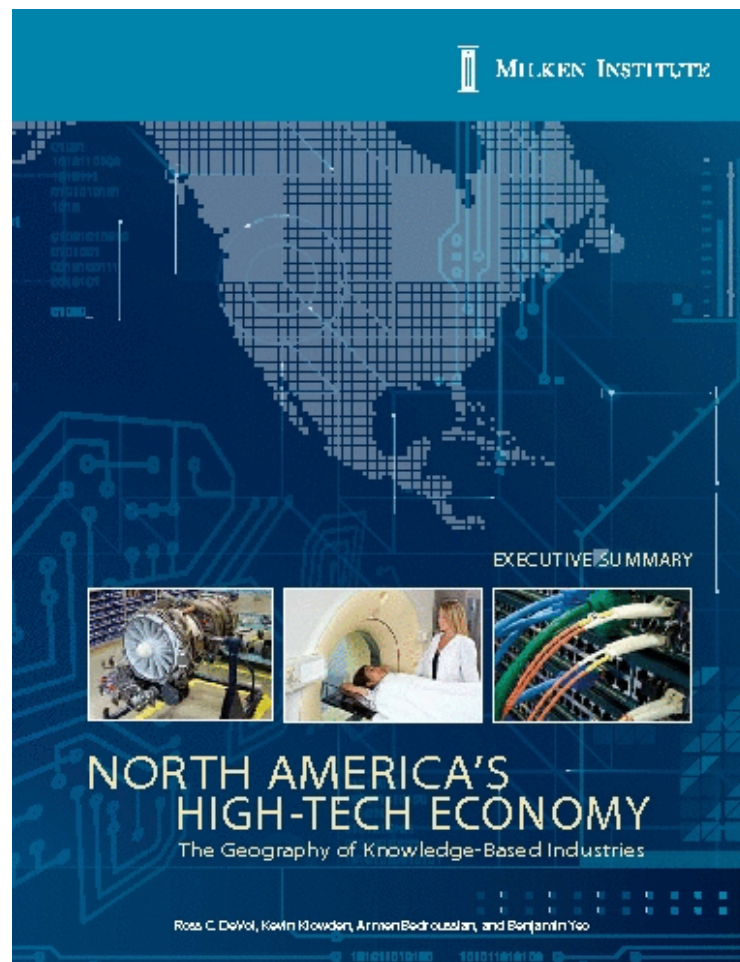
# What Is Technology-Based Economic Development?

- Approaches designed to encourage the creation and growth of technology companies
- Instilling technology in existing non-tech companies
- Emphasis is “growing your own” rather than recruitment, although recruitment can play a role, particularly the recruitment of talent
- Goal: create an environment in which tech firms will be created and thrive without government action
  - “Organic rather than synthetic”– Don Smith



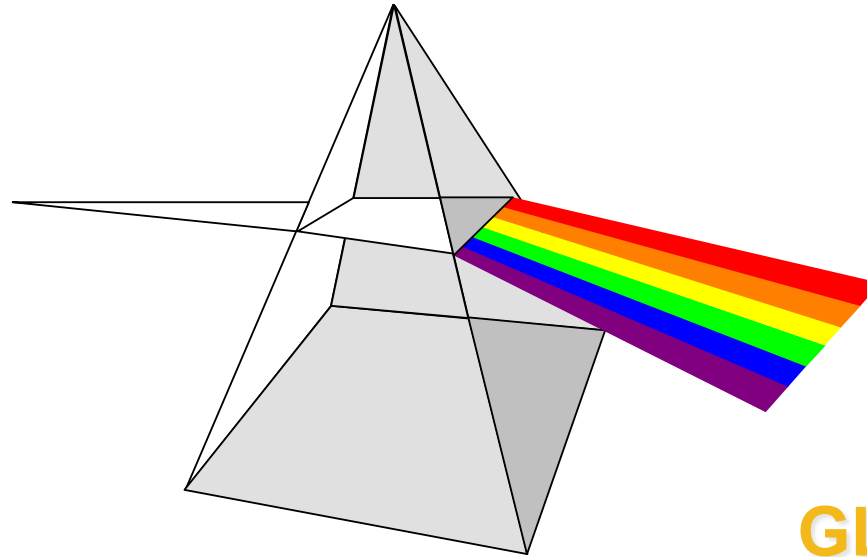
# Elements for a Tech-Based Economy

- Intellectual infrastructure
- Spillovers of knowledge
  - from universities
  - from informal networks
- Physical infrastructure
- Technically skilled workforce
- Capital
- Entrepreneurial culture
- Quality of life



# Innovation Economy

**KNOWLEDGE**



**INNOVATION**

**GLOBAL  
COMPETITIVENESS**

**“If a man empties his purse into his head, no man can take it away from him. An investment in knowledge always pays the best interest.”**

**--Ben Franklin**

# Why Is Innovation Essential?

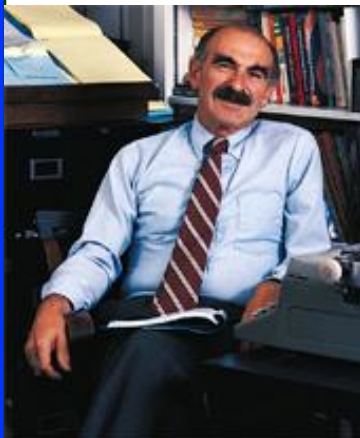


*“INNOVATION IS THE SPECIFIC INSTRUMENT OF ENTREPRENEURSHIP. THE ACT THAT ENDOWS RESOURCES WITH A NEW CAPACITY TO CREATE WEALTH.”*

-PETER F. DRUCKER

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

-STEVE JOBS



*“JUST AS ENERGY IS THE BASIS OF LIFE ITSELF, AND IDEAS THE SOURCE OF INNOVATION, SO IS INNOVATION THE VITAL SPARK OF ALL HUMAN CHANGE, IMPROVEMENT AND PROGRESS!”*

-TED LEVITT

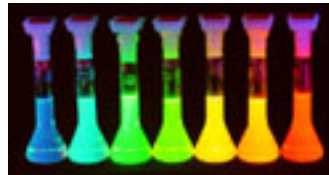
# Goals of Innovation-Based Economic Development

*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

# 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**

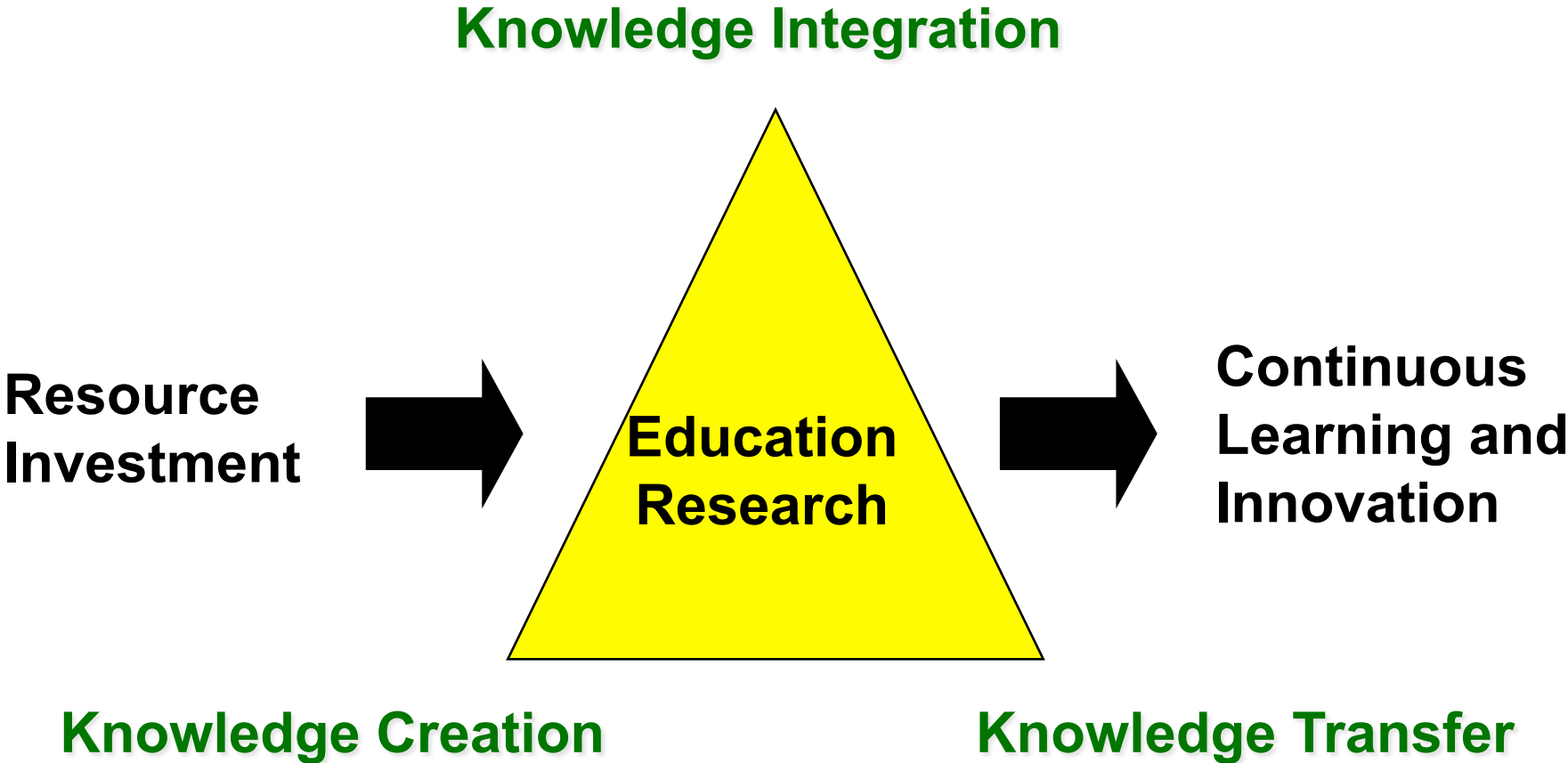




# Government's Role in S&T

- Long term vision and planning
- Identify gaps and trends in science, technology and innovation
- Be a catalyst through strategic investments and partnering
- Develop a balanced and flexible innovation capital investment portfolio
- Encourage private sector innovation
- Establish performance-oriented innovation-based economic development strategy and implementation plan

# The Role of Academia



# The Role of Industry: Wealth Creation

## *Capitalism is a Process of Creative Transformation*

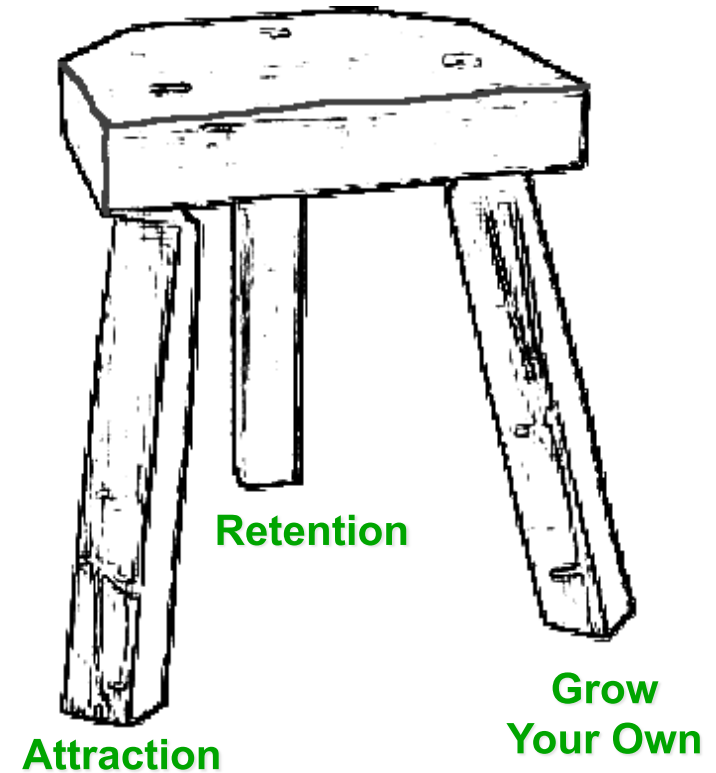
“The interaction of technological innovation with the competitive marketplace is the fundamental driving force in capitalist industrial progress.”



Joseph A. Schumpeter, 1942

# Economic Development

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



# Public/Private Partnership

- Progress is promoted by strong industry, government and university leadership
- Sustained by dynamic public/private partnerships
- These leaders create new, responsive models of governance



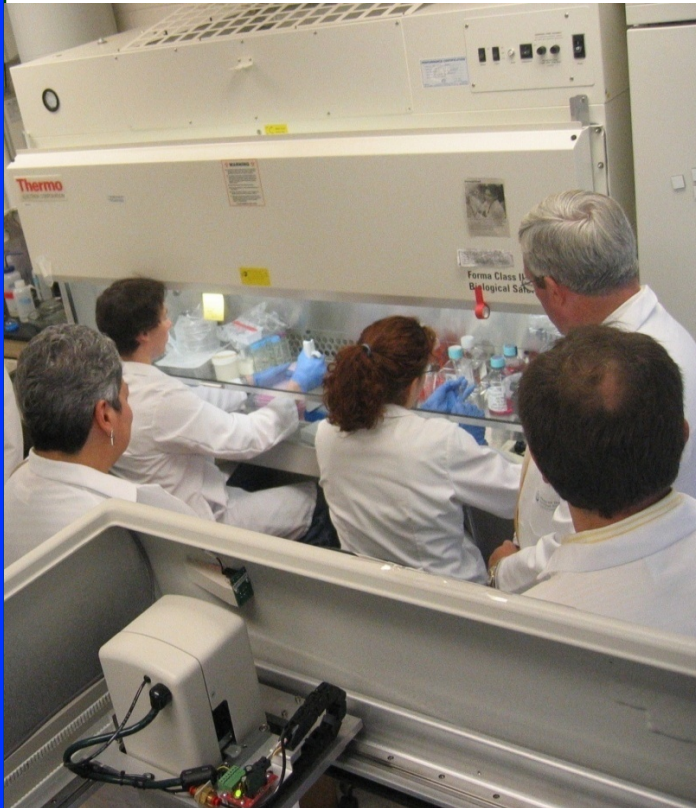


# Traditional ED vs. Innovation-Based ED

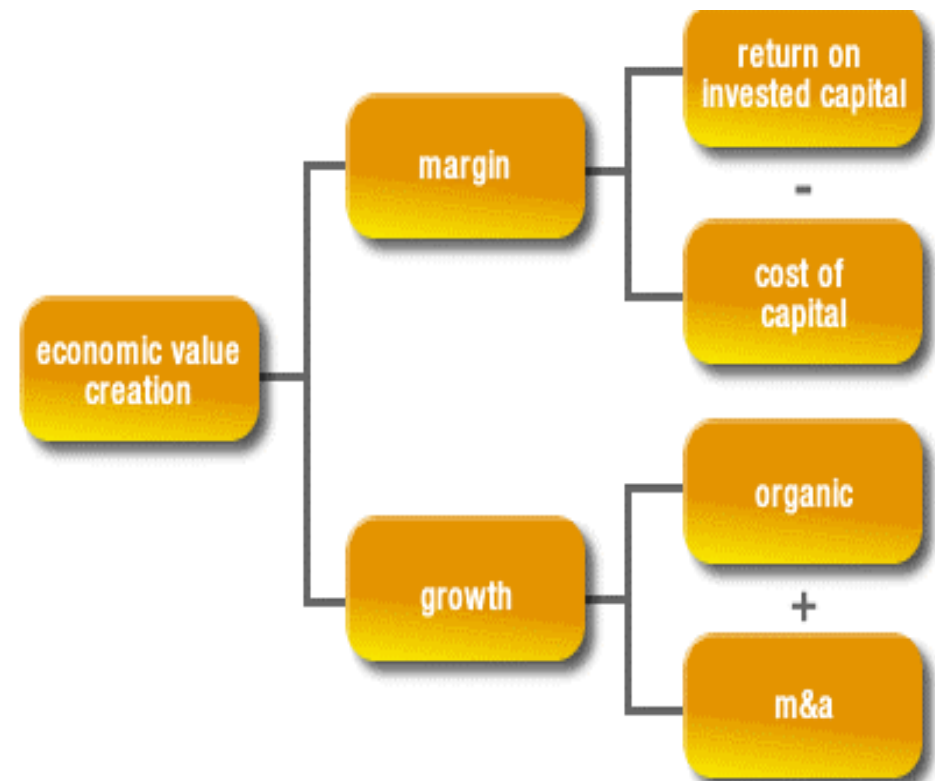
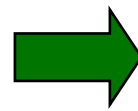
	<u>Traditional ED</u>		<u>Innovation-based ED</u>
• Competitive Basis	Natural resources Highways / Rail Proximity Costs	➔	Specialized talent Networks, information University research / professors Market understanding
	i.e. PHYSICAL		i.e. KNOWLEDGE
• Key values / offerings	Business parks Incentives	➔	Access to research Workforce competencies Lifestyle
• Lead Organization	Chambers / EDCs	➔	<b>Innovation intermediaries,</b> Economic developers

# Innovation Paradigm Shift

**PROOF OF CONCEPT  
(Technological Feasibility)  
“It Works!”**



**PROOF OF RELEVANCE  
(Market Pull)  
“I’ll Buy It!”**

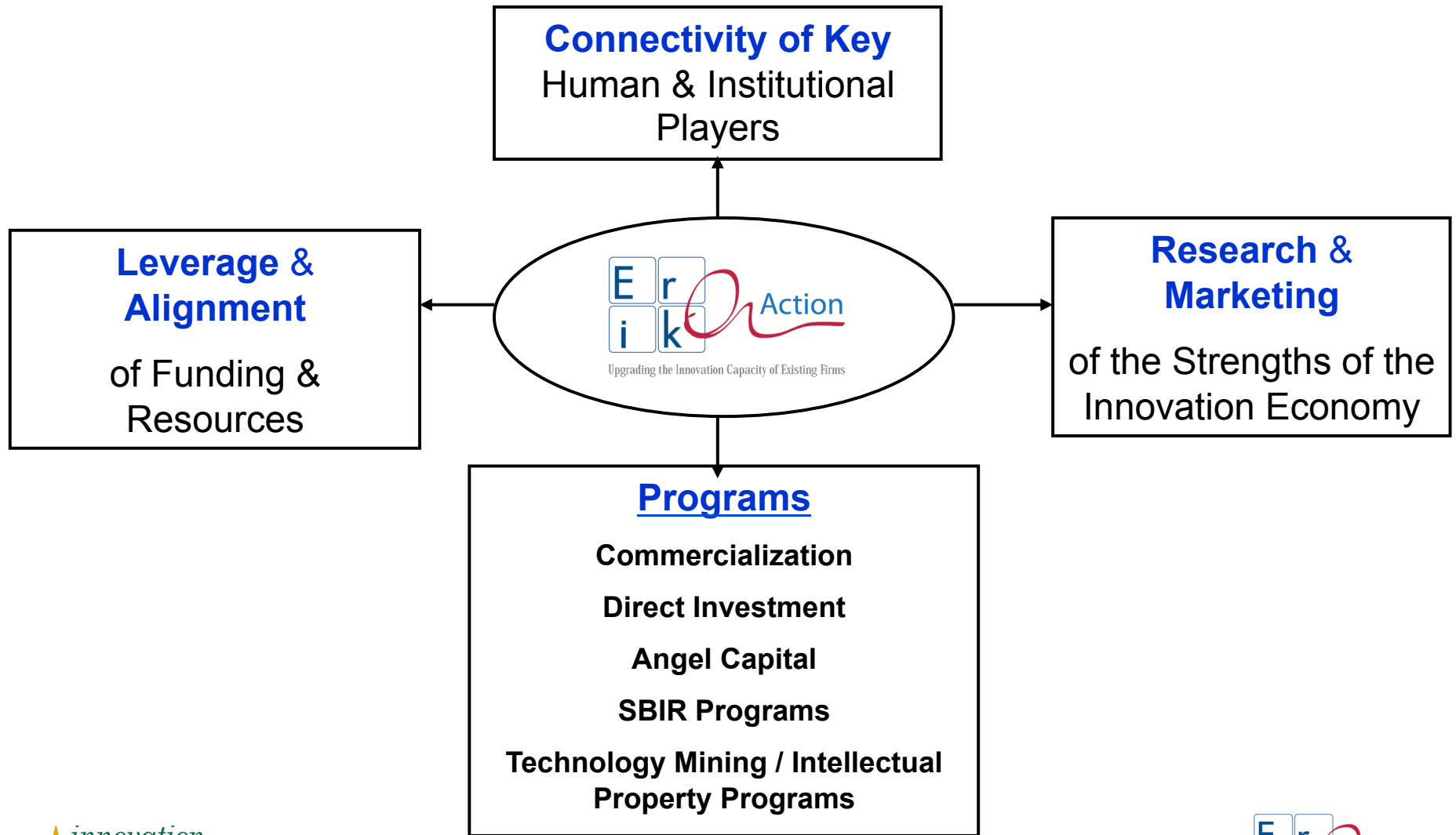


# What is an Innovation Intermediary?

- 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

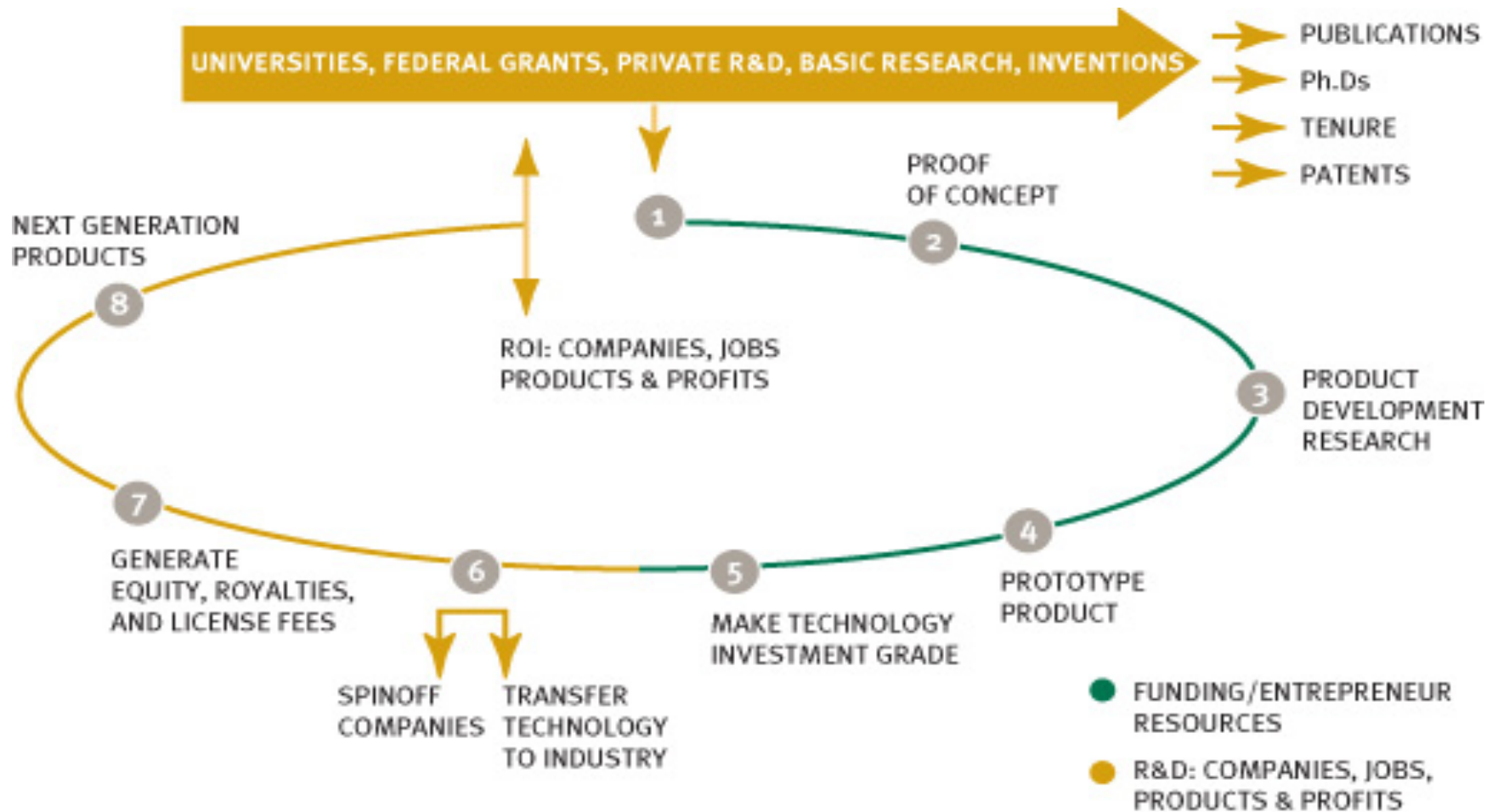


# Innovation Intermediary Commercialization Structure

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



# Innovation Commercialization Model

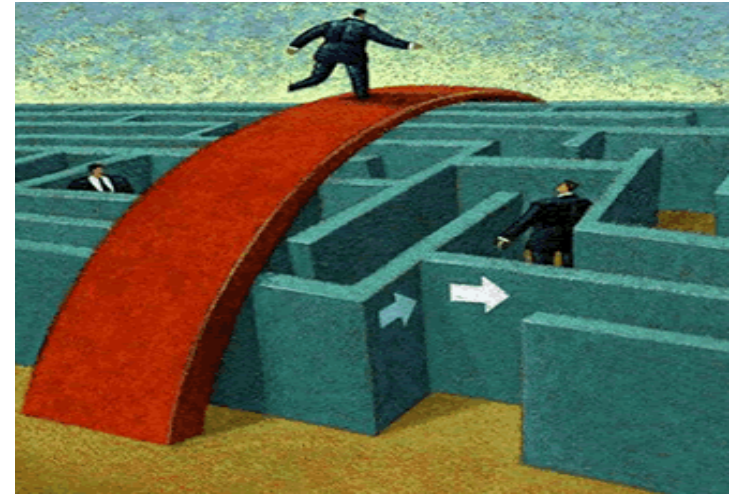


# U.S. Regional IBED Intermediaries



# 10 Reasons (Some) SME'S Underperform

1. **Passion**
2. **Physical and mental strength**
3. **Self-doubt**
4. **Belief**
5. **Foresight**
6. **Guts**
7. **Failure**
8. **Self-discipline**
9. **Fairness**
10. **Integrity**



# “The Perfect Storm”

## Reduced Angel Activity

- Angel Investors reduced their investments in 2009 Q1/Q2 by over 27%
- Availability of investment capital among angels decreased dramatically by 50% in 2009

## Venture Funding Moving Downstream

- The average investment by venture firms last year was \$8.3 million per investment and only about 4% of the capital went to early-stage companies.
- First Quarter of 2010 was the worst quarter in 12 ½ in terms of total capital invested by venture firms

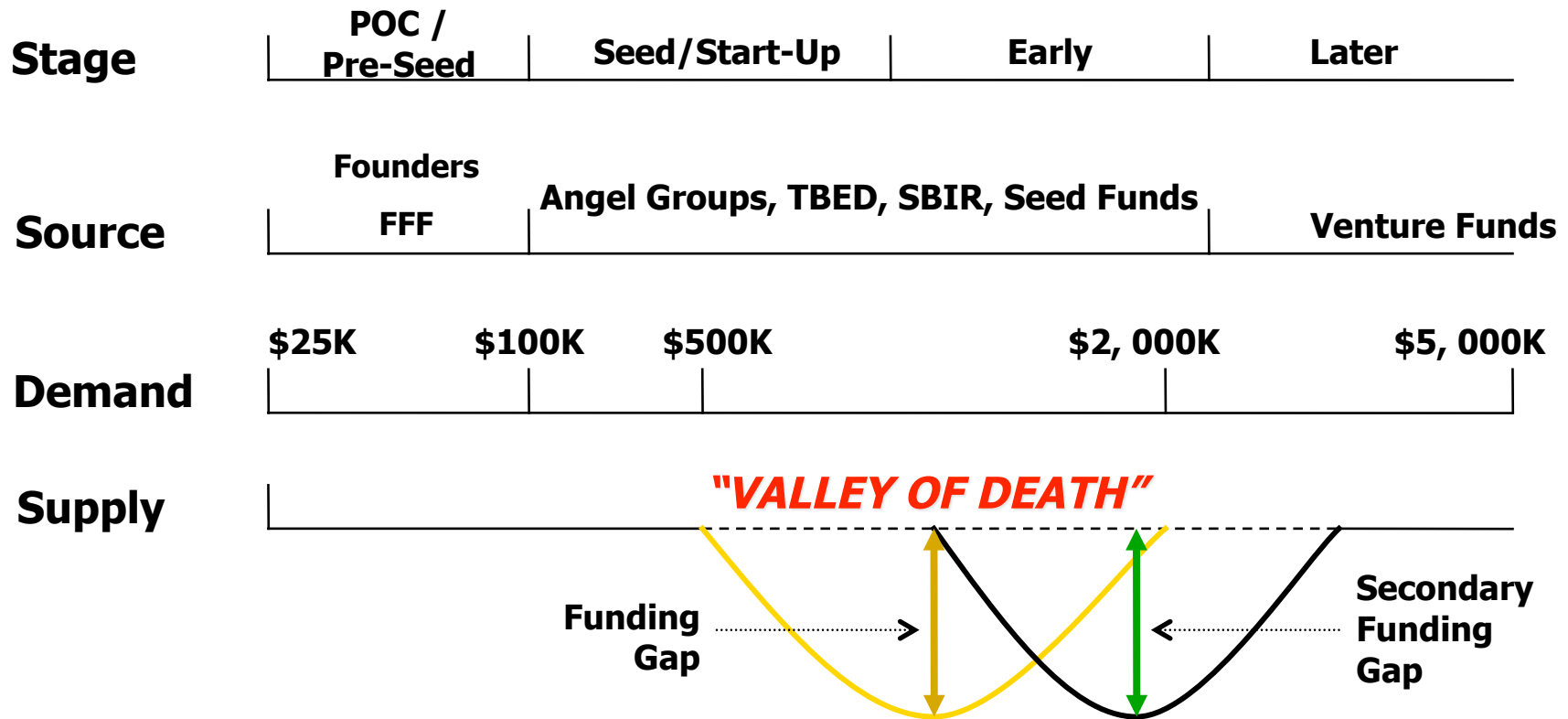
## State TBED Budgets Decreasing

- 44 states have budget deficits



# Innovation Capital Valley of Death

## “VALLEY OF DEATH”





# US Angel Capital Programs



CommonAngels™



**Note: 29 states with Angel Capital Tax Credit Investment Programs**



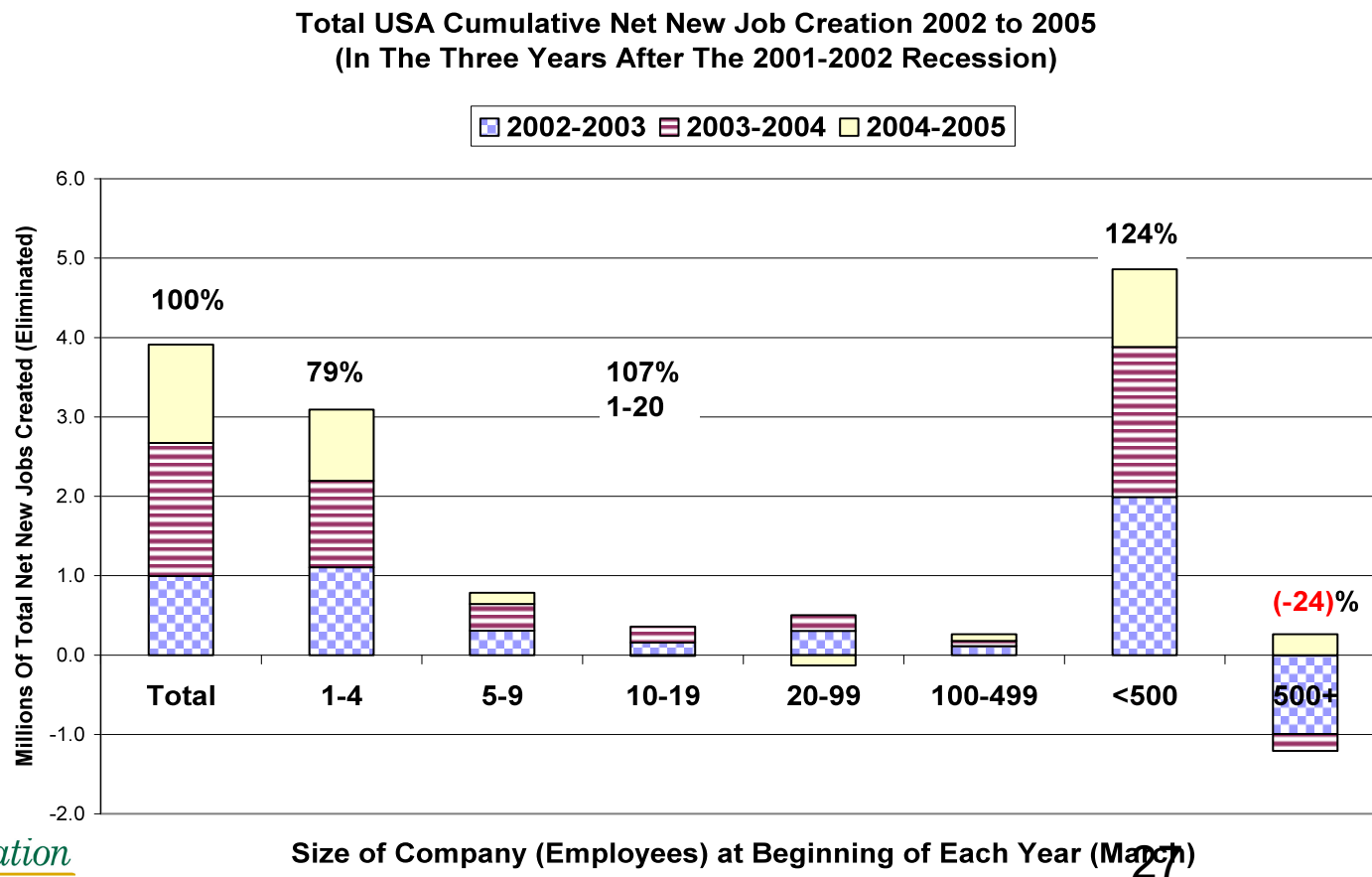
**Jobs! Jobs! Jobs!**

**Does Seed Investing  
REALLY  
Create Jobs?**



# 2001 Recession: Small Business Drives Job Creation

- In the three years after the 2001 recession, Companies of less than 20 employees created 107% of net new jobs while companies over 500 employees eliminated a net of -24%



Source: Small Business Administration

# Public Investment Job Creation

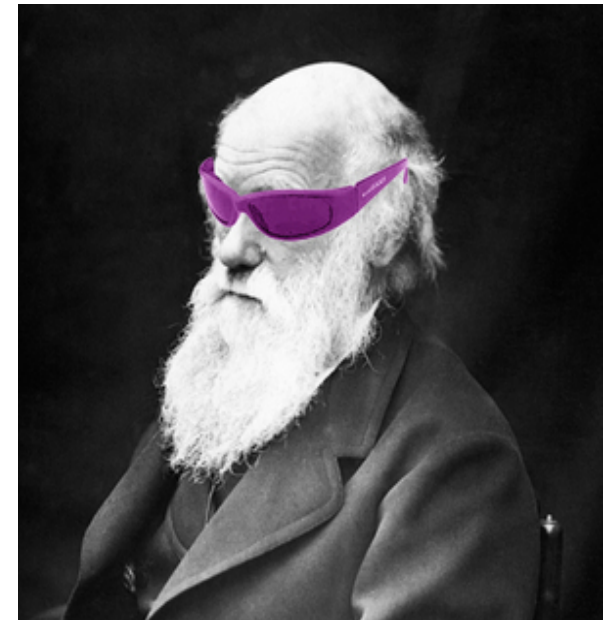
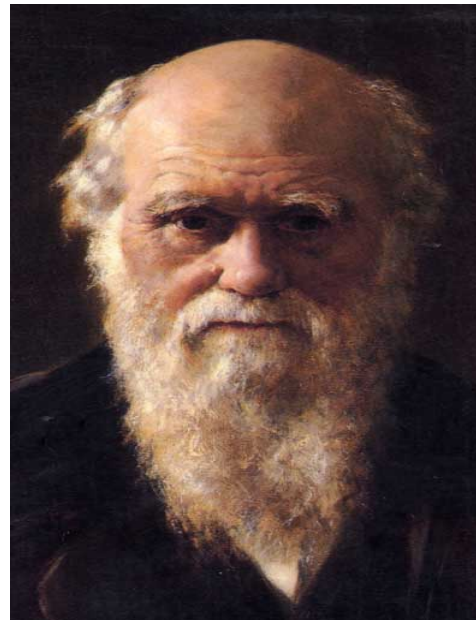
Category	State of PA	CDVCA*	State of UTAH	Stimulus Bill
Funds Invested	\$90M	\$26M	\$60M	<b>\$800B</b>
Jobs Created	8,150	3,700	2,047	<b>4,000,000</b>
\$ Per Job Invested	\$11,000	\$7,100	\$29,300	<b>\$200,000</b>

\* Community Development Venture Capital Assoc.

## 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



# Innovative Entrepreneurial Support Initiatives



- Seed Funding
- A Collaborative work space
- Mentors and Advisors who have "been there and done it" before
- Donated legal, accounting and administrative help to form companies properly
- Introductions to funding sources (including Angel Investors, Venture Capitalists, private investors and public sources of funding)





# U.S. State Innovation Councils



*big* Business Innovation Growth

**IOWA**  
*innovation council*





# IBED Best Practices, Common Attributes

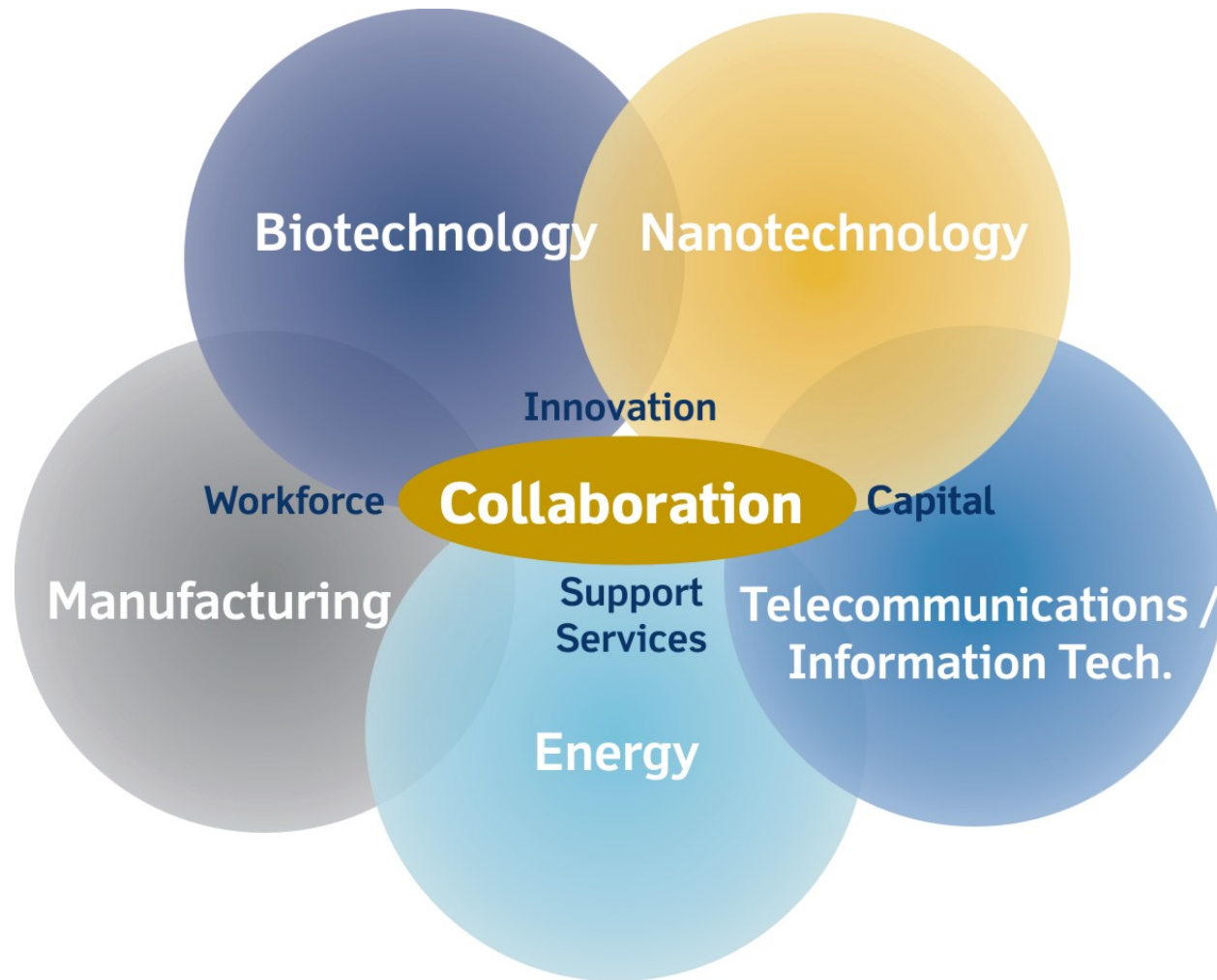
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- Longevity
- Bipartisan Support & Champions
- Independent Organizations
- Continuous Reinvention
- Private Sector Involvement
- Understand Return On Investment
- Sustainability In Funding
- Accountable
- Innovative
- Effective Leadership

# U.S. State IBED Programs



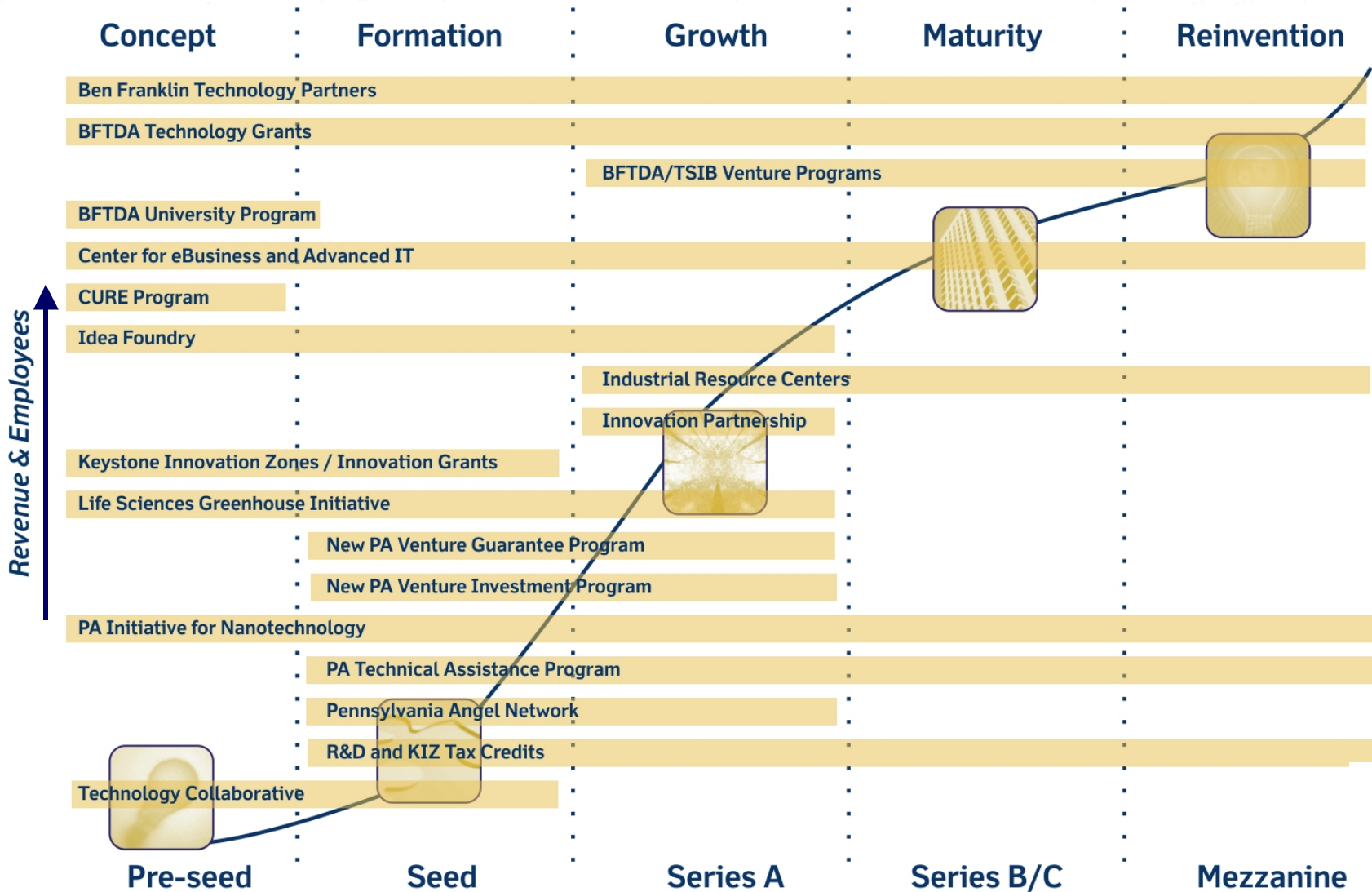
# Pennsylvania's Industry Clusters



# Technology Investment

## Technology-based Economic Development Tools Along the Continuum

> ready > set > succeed



# Best Practices in IBED

**Ohio**

**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

**hi** velocity

 **innovation**  
AMERICA



**E r i k** Action  
Upgrading the Innovation Capacity of Existing Firms

# Kansas Technology Enterprise Corporation



[www.ktec.com](http://www.ktec.com)

KTEC Mission:

***“To create, grow and expand Kansas enterprises through technological innovation.”***



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



## *Purpose of the Study:*

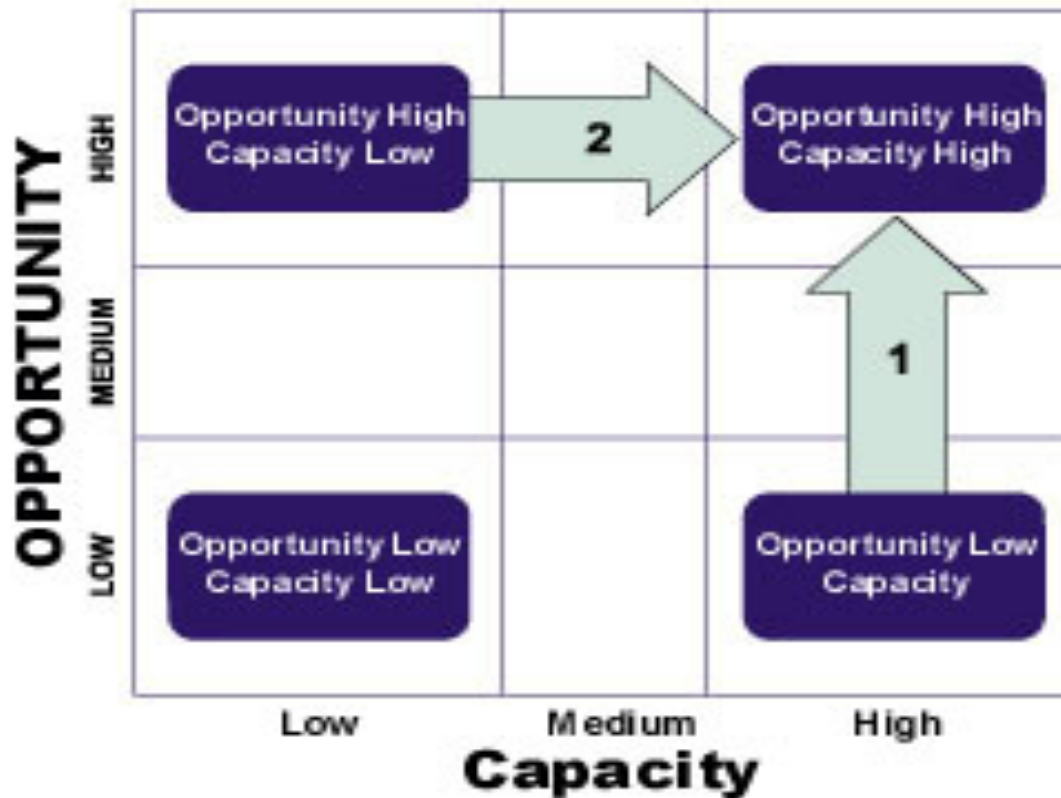
- Technology revolution affecting the economy.
- We must map our course in this new innovation economy.
- Focus our resources on strategic technology clusters in order to compete.

Published by The  
Kansas Technology  
Enterprise  
Corporation



# Linking Opportunity With Capacity

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



## 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)



# ICC's Expand the Life Cycle

**Investment Grade Technologies**  
*Development Risk*

**Applied Research Project**

**Innovation**  
 •Development Risk  
 •Market Risk  
 •Management Risk  
 •Growth Risk

*Innovation and Commercialization Corporations*  
 Independent 501(c)(3) not-for-profit  
 Independent Board of Directors  
 President with commercialization experience  
 For Profit Seed Capital Funds

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



**General Incubator Services**

**Quality Investments**

**Start-up Company**  
 •Market Risk

**Seed Capital**  
 •Market Risk  
 •Management Risk  
 •Growth Risk



# 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





KANSAS BIOSCIENCE  
AUTHORITY

# How the Fund Works

Set Baseline Tax Revenue for  
Bioscience Companies (NAICS) and Research Institutions

Measure Actual Incremental Growth  
in State Bioscience Taxes

*Repeat  
annually  
for 15 years*

Baseline  
to  
State General Fund

Increment of Growth  
to  
Bioscience Fund

**Kansas Bioscience Authority**  
*Fund Programs & Repay Bonds*

Partners in Bioscience Growth ●



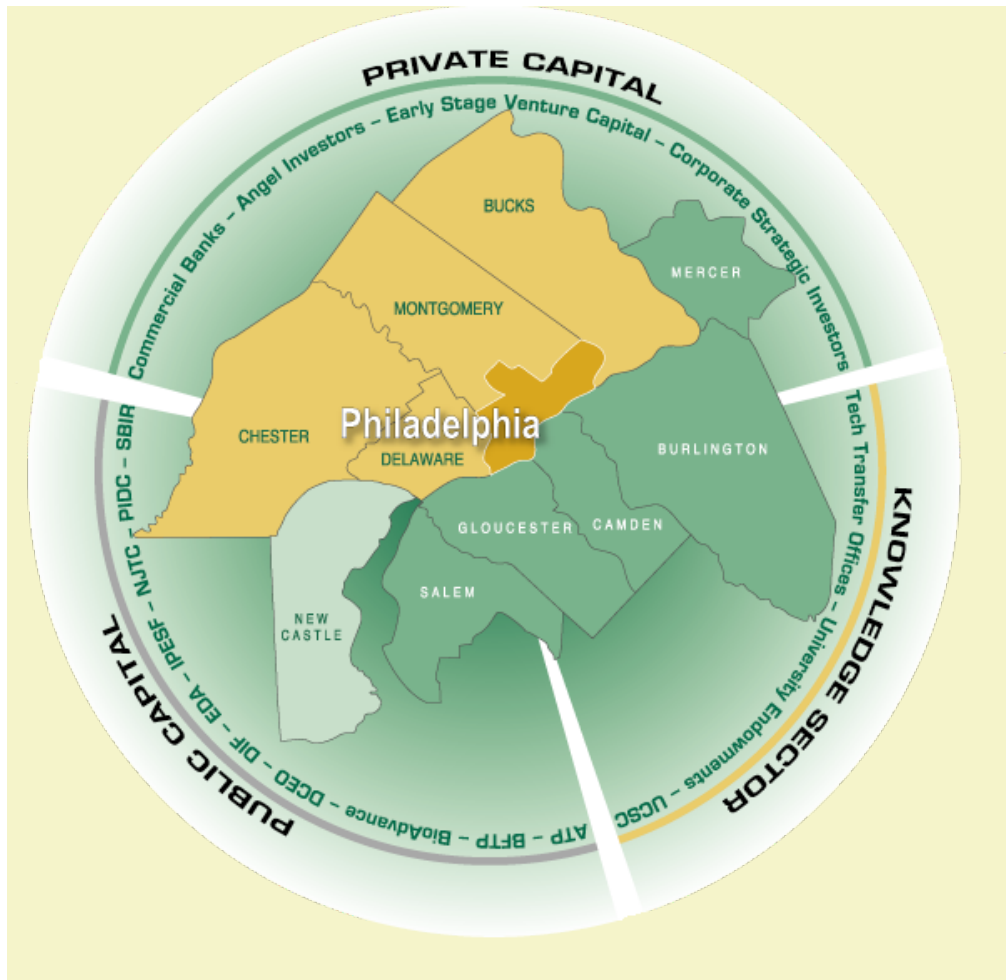
# Innovation Philadelphia's Mission



A Public/Private Partnership  
created to:

Grow the  
Wealth and  
Workforce of the  
Greater Philadelphia Global  
Innovation Economy

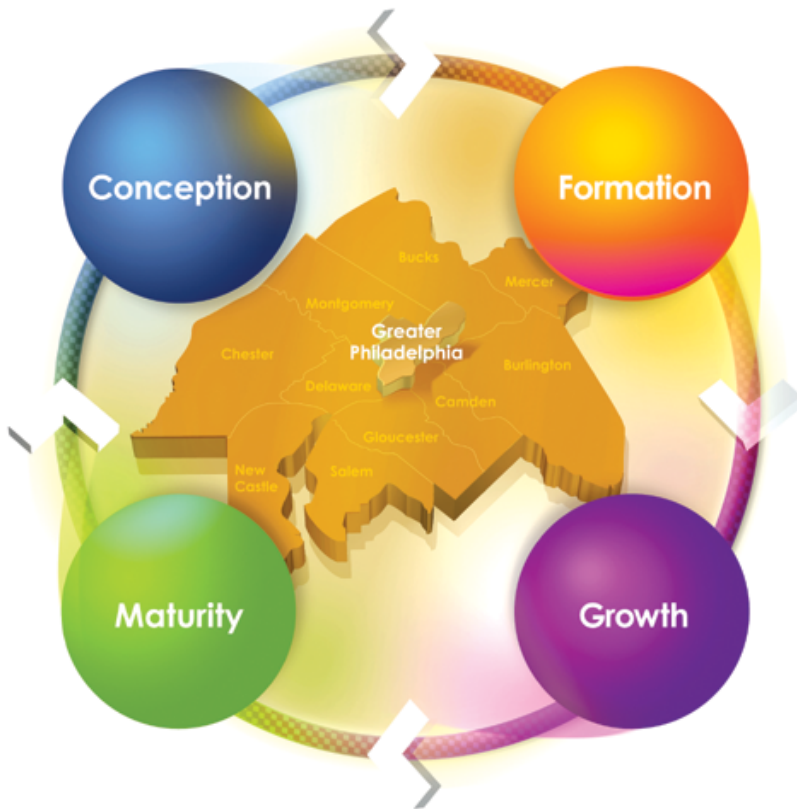
# Innovation Philadelphia: Leveraging the Resources of the Greater Philadelphia Region



**3 states**  
**11 counties**

- ❖ **Pennsylvania:** Bucks, Montgomery, Philadelphia, Chester, Delaware
- ❖ **New Jersey:** Mercer, Burlington, Camden, Gloucester, Salem
- ❖ **Delaware:** New Castle





# Churning the Greater Philadelphia Innovation Economy

## A Roadmap for Regional Growth

“You can always amend a big plan, but you can never expand a little one. I don’t believe in little plans. I believe in plans big enough to meet a situation which we can’t possibly foresee now.”

— Harry S. Truman

# IP Core Products / Services

## Investment

## Commercialization

## Global & Regional Workforce / Economic Development

## Branding, Research & Marketing



World's Best  
Technology Network



# Knowledge Industry Partnership/CareerPhilly



Knowledge Industry  
Partnership

**ATTRACT**  
GPTMC, Campus Visit/  
Philadelphia

**ENGAGE**  
Campus Philly, City of  
Philadelphia

**RETAIN**

**IP** | *innovation*  
**PHILADELPHIA™**  
REGIONAL INNOVATION...GLOBAL REALIZATION

**CareerPhilly**



one**big**campus



[www.careerphilly.com](http://www.careerphilly.com)



- The first Web site dedicated to the career development of students in the Greater Philadelphia Region.
- Provides Regional students with a **search engine** designed to help them find Regional job and internship opportunities.
- A **calendar of events** provides students with a listing of career development and networking activities.
- An **advice** section contains helpful information for students on the many aspects of their career development.

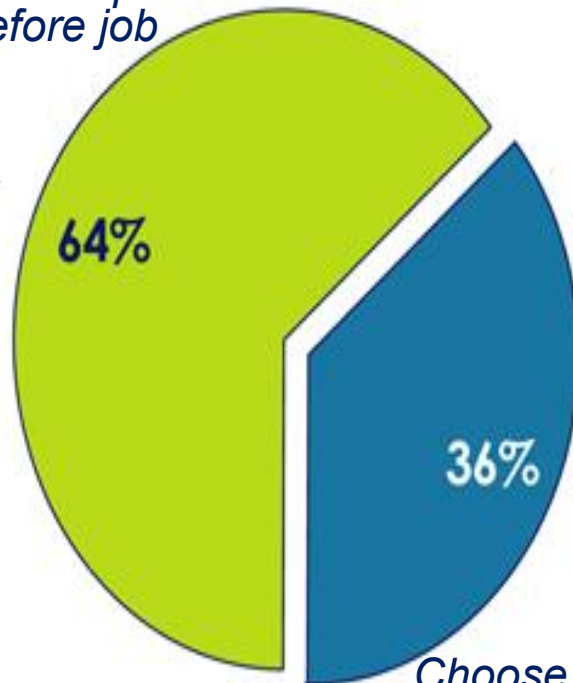
## Attracting And Retaining College-educated Workers



# Talent is the Currency of the New Economy

## HOW GEN-Y DECIDES WHERE TO LIVE AFTER COLLEGE

*Choose place before job*



*Choose job before place*

**CEOs** for Cities



**“Talented individuals are voting with their feet to live in cities where the work is smart, culture is cool, and the environment is clean.”**

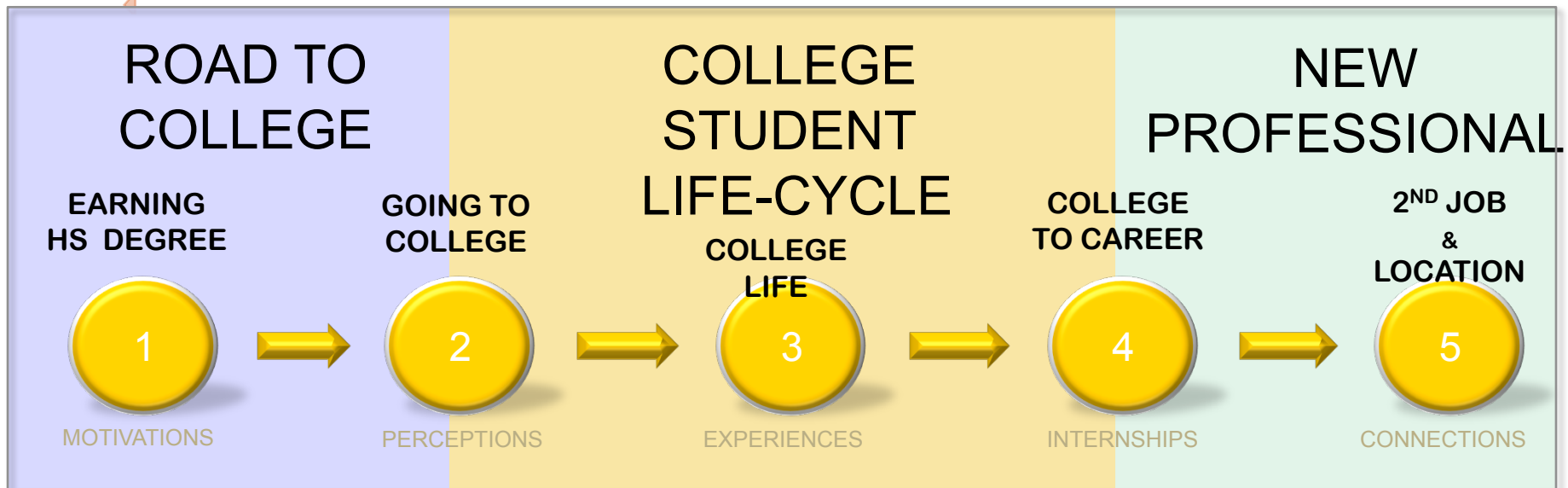
The Washington Post  
11.09.03



# REGIONAL HIGHER-ED CENTRIC COLLABORATIONS



# Leveraging the Talent Pipeline





# What Worked For KTEC and Innovation Philadelphia

- **FOCUSED & INTEGRATED** Science & Technology Collaboration
- **PRIVATE** Sector Leadership and **COMMITMENT**
- Organization's function as a **BUSINESS**
- Successfully manage a technology investment portfolio for **ROI**
- Operational **FLEXIBILITY**
- **ACCOUNTABILITY** with measurable outcomes
- Experienced **PROFESSIONAL** team
- Focus on the **ENTREPRENEUR'S** needs
- **SUSTAINABLE** Funding



# Regional Innovation Clusters Initiative (RICs)

RICs are a geographically-bounded, active network of similar, synergistic or complementary organizations which leverage their region's unique competitive strengths to create jobs and broader prosperity.



# Energy Regional Innovation Cluster (E-RIC)



- \$129.7 million over five years to create an Energy Innovation Hub
- Focused on developing new technologies to improve the design of energy-efficient building systems.
- Regional research centers will develop new building efficiency technologies and work with local partners to implement the technologies in area buildings.

## Why do RICs Matter?

---

- They create a transition path from unemployment or underemployment to high-skill jobs.
- On average, jobs within clusters pay higher wages.
- Regional industries based on inherent place-based advantages are less susceptible to off-shoring.
- Create many new job opportunities for American workers.
- They connect disenfranchised communities to new career and educational opportunities.
- They stabilize communities by re-purposing idle manufacturing assets, engaging underutilized human capital, and contributing to improvements in the quality of life.

# Regional Innovation Clusters

- Implies bounded area characterized by inherent social, environmental, economic, and cultural assets
- Transcends socio-political boundaries
- May include **urban & rural**



# 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*

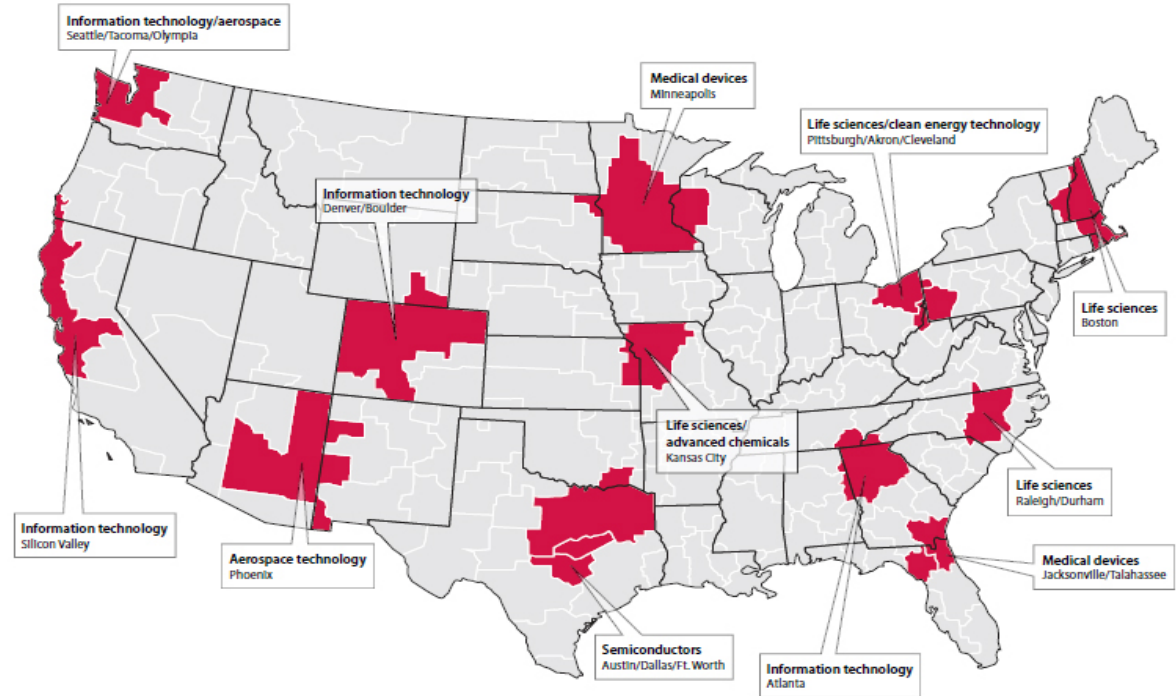
**Location, Infrastructure, Amenities,  
Factor Costs, Natural Resources**

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

# RICs Are Diverse

- All parts of the nation
- Can be in wide array of industries
- Vary in size, shape, and reach
- Often cross local, county, and state boundaries
- Urban and rural

A SNAPSHOT OF U.S. INNOVATION CLUSTERS  
A selection of high-tech clusters in different parts of our country



Source: Cluster Mapping Project, Institute for Strategy and Competitiveness, Harvard Business School. Copyright © 2005 President and Fellows of Harvard College. All rights reserved.



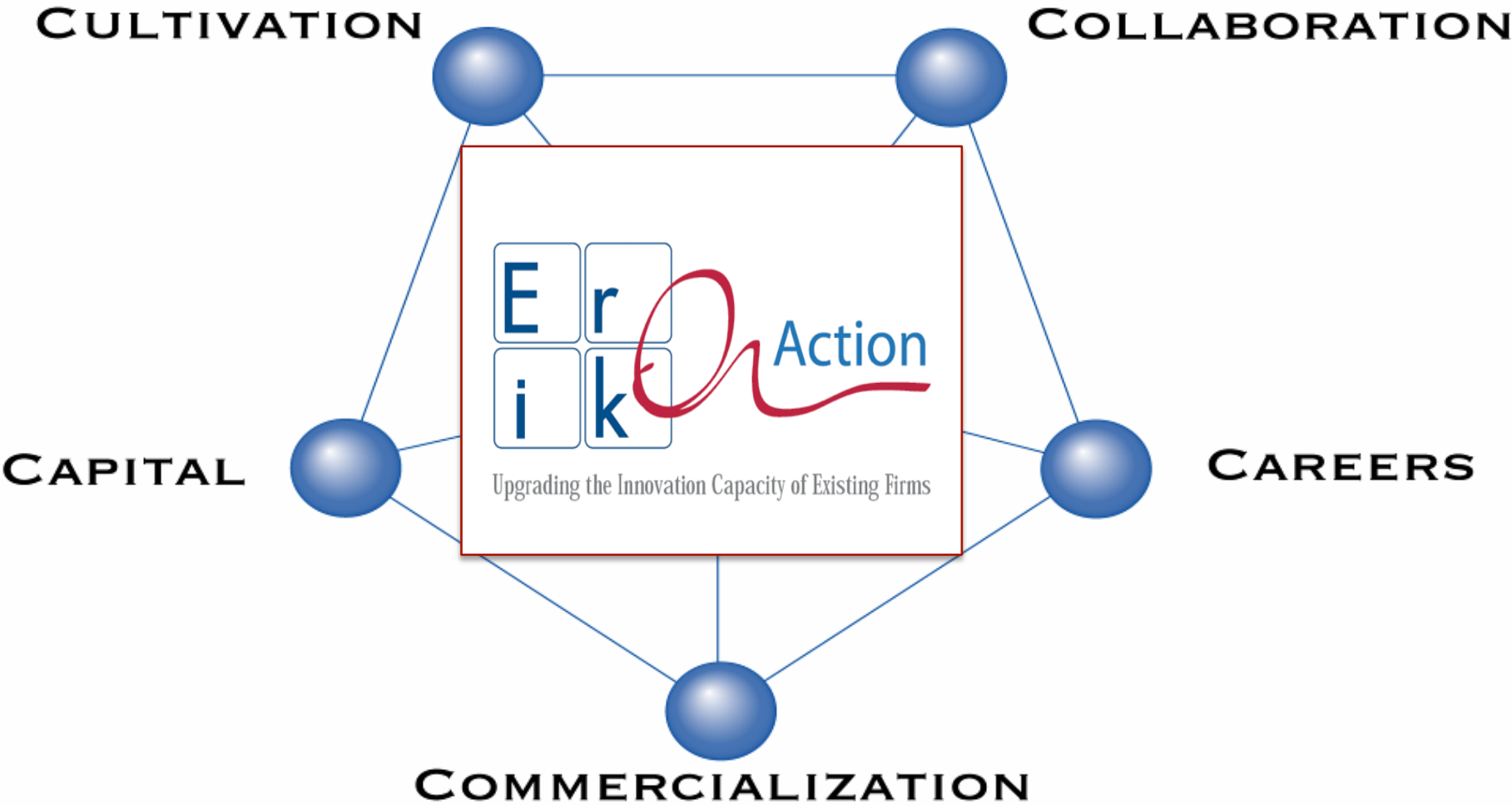
# Best Practices in RIC Management

- **Regionally-Led** from existing networks & assets – bottom-up approach
- **Involve partnerships between private and public** at all levels (i.e. local, regional, state, and Federal)
- Unique **strengths of region are built upon** rather than trying to copy other regions (i.e. everyone can't support a biotech cluster)
- **Different strategies are developed for different clusters**
- Well-funded initially and **self-sustaining over the long-term**
- **Linked with relevant external efforts**, including regional economic development partnerships and cluster initiatives in other locations

# 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. **Recommended organizational structure, governance, budget, and funding sources (Private Public Partnership)**
9. **Organizational leadership and staffing**
10. **Program portfolio/implementation**
11. **Marketing, Branding and Success Stories**
12. **Economic Impact Analysis**

# Innovation Paradigm



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Thu Dec 03 16:09:15 -0500 2009

## Innovation vs. "Awesomeness"

This "Awesomeness Manifesto" by Umair Haque hinges on a rather narrow definition for "innovation" so as to draw a contrast, but lets undermine the whole thing by highlighting the most glaring weakness."

Obsolescence is what's obsolete" means what? For nothing to ever be made obsolete, nothing new and better may be created. Haque appears to dislike the concept of creative destruction becomes some peoples' wealth is destroyed in the process of making new people wealthy... but what's the alternative? Those who are presently rich and powerful must be allowed to stay that way? Societal calcification. Stagnation. Creative destruction isn't perfect, but generally, over time, what is destroyed is less valuable than what is created. That's not a waste of our seed-corn, that's how it's supposed to be used. Seeds are consumed when you plant them, but the resulting crops are worth more than the seed. Then you collect more seed and start the next round. peoples

[back to top](#) \*

## Can an 'Innovation Economy' Save the U.S.?

We need more political leaders like John F. Kennedy. He envisioned going to the moon and inspired the innovation to make it manifest.

THE  
HUFFINGTON  
POST

I have got to be honest. I didn't have any idea of what an "innovation economy" had to do with me until yesterday. True, I don't cover business issues normally, sticking to what I know best, which is politics, with the primary focus of foreign policy. But when I was offered the opportunity to attend the Innovation Economy Conference held in Washington, D.C. yesterday, I jumped at the chance. (I tweeted the conference as well.) Because if ever there was a time we need some out of the box thinking on our economy this is it. The event, hosted by The Aspen Institute, Intel, Democracy (a journal of ideas), and The News Hour with Jim Lehrer, I went to check out, expecting to stay for a couple of hours, but ended up staying all day. I by no means caught every speech or break-out session, but what I did witness proved one thing to me. If the U.S. doesn't get moving we're going to be in even more serious trouble.

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