Road Map For Innovation
October 18, 2010

Presented by:
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President and CEO
Innovation America

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 & Creativity Matters"**

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Bill Gates - Microsoft

- "Never before in history has innovation offered promise of so much to so many in so short a time."

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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**"

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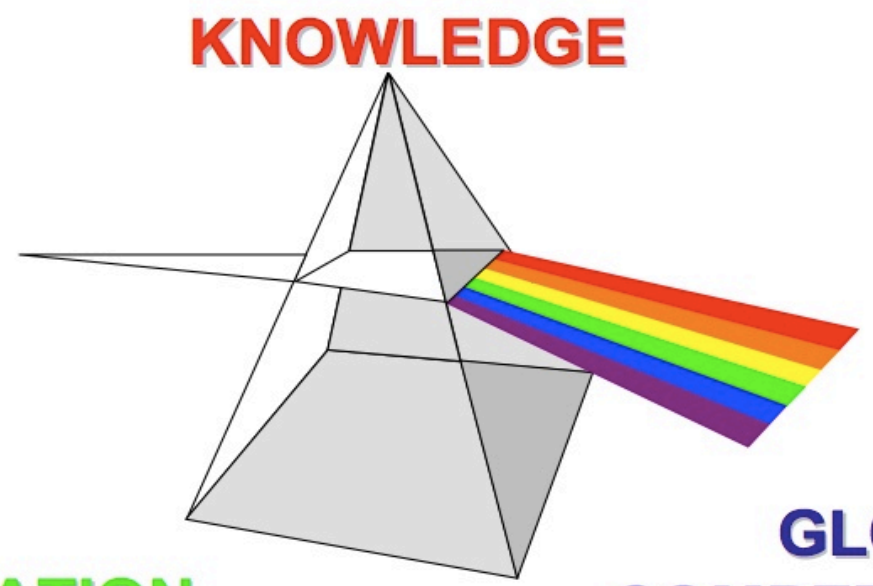
Innovation Economy



"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

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Global Innovation Network

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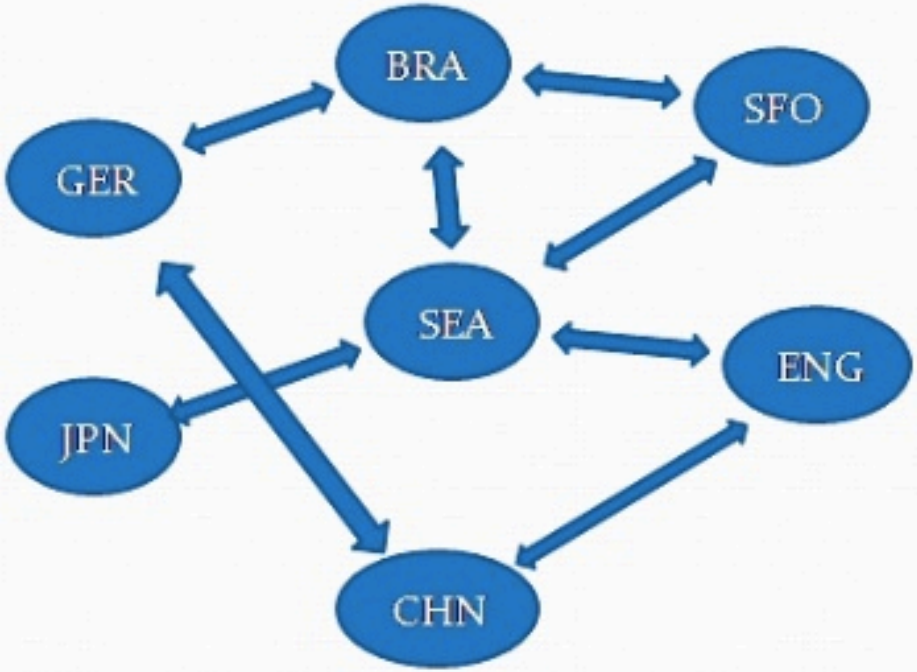
Global Innovation Networks

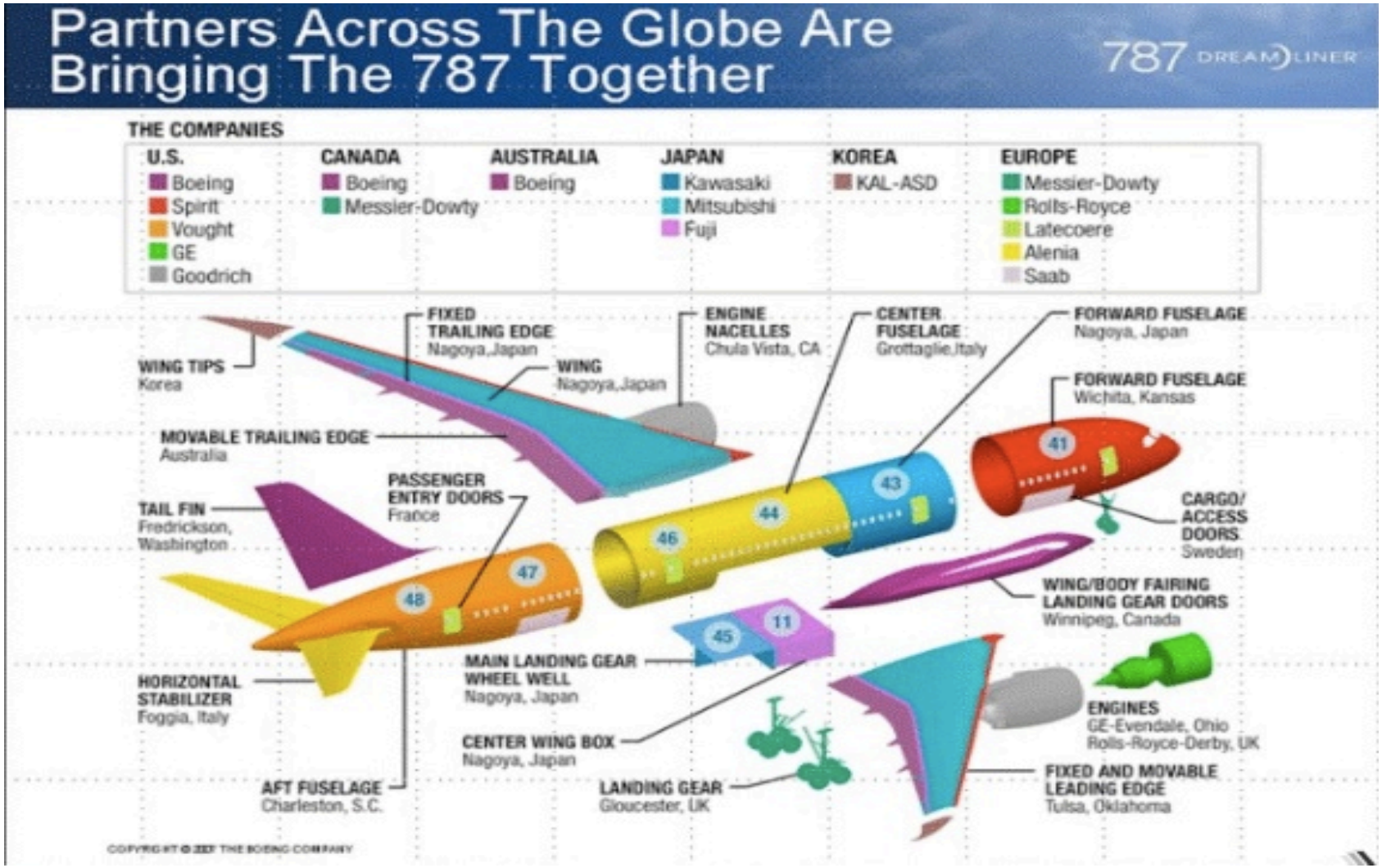
New Model: Regional Clusters making up Global Innovation Networks



Exchange of

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

Global Innovation Networks



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

Overall	State	Cost of Business	Workforce	Quality of Life	Economy	Transportation	Technology & Innovation	Education	Business Friendliness	Access to Capital	Cost of Living
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
4	North Carolina	15	3	32	37	10	11	26	13	10	23
3	Colorado	25	10	2	8	36	12	29	4	15	35
28	Florida	41	1	31	48	21	13	35	23	17	30
30	Illinois	35	39	24	29	12	14	26	39	6	17
34	Ohio	29	48	38	34	2	15	18	38	24	15
46	West Virginia	15	44	40	24	38	48	34	50	40	17

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Why Is Innovation Essential?

"INNOVATION DISTINGUISHES BETWEEN A LEADER AND A FOLLOWER."

-STEVE JOBS

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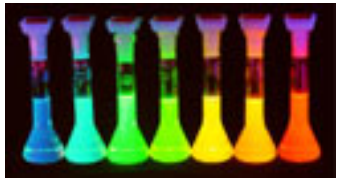
Implementing a New Innovation Paradigm

- 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 (IBED)**



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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

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Collaboration

A recursive process where 2 or more people or organizations work together in an intersection of common goals.

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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

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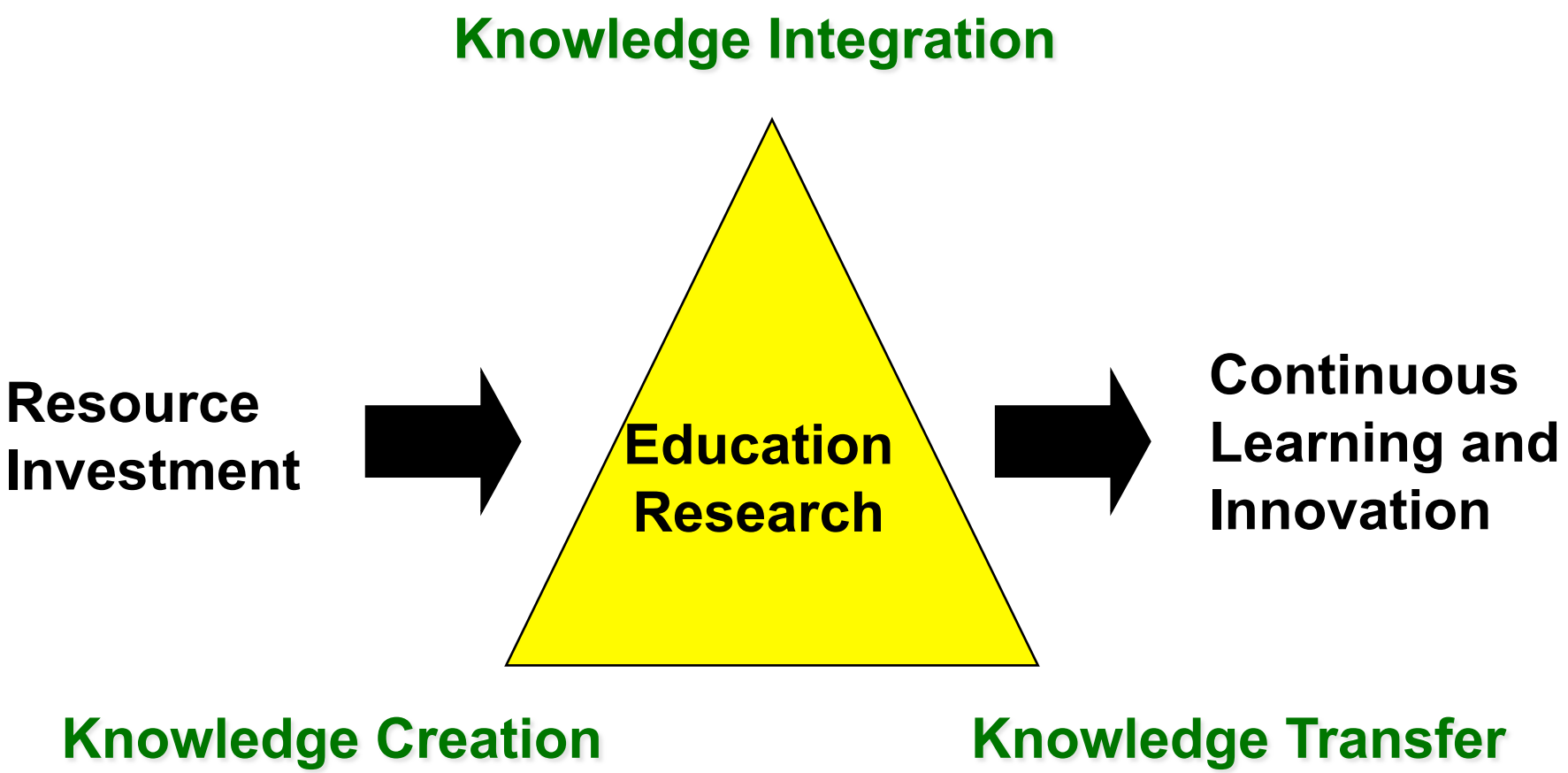
The Role of Education



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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

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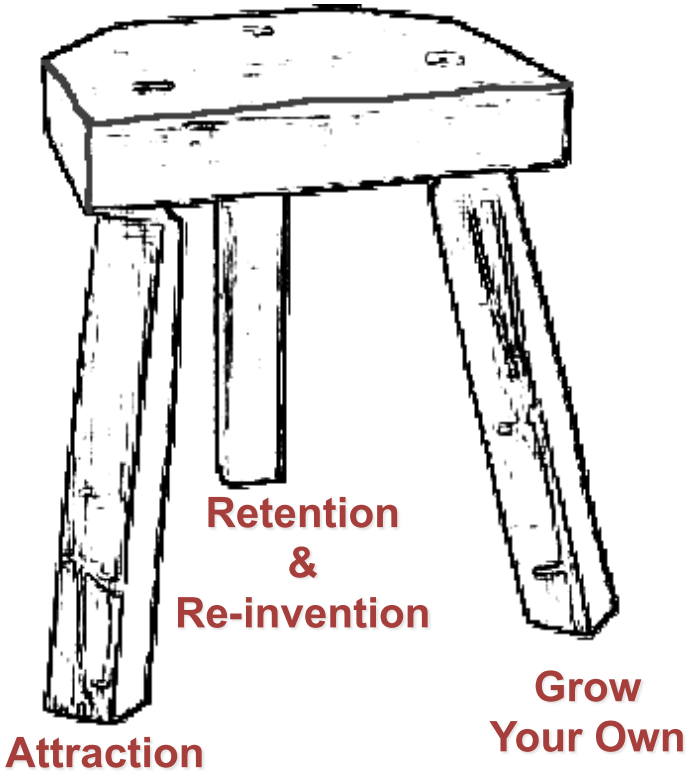
Economic Development

- 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!



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Traditional & Innovation-Based Development

	Traditional		Innovation (Clusters)
• Competitive Basis	Natural resources Highways / Rail Proximity Costs	→	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	→	Economic developers **Innovation Intermediaries**

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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.

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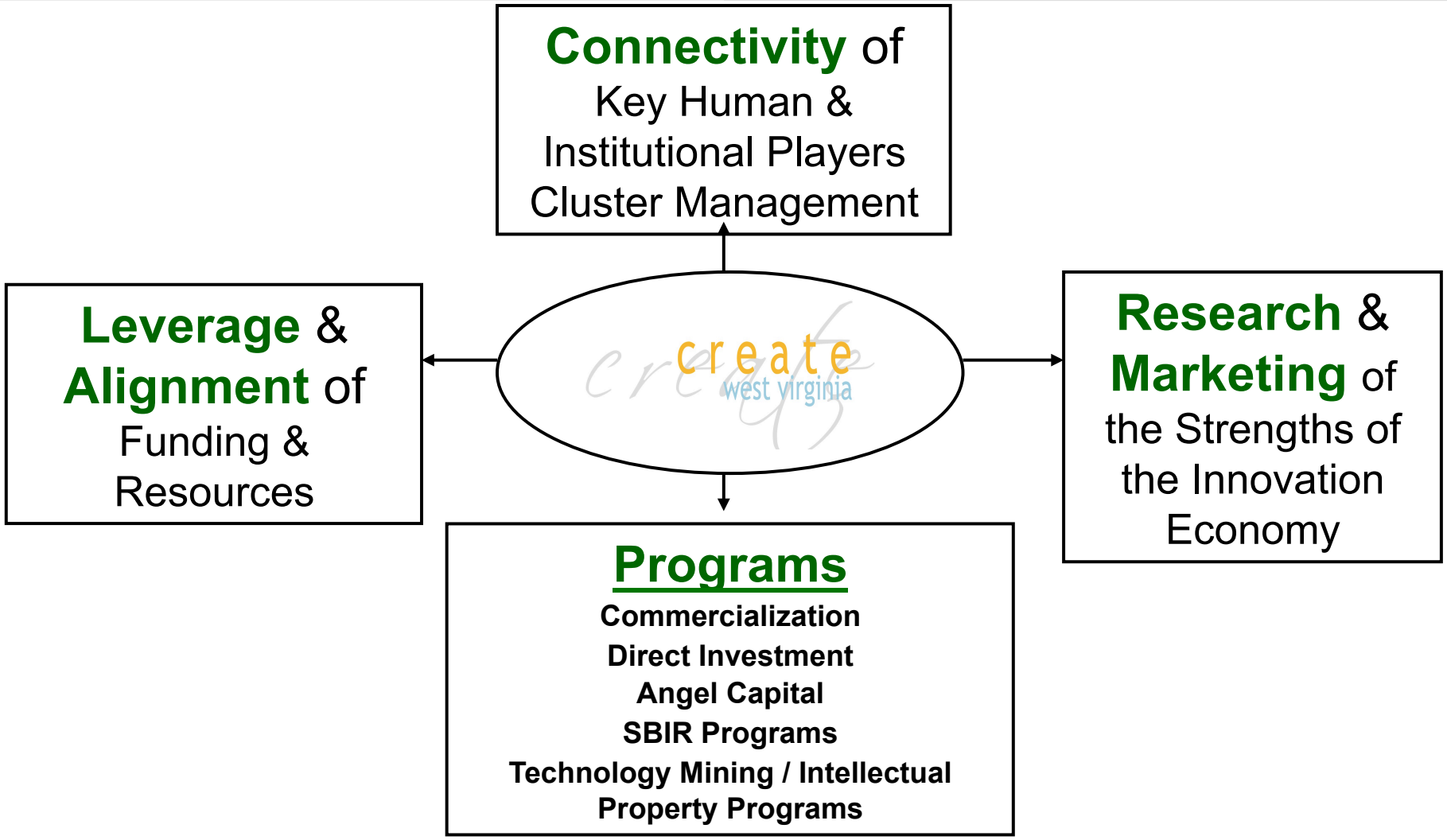
21st Century Innovation Intermediary



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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

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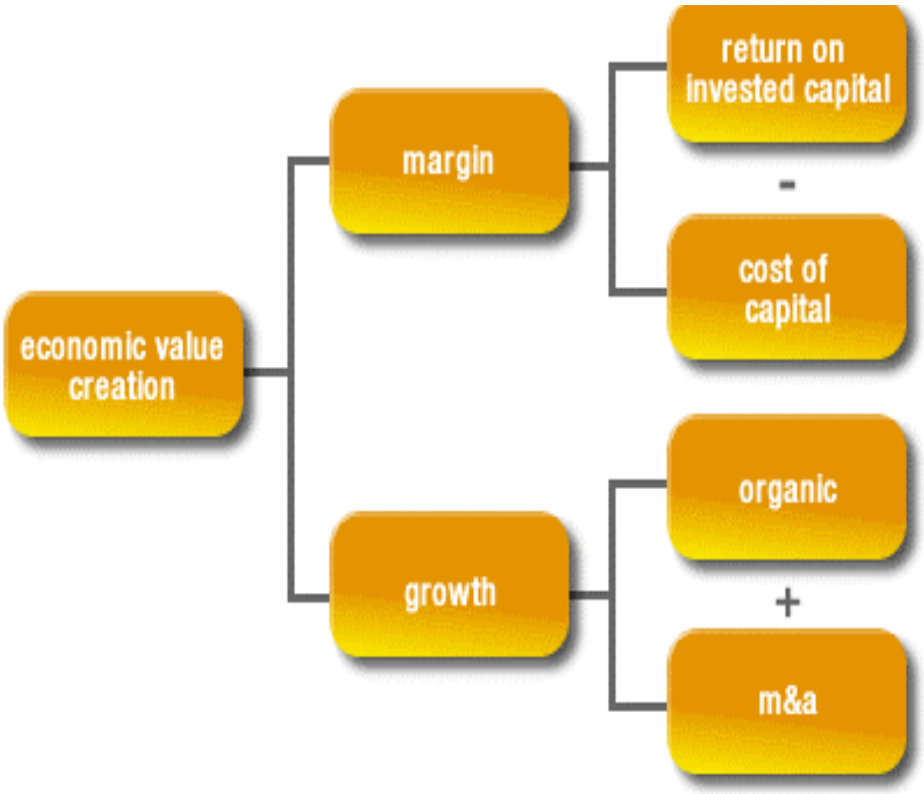
Innovation Paradigm Shift

PROOF OF CONCEPT

(Technological Feasibility)

PROOF OF RELEVANCE

(Market Pull)



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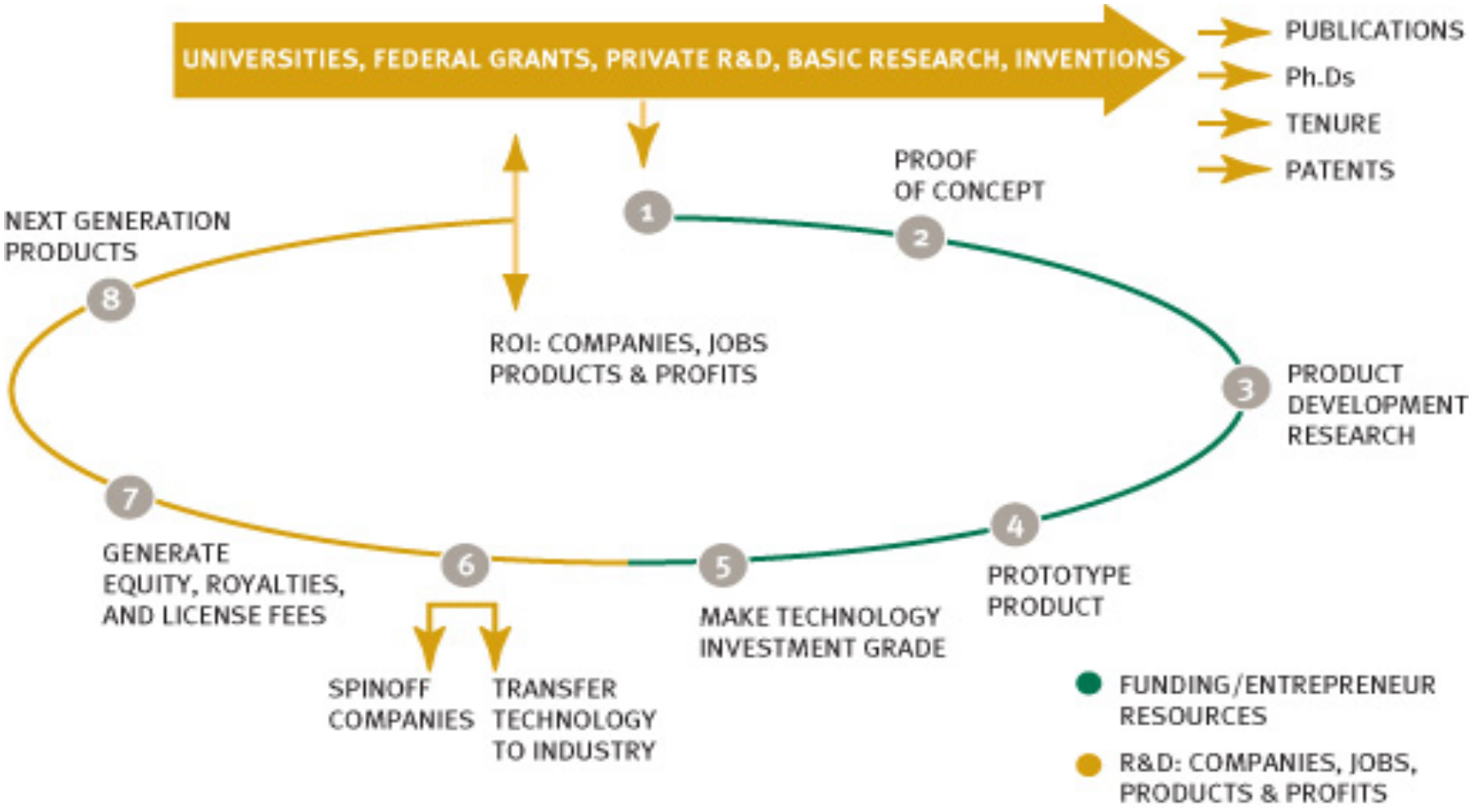
Innovation Commercialization Model



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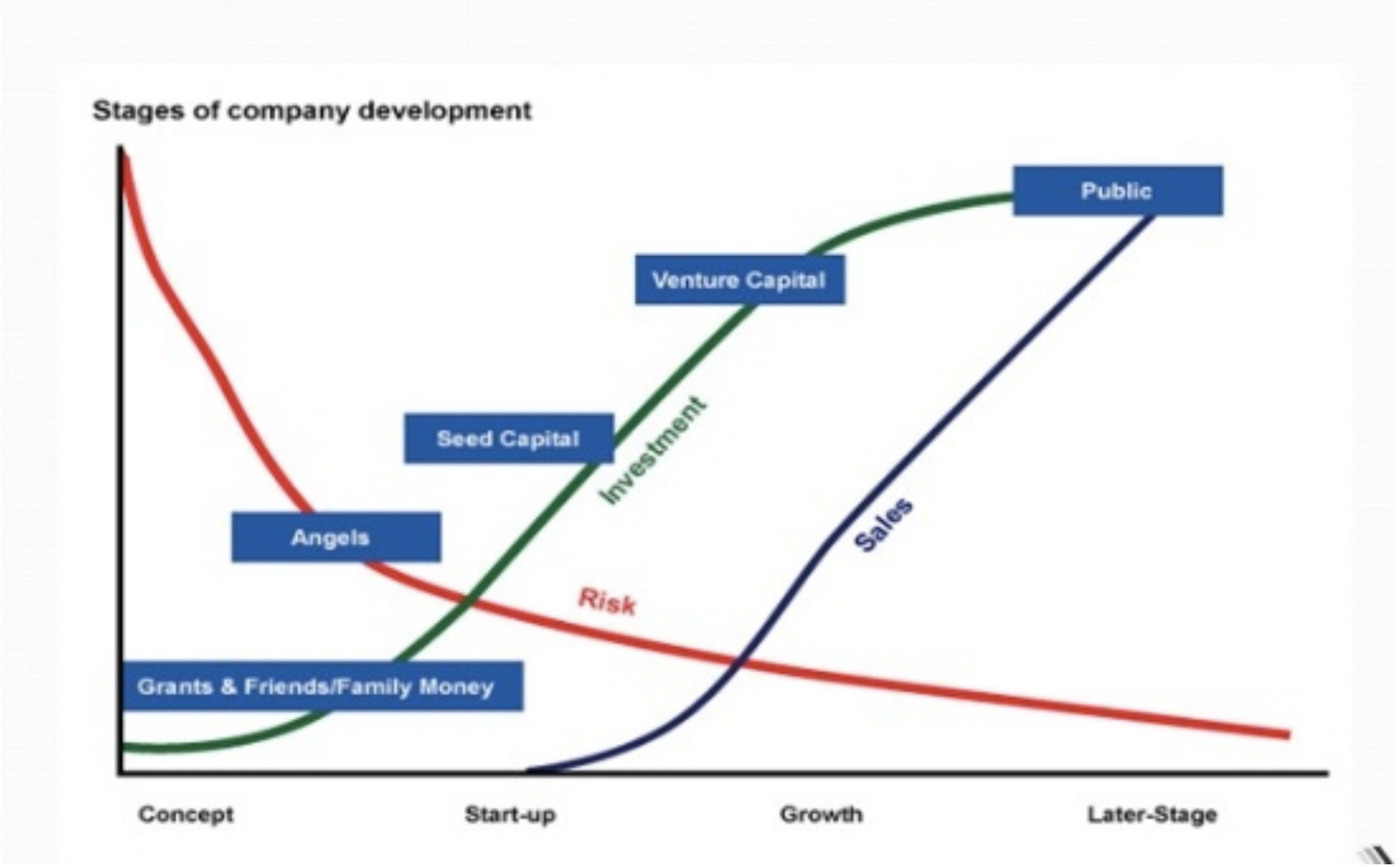
Stages of Investment



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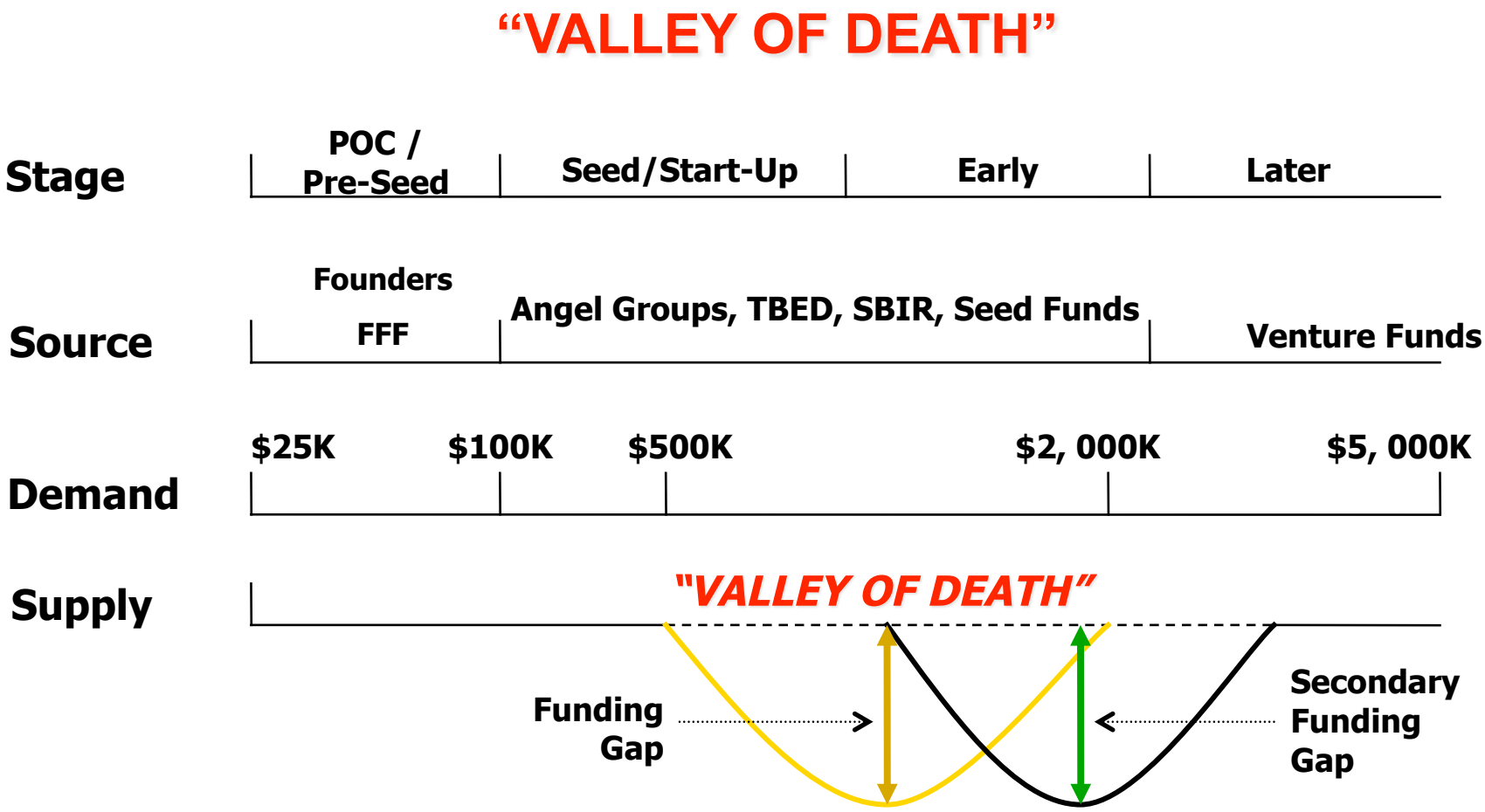
Innovation Capital Valley of Death



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Jobs! Jobs! Jobs!

Does Seed Investing

REALLY

Create Jobs?

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Public Investment In Job Creation

Category	CDVCA*	State of PA	State of MI	State of UTAH	Stimulus Bill
Funds Invested	$26M	$90M	$291M	$60M	$800B
Jobs Created	3.700	8,150	28,854	2,047	1,000,000 To 4,000,000
$ Per Job Invested	$7,100	$11,000	$11,728	$29,300	$800,000 To $200,000

*Community Development Venture Capital Association

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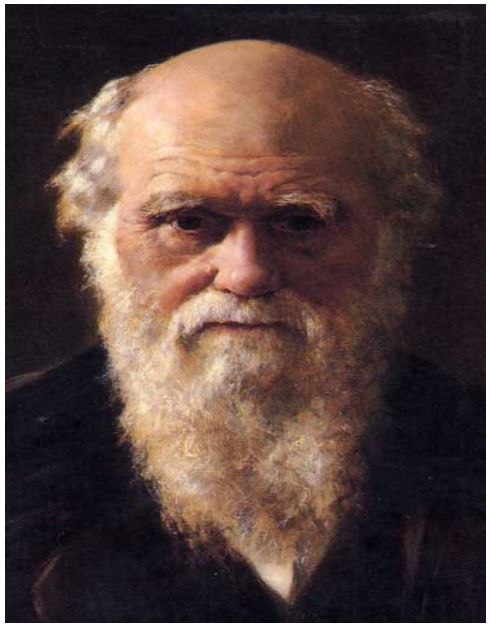
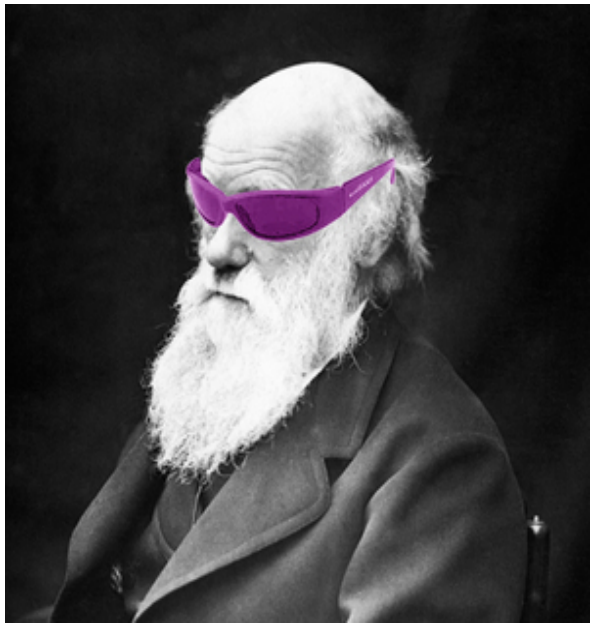
Change Is Inevitable

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

-Charles Darwin





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What Is A Road Map…..Why Is It Needed?

- A roadmap answers the ***question "Where do we want to be and how to we get there?"***
- A cluster roadmap ***provides strategies and action*** plans to best ***achieve a vision of the future shared by a critical mass*** of industry-related organizations.
- The strategies and action plans are developed according to the unique strengths of the cluster and region as compared to a global market opportunity.

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Why Regional Innovation Capacity Matters

- In a knowledge-driven economy, new job and wealth creation derive from the accelerated commercialization of innovative, world-class technological breakthroughs
- A region's accumulated research and innovation assets is *the* "seed corn" that enables the growth of entrepreneurial science-based enterprises in that region
- Every region's research assets ("seed corn") differs ***(Are you growing "soybeans" or "wheat"?)***
- "Seed Corn" that is tossed on infertile growing conditions will not generate a rich harvest of jobs or wealth.

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Mapping The Characteristics of Innovative Regions

- **Each region's innovation capacity ("regional DNA") differs**
  - Every region has its unique path to building its cluster
  - Scientific expertise concentrated in a region is distinct from other regions
  - Regions need to understand what they *truly* have as assets
- **Must couple world-class scientific with business smarts for successful tech. commercialization**
  - Synergy in a cluster depends on functional social structures between technologists and business community

Mapping The Characteristics of Innovative Regions

- **World class research institutions** as sources of intellectual capital
- **Appropriate business assistance programs** to accelerate technology commercialization
- **Seasoned senior managers with entrepreneurial "know-how"** that can work in tandem with scientists and engineers on teams to jump-start enterprise creation
- **Sources of "intelligent" startup capital** beyond what "sweat equity/boot-strapping" and "family and friends" capital can provide
- **Active entrepreneurial networks** that can support all the players involved in enterprise creation activities
- **Institutions of higher learning** that can train and quickly upgrade the skills of a world-class workforce for the region's growing high tech companies

All of these regional assets must be integrated for the entire eco -system to work!

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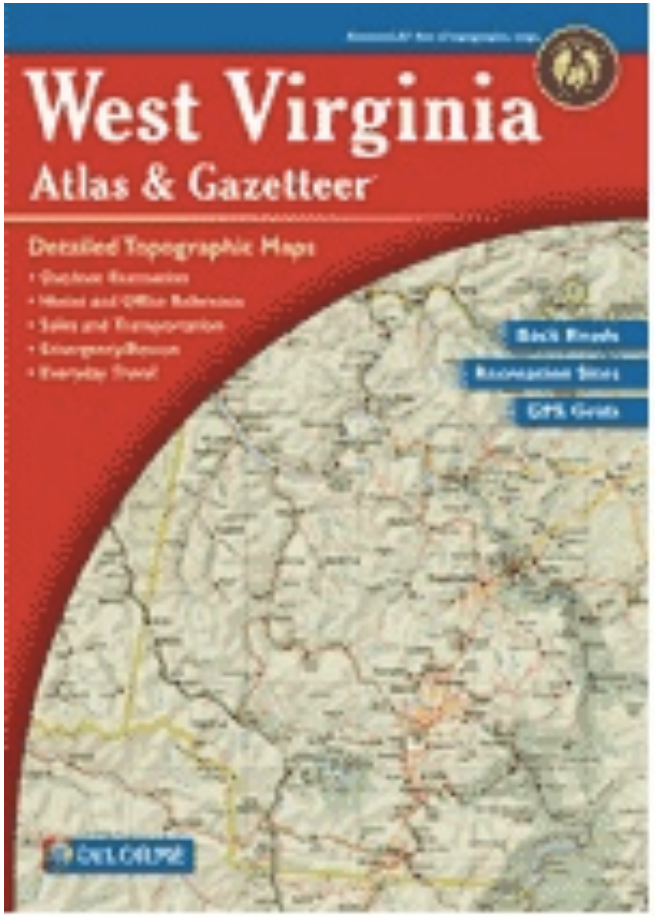
Key Innovation Road Map Elements

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



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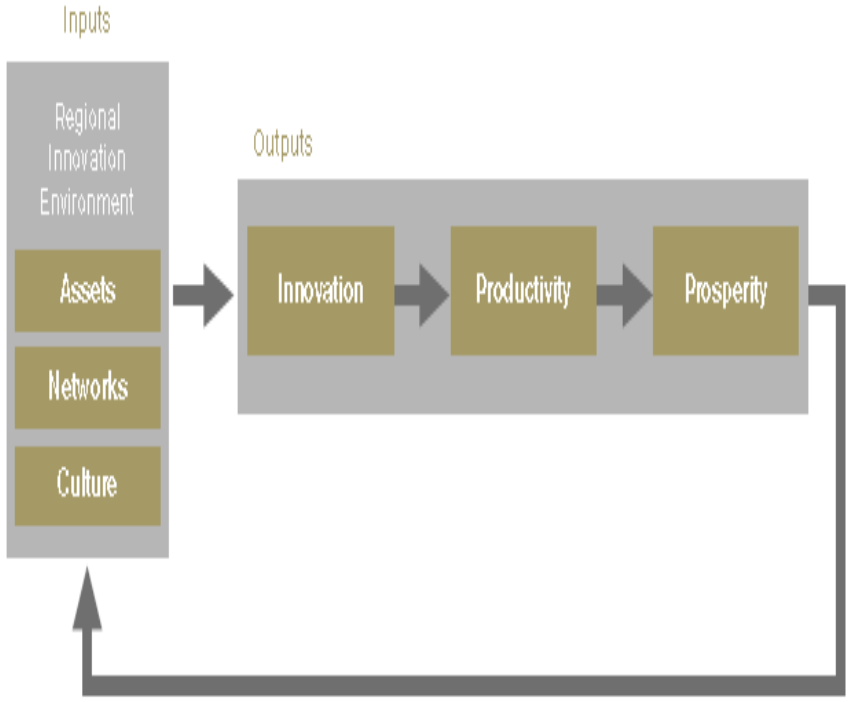
Step 1: Innovation Road Map Elements – Asset Mapping

- The asset mapping process provides leaders with an inventory of key resources that can be utilized in a development effort.
- The asset mapping initiative provides a deep understanding of the ***key networks*** and ***cultural attitudes*** that shape the regional economy, indicate ***gap areas*** that require further investment, and provide a baseline by which to judge future progress toward regional prosperity.



Source: Council on Competitiveness Asset Mapping Roadmap

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What Are Clusters & Do They Matter?

Clusters represent a new way of thinking about national, state, and local economies, and they necessitate new roles for companies, government, and other institutions in enhancing competitiveness.

-Michael Porter

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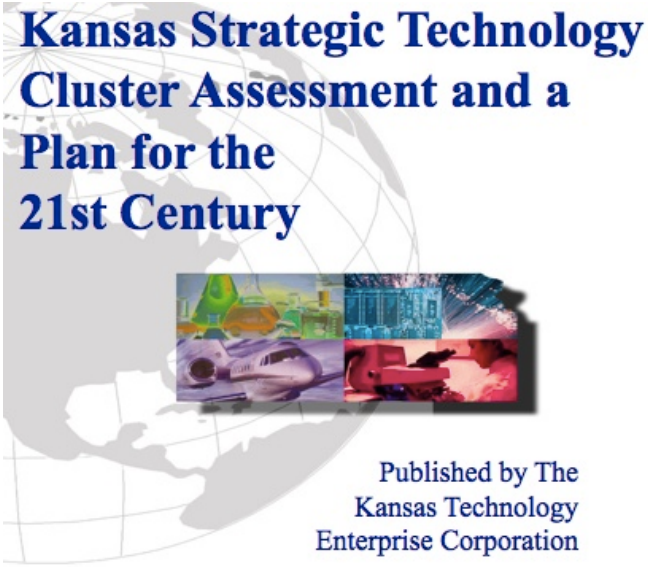
Step 2: Innovation Road Map Elements – Cluster Analysis

Cluster Analysis:
A statistical technique that compares multiple characteristics of a population to determine whether individuals fall into different groups



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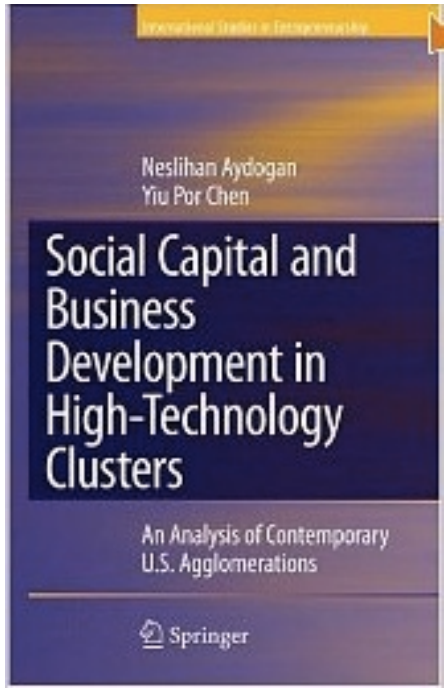
Why Clusters?

Clusters and cluster approaches holdout substantial attractions as the nation seeks to rebuild a damaged economy.

- *Pointing to impact, new research confirms that strong clusters tend to deliver positive benefits to workers, firms, and regions.*
- *As a matter of paradigm, clusters reflect the nature of the real economy.*



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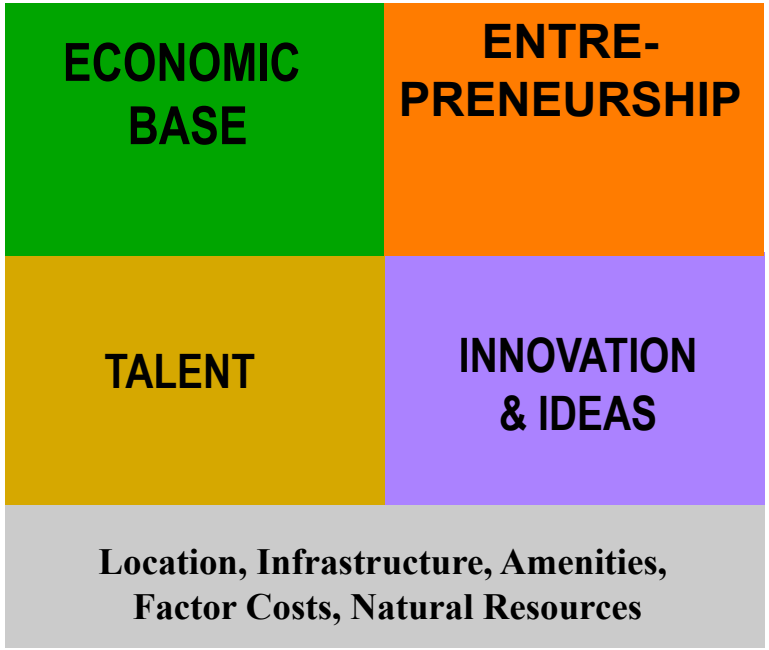
Regional Innovation Clusters

Five Key Components to Consider When Defining Unique Regional Assets

What you make, including your existing & prospective industry clusters

What you do: your workforce skills & human capital base



Your capacity to create companies wholly new or from existing firms

Your capacity to innovate and generate new ideas

The basic conditions defining the economic milieu of the region

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West Virginia Blueprint For TBED

WEST VIRGINIA BLUEPRINT FOR

TECHNOLOGY-BASED ECONOMIC DEVELOPMENT

HIGHLIGHTS

March 2009

TechConnect
WEST VIRGINIA

A report from: **TechConnectWV**
West Virginia Coalition for Technology Based Economic Development

With consultation and assistance from:
Battelle Technology Partnership Practice

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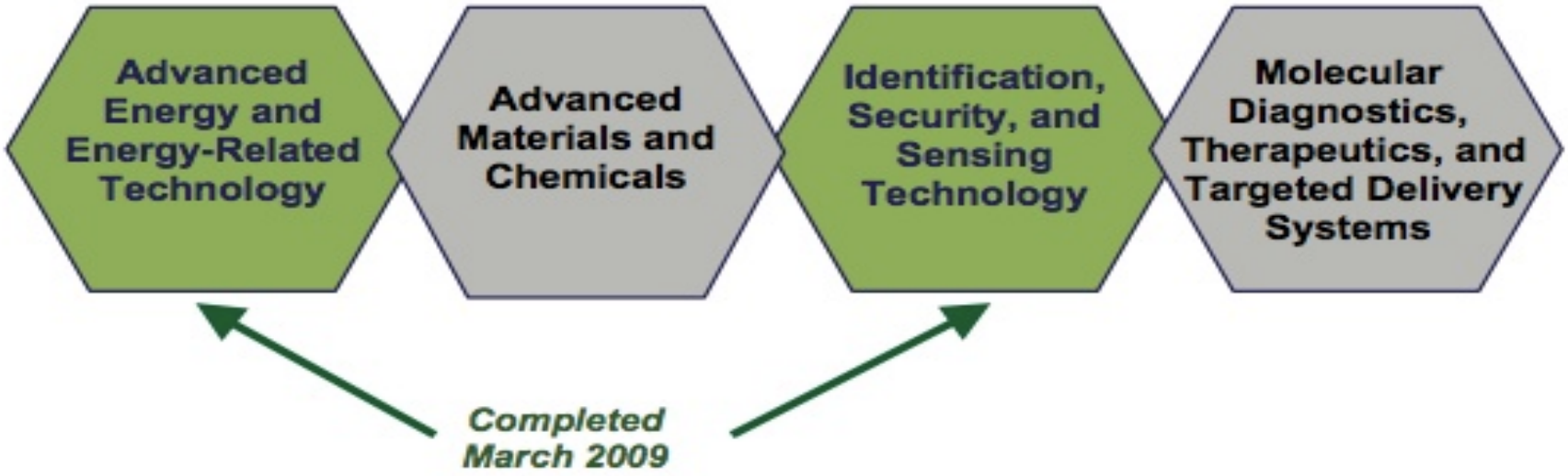
West Virginia's Technology Platforms



SOURCE: WEST VIRGINIA BLUEPRINT FOR TECHNOLOGY-BASED ECONOMIC DEVELOPMENT 2009

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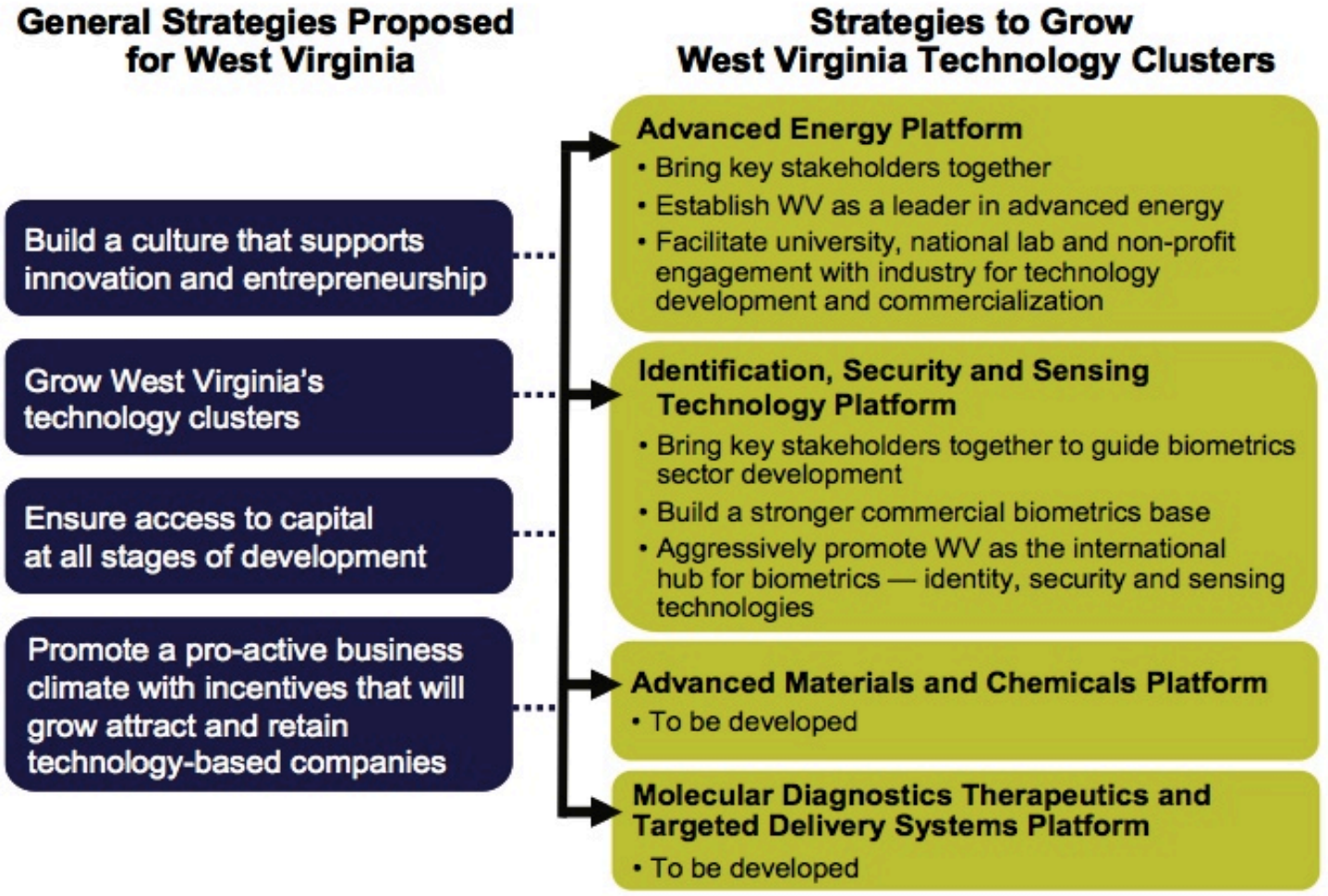
Overview of Cluster Strategies and Relationship to Overall Strategies



SOURCE: WEST VIRGINIA BLUEPRINT FOR TECHNOLOGY-BASED ECONOMIC DEVELOPMENT 2009

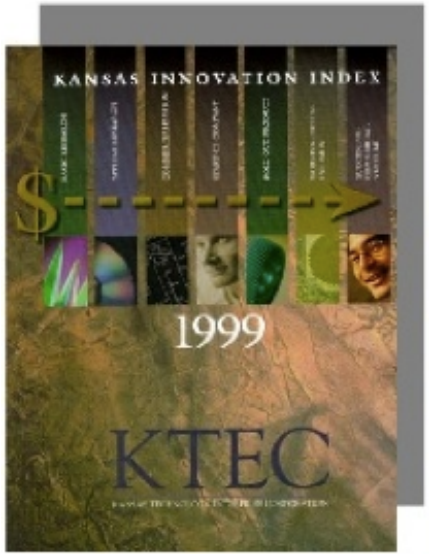
Overview of General Strategies and Actions

Build a culture that supports innovation and entrepreneurship	Grow WV's technology clusters around the targeted technology platforms	Ensure access to capital at all stages of firm development	Promote a proactive business climate
▪ Support and expand TechConnect WV ▪ Support and expand a statewide network providing comprehensive commercialization services and support to technology entrepreneurs and early-stage start-up companies ▪ Encourage the state's universities to continue to increase support for technology transfer and commercialization ▪ Create a university-industry matching grant program ▪ Publicize and celebrate TBED success	▪ Continue to provide support for the WV Research Trust Fund ▪ Establish an Innovation Institute Program focused on the technology platforms ▪ Form technical networks around each of the platform areas	▪ Provide funds to match SBIR and STTR Phase I awards received by WV companies ▪ Increase funding for INNOVA's seed and early-stage investment fund ▪ Use tax credits to make capital available to early-stage technology companies ▪ Attract venture fund investments in WV technology companies	▪ Invest in technology infrastructure, including research parks, incubators, and laboratories ▪ Maintain the state's refundable R&D tax credit and Economic Opportunity Tax Credit ▪ Develop a branding and marketing strategy that builds on the technology and location strengths of WV ▪ Identify and build awareness of 21st Century Skills ▪ Facilitate and expand talent recruitment efforts ▪ Undertake a communications campaign

Step 3: Innovation Road Map Elements
-Innovation Benchmarking (Peer 2 Peer)

Innovation Benchmarking (Peer 2 Peer)

- The process of comparing one's business processes and performance metrics to industry bests and/or best practices from other industries.
- Dimensions typically measured are quality, time, and cost. Improvements from learning mean doing things better, faster, and cheaper.
- Benchmarking involves management identifying the best firms in their industry, or any other industry where similar processes exist, and comparing the results and processes of those studied (the "targets") to one's own results and processes to learn how well the targets perform and, more importantly, how they do it.



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Step 4: Innovation Road Map Elements

-Innovation & Entrepreneurship Resource Identification

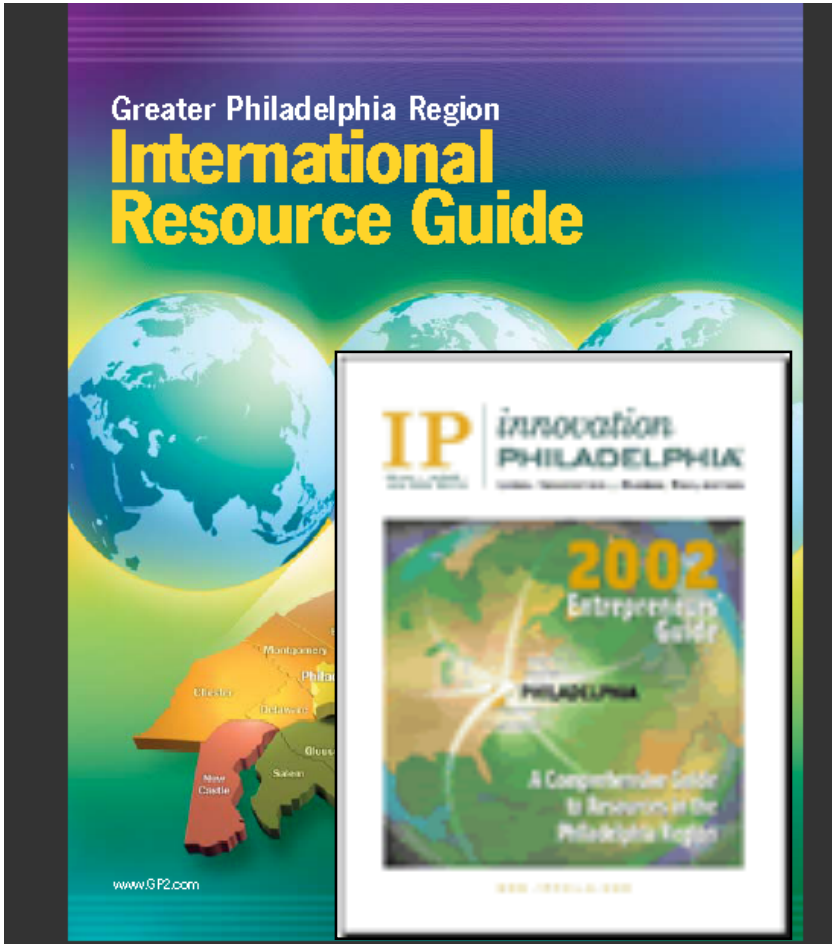
Entrepreneurs' Resource Guides provides businesses and entrepreneurs interested in pursuing business and professional development with:

•Information and outlets to make contacts,

•Secure funding

• Promote their businesses and products to a wide array of consumers.

•Provide resources that are unique to the geographic regions along with general regional, national and international entrepreneurial resources



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Step 5: Innovation Road Map Elements

-Innovation Economic Development - Organizational Analysis and Matrix

Innovation Economic Development organizational analysis and the Matrix provides the complete list of services by organization and the matrix provides a comparative and comprehensive listing of all organizations.

Page	Organization	Chamber of Commerce	Economic Development	Int'l Trade Assistance Orgs	Financial Assistance	Government Organizations	Higher Education & Research Institutes	Regional Based International Assns	Tourism / Cultural Organizations	Consuls
9	Philadelphia Industrial Development Corporation		•							
25	Philadelphia International Airport		•	•		•			•	
24	Philadelphia International Medicine							•		
17	Philadelphia Multicultural Affairs Congress							•		
99	Philadelphia Museum of Art								•	
58	Philadelphia Regional Port Authority		•	•						
96	Philadelphia Tribune, The									•
82	Philadelphia University						•			
71	Phoenixville Area Chamber of Commerce	•								
29	Portugal Consulate									•
87	Princeton Regional Chamber of Commerce	•								
91	Princeton University						•			
29	Romania Consulate									•
91	Rowan University						•			
91	Rutgers University						•			
87	Salem County Chamber of Commerce	•								
97	SBDC, Delaware (state of)		•	•		•				
97	SBDC, Kutztown		•	•		•				
97	SBDC, Lehigh		•	•		•				
97	SBDC, Rutgers		•	•		•				
97	SBDC, Temple University		•	•		•				

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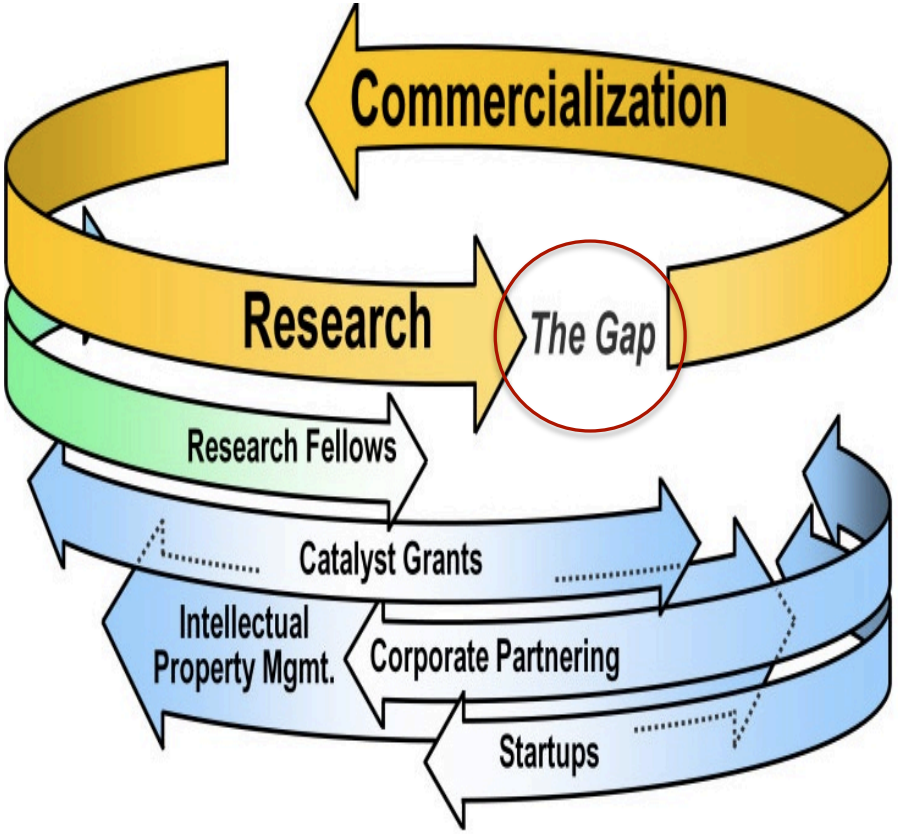
Step 6: Innovation Road Map Elements
-Gap Analysis (programs & services)

- Gap analysis helps to define what resources (including new programs and repurposed dollars from existing programs) are needed to bridge current and future gaps either slowing down or stopping growth in targeted areas of the innovation economy
- The gap analysis process involves ***determining***, ***documenting*** and ***approving the variance*** between business requirements and current capabilities. Gap analysis naturally flows from benchmarking and other assessments.



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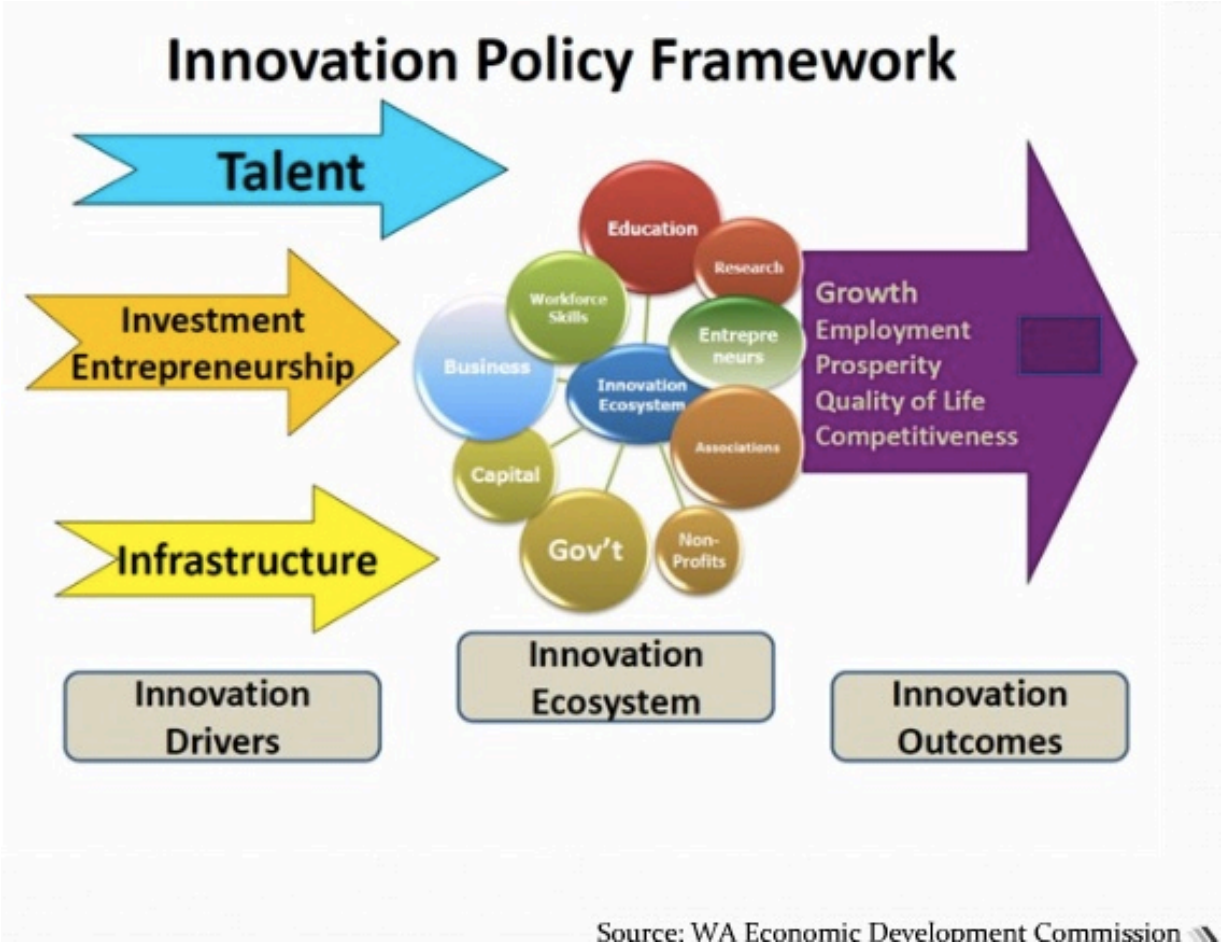
Step 7: Innovation Road Map Element
-Public Policy Recommendations

- **Public policy** can be generally defined as a system of courses of action, regulatory measures, laws, and funding priorities concerning a given topic promulgated by a governmental entity or its representatives.

- **Public policy** is commonly embodied in constitutions, legislative acts, and judicial decisions

Strategic Plan & Innovation Policy Framework



Source: WA Economic Development Commission

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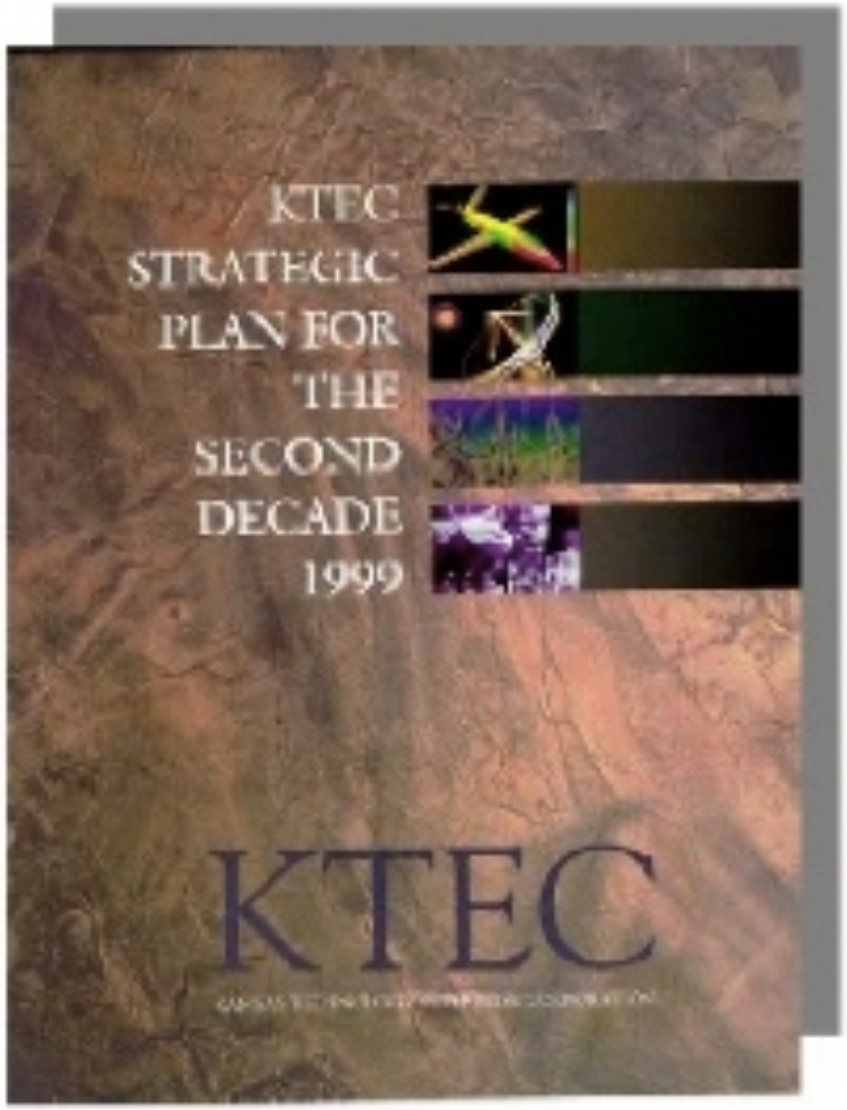
Step 8: Innovation Road Map Elements

-Strategic Plan& recommended organizational structure, governance, budget, and funding sources (Private Public Partnership PPP)



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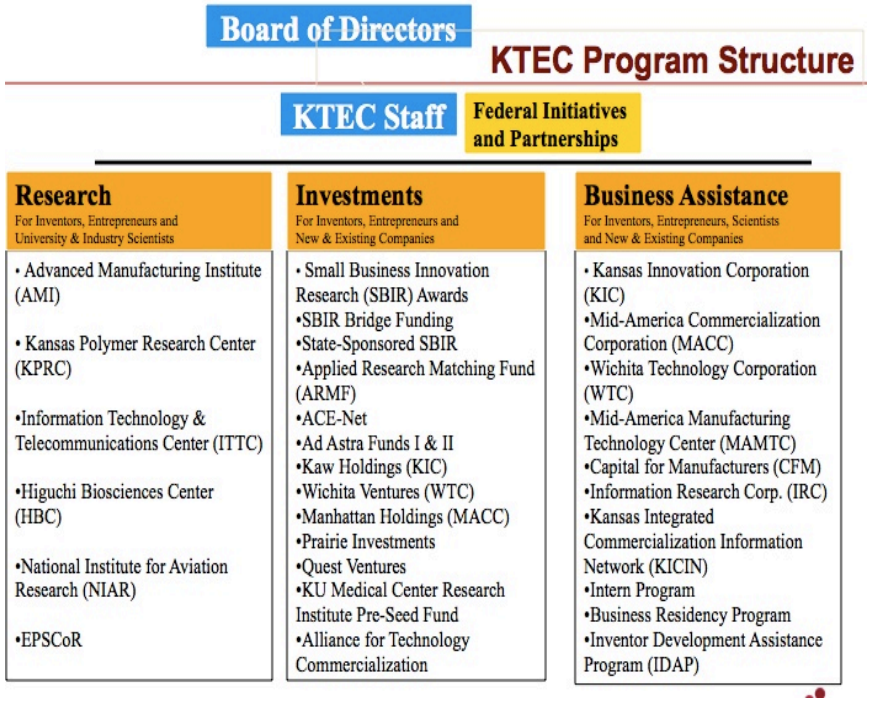
Step 9: Innovation Road Map Elements
-Organizational Leadership and Staffing

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. Sharpen the Saw



Step 10: Innovation Road Map Elements
-Program Portfolio/Implementation

Investment	Commercialization	Global & Regional Workforce / Economic Development	Branding, Research & Marketing
ESF Economic Stimulus Fund – An IP Investment Fund	MAC Mid-Atlantic Commercialization Corporation	KIP Knowledge Industry Partnership	 
ResearchDollar$ Fund	Phoenix IP Ventures	career PHILLY	 
Innovation Partnership	World's Best Technology Network	GP2 Greater Philadelphia Global Partners	 
MAG Mid-Atlantic Angel Group	Bio Advance – Biotechnology Greenhouse of Southeastern Pennsylvania; Ben Franklin Technology PArtners	Creative Economy	 
	IP innovation PHILADELPHIA; SC 21 Science Center	DVIN Delaware Valley Innovation Network	

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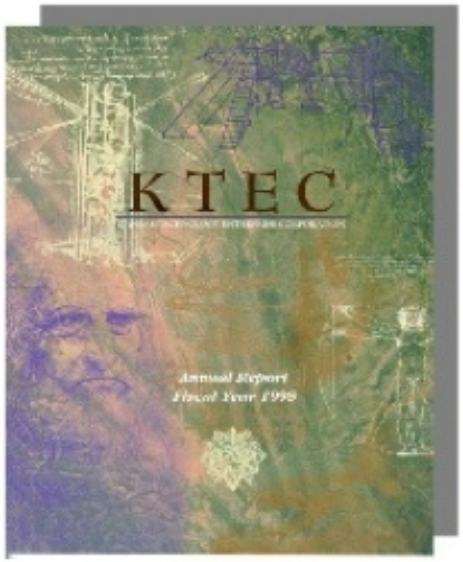
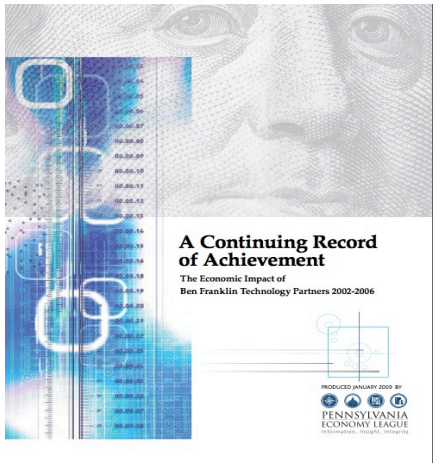
Step 11: Innovation Road Map Elements -Economic Impact Analysis

- Economic impact analysis (EIA) examines the effect of a policy, program, project, activity or event on the economy of a given area.
- The area can range from a neighborhood to the entire globe.
- Economic impact is usually measured in terms of changes in economic growth (output or value added) and associated changes in jobs (employment) and income (wages).
- The analysis typically measures or estimates the level of economic activity occurring at a given time *with the project or policy occurring*, and calculating the difference from what would otherwise be expected *if the project or policy did not occur* (which is referred to as the counterfactual case).
- This analysis can be done either before or after the fact (ex ante or ex post). The term economic impact can be applied to analysis of the economic contribution of a given activity or industry to the existing local economy.





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Step 12: Innovation Road Map Elements
-Branding & Market Research

KTEC
KANSAS TECHNOLOGY ENTERPRISE CORPORATION

PIPELINE
KTEC'S ENTREPRENEURIAL FELLOWSHIP

KANSAS BIOSCIENCE AUTHORITY

NBAF IN KANSAS
Heartland BioAgro Consortium

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Collaboration

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U.S. State IBED Programs

Ben Franklin Technology PArtners

Ohio Third Frontier
Innovation Creating Opportunity

KTEC
KANSAS TECHNOLOGY ENTERPRISE CORPORATION

OCAST

ARKANSAS SCIENCE & TECHNOLOGY AUTHORITY

GEORGIA RESEARCH ALLIANCE

Maryland TEDCO
Technology Development Corporation
Maryland...Technology Starts Here.

USTAR
Turning innovation into industry.

TTDC
TENNESSEE TECHNOLOGY DEVELOPMENT CORPORATION

NEW JERSEY ECONOMIC DEVELOPMENT AUTHORITY

First State INNOVATION

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Kansas Technology Enterprise Corporation

www.ktec.com

KTEC Mission:

"To create, grow and expand Kansas enterprises through technological innovation."

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

Published by The Kansas Technology Enterprise Corporation

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.

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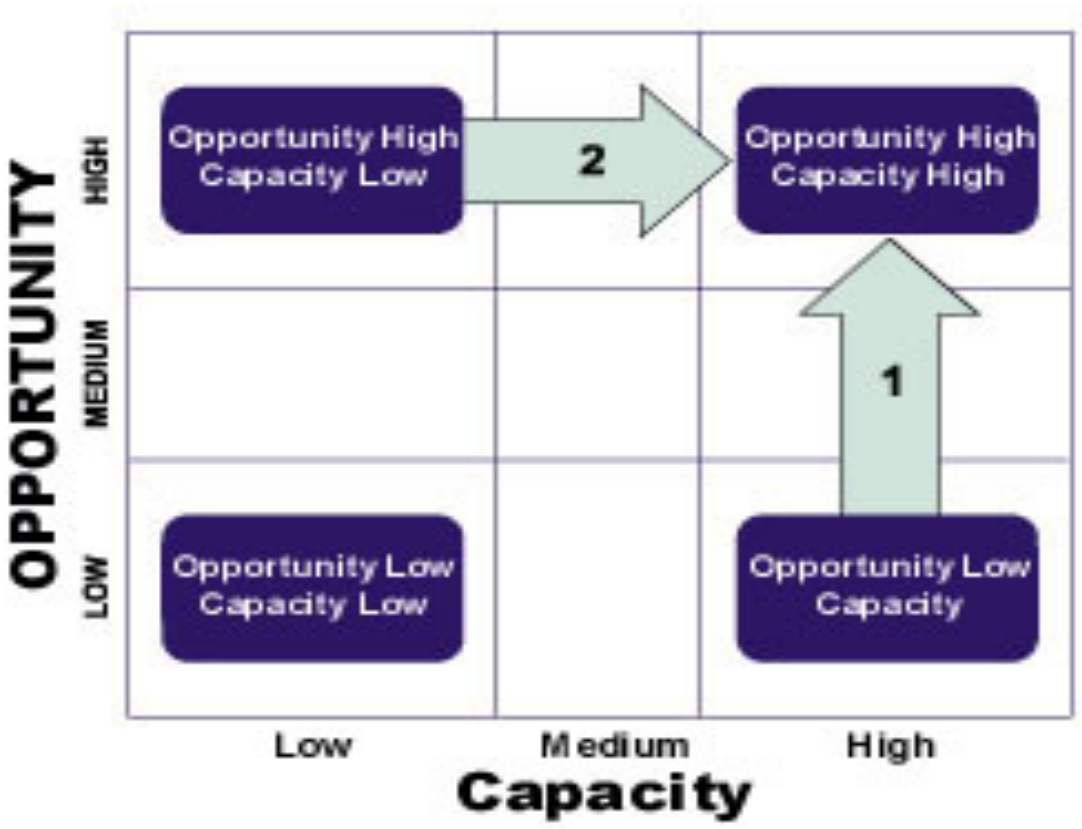
Linking Opportunity With Capacity

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

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



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Strategic Technology Cluster Assessment and Plan

Study Methodology:

- Identified four key sets of partners:
  - Private Sector
  - Federal Government
  - Research Universities
  - State Government
  - Link opportunity and capacity

Realities:

- Scarce resources
- Global competition

Action:

- Establish a competitive advantage through specialization.

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Strategic Technology Cluster Assessment and Plan

Opportunity and Capacity:

- Global, national and local opportunities
- Capacity of businesses, government, and research universities in the country
- International and national data on various variables
- Valuation of variable performance.

External and Internal Environments:

- The external environment represents "opportunities."
- The internal environment represents "capacities."

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Strategic Assessment Framework

Analytical Framework	Opportunity Indicators	Capacity Indicators
Economic Context	• Growth in US Exports • US Sectoral Growth Projections	• Level of Kansas exports, sectors related to critical technology areas • Kansas employment in sectors • Kansas' shares of the nation's firms in sectors related to critical technologies
Federal Programs	• Advanced Technology Program Awards • SBIR program awards	• SBIR program awards to Kansas firms by technology area
State Programs		• Presence of Centers of Excellence in critical technology areas • State ARMF program awards by technology area
Research Universities	• University/Industry Research Centers – Patent awards to US Universities – Growth in R&D Specific Technologies at US Universities	• Research Awards by technology area • Growth rates for research by critical technology area • Departmental research
Industry	• Research & Development, specific technologies, at US firms • Level of spending on R&D, specific technologies • Venture Capital investments in sectors related top critical technologies • Number of patents to US inventors, by technology area	• Venture capital investments in Kansas • Number of patents to Kansas inventors, by technology area

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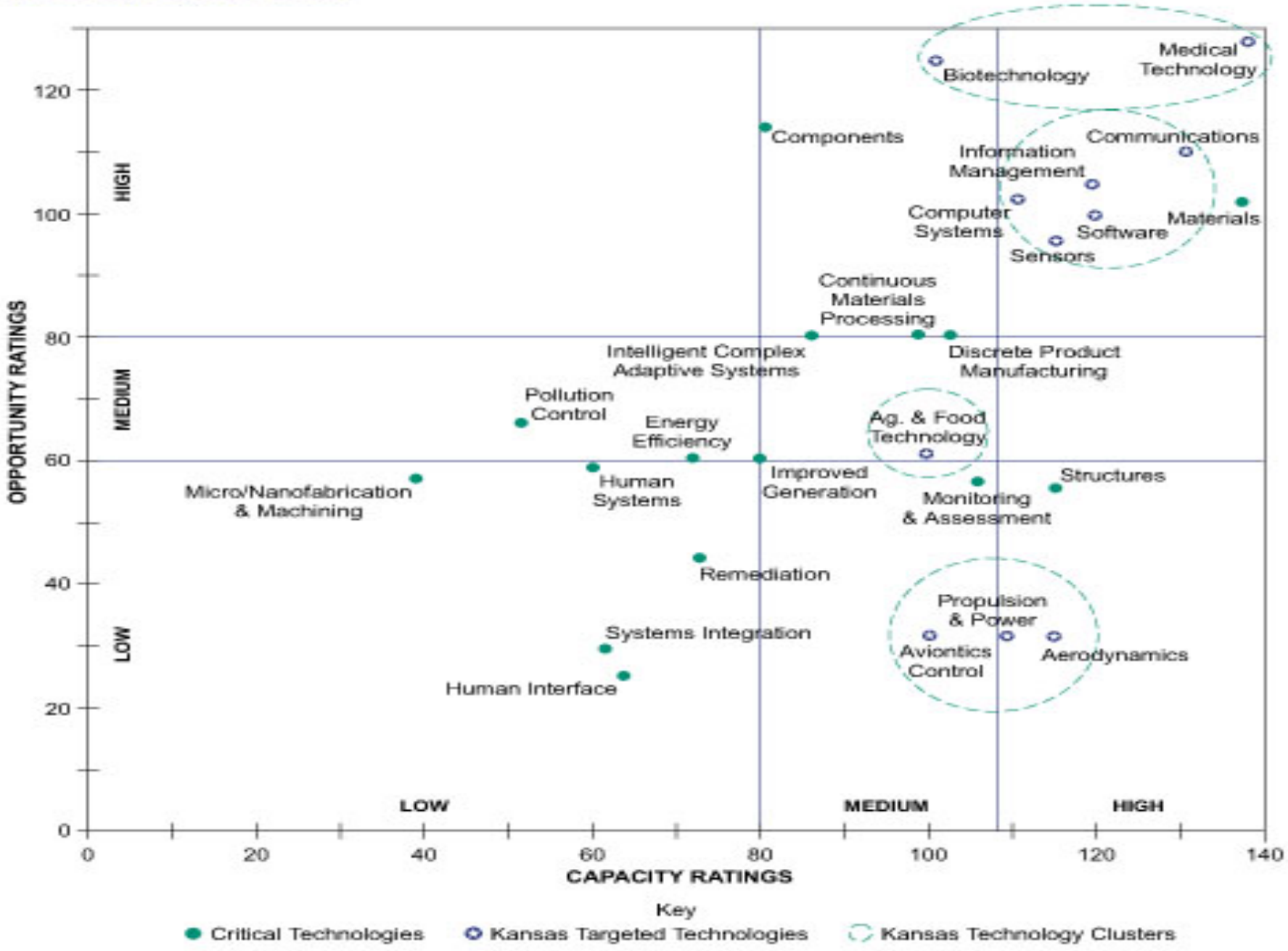

The technology areas with high levels in both categories represent logical targets for investment activity. Other technologies which may not have scored as well may be so important to Kansas' economy as to also warrant consideration.

The Strategic Study

Results:

- Opportunities and capacities assessed
- Strategic technology areas identified:
  - ***Primary Clusters:***
    - Information & Telecommunications/Computing
    - Aviation
    - Value-Added Agriculture & Ag. Biotechnology
    - Human Biosciences
  - ***Enabling Clusters:***
    - Nanotechnology
    - Manufacturing Technology
    - Polymers

Next:

- Select policy recommendations
- Develop broad guidelines

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Policy Recommendations

Results:

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    - Human Biosciences
  - ***Enabling Clusters:***
    - Nanotechnology
    - Manufacturing Technology
    - Polymers

Next:

- Select policy recommendations
- Develop broad guidelines

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Policy Recommendations

Objective:

- Improve competitiveness of key industrial sectors.
- Strengthen the state and country's R&D capacity.
- Integrate technology policies into overall economic development plans.
- Promote development of strategic sectors.
- Establish business conditions attractive to domestic and foreign investment in strategic technologies.

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Policy Recommendations

Desired Results:

- Stimulate creation and commercialization of strategic technologies.
- Foster productive interrelationships and linkages among the state and country's institutions.
- Establish institutional arrangements to improve effectiveness of public investments in R&D.
- Expand and disseminate information and knowledge about technological innovation
- Promote state and national consciousness about the importance of technology clusters.
- Create new, high wage, high skilled job opportunities to avoid "brain-drain."
- Make small and medium sized enterprises become more competitive.
- Build a financial-technical network willing to invest in and support technology-based enterprises.
- Provide incentives for foreign and domestic investment.

KTEC Program Structure

Board of Directors

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)

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The Kansas Experience - 2009

CLUSTER	ORGANIZATION	OUTCOMES
Human BioSciences	**Kansas BioScience Authority (KBA)** www.kansasbioauthority.org	•$581m Fund •Build world-class research capacity, growth of bioscience startups, expansion of the state's bioscience clusters and facilitate industrial expansion and attraction.
Value-added Agriculture and Ag Bio	**National Agricultural Biosecurity Center (NABC)** http://nabc.ksu.edu/content	•$500m Research Center •Focused on protecting America's agricultural infrastructure and economy from endemic and emerging biological threats.
Aviation	**National Institute for Aviation Research (NIAR)** www.niar.wichita.edu	24 year-old research and tech-transfer center established to advance the nation's aviation industries that may benefit from aviation-related technologies.
Information and Telecommunications & Computing	**Software and Technology Association of Kansas (SITAKS)** www.sitaks.com	Advocate for Kansas' software and information technology sector to help Kansas' software and IT companies grow and succeed.

Kansas Gazelles

2009 State New Economy Index

- There is concrete evidence that KTEC's efforts are improving the entrepreneurial climate in Kansas, which was **ranked 8th in Nation for "Gazelle Jobs"** - according to the 2008 State New Economy Index. Rapid growth "Gazelle" companies account for 80% of new jobs created.

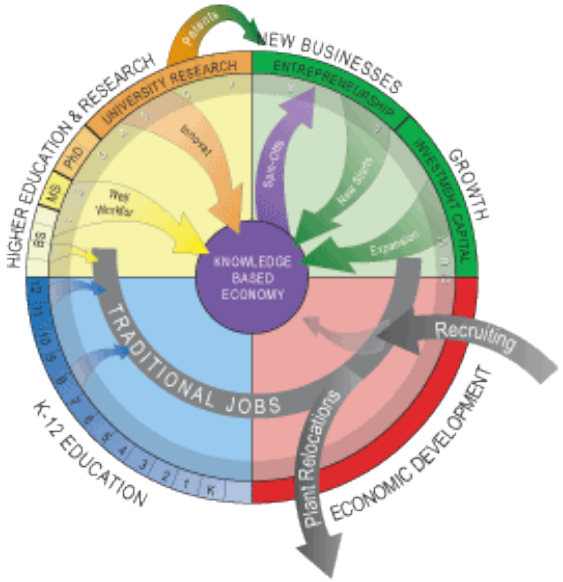
- The New Economy Index also ranked **Kansas a "Top Mover" in "Fastest Growing Firms."** Through our direct equity investments and business assistance, KTEC has helped Kansas experience a large increase in the number of "fast growing firms" (i.e. those with growth exceeding 200% over 4 years). These firms provide a strong base for the state's current and future growth.

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



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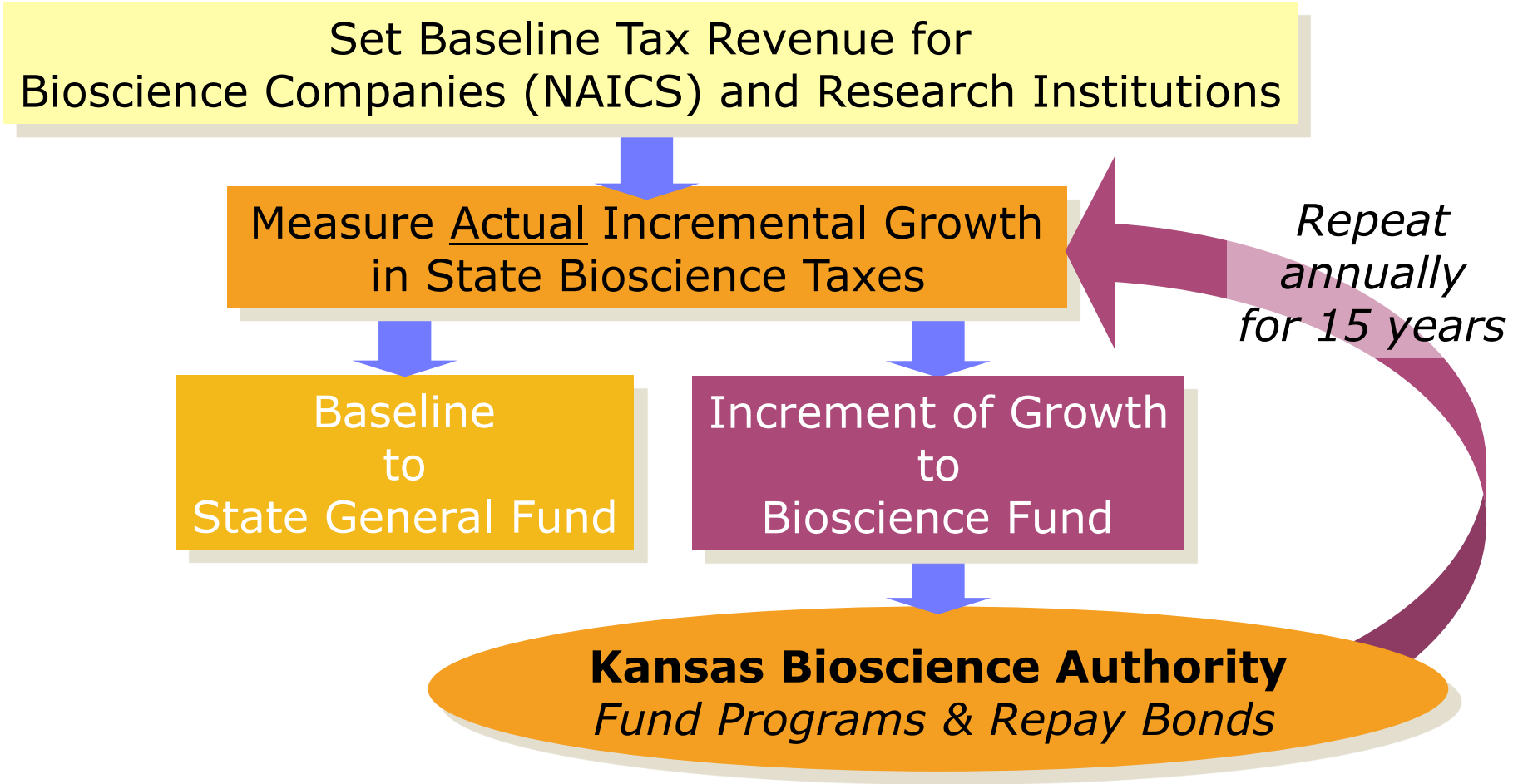
How The Fund Works



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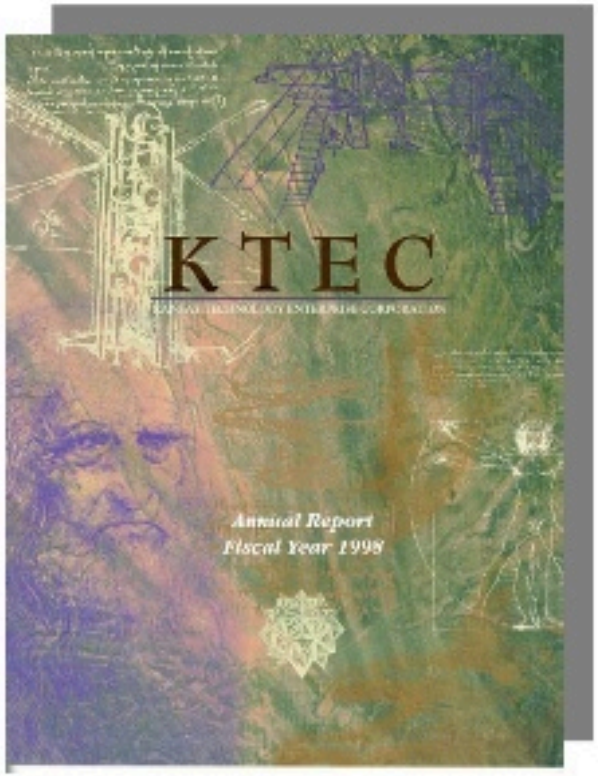
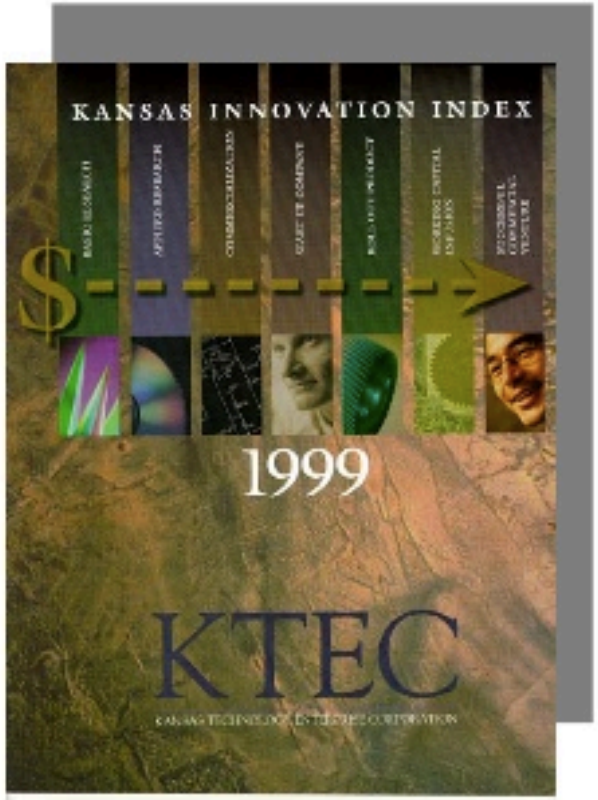
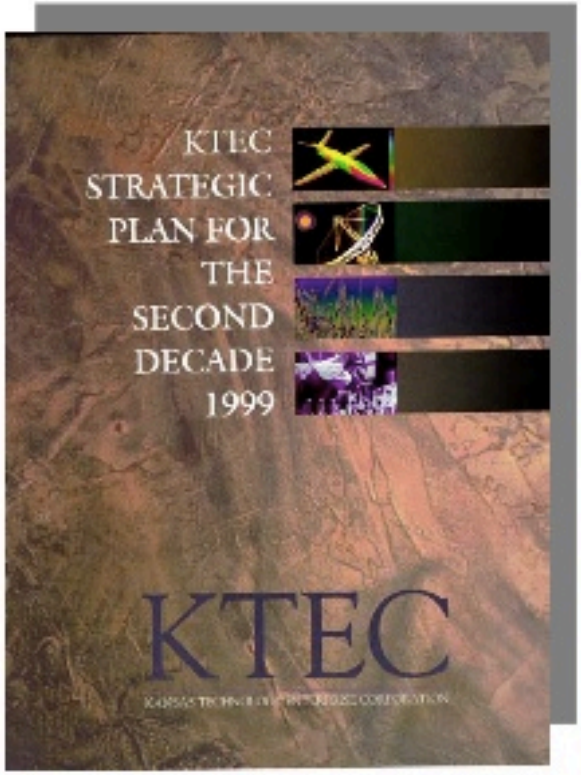
National Bio and Agro-Defense Facility (NBAF) - Kansas

- $650 million research facility
- Kansas Task Force includes a team of citizens, scientists, civic leaders, elected officials, industry leaders, farmers, and agricultural specialists working closely with the Kansas Bioscience Authority to provide seamless support to the federal government throughout the NBAF process.
- NBAF will feature state-of-the-art, bio-containment laboratories to research and develop diagnostic capabilities to assess and detect potential threats against humans and animals alike

Past, Present and Future of Kansas Science and Technology







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.

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Pennsylvania's Industry Clusters

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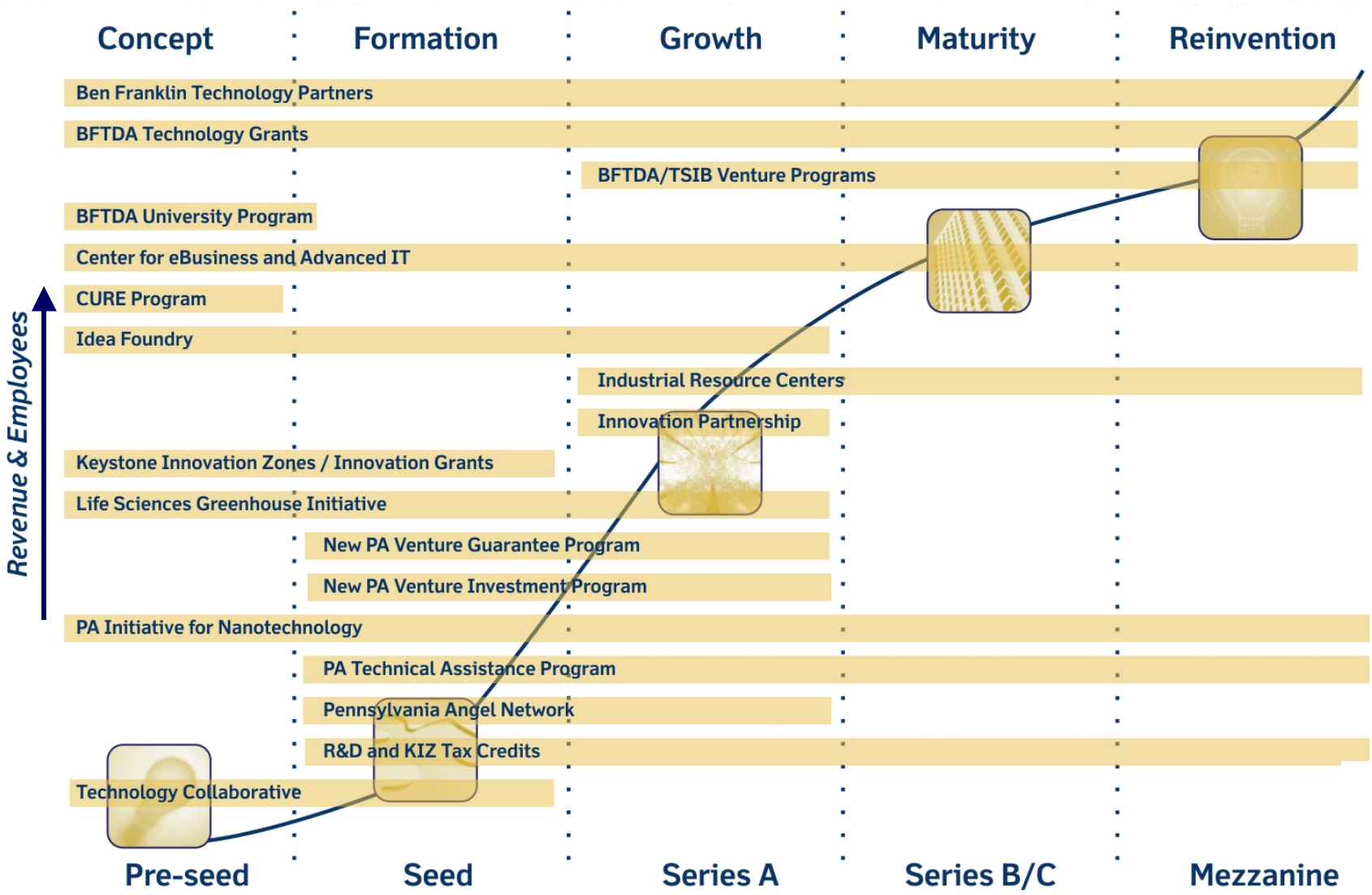
Technology Investment

Technology-based Economic Development Tools Along the Continuum

> ready > set > succeed



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 forsee now."

– Harry S. Truman

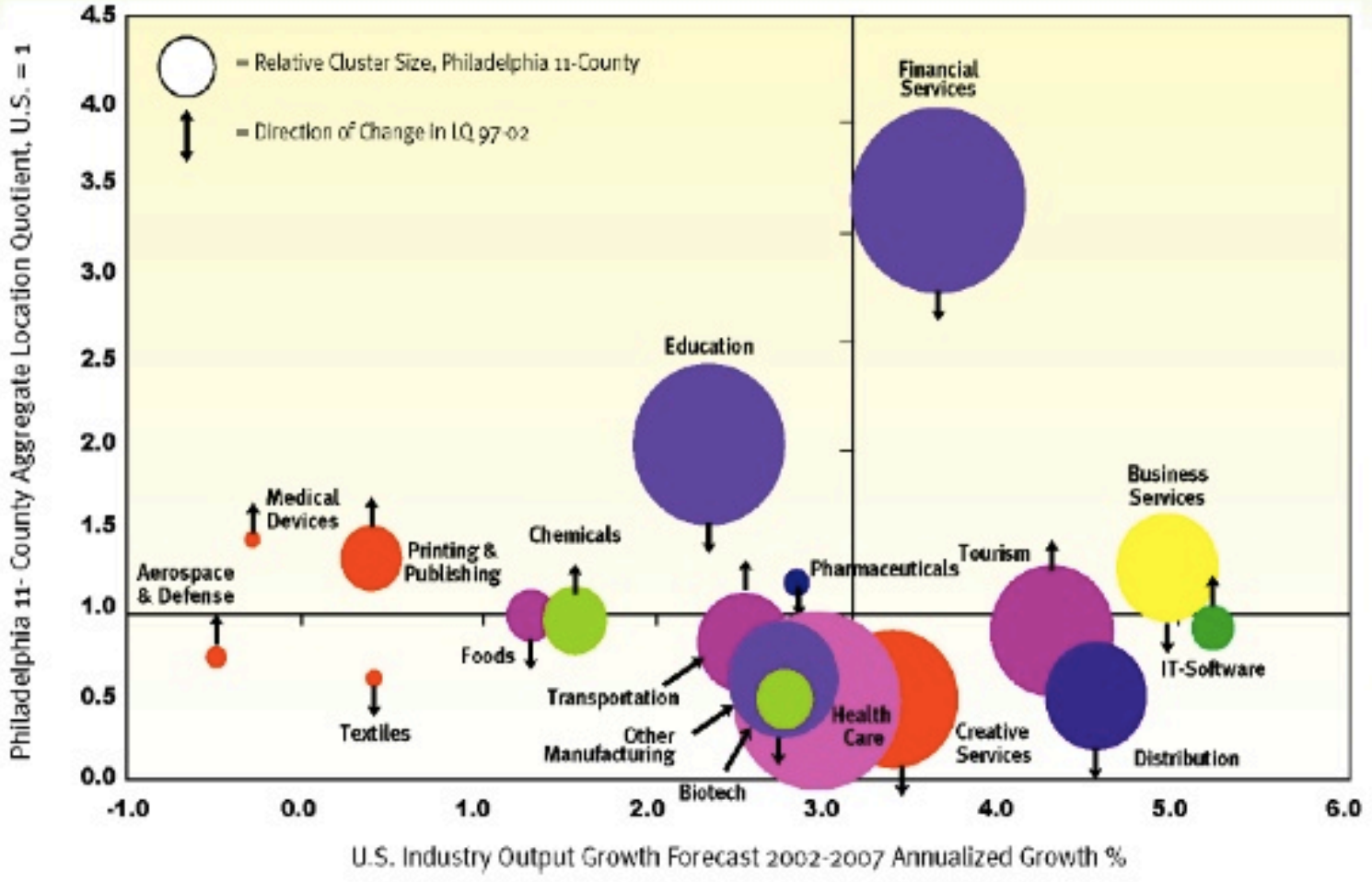
IP innovation PHILADELPHIA

GREATER PHILADELPHIA CHAMBER OF COMMERCE
Get involved. Get results.

GREATER PHILADELPHIA

2010

Philadelphia County: Cluster Analysis by Output



GREATER PHILADELPHIA

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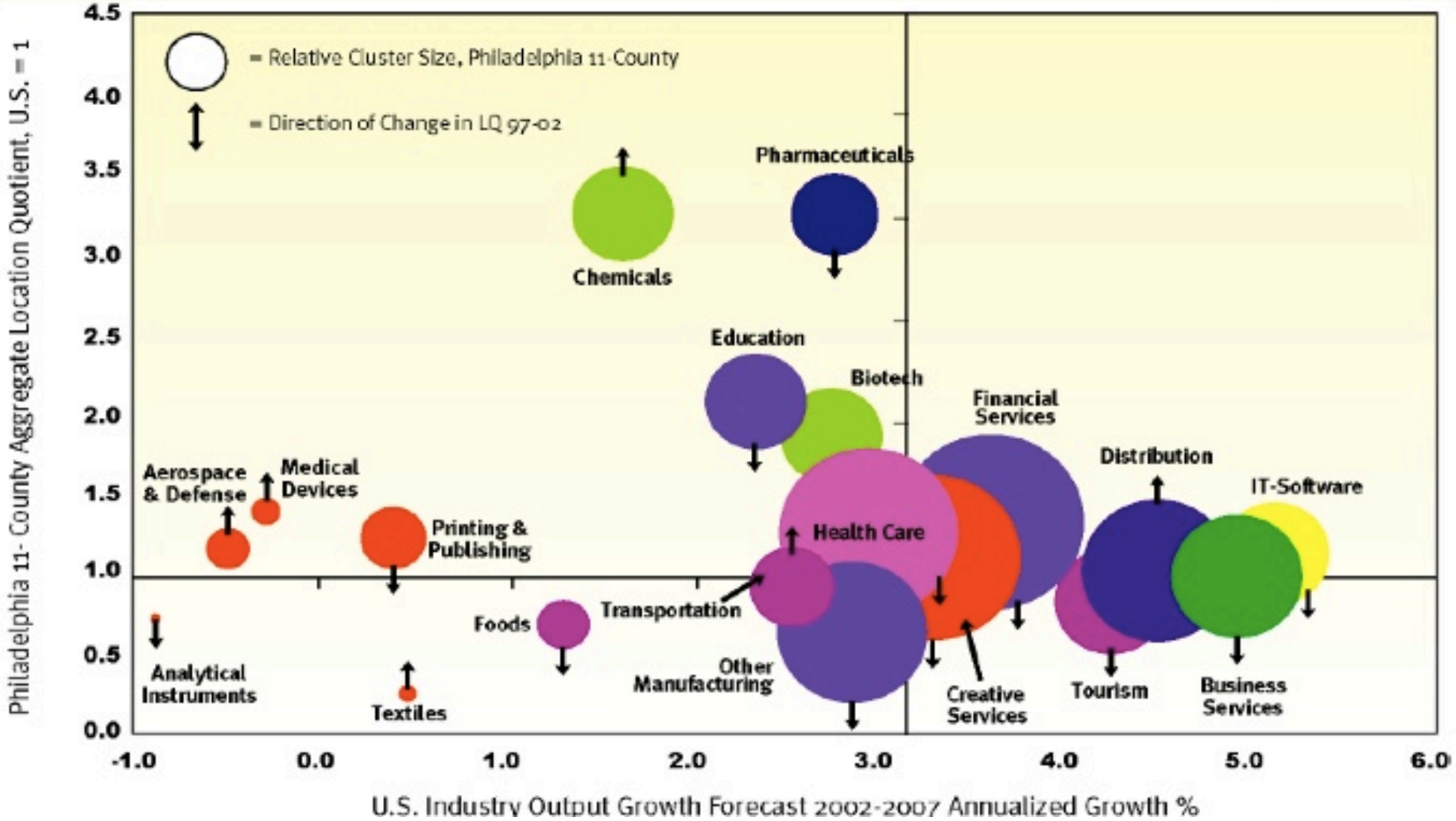
Philadelphia Region: 11-County Aggregate; Cluster Analysis by Output



Philadelphia Region's The Prime Clusters for Economic Growth

The Seven Prime Targets of Opportunity for Regional Innovation and Growth

Evidence-Based Medicine	Business Process IT/Software	The Creative Community	Breakthrough Research on Cancer	Chemicals: Polymers, Coatings and Advanced Fibers	Propellers, Propulsion and Rotorcraft	Advanced Materials/ Nanotechnology

Projected Regional Outcomes With Successful Road Map Implementation

Increased Connectivity Accelerating Churn and Wealth Creation ▶ Increased Employment and "Brain Gain" ▶ More Spinouts from Industry and Universities ▶ New Global Partnerships and Global Innovation Image ▶ Increased Public, Private and Direct Foreign Investment ▶ Product and Market Expansion ▶ New Vendor Supplier Networks

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Innovation Philadelphia Portfolio of Programs

Investment

ESF Economic Stimulus Fund
An IP Investment Fund

ResearchDollar$ Fund

Innovation Partnership

MAG Mid-Atlantic Angel Group

Commercialization

MAC Mid-Atlantic Commercialization Corporation™

Phoenix IP Ventures

World's Best Technology Network

Bio Advance
Biotechnology Greenhouse of Southeastern Pennsylvania

Ben Franklin Technology PArtners

IP innovation PHILADELPHIA

Science 21 Science Center

Global & Regional Workforce / Economic Development

KIP Knowledge Industry Partnership

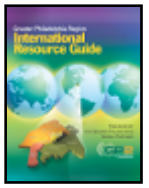
career PHILLY

GI

Creative Economy
Young Talent · Cultural Amenities · Business Diversity · Rich Idea Index

DVIN Delaware Valley Innovation Network

Branding, Research & Marketing



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Knowledge Industry Partnership & CareerPhilly

Knowledge Industry Partnership

ATTRACT
GPTMC, Campus Visit/ Philadelphia

ENGAGE
Campus Philly, City of Philadelphia

RETAIN
Innovation Philadelphia, CareerPhilly

career PHILLY
www.careerphilly.com

smart Network
The *smart* way to connect...

- 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.

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The Creative Economy of Philadelphia

CREATIVE FOOTPRINT

THE ECONOMIC IMPACT OF THE PHILADELPHIA REGION'S FOR-PROFIT CREATIVE ECONOMY

Jobs within for-profit, creative industry sectors, as well as creative occupations, pay quite well as a whole. There are particularly high average annual wages within industry sectors such as:

Creative Industry	Creative Occupation	Creative Industry Sector
$77,500	$74,600	Software Development
$59,300	$66,700	Architecture, Engineering and Planning
$58,200	$70,600	Information Technology

Average annual salaries of those working in creative occupations ($61,600) are 45% higher than those in non-creative occupations ($43,000).

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14 Ways to Spark Innovation

- ★ FOLLOW YOUR FASCINATION
- ★ IMMERSE
- ★ TOLERATE AMBIGUITY
- ★ MAKE NEW CONNECTIONS
- ★ FANTASIZE
- ★ DEFINE THE RIGHT CHALLENGE
- ★ LISTEN TO YOUR SUBCONSCIOUS
- ★ TAKE A BREAK
- ★ NOTICE AND CHALLENGE PATTERNS AND TRENDS
- ★ TAKE A BREAK
- ★ NOTICE AND CHALLENGE PATTERNS AND TRENDS
- ★ HANG OUT WITH A DIVERSE GROUP OF PEOPLE
- ★ BRAINSTORM
- ★ LOOK FOR HAPPY ACCIDENTS
- ★ USE CREATIVE THINKING TECHNIQUES
- ★ SUSPEND LOGIC

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The New Tasks of National 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

"You don't concentrate on risks. You concentrate on results. No risk is too great to prevent the necessary job from getting done."

Chuck Yeager

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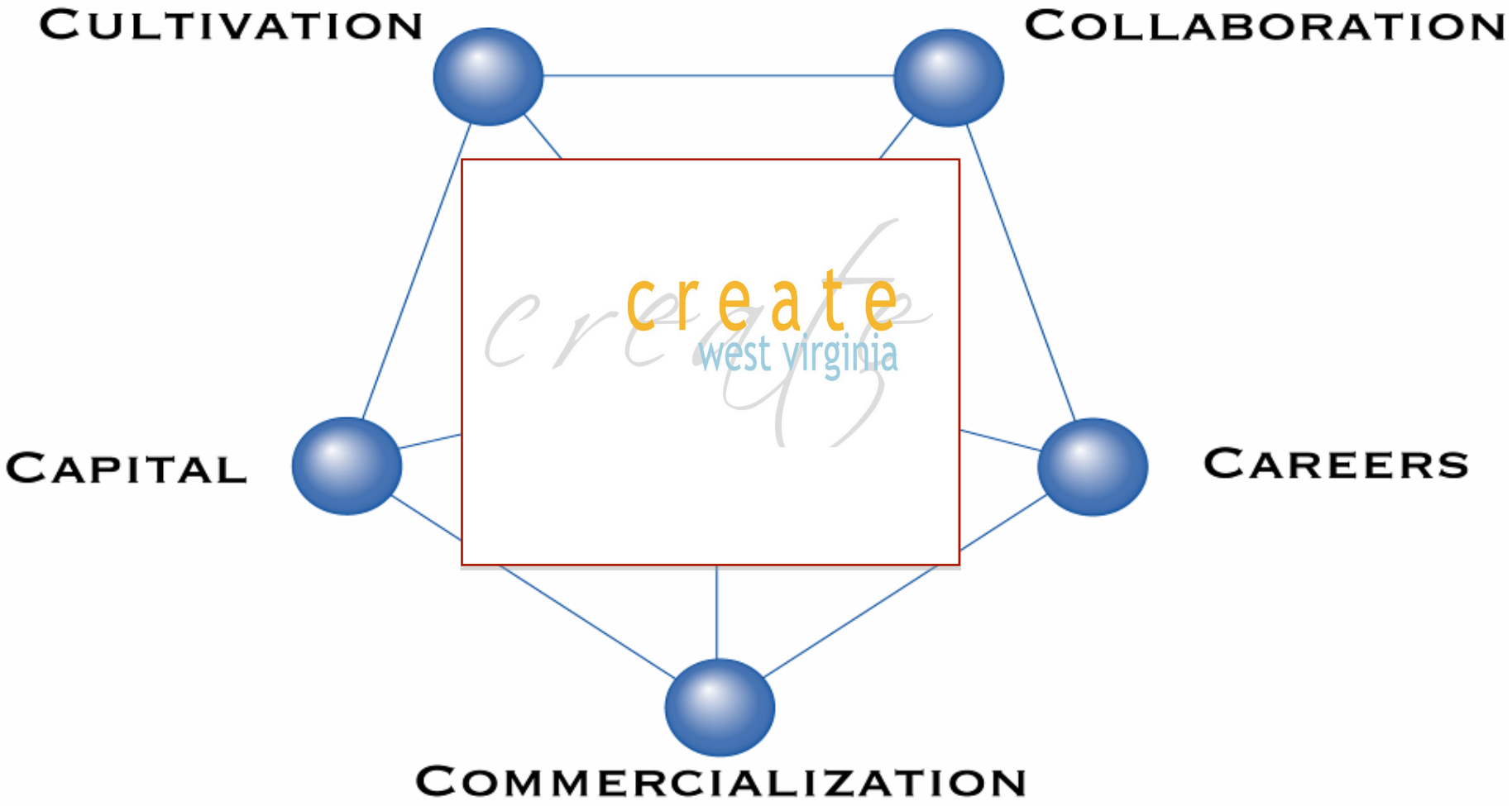
West Virginia Innovation Eco-System

Innovation Paradigm



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THE BEST WAY TO PREDICT THE FUTURE IS TO CREATE IT

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A Call to Action

"Somebody has to do something, and it's just incredibly pathetic that it has to be US."

--Jerry Garcia of the Grateful Dead

The US is YOU!

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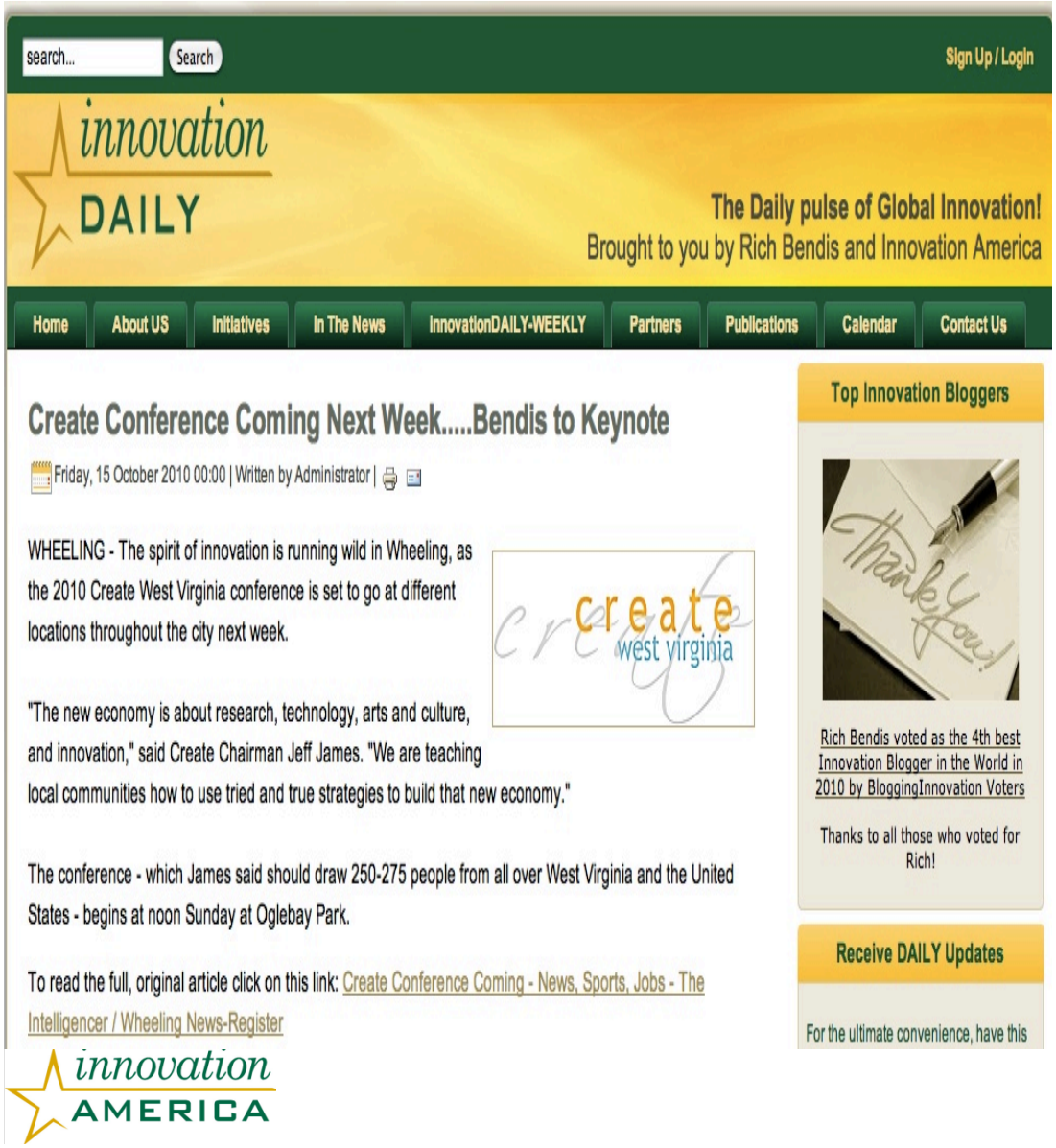
innovationDAILY



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