

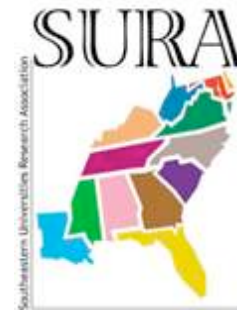


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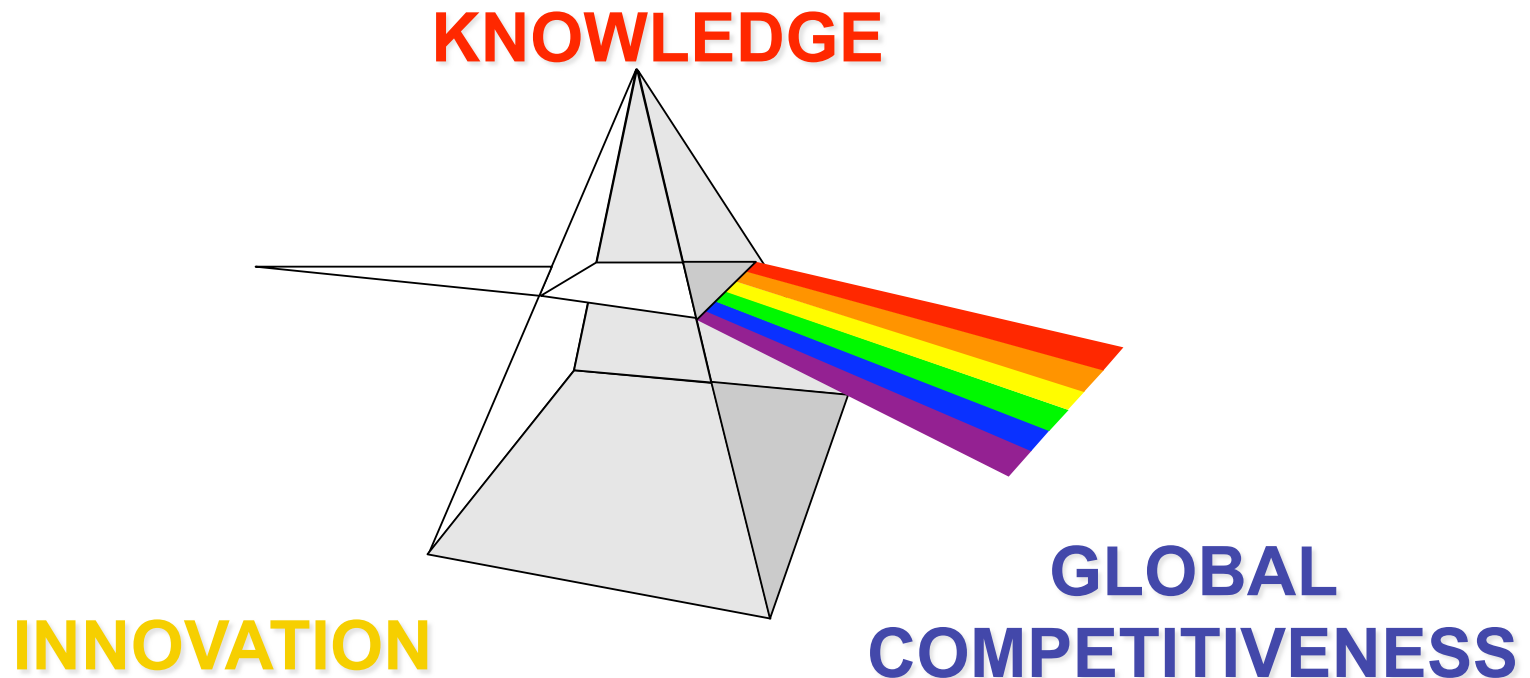
**Southeastern Universities Research Association  
Bridge Forum on Commercialization and Innovation**

**“Creating A National Innovation Seed Fund of Funds :  
*A Primer*”**

***Presented By  
Richard A. Bendis  
President and CEO  
Washington, DC  
July 15, 2009***



# 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

# Knowledge Economy: Definitions & Terminology

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- Knowledge is the confident understanding of a subject, potentially with the ability to use it for a specific purpose
- Knowledge economy is based on creating, evaluating, and trading knowledge
- Innovation is the creation and transformation of knowledge into new products, processes, and services that meet market need

# Goals of Innovation-Based Economic Development

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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 economy

# Implementing a New Innovation Paradigm

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- 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**

# Traditional ED vs. Innovation-Based ED

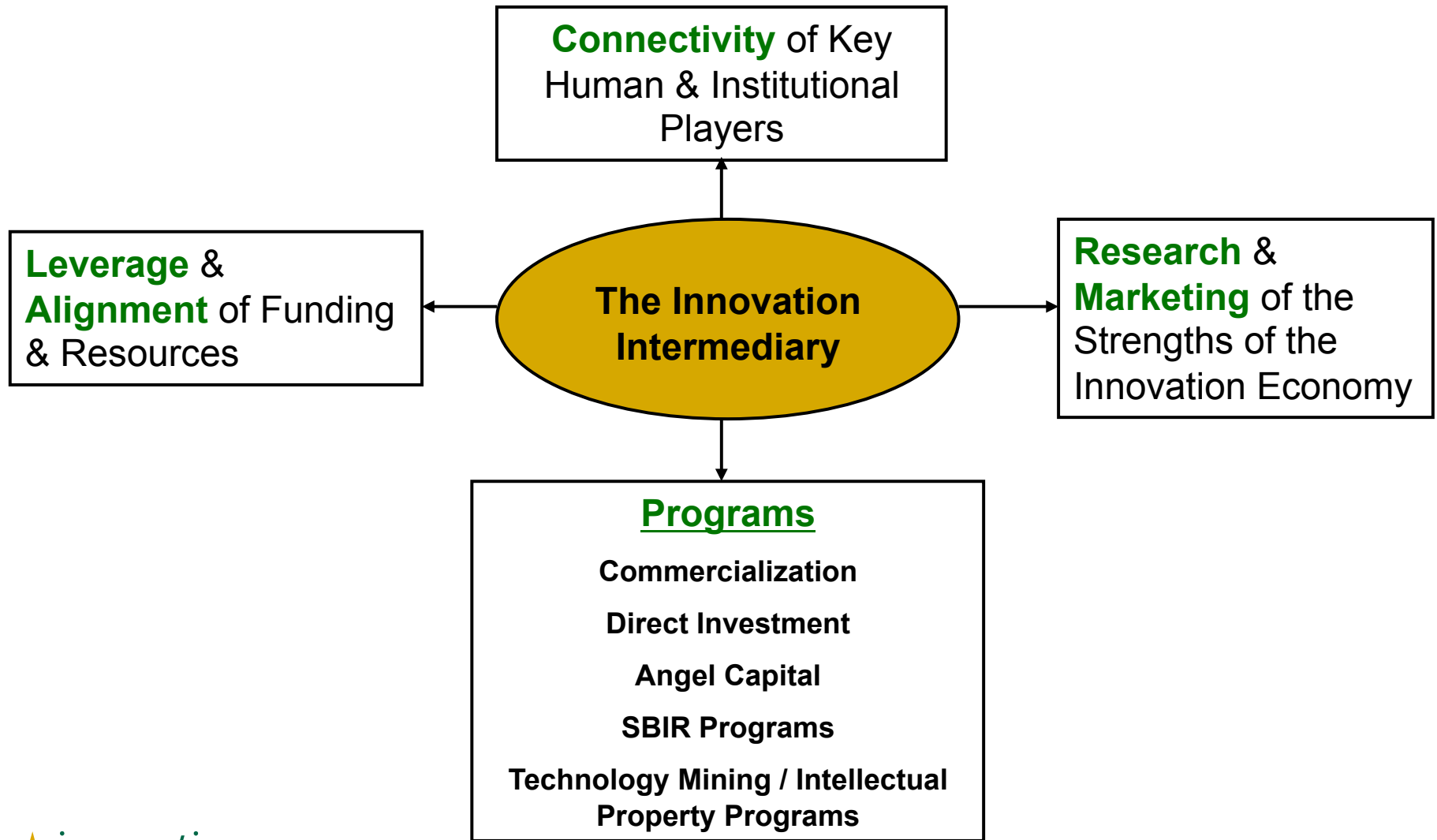
	<u>Traditional ED</u>		<u>Innovation-based ED</u>
• Competitive Basis	Natural resources Highways / Rail Proximity Costs	➔	Specialized talent Networks, information University research / professors Market understanding
	i.e. PHYSICAL		i.e. KNOWLEDGE
• Key values / offerings	Business parks Incentives	➔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

## 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



***ACCELERATING THE GROWTH  
OF THE  
ENTREPRENEURIAL INNOVATION  
ECONOMY IN AMERICA***



**MISSION: TO ACCELERATE THE GROWTH OF THE  
ENTREPRENEURIAL INNOVATION ECONOMY  
IN AMERICA**

- The following represents a preliminary framework on how to finance and bring together organizations, networks, and resources involved in growing the nation's entrepreneurial innovation economy and creating new jobs.
- A private-public partnership such as Innovation America could be an innovation intermediary for facilitating this process between, State, Federal, University, Foundation and Private Sector stakeholders.
- There is an opportunity to leverage successful federal SBIR recipients as well as state and regionally funded early-stage, high-growth growth technology companies.
- We believe that this is an important MISSING ingredient in the long-term health of America's Competitiveness and Technology Innovation leadership.

## Early Efforts Without a Central Model

<u>Year</u>	<u>Innovation Initiatives</u>
1995	- The State–Federal Technology Partnership Taskforce Formed
1997	- President Clinton creates the U.S. Innovation Partnership
2000	- The State Science and Technology Institute (SSTI) is free-standing
2004	- Innovation Philadelphia and Rich Bendis create Innovation America
2005	- The National Innovation Act created President’s Council on Innovation
2006	- The National Competitiveness Investment Act
2007	- The America Competes Act
2007	- The National Governor’s Association under Gov. Napolitano create the Innovation America Partnership
2008	- Governor Napolitano creates the Innovation America Foundation
2008	- The National Innovation and Job Creation Act introduced to create a National Innovation Council
2008	- The National Innovation Foundation proposed by Rob Atkinson
2009	- A National Innovation Framework proposed by Rich Bendis

# U.S. Experiencing a Slowdown In Its Global Innovation Leadership

## GLOBAL INNOVATION INDEX

RANKING	COUNTRY	SCORE*
1	Singapore	2.45
2	South Korea	2.26
3	Switzerland	2.23
4	Iceland	2.17
5	Ireland	1.88
6	Hong Kong	1.88
7	Finland	1.87
<b>8</b>	<b>United States</b>	<b>1.80</b>
9	Japan	1.79
10	Sweden	1.64

Source: Boston Consulting Group & National Association of Manufacturers

\*Global Innovation Index evaluated both innovation inputs, such as fiscal and education policies, and outputs such as patents, technology transfer from basic university research, research and development, and business performance

# Creating a National Innovation Framework

- **The National Innovation Jobs Seed Fund and Technical Assistance Grant Fund**
- **The Federal Innovation Partnership and a National Innovation Advisor**
- **The National Private-Public Partnership Innovation Program**

science progress

## Creating a National Innovation Framework

*Building a Public-Private Support System to Encourage Innovation*

By Richard Bendis & Ethan Byler  
April 2009

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**INTRODUCTION AND SUMMARY**

Science, technology, and innovation experts in the United States today almost unanimously agree that our country needs to launch a collective national effort to accelerate U.S. technological and innovation-based growth, avert a global economic downturn during which other nations are boosting their already significant public and private sector efforts to build more competitive, innovation-led economies. The United States stands alone in the world without a national innovation framework.

The truth? Our country is beginning to lose its innovation leadership and national competitive advantage because we do not coordinate innovation policy across federal, state, municipal, and university boundaries and do not adequately support high-growth entrepreneurial companies. The federal government spends approximately \$130 billion annually into basic scientific research but then largely fails to ensure this money results in the kind of broad-based economic growth that makes our products and services the most competitive on the planet. This is a tragedy because it is innovative small businesses that have generated between 80 to 85 percent of net new jobs annually over the last decade as they grow and prosper, according to the U.S. Small Business Administration. These same companies also employ 80 percent of high-tech workers such as scientists, engineers, and information-technology workers.

Today's economic crisis, however, is also an opportunity to reinvigorate our knowledge economy, if recent history is any guide.

After both the 1990-91 and the 2000-01 recessions, small businesses created more net new jobs than all other job creators in our country. The Office of Small Business Advocacy to the Small Business Administration shows that during the three years after the 2000-01 recession, the smallest of our companies (one to four employees) provided 79 percent of the net new jobs in the subsequent three years. Similarly, after the recession of 1990-91, small businesses created 89 percent of net new jobs (see sidebar for case studies in Pennsylvania and Kansas).

Year	Net New Jobs Created (Millions)	Net New Jobs Lost (Millions)
2000	1.4	0.4
2001	0.4	0.4
2002	0.4	0.4
2003	0.4	0.4
2004	0.4	0.4
2005	1.4	0.4

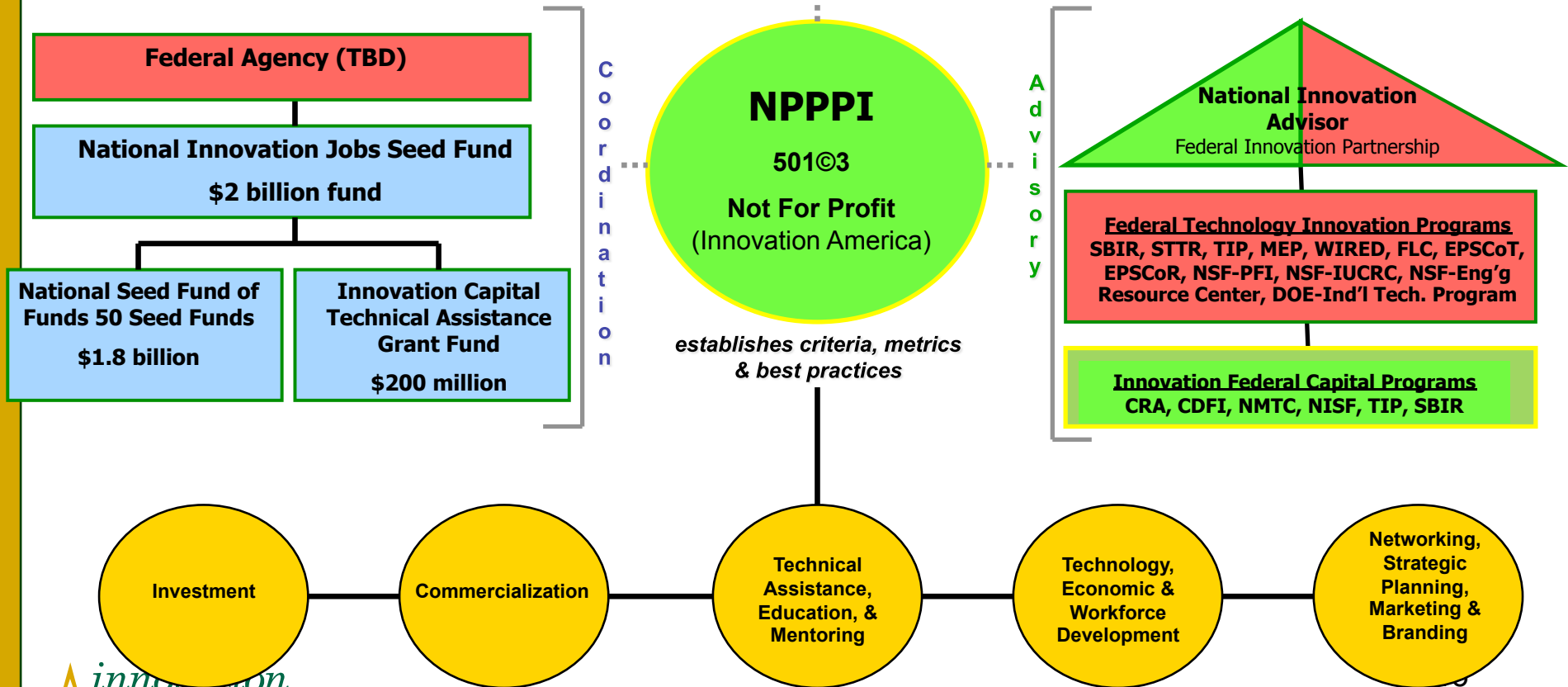
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science progress / Creating a National Innovation Framework

# National Innovation Framework

Angel Capital Association (ACA)*	Community Development Venture Capital Alliance (CDVCA)*	National Association of Seed & Venture Funds (NASVF)*	American Society of Mechanical Engineers (ASME)*	State Science & Technology Institute (SSTI)*	National Business Incubation Association (NBIA)*	Association of University Research Parks (AURP)*	Association of University Technology Managers (AUTM)*
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\*Potential national innovation partners



# Partners in National Innovation Development



*The Association of  
University Technology  
Managers*

**Community Development Venture  
Capital Alliance**





## Innovative Small Business Facts

- Innovative small business have generated 60 to 80 percent of net new jobs annually over the last decade
  - Employ 30 percent of high-tech workers, such as scientists, engineers, and computer workers
- SME's produce 13 times more patents per employee than large patenting firms
- Small Companies are a key source of innovation by themselves and for Large Companies

*Source: Small Business Administration*

## Innovation Capital Facts

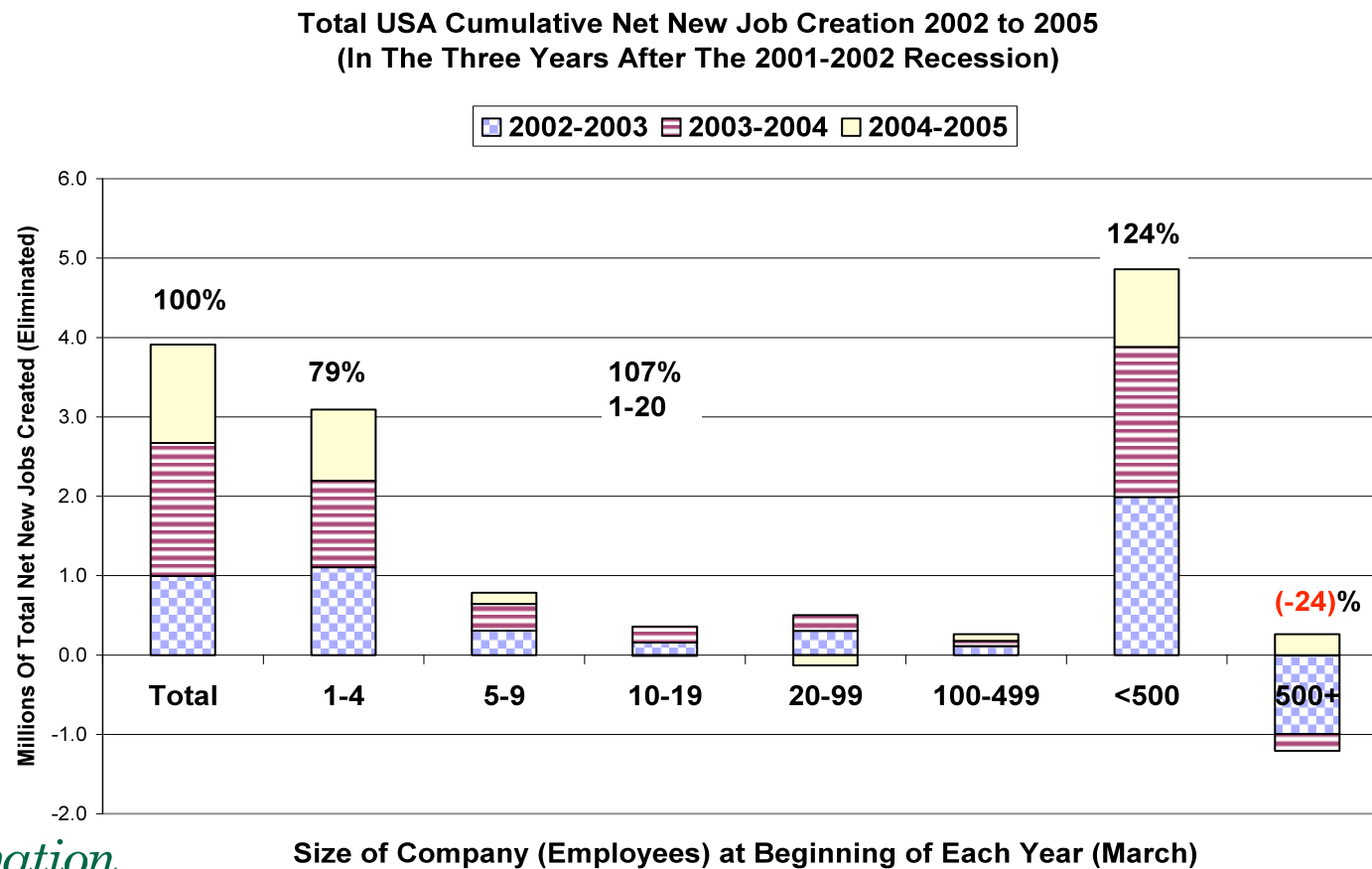
- Proof of Concept, Start-up, and Seed stage companies lack investment support
- Most Seed stage firms need investments of \$500K - \$2M
- The average venture capital investment today is \$8.3M

*Source: PriceWaterhouseCoopers – MoneyTree©*

# 2001 Recession:

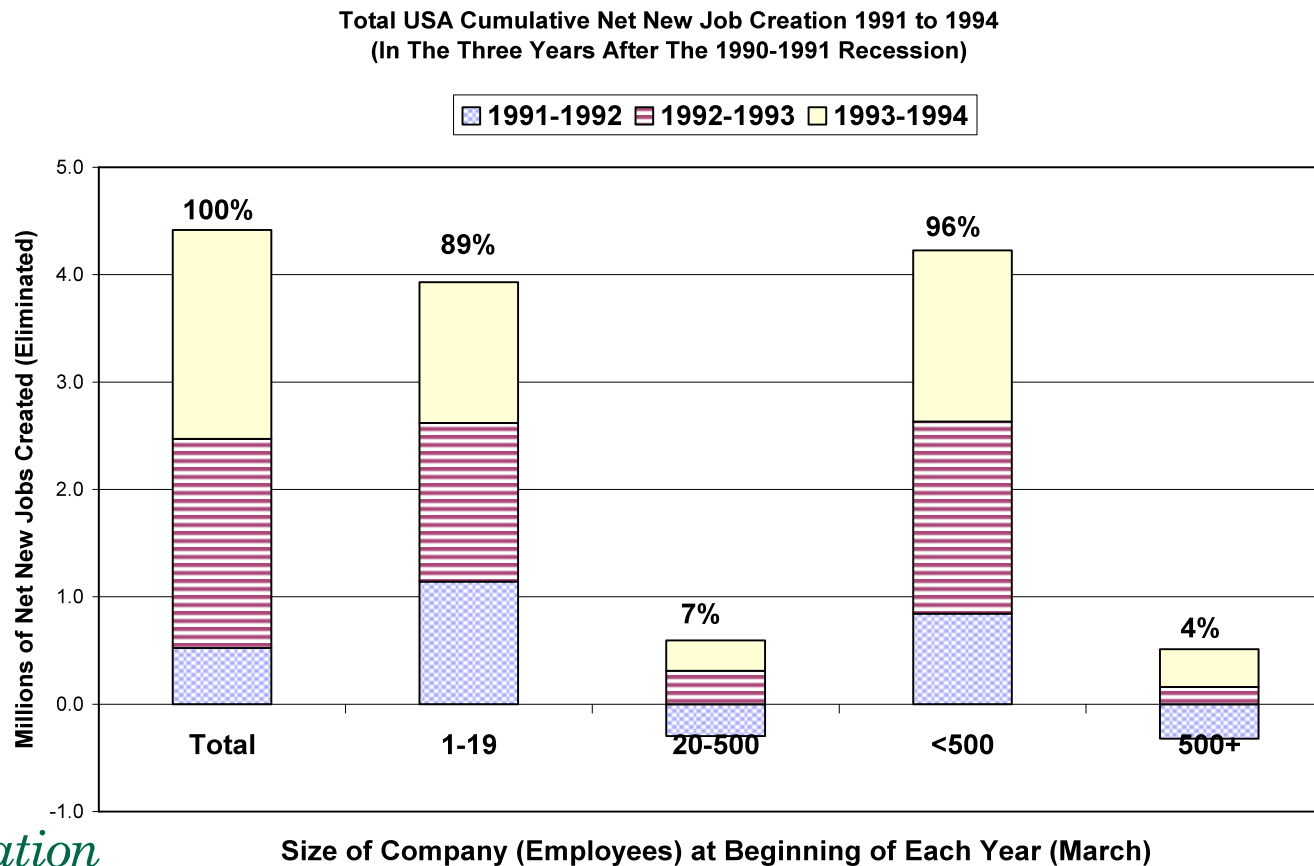
## Small Business Drives Job Creation

- 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%

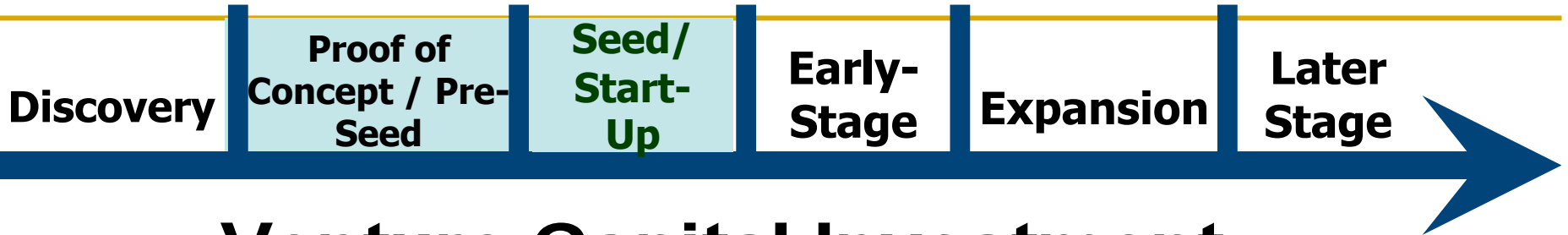


# 1991 Recession: Small Business Drives Job Creation

*In the three years after the 1991 recession, Companies of less than 20 employees created 89% of net new jobs while companies over 500 employees created a net of 4%*

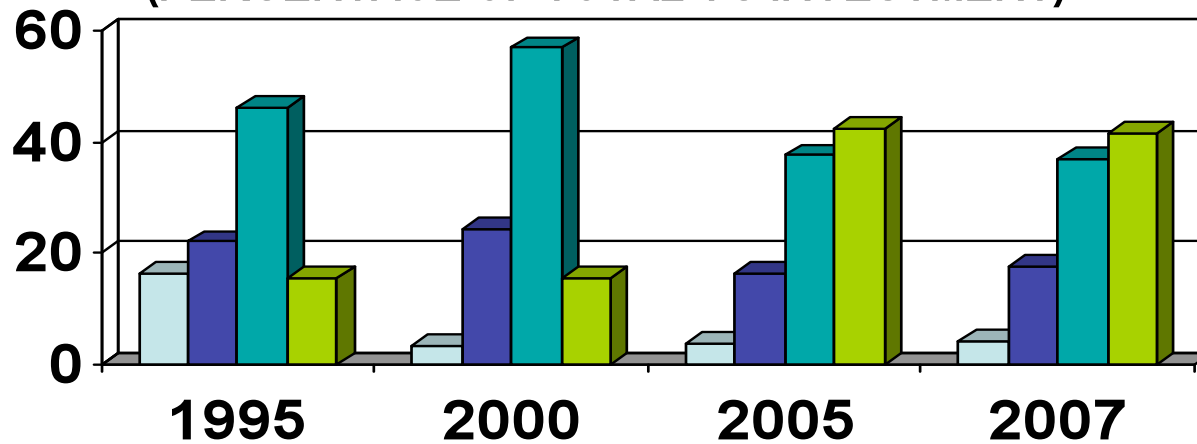


# Innovation Capital Lifecycle



## Venture Capital Investment By Stage

(PERCENTAGE OF TOTAL VC INVESTMENT)



Start-up/Seed    Early Stage  
Expansion    Later Stage

# Hot Off the Presses

Center for American Progress

PROGRESSIVE IDEAS FOR A STRONG, JUST, AND FREE AMERICA

*Creating a National Innovation Framework*

4-22-09

THE WALL  
STREET JOURNAL

*Federal Aid Sought for Equity-  
Backed Companies*

4-21-09

Forbes  
.com

*More Signs of  
Capital Starvation*

4-27-09

PEHUB

*A Federal VC Fund of Funds?*

4-13-09

BioCentury  
BECAUSE REAL INTELLIGENCE IS HARD TO FIND™

*Into the Valley of Death*

4-20-09

San Francisco Chronicle

*Recession Knocks VC Funds  
to 5 ½ Year Low* 4-14-09

ThomasNet®  
IndustrialNewsRoom

*Health Care Bleeds Small-Biz  
Finances, 5-12-2009*

VC  
experts  
Private Equity and Venture Capital Expertise

*Buzz Article, 5-13-2009*

innovation  
AMERICA

# Financing For Innovation In Crisis

- *Seed- and early-stage investors and entrepreneurs are struggling more than usual according to a recent survey by the National Association of Seed and Venture Funds*



## Venture Funding

- **90% of the already-funded companies can't obtain follow-on funding to get to the next level. Without this follow-on funding, they will die and a generation of great ideas will die along with them.**
- **75 percent of the money received by seed- and early-stage venture funds comes from private investors**
- **70 percent of the money needed to fill this early stage investment gap is less than a million dollars per company**
- **60 percent of early-stage funds aren't making any new investments**

## Entrepreneurial Companies

- **75 percent of the companies investors are putting money into can't leverage that money into bank financing**
- **42 percent of the companies investors are putting money into have been stripped of their lines of credit**

# “The Perfect Storm”

## Reduced Angel Activity

- Angel Investors reduced their investments by over 26% in 2008
- Availability of investment capital among angels decreased dramatically by 40% in 2008

## Venture Funding Moving Downstream

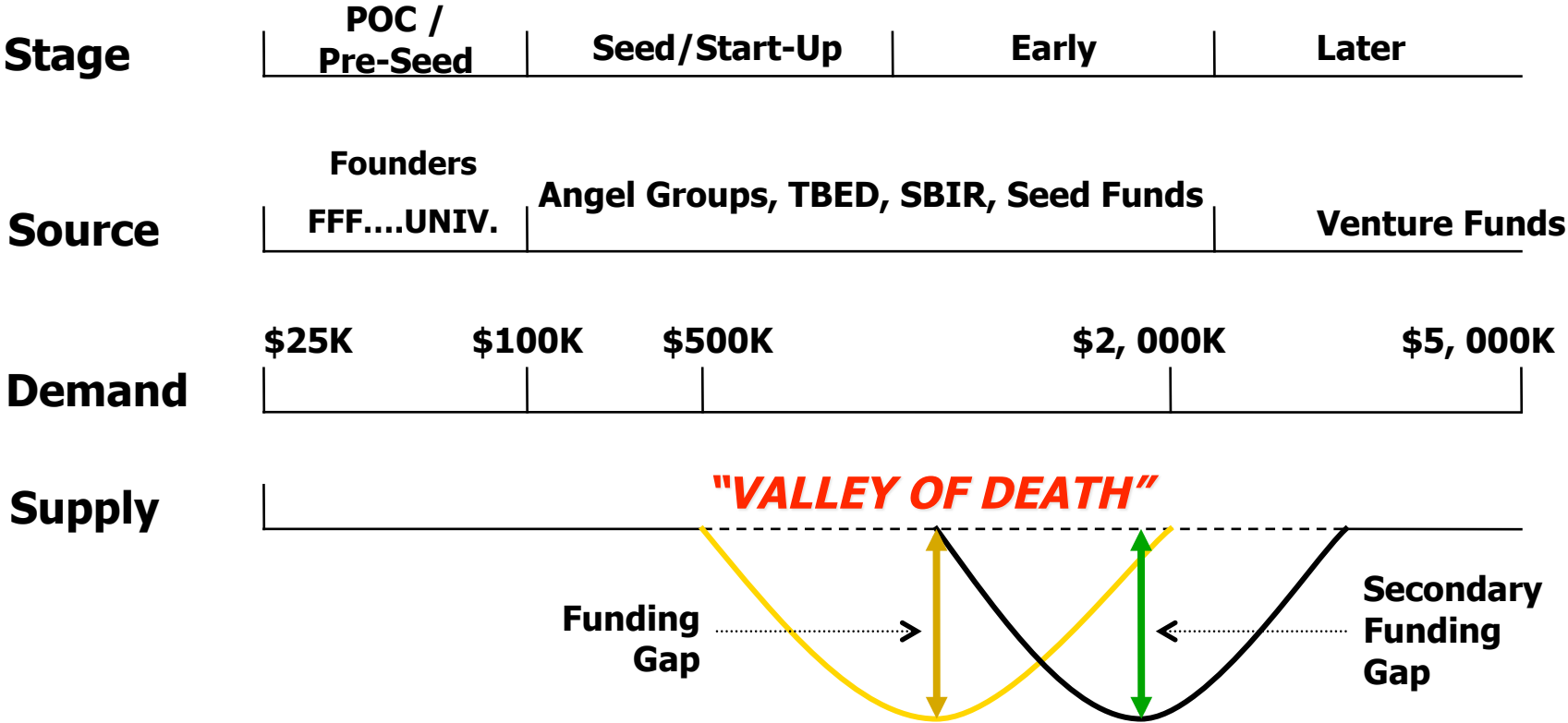
- The average investment by venture firms last year was \$8.3 million per investment and only about 4% of the capital went to early-stage companies.
- First Quarter of 2009 was the worst quarter in 12 ½ in terms of total capital invested by venture firms

## State TBED Budgets Decreasing

## No New Federal “Valley of Death” Funding Programs

# Innovation Capital

## “VALLEY OF DEATH”



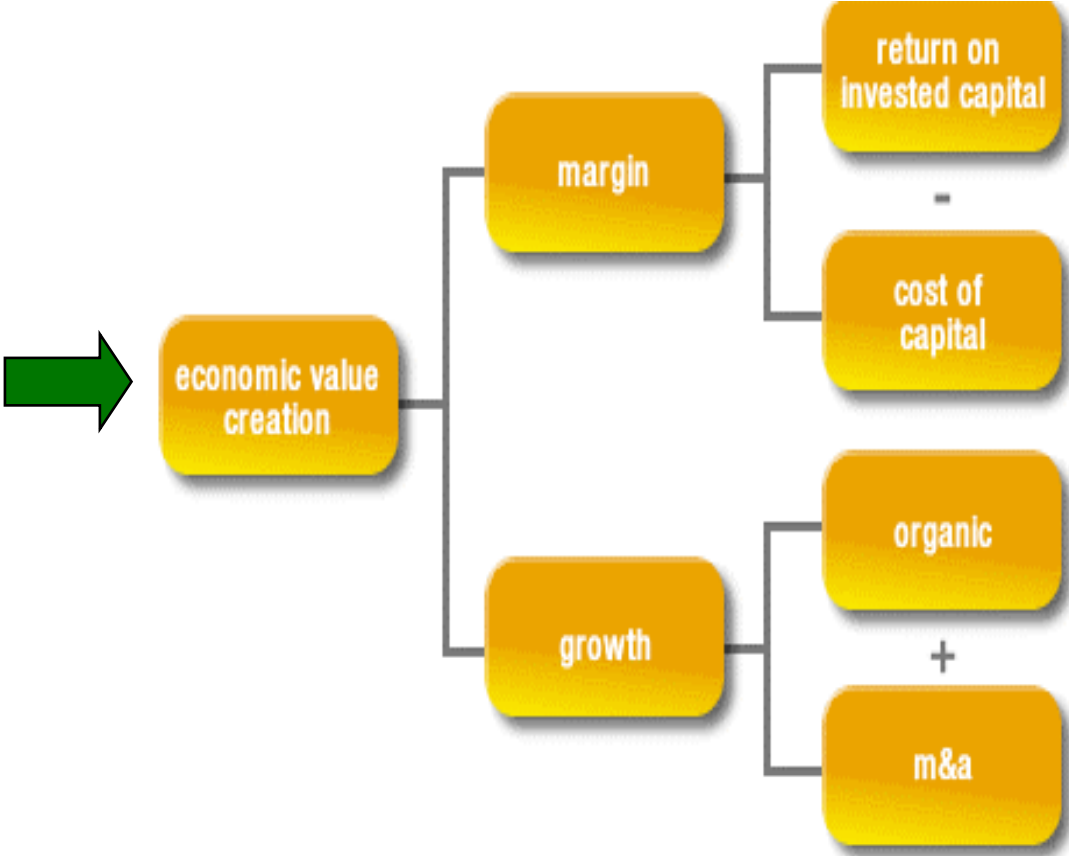


# Innovation Paradigm Shift

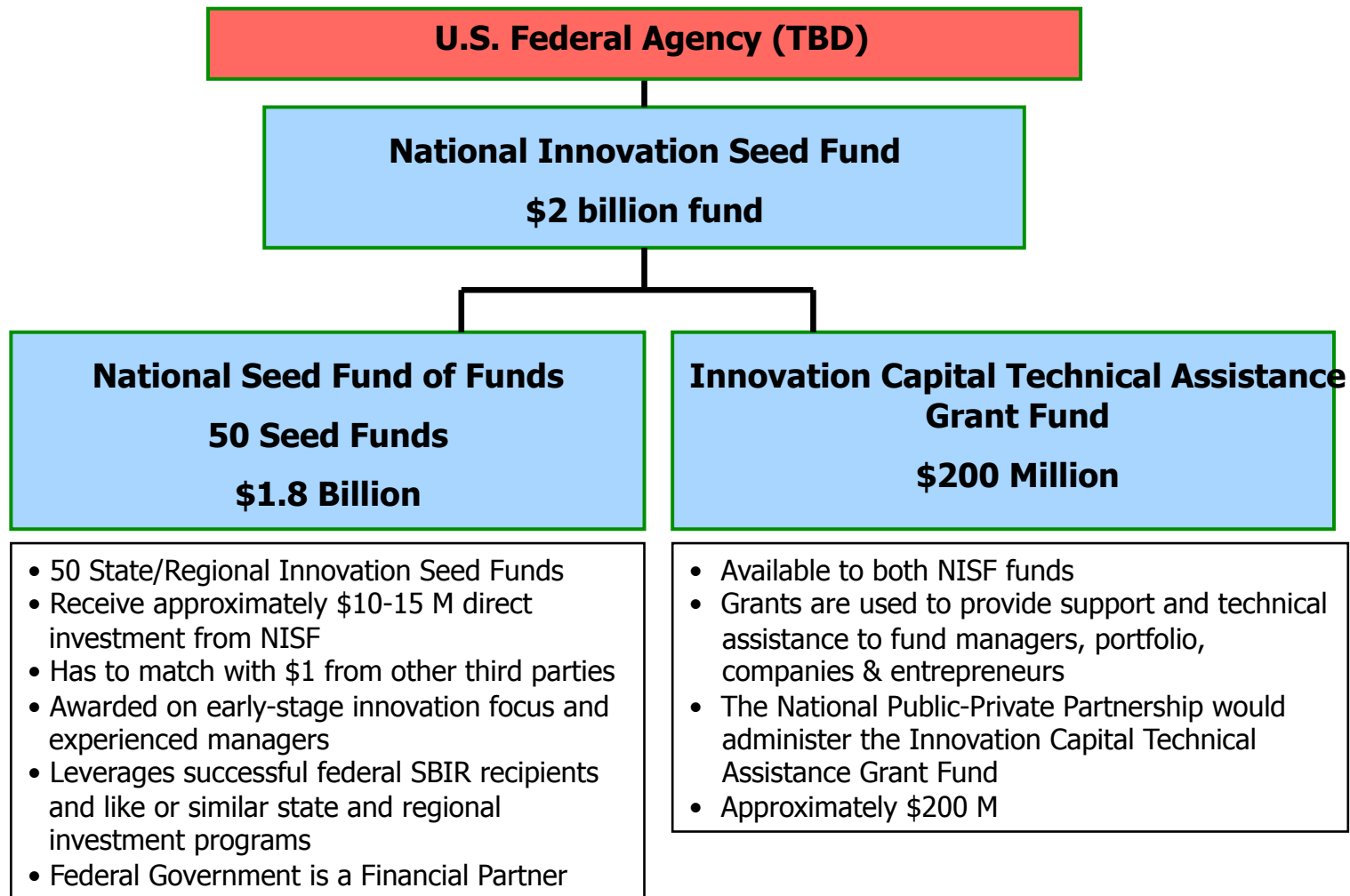
## PROOF OF CONCEPT



## PROOF OF RELEVANCE



# National Innovation Seed Fund



# Other Countries Response – Valley of Death



## UK Government Unveils Plans for £1BN Venture Capital Fund of Funds

30 Jun 2009. Source: AltAssets

The UK's venture capital industry will receive a much needed boost as the government announced plans to commit £150m (€177m) to a new fund of funds, the UK Innovation Investment Fund.

The Department for Business, Innovation and Skills, with the Department of Energy and Climate Change and the Department of Health, will invest the money alongside the private sector in order to stimulate growth.



Industry  
Canada

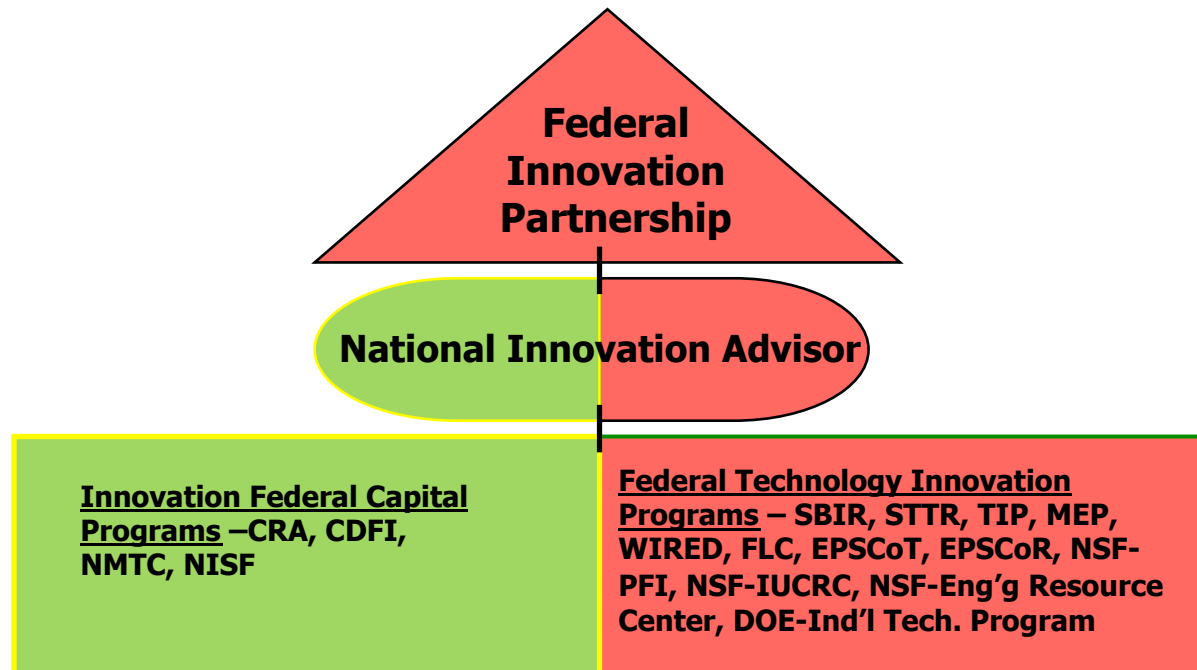
Industrie  
Canada

## Government of Canada Announces \$450 Million in New Funding for BDC to Assist Canadian Businesses

**TORONTO, Ontario, June 15, 2009** — The Honourable Tony Clement, Minister of Industry, today announced that the Government of Canada is providing \$450 million to the Business Development Bank of Canada (BDC) in support of small and medium-sized enterprises and innovative firms.

The funding will include \$100 million to establish the Operating Line of Credit Guarantee and \$350 million over three years to help drive venture capital investment in promising Canadian technology businesses.

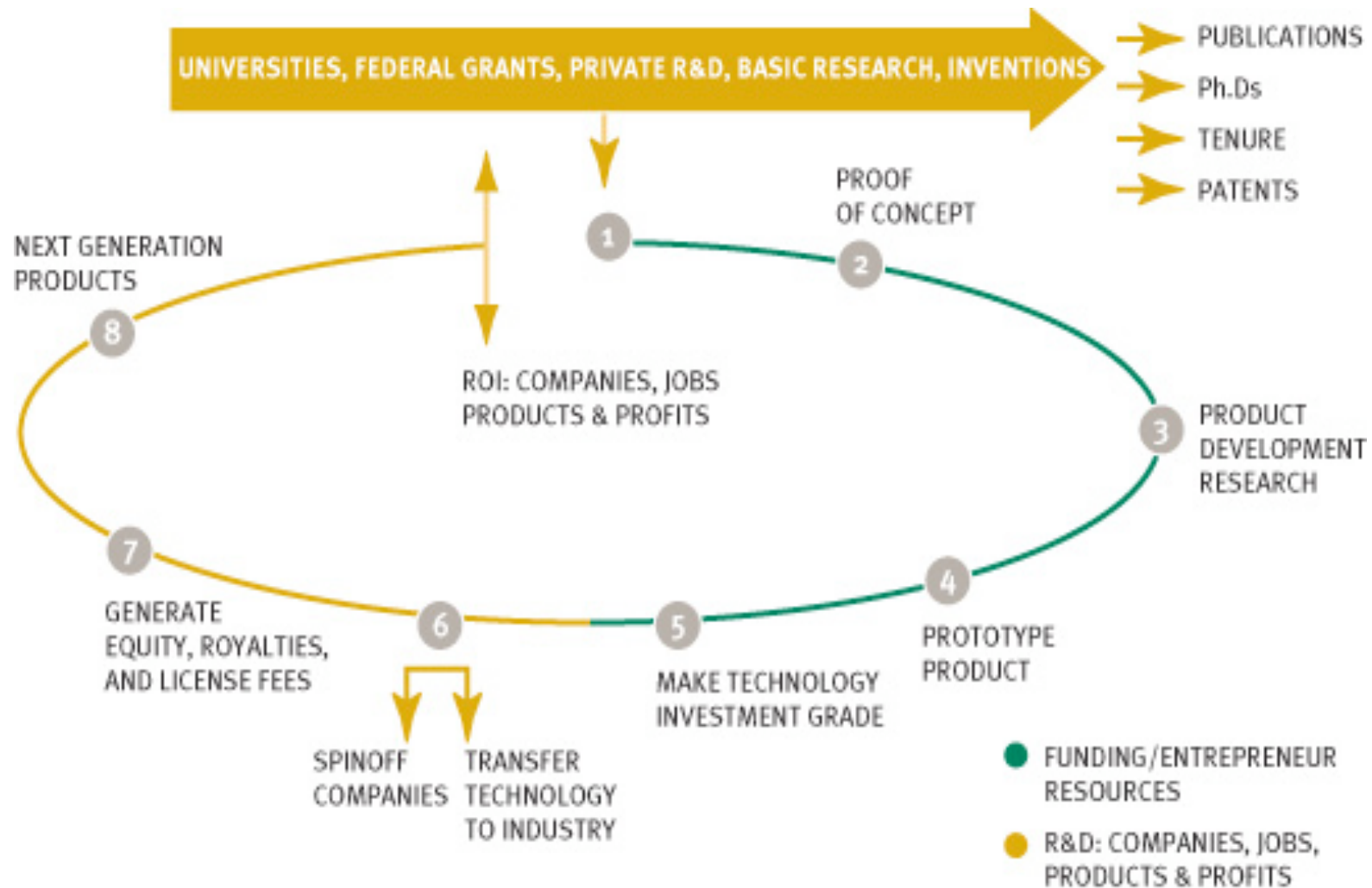
# Federal Innovation Partnership



## Federal Innovation Partnership

- A National Innovation high-level Advisor performs an intermediary function with the existing and potential new federal innovation programs and also interacts with other national innovation initiatives
- Identify gaps in the US national innovation portfolio and make recommendations for new programs
- Current Federal budget for listed Technology Innovation Programs is approximately \$2.7 - \$3 billion
- Interacts with the National Public-Private Partnership and existing innovation associations and networks
- Leverages its technology innovation investment programs with state and regional like or similar programs
- Performance-based budgeting and measurement
- National clearinghouse of information and resources

# Technology Lifecycle Business Model



# National Innovation Intermediary

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\*Potential partnering innovation associations and networks



**National Innovation Intermediary**

- A Public Private Partnership with a mission to accelerate the growth of the entrepreneurial innovation economy in America
- Intermediates partnerships with existing innovation associations and networks and federal technology innovation programs
- Manages & supports the listed programs



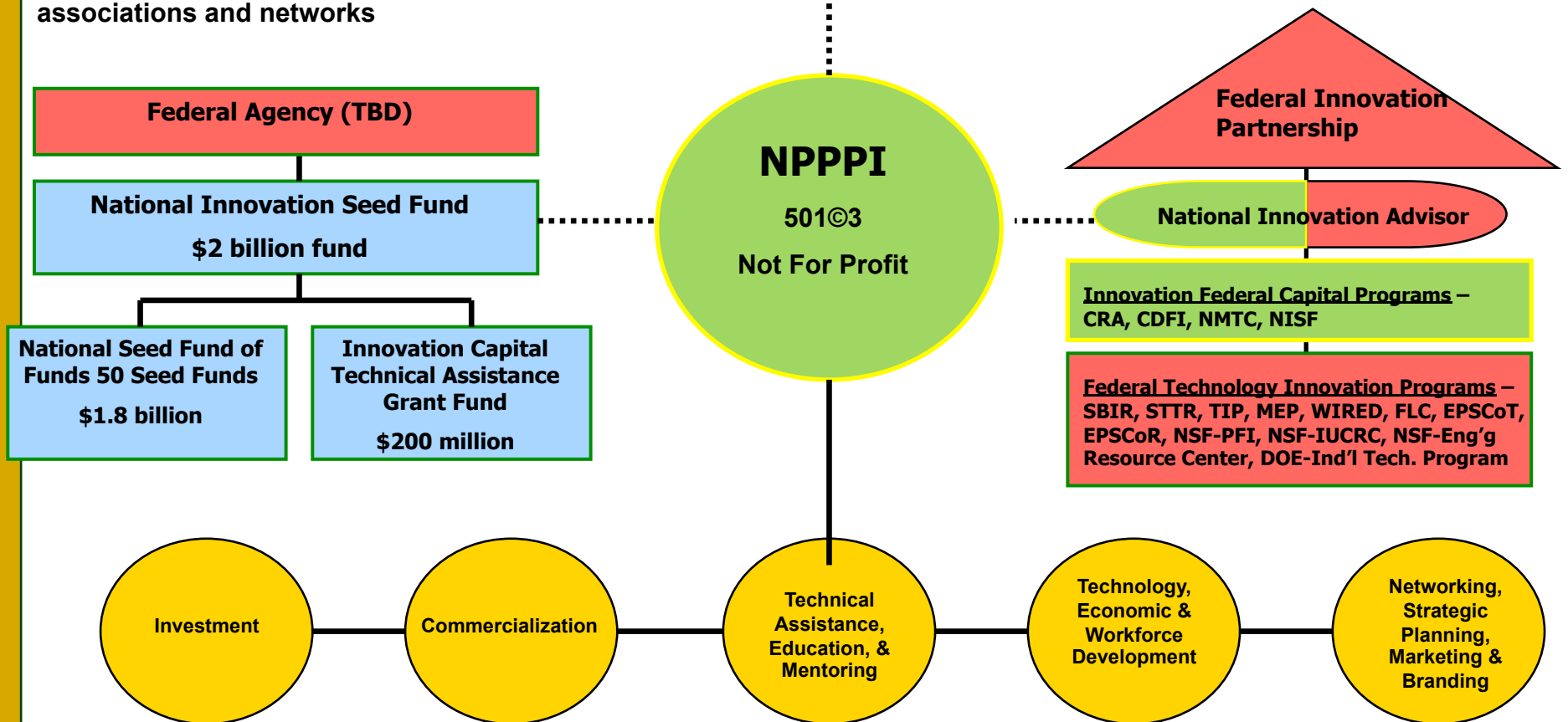
## Recommendations

- ✓ Create a \$2 billion dollar National Innovation Seed Fund (NISF) that consists of a Fund of Funds and a Technical Assistance Grant Fund. The Technical Assistance Grant Fund provides entrepreneurial support resources and services to portfolio companies and Fund Managers.
- ✓ Encourage the leveraging and coordination of Federal Technology Innovation Programs through a Federal Innovation Partnership with a new administration high-level National Innovation Advisor that has access to the President.
- ✓ Create a new Public-Private Innovation Intermediary with a mission to accelerate the growth of the entrepreneurial innovation economy in America and oversee the National Innovation Seed Fund. This intermediary would be a program partially supported by a U.S. federal agency like the Department of Commerce or the Small Business Administration.

# National Innovation Framework

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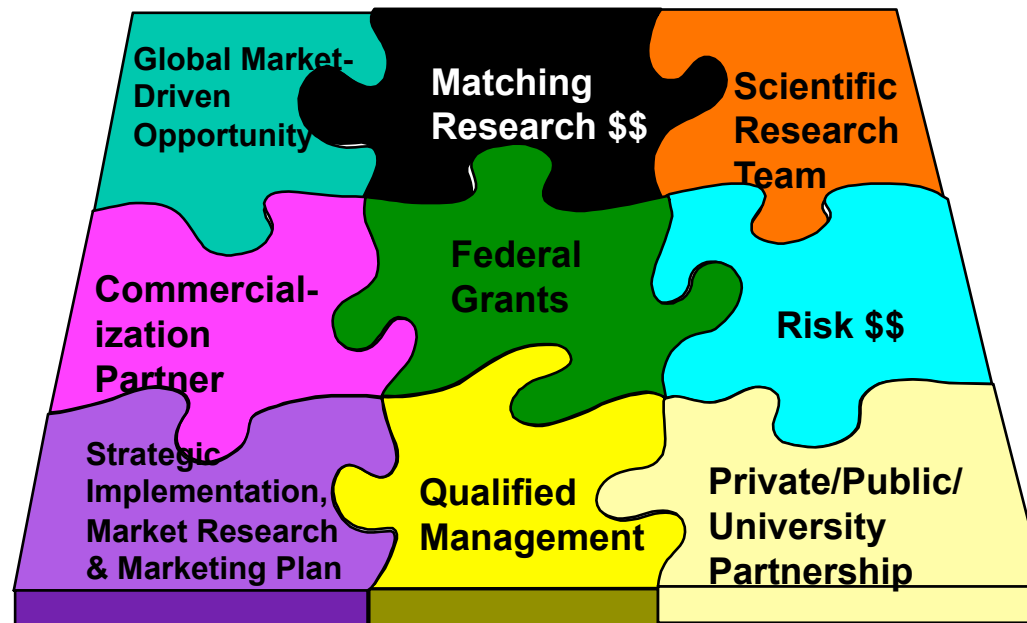


# The Road from Basic Research to Commercialization



...has many complex pieces!

# The Road from Basic Research to Commercialization



**All of the puzzle pieces must come together early in order for the project to have any hope of commercial success!!**



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