Building a Business Innovation Accelerator to Meet Rhode Island's Needs: Lessons from other States

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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*
- SMEs 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

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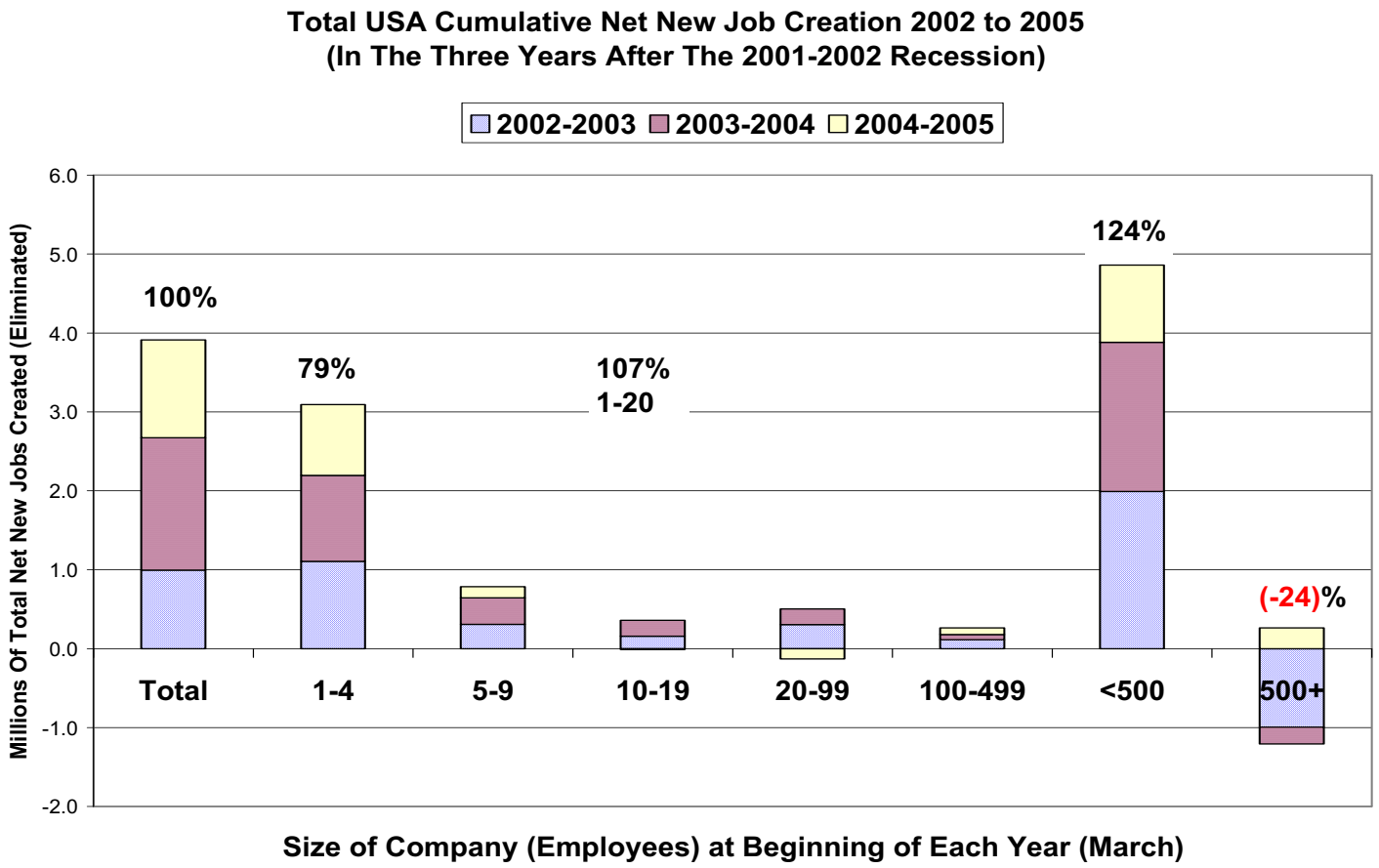
2001 RECESSION: Small Business Drives Job Creation

- 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%



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Source: Small Business Administration

Knowledge Economy: Definitions & Terminology

- 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

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

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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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The Role of the Public Sector

- A healthy, educated public
- Job creation, economic health, and **KNOWLEDGE WORKER** development
- World leadership in science, engineering, mathematics, and technology
- Improved environment quality and sustainable development
- Harnessed information technology
- Enhanced national security

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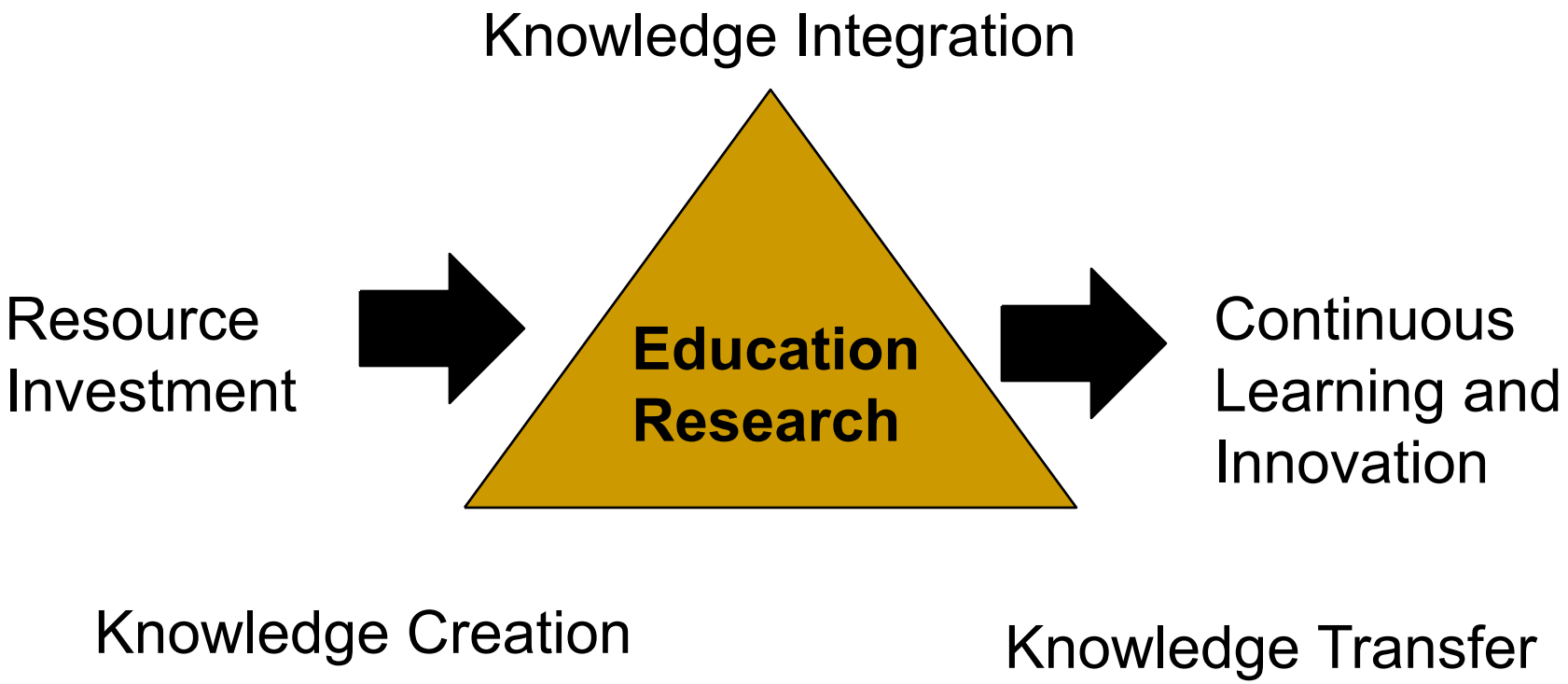
The Role of Academia



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Traditional ED vs. Innovation-based ED

	Traditional ED		Innovation-based ED
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		Innovation intermediaries, Economic developers

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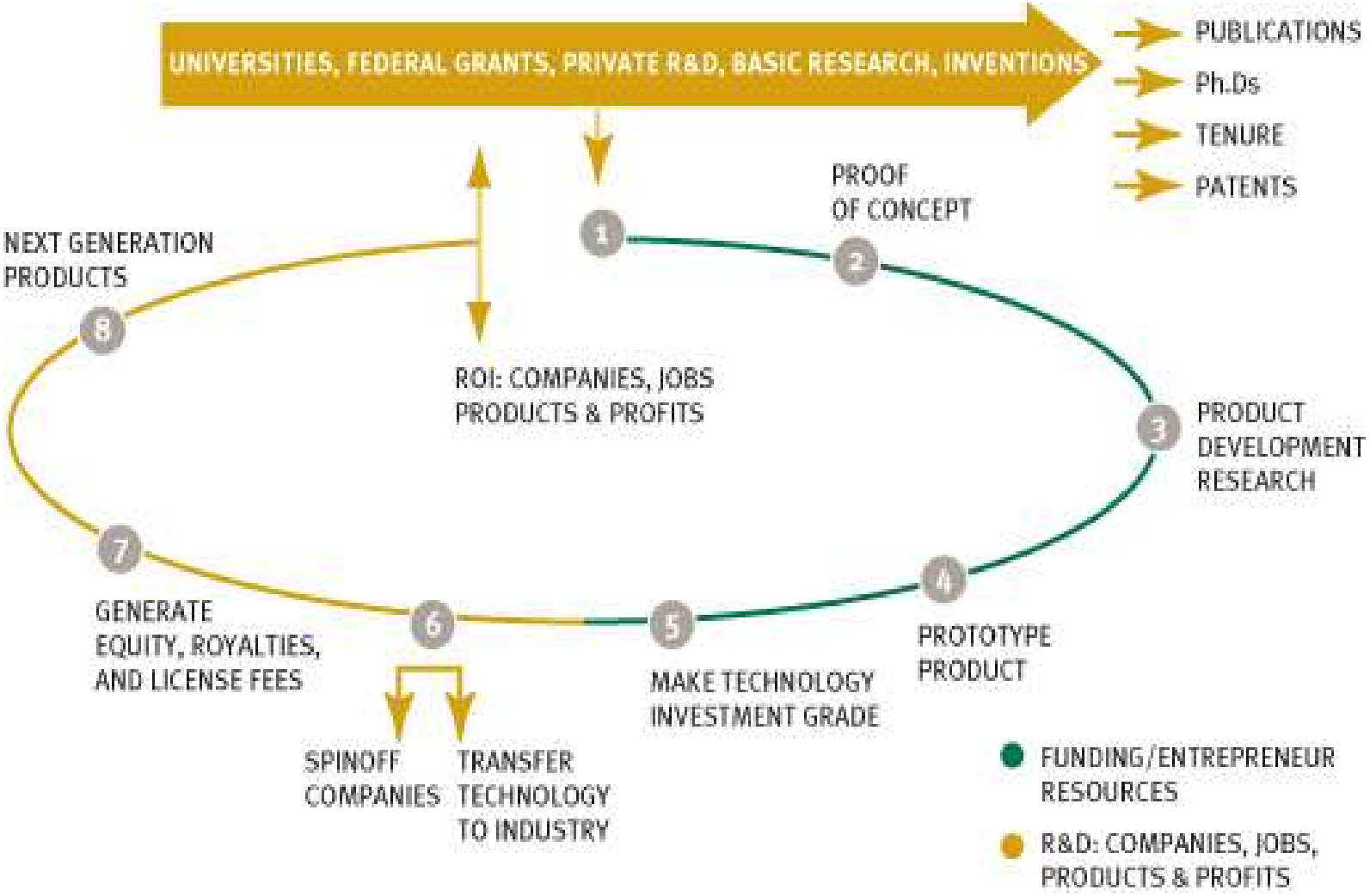
Commercialization Model



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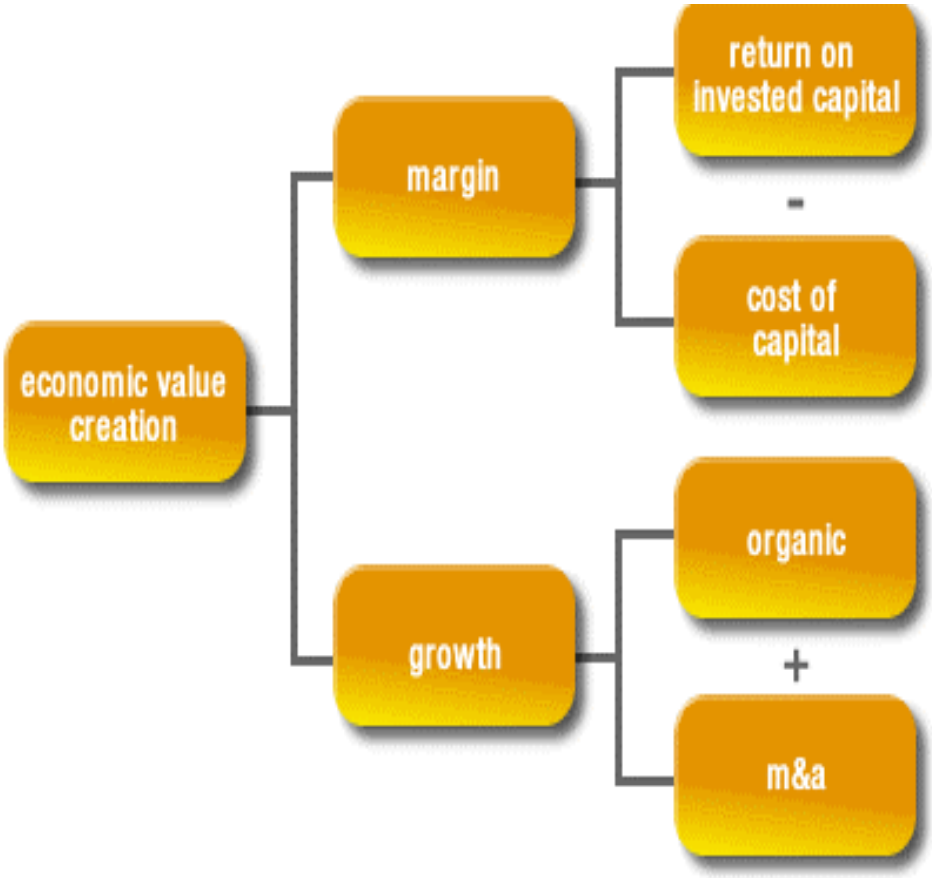
Innovation Paradigm Shift

PROOF OF CONCEPT

PROOF OF RELEVANCE



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Greater Providence Knowledge Economy Initiative

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Greater Providence Knowledge Economy Targets of Opportunity

Target Sectors

- Environmental and Alternative Energy
- Preventative Medicine and Behavioral Sciences
- Medical Devices and Rehabilitative Services
- Facility and Spatial Design (including Logistics)
- Product Safety and Design

Cross-Cutting Efforts

- Workforce Continuum for 21st Century Skills
- Strengthening the Academic & Research Alliance
- Entrepreneurs, Innovators, Disruptors: Unique Economic Leadership

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Providence Knowledge Economy Strategic Objectives

- Fostering **collaboration** among academic, medical, industrial and civic assets
- Boosting the **commercialization** of research conducted in the region
- Increasing **jobs** and **tax base** for Providence
- Increasing **competitiveness** for knowledge-based industries in attracting and retaining skilled workers to meet the demands of the Knowledge Economy
- Delivering a sustainable governance structure for the **Providence Knowledge Economy**

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Accelerating Entrepreneurial and Growth Companies

Greater Providence Recommendations include:

- Increased coordination of entrepreneurial sector
- Engage a wide spectrum of companies, ideas, and technologies
- Reward existing growth companies
- Reward collaborations among distinct sectors

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Creation of a Knowledge & Business Accelerator

Greater Providence Knowledge Economy Principles include:

- Physical and Virtual Programming
- Create incentives for academic institution collaboration private/entrepreneurial sector partnerships
- Leverage RIEDC work and other ways of conducting innovation assessments in both existing and emerging entities
- Amplify the critical collaboration with the RISD Center including a and the Business Innovation Factory program
- Create formal network for high-tech businesses to access management talent, markets, and capital by using existing capital programs and resources
- Leverage with federal and broader-geographic reach (New England, Mid-Atlantic) as well as alumni networks, new philanthropy, and corporate procurement

Rhode Island Center for Innovation & Entrepreneurship

- Business Innovation Accelerator
- Collaborative statewide venture to help RI-based entrepreneurs, researchers, and existing companies advance commercialization of ideas
- Supporting institutions include colleges, universities, city and state government, and private sector

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Implementing a New Innovation Intermediary

- 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

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Human Connectivity

Communications networks have the ability to transform economic, political, and social relationships on a global scale.

- In the past, organizations strategized to gain **COMPETITIVE** advantage.
- The emphasis in the future will be to gain **COOPERATIVE** advantage.
- A core competency needed in individuals, organizations, and regions alike is **CONNECTIVITY**.

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Implementing Innovation Connectivity

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

- **C**ultivation
- **C**ollaboration
- **C**apital
- **C**areers
- **C**ommercialization

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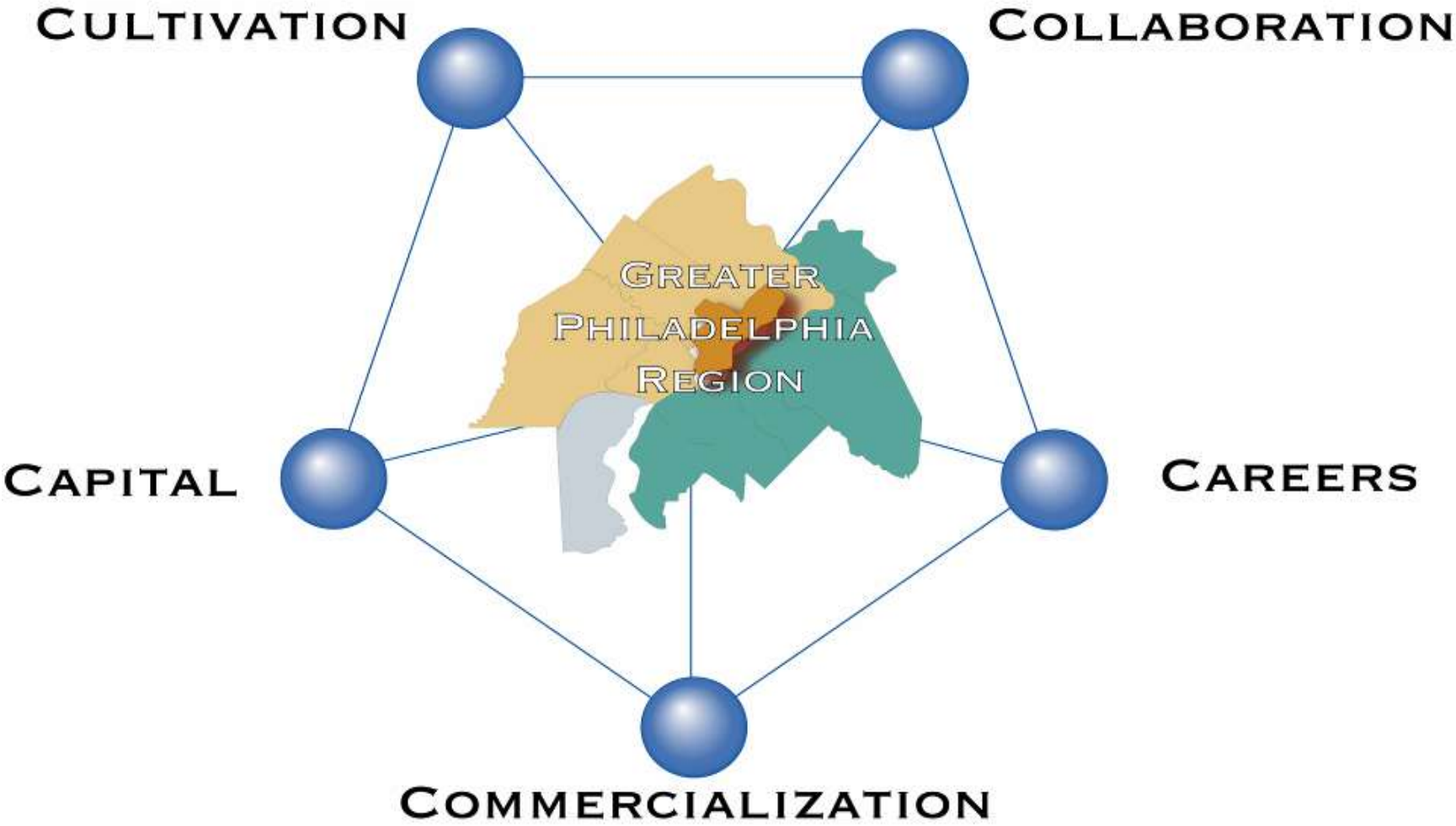
Innovation Connectivity



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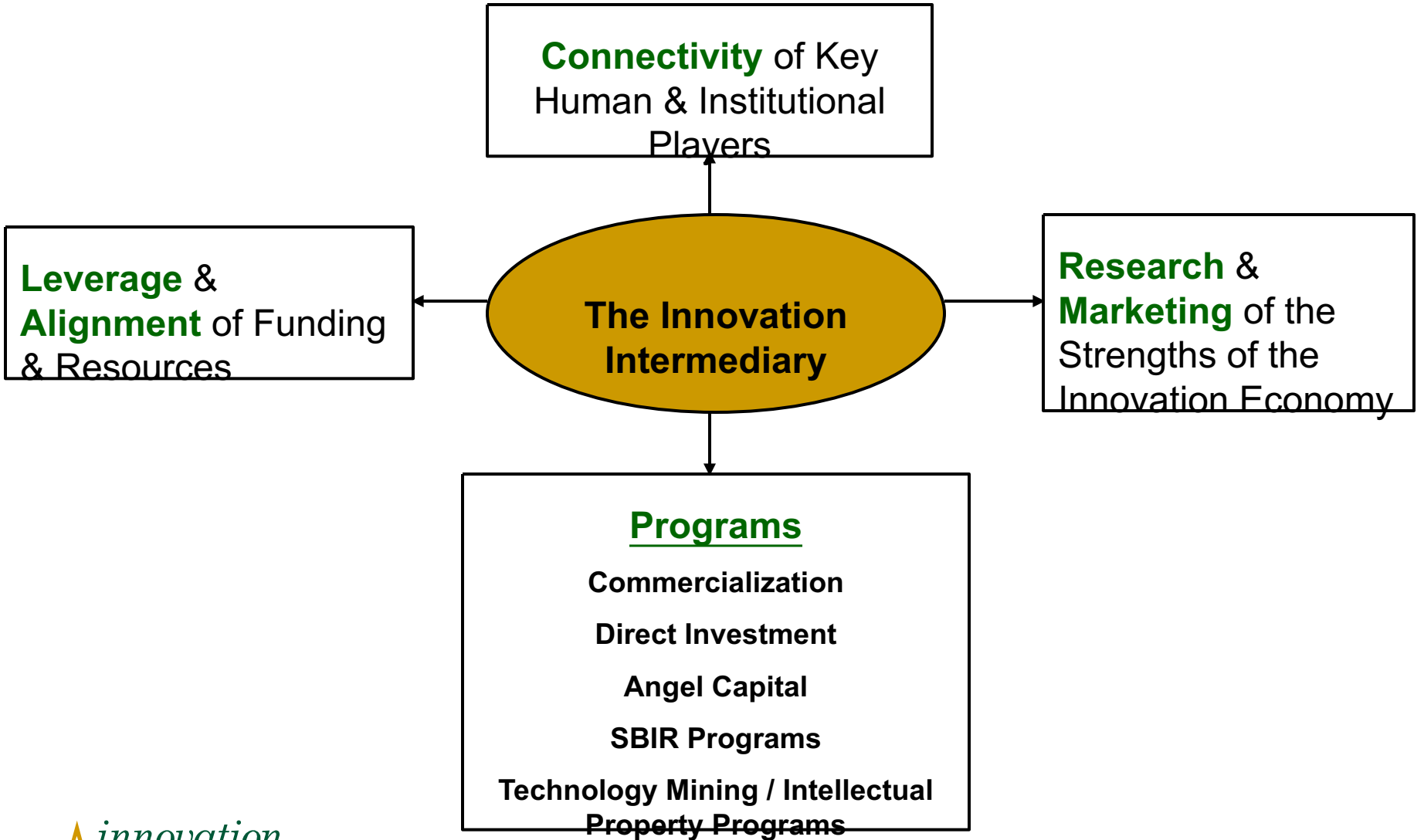
21st Century Innovation Intermediary: Operating Model



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Innovation Intermediary Commercialization Structure

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

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U.S. National Best Practices

- ☆ Ben Franklin Technology Partners (BFTP, 1982)
  http:///www.benfranklin.org/

- ☆ Innovation Philadelphia (IP, 2001)
  http://www.innovationphiladelphia.com/

- ☆ Kansas Technology Enterprise Corp. (KTEC, 1987)
  http://www.ktec.com/

- ☆ Oklahoma Center For The Advancement Of Science And Technology (OCAST, 1987)
  http://www.ocast.state.ok.us/

- ☆ UCSD Connect (1985)
  http://www.connect.org/

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National Best Practices, Common Attributes

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

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Ben Franklin Technology Partners

- Established in 1982 to stimulate economic growth through innovation, entrepreneurship, and the development and adoption of new technologies.
- BFTP operates on a Regional level through four centers strategically located throughout PA , with offices in Pittsburgh, State College, Bethlehem, and Philadelphia.
- Every dollar invested in BFTP yielded nearly $23 of additional income in the state.
- BFTP generated 93,105 job-years at a cost to PA of $3,342 per job-year*.
- The state garnered more than $400 million in additional tax revenue as a direct result of the program, which more than covered the operating costs of the program over the same period.
- BFTP boosted Pennsylvania's economy by $8 billion.
- Web site – www.benfranklin.org

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PA Champions From Gov. Thornburgh To Gov. Rendell

26 Years of Success

"Making investments that will help grow Pennsylvania's technology industry will secure our competitive place in the global marketplace while creating new opportunities and supporting the revitalization of our towns and cities."

- *Edward G. Rendell, Governor of the Commonwealth of Pennsylvania*

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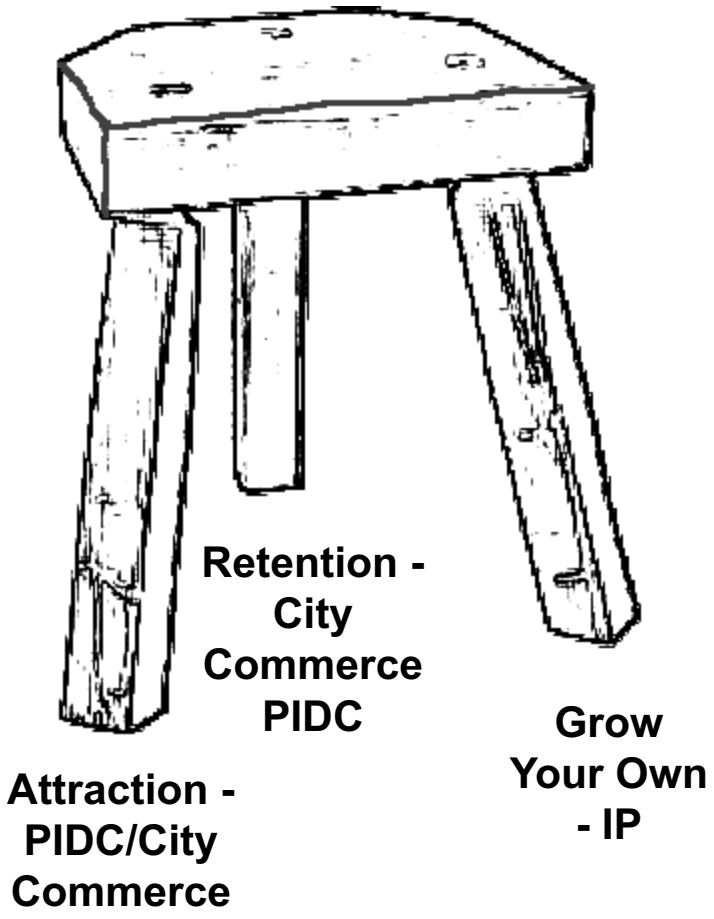
Economic Development

- Economic Development is like a three-legged stool:
  - Attraction
  - Retention
  - **Grow Your Own (Innovation Philadelphia's focus)**
- IBED requires patience and persistence, continuity and consistency.
- Working with early-stage companies takes time.



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Innovation Philadelphia's Mission

A Public/Private Partnership created to:

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

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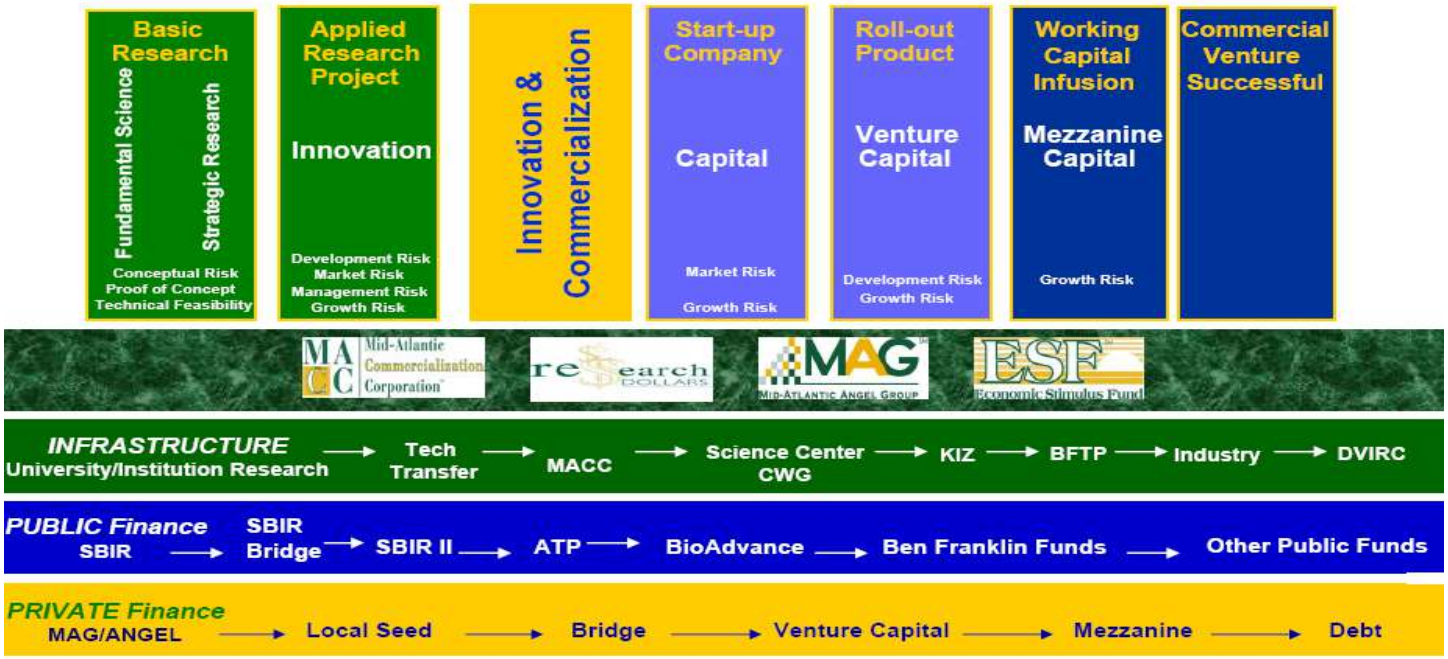
How Innovation Philadelphia Started

- Blank sheet of paper
- Need for an **Innovation Intermediary**
- Gap analysis of all Regional-based economic development and investment programs
- SWOT analysis of all organizational programs, boards, and funding



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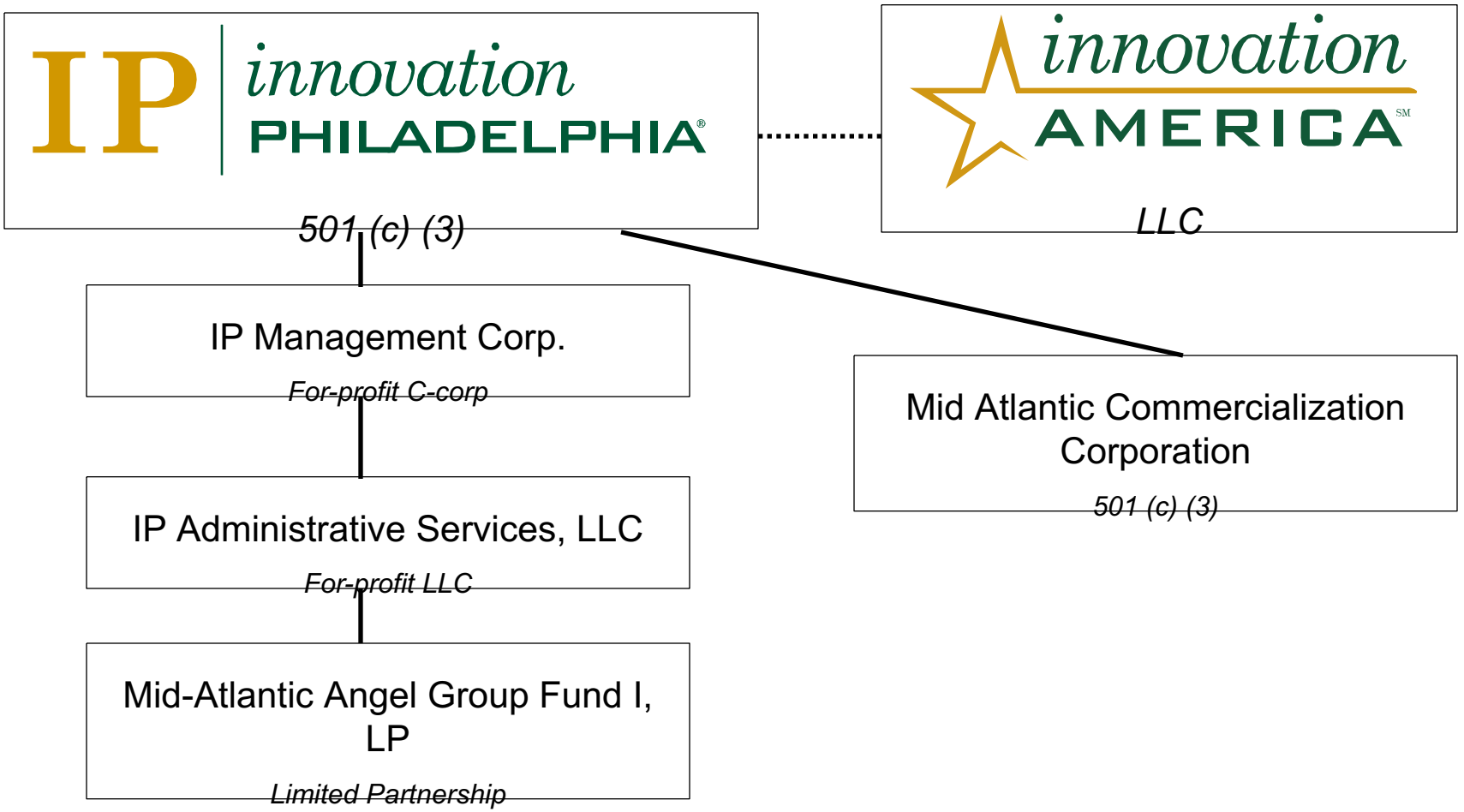
Innovation Philadelphia's Structure



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Innovation Philadelphia's Strategic Goals

- Increase the **INVESTMENT** in knowledge-based companies
- Increase the **KNOWLEDGE** Economy workforce
- Foster and **LEVERAGE** Regional **COOPERATION** to Accelerate Technology **COMMERCIALIZATION** and Wealth Creation
- **BRAND** and market the Greater Philadelphia Region
- Promote **SUSTAINABLE** economic development
- Increase the Number of **INNOVATION-BASED COMPANIES** in the Greater Philadelphia Region

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Why was a Road Map needed?

- Greater Philadelphia was at an economic crossroads – and at risk of losing our status as a top tier city.
- **Many plans had been created. We don't need another plan, rather an umbrella strategy** that acts as a multiplier to leverage disparate and often competing economic activities into a comprehensive Regional effort.
  - To develop a comprehensive understanding of Regional opportunities as well as an understanding of scenarios in which we can realistically leverage critical 'ingredients' for the Regional innovation 'recipe'.
  - To **challenge the perception that the Region merely *used to be* a center of innovation, intellect, commerce, and culture.**
- Now is the time to act. There is a unique convergence of circumstances and timing that is creating a window of economic opportunity for the entire Region over the next 5-10 years. If we don't act now the window will close – potentially forever.
- **When we act together, we win.**

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The Targets of Opportunity: Churn Indicators

Five Prime Targets of Opportunity

Transforming Biomedical Research	Chemical Industries	The Creative Economy	Nanotechnology	Business Process, Technology and Software

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's Programmatic Goals

- Increase the Number of Knowledge-Based Companies in the Greater Philadelphia Region
- Increase Knowledge Economy Workforce and Stimulate "Brain Gain"
- Develop and Grow Entrepreneurial Financing & Support Resources
- Foster and Leverage Regional Cooperation to Accelerate Technology Commercialization and Wealth Creation
  - Provide Value-Added Services
  - Brand the Greater Philadelphia Region

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IP Core Products / Services

Investment

ESF Economic Stimulus Fund
An IP Investment Fund

ResearchDollar$ Fund

Innovation Partnership

MAG Mid-Atlantic Angel Group

Commercialization

MACC 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
www.careerphilly.com

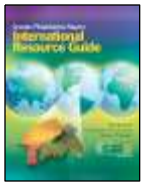
GP2 Greater Philadelphia Global Partners

Creative Economy

DVIN Innovation Network Delaware Valley

Branding, Research & Marketing



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University Innovation

- Science Center – Currently home to 25 companies.
- Have started over 350 companies.
- Drexel University – Currently home to 10 companies.
- University of Pennsylvania Center for Technology Transfer.
  Launched 14 companies in 2004.
  Set to launch 12 – 16 companies in 2005.

World's Best Technology Network

Ben Franklin Technology PArtners

BioAdvance — Biotechnology Greenhouse of Southeastern Pennsylvania

IP innovation PHILADELPHIA℠ — Regional Innovation...Global Realization

Sc 21 SCIENCE CENTER™

Cumulative Funding Per Deal	Cumulative Funding Per Deal	Total Annual Deal Funding Available
Ben Franklin	Up to $750K	$3M
BioAdvance	Up to $1M	$5M
Science Center	Up to $500K	$3M
IP (ESF)	Up to $100K	$500K-1M
MAG	Up to $250K	Up to $1M
IPART & IP SBIR Program	Up to $750K	Up to $13M

NJTC VENTURE FUND

Delaware Innovation Fund™

- Regional Branding & Marketing
- Common Investment Review Process
- Shared Due Diligence

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What Worked For IP

- **INTEGRATED** Science & Technology Collaboration for Philadelphia
- **PRIVATE** Sector Leadership
- Functions 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

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Pennsylvania Biotechnology Center: Leverage & Alignment

Hepatitis B Foundation

Non-profit

Pennsylvania Biotechnology Center

Government

COMMONWEALTH
OF PENNSYLVANIA

Ben Franklin
Technology PArtners

Industry

RBC
REGIONAL BIOTECH COUNCIL

Datascope

BioSante
Pharmaceuticals

Immunotope

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AMERICA

Academia

Drexel

FOX CHASE
CANCER CENTER

Delaware Valley College

University of
Oxford

Programs

Launch Innovations PA

TransComm Fund

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ACCELERATING THE GROWTH OF THE ENTREPRENEURIAL INNOVATION ECONOMY IN AMERICA

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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

Forbes.com

More Signs of Capital Starvation
4-27-09

PEHUB

A Federal VC Fund of Funds?
4-13-09

THE WALL STREET JOURNAL

Federal Aid Sought for Equity-Backed Companies
4-21-09

San Francisco Chronicle

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

BioCentury
BECAUSE REAL INTELLIGENCE IS HARD TO FIND™

Into the Valley of Death
4-20-09

VC experts
Private Equity and Venture Capital Expertise

Buzz Article, 5-13-2009

ThomasNet® IndustrialNewsRoom

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

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www.innovationamerica.us

The Funding Gap Deepens

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 TECH-BASED ECONOMIC DEVELOPMENT

- Budgets decreasing

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

NASVF® FOSTERING INNOVATION CAPITAL

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 % of the money received by seed- and early-stage venture funds comes from private investors**
- **70% of the money needed to fill this early stage investment gap is less than a million dollars per company**
- **60% of early-stage funds aren't making any new investments**

Entrepreneurial Companies

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

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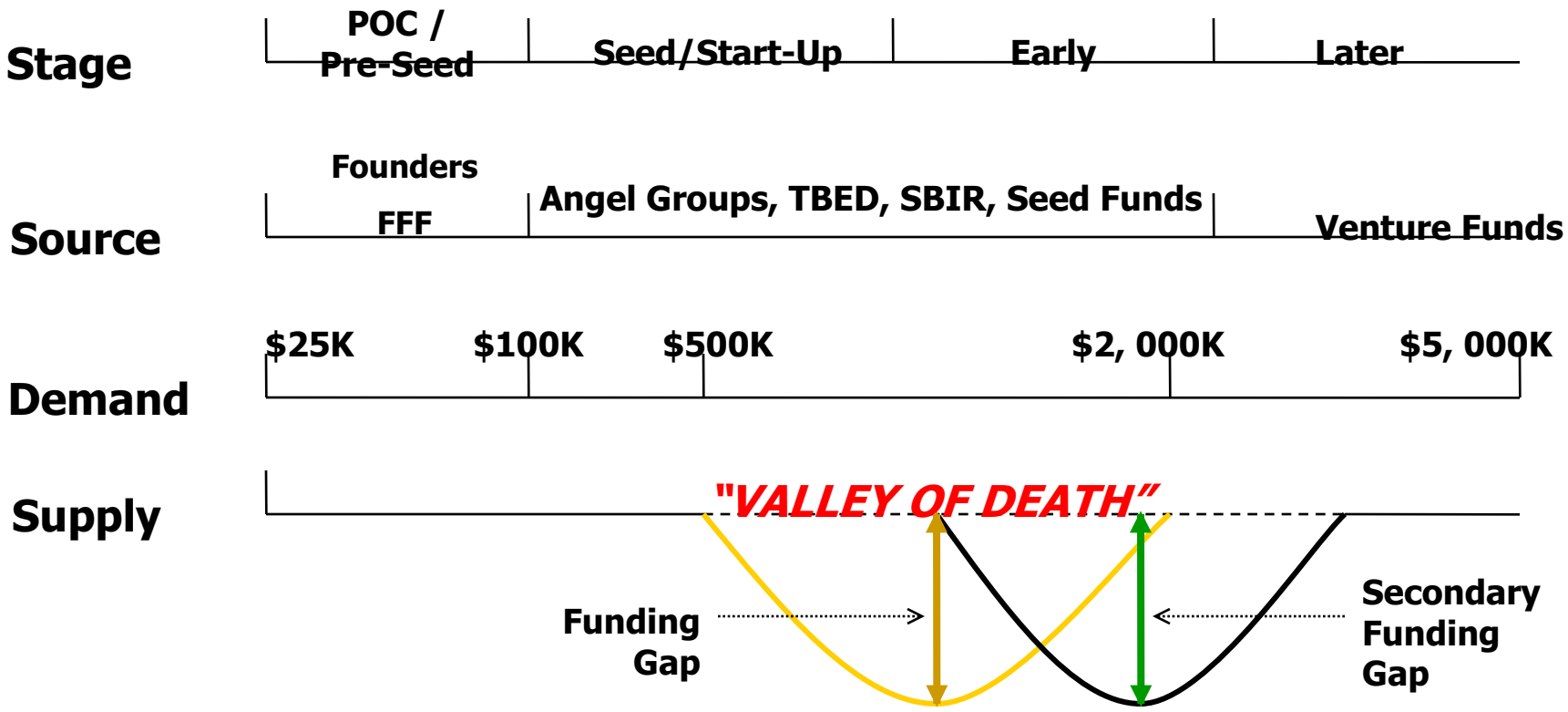
Innovation Capital Valley of Death

"VALLEY OF DEATH"



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National Innovation Framework

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

*Potential partnering innovation associations and networks

Federal Agency (TBD)

National Innovation Seed Fund
$2 billion fund

National Seed Fund of Funds 50 Seed Funds
$1.8 billion

Innovation Capital Technical Assistance Grant Fund
$200 million

NPPPI
501©3
Not For Profit

Federal Innovation Partnership

National Innovation Advisor

Innovation Federal Capital Programs
–CRA, CDFI, NMTC, NISF

Federal Technology Innovation Programs – SBIR, STTR, TIP, MEP, WIRED, FLC, EPSCoT, EPSCoR, NSF-PFI, NSF-IUCRC, NSF-Eng'g Resource Center, DOE-Ind'l Tech. Program

Investment — **Commercialization** — **Technical Assistance, Education, & Mentoring** — **Technology, Economic & Workforce Development** — **Networking, Strategic Planning, Marketing & Branding**

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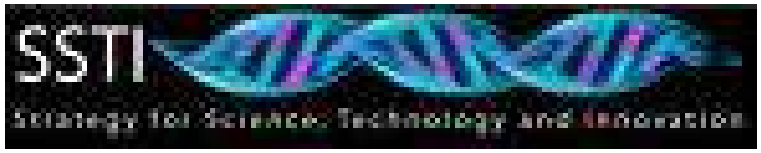
Recommendations

- 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.

Partners in National Innovation Development



The Association of University Technology Managers

Community Development Venture Capital Alliance

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