The SME Innovation Imperative
Competing in a Global Marketplace
January 20-21, 2011

Presented by:
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President and CEO
Innovation America

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Global Community for Regional Innovation Policy

Ministry of Economic Affairs, Agriculture and Innovation

The World Has Changed

Threats to Prosperity

- Job Loss
- International competition
- US trade deficit

Opportunities for Growth:

- Human capital
- Innovation
- Sustainability
  - Utilizing All Seven Capitals
    - Financial, Social, Environmental, Built, Political, Cultural, Human

Innovation Matters

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Why Is Innovation Essential?

"INNOVATION DISTINGUISHES BETWEEN A LEADER AND A FOLLOWER."

-STEVE JOBS

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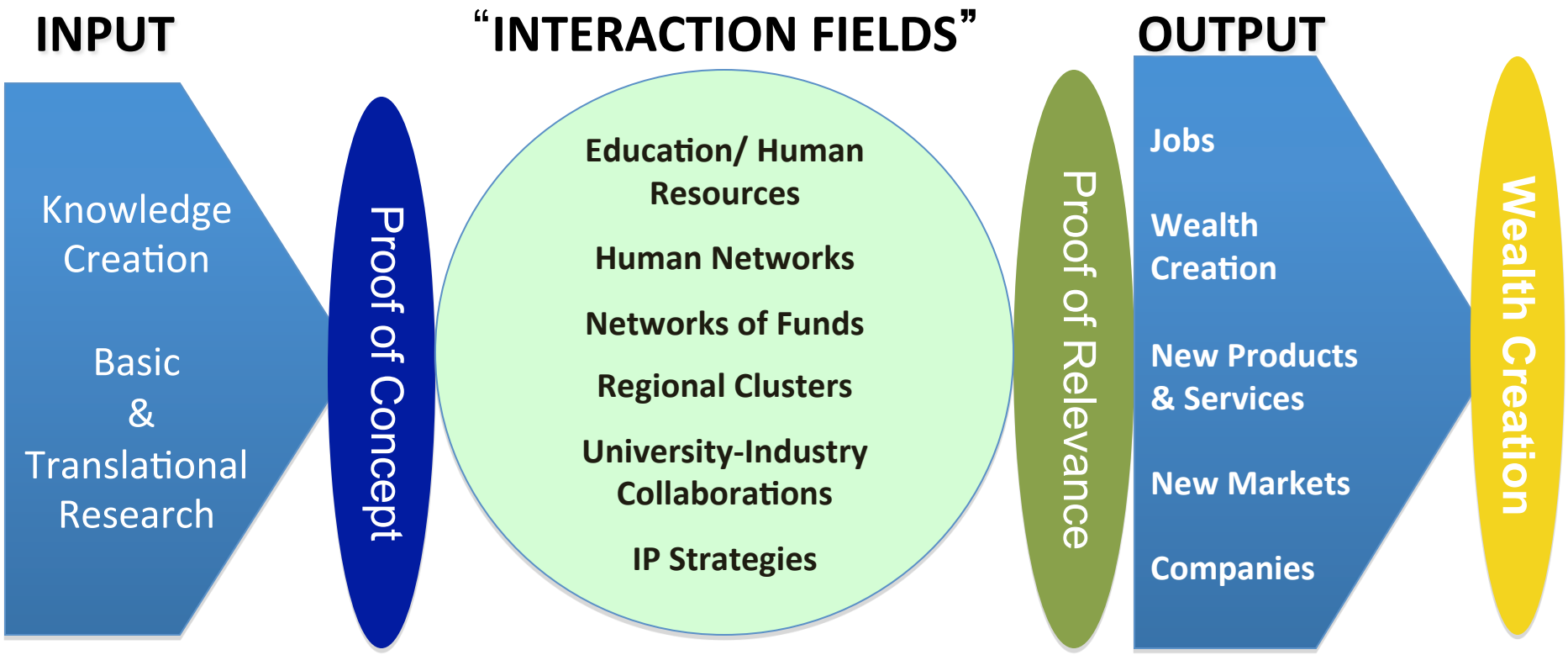
Innovation Economy: Definitions & Terminology

- 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…….and interactions, entertainment forms, and ways of communicating and collaborating

Innovation Ecosystem



The concept of the innovation ecosystem stresses that the flow of technology and information among people, enterprises and institutions is key to a vibrant innovation process.

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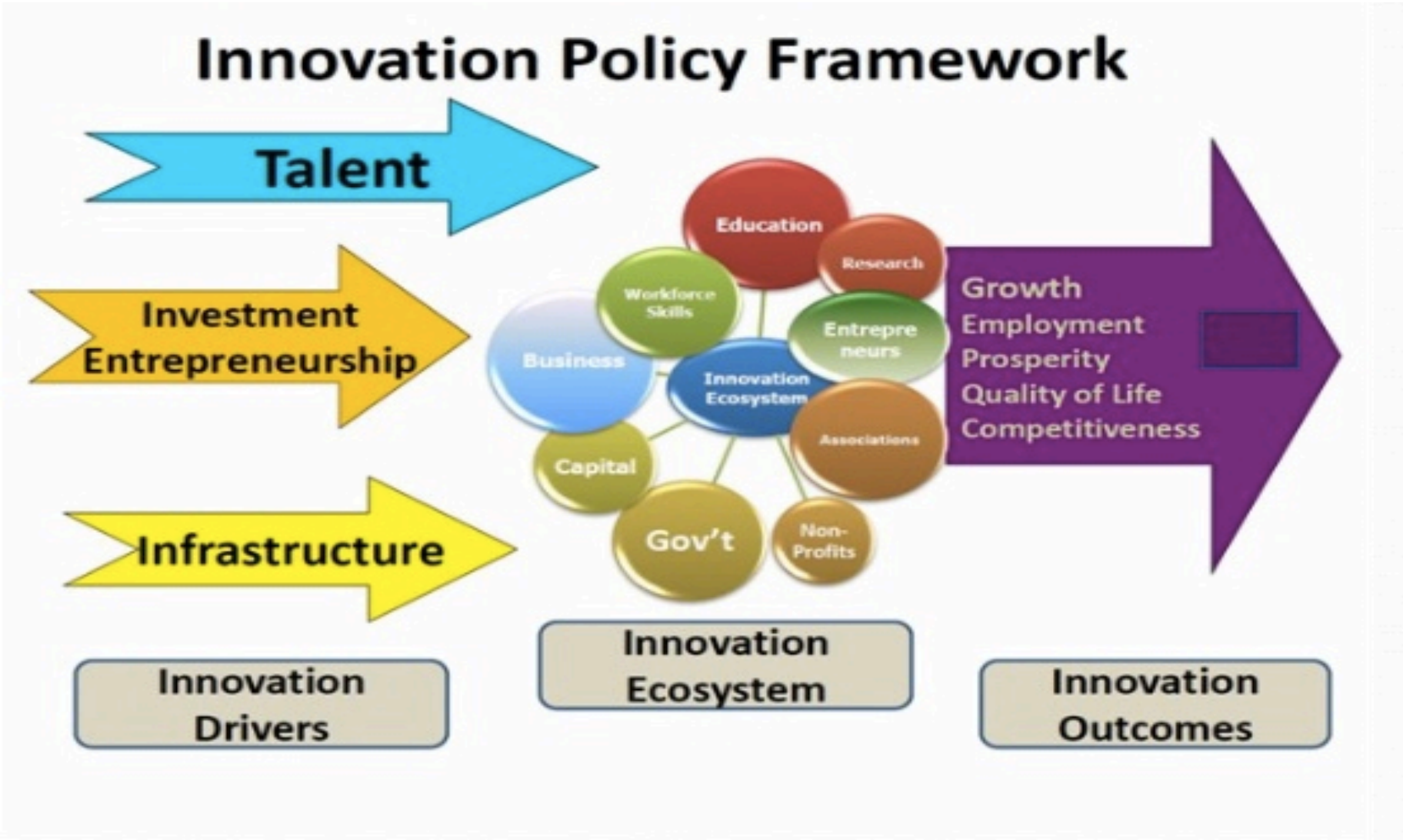
Innovation Policy Framework



Source: WA Economic Development Commission

Global Innovation Network

The New Locational Competition

Definition: The competition for economic activity

Intense and growing competition among nations and regions for well paid jobs and improving living standards…….

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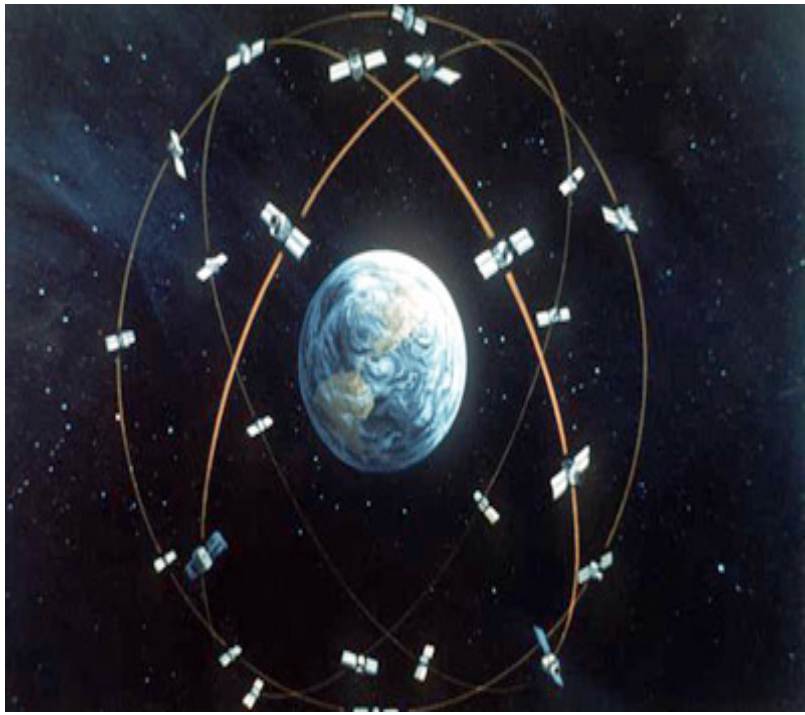
The Global Innovation Imperative

Key Points:

- Innovation is Key to Growing and Maintaining a Country's Competitive Position in the Global Economy and to address Global Challenges
- Collaboration among Small and Large Businesses, Universities, and Research Institutes is Essential for Innovation–
- New Institutions and New Incentives, are increasingly important to support collaboration and foster innovation



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How Leading Nations Responding to the Innovation Imperative?

They are providing four things:

- High-level Focus
- Sustained Support for R&D: Leveraging Public and Private Funds
- Support for Innovative SMEs
- New Innovation Partnerships to bring new products and services to market

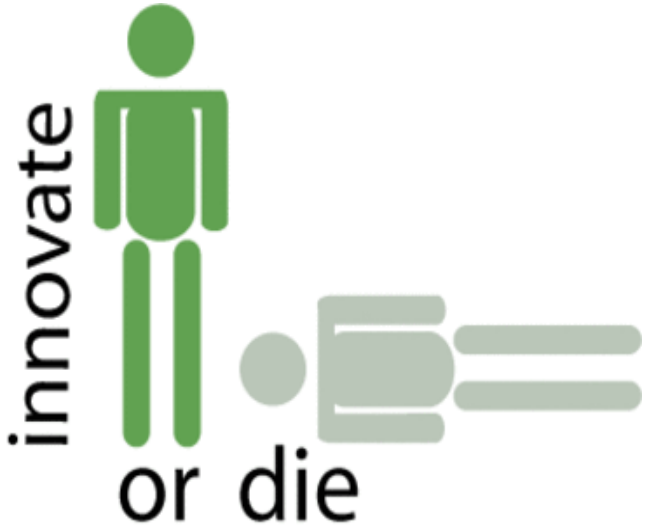
Note: Many countries are investing very substantial resources to create, attract and retain industries in leading sectors

SME INNOVATE OR DIE!

LESS THAN 1% OF BUSINESSES EVER ATTRACT FUNDING, YET 100% OF BUSINESS OWNERS THINK THEIR BUSINESS IS A GOOD INVESTMENT.

WHERE IS THE DISCONNECT?

Think HIGH TECH GROWTH



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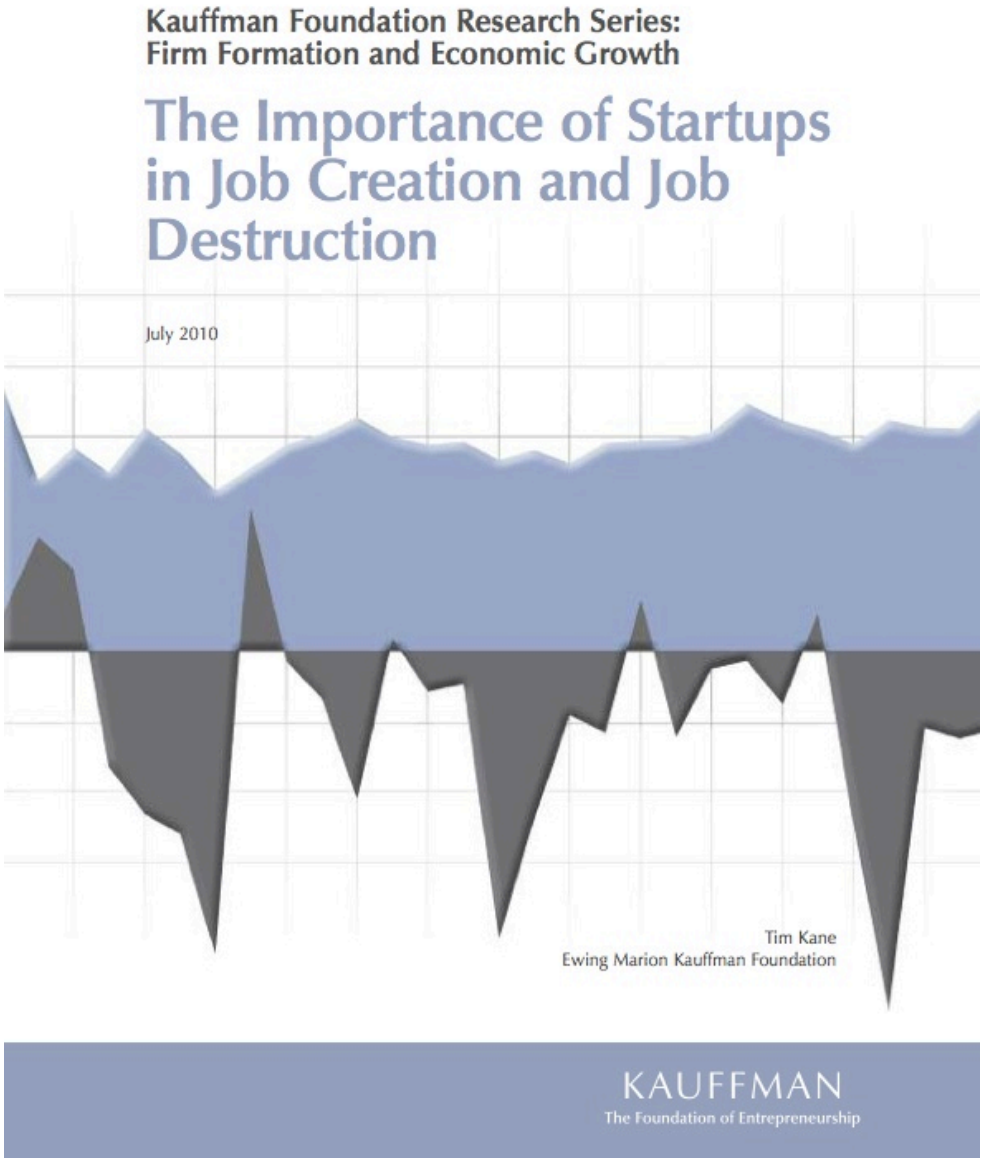
Job Growth in U.S. Driven Entirely by Startups, According to Kauffman Foundation Study



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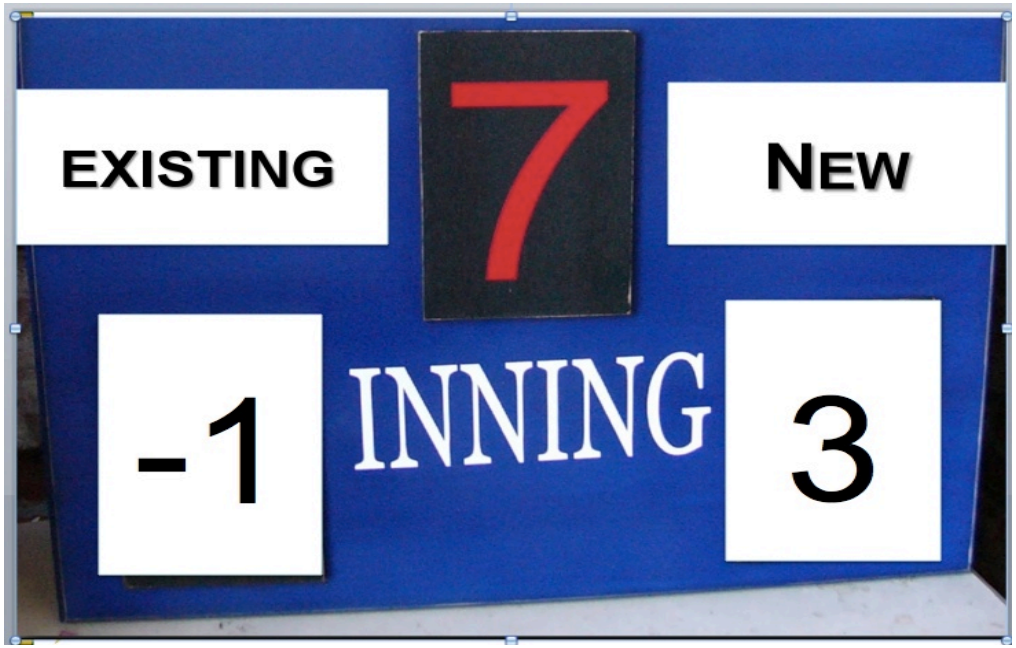
Small Business



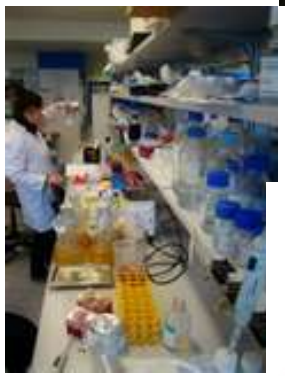
- "On average and for all but seven years between 1977 and 2005, existing firms are net job destroyers, losing 1 million jobs net combined per year. By contrast, in their first year, new firms add an average of 3 million jobs," the study reports.

– Kauffman Foundation

Source: Research Series: Firm Formation and Economic Growth

SME's

- Generates 60 to 80% of net new jobs annually



- Employs 30% of high-tech scientists, engineers, and computer workers

- Produces 13 to 14 times more patents per employee than large firms

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SME's and Patents

FACT:

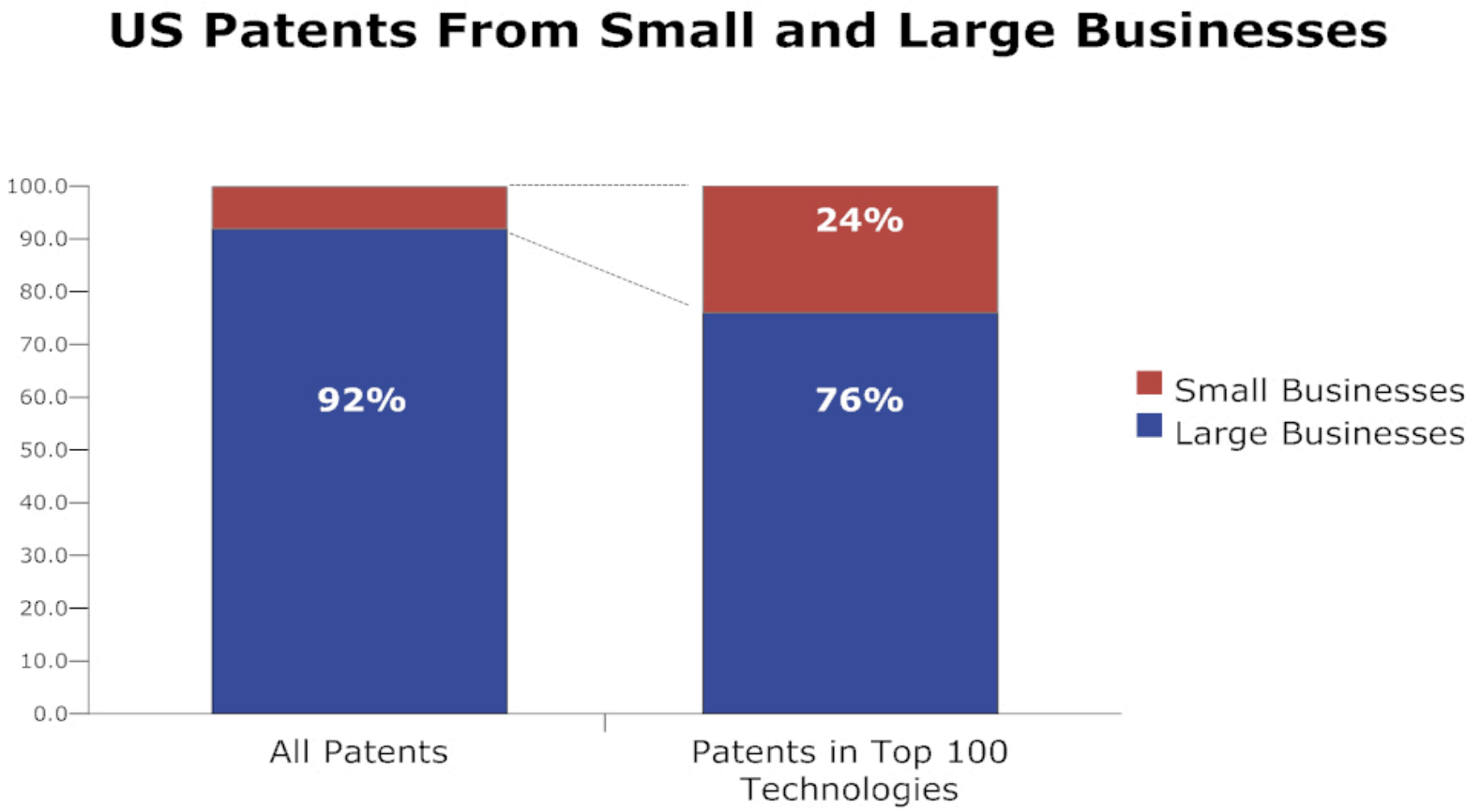
A company with 25 employees generates:

- More patents per employee than a company with 50
- Which produces more patents than a company with 100.

FACT:

- Corporations of 10,000+ employees file for more patents per employee than a company with 50,000 people.
- Small businesses invent at a rate faster than large businesses.

Patent Productivity



Source: "An Analysis of Small Business Patents by Industry and Firm Size" SBA
Image downloaded from: www.killerinnovations.com

KILLER INNOVATIONS

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Key Difference Between Incubators and Accelerators

Incubators - incubators allow for slower growth, although they typically have some requirements as to how long companies can remain in the incubators before they graduate.

Accelerators - as their name implies, focus on an intense, boot-camp-like experience to get new businesses up and running in a matter of months.

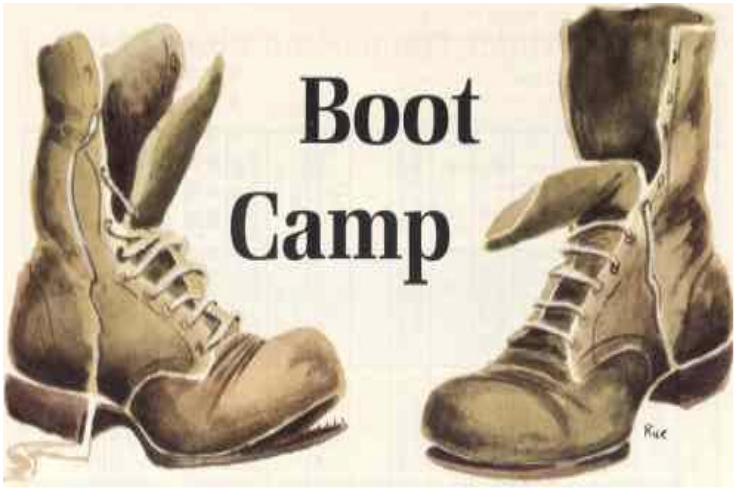
Accelerators – Lessons Learned

1. Identify the right questions to ask.

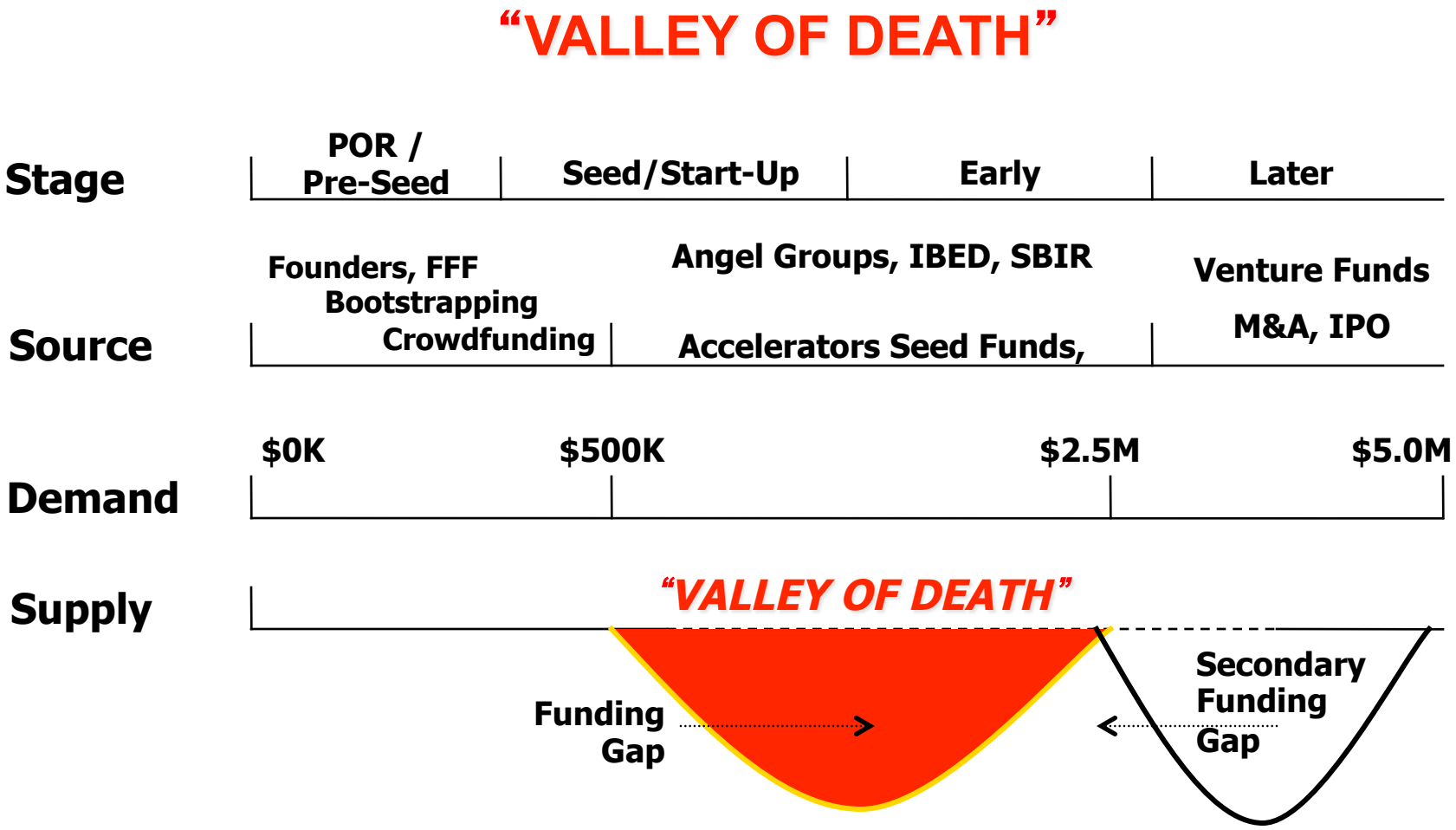
2. Meet fellow classmates who can help.

3. See other would-be entrepreneurs battling similar problems

4. Build confidence as an entrepreneur.



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

Minnesota's Angel Tax Credit

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

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

Is refundable.

•Non-Minnesota residents (including residents of foreign countries, are eligible for the credit)

•Maximum credit of $125,000 year/individual

•Maximum credit of $250,000 married/filing jointly

•Funding for the years 2011-2014 is set at $12 million per year.

•Businesses get the capital they need to grow

•Investors can manage the risk associated with investing a in new businesses or technology

•Minnesota workers and the state's economy benefit because the tax credit kick-starts emerging businesses and creates jobs.

POSITIVELY Minnesota
Department of Employment and Economic Development

MHTA™
MINNESOTA HIGH TECH ASSOCIATION

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Tennessee Investco Program

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

TTDC
TENNESSEE TECHNOLOGY DEVELOPMENT CORPORATION

TNInvestco

Networking, Entrepreneurs, Seed capital & Technology
NEST-TN

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Bootstrapping

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

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

Accelerators

seedcamp

DREAMIT VENTURES

techstars

Y Combinator

startup bootcamp

Czech Accelerator

CZECHINVEST
Investment and Business Development Agency

CERTICON

THE ACCELERATOR
NATIONAL MATERIALS SCIENCE INNOVATION AND COMMERCIALIZATION ACCELERATOR

imagemetry
image processing, computer vision

boldbrick

cognitivesecurity

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New Popular Venture Financing Programs

Mentorship programs:

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

techstars

Super Angels:

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

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Crowdfunding

Crowdfunding—as its name implies—aims to reach a funding goal by getting many investors to put in small amounts.

Funding & Resources for Innovation Capital

Seed

- Bio Advance — Biotechnology Greenhouse of Southeastern Pennsylvania
- NJTC Venture Fund
- Edison Venture Fund
- First Round Capital
- SeventySix Capital
- Delaware Innovation Fund
- NYSTAR

TBED

- Ben Franklin Technology PArtners — 25th Anniversary
- EDA — New Jersey Economic Development Authority
- First State Innovation — Accelerating Delaware's Entrepreneurial Economy
- Sc science center — powering commercialization
- Maryland TEDCO — Technology Development Corporation

Federal

- SBIR & STTR
- NGA CRADAs — Cooperative Partnerships Solve Complex Problems
- TIP — Technology Innovation Program
- PCP

Angel

- eban
- European American Angel Club
- Australian Association of Angel Investors — aaai
- MAG
- JumpStart New Jersey Angel Network
- LORE Associates
- RobinHood Ventures
- SouthCoast Angels — "A Member Managed Angel Fund"
- New York Angels

Entrepreneur

- DREAMIT Ventures
- techstars
- Y Combinator
- seedcamp

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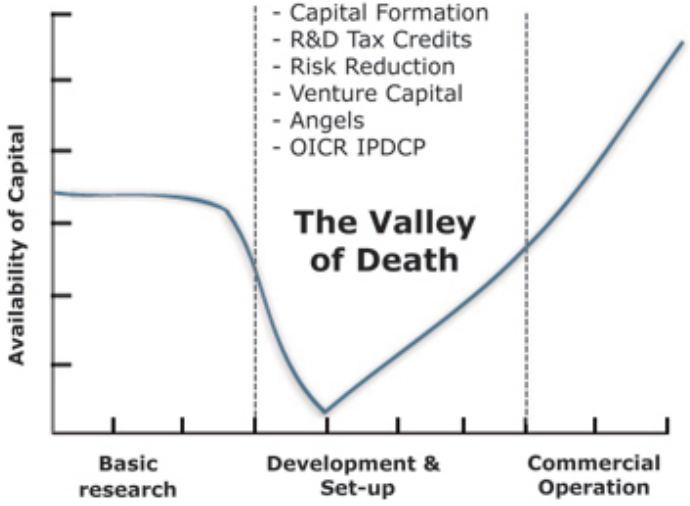
The Challenge

A Key Challenge is Converting U.S. Research Investments into Jobs and Growth

How to bring innovative firms across the Valley of Death?

Two Paths Forward: Both are Proven and Successful



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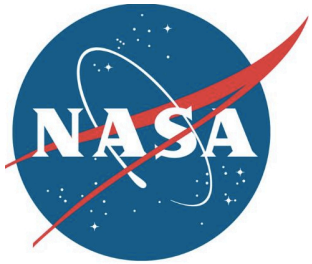
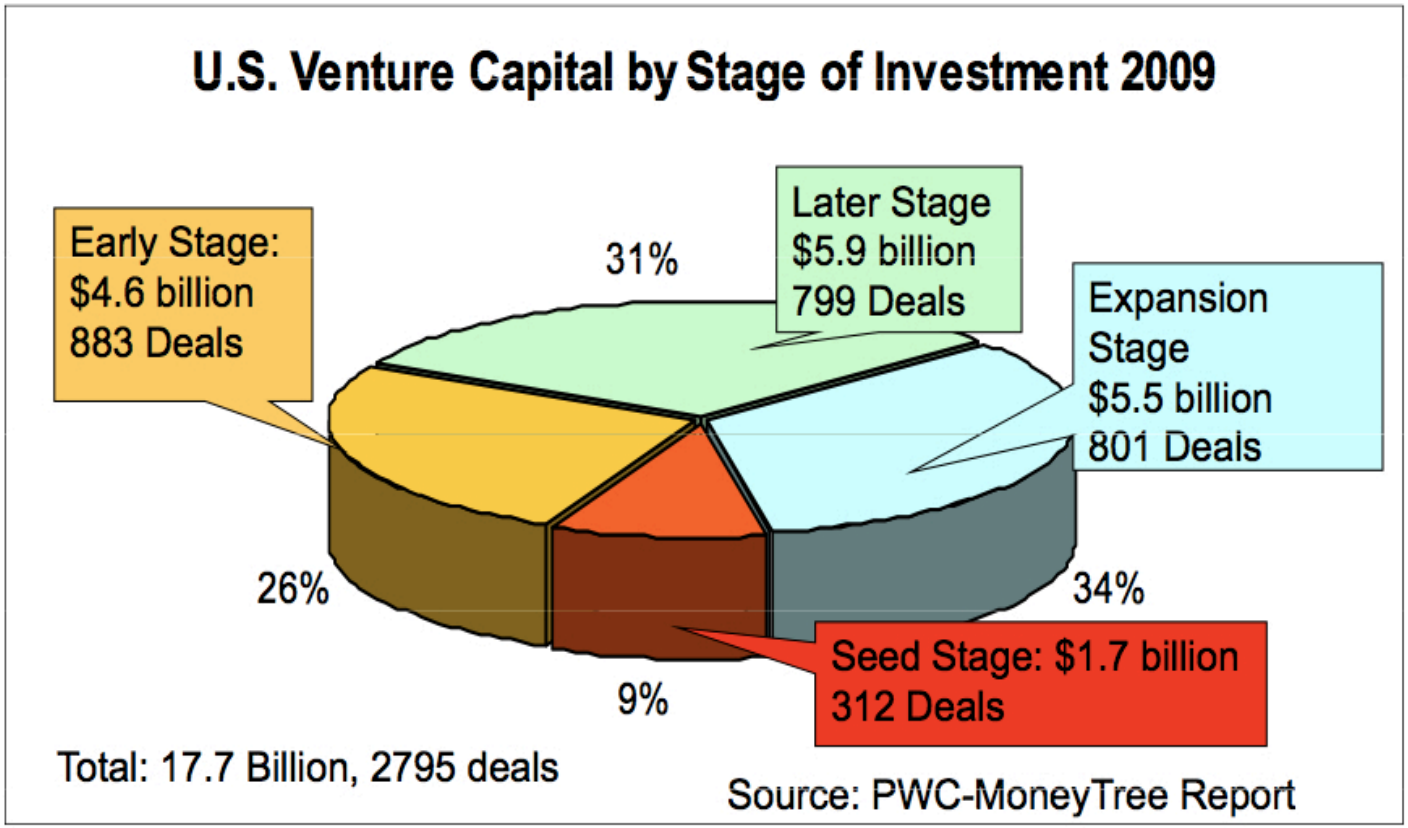
The U.S. SBIR & TIP Program



Venture Funding

Venture Funds are Only One Path

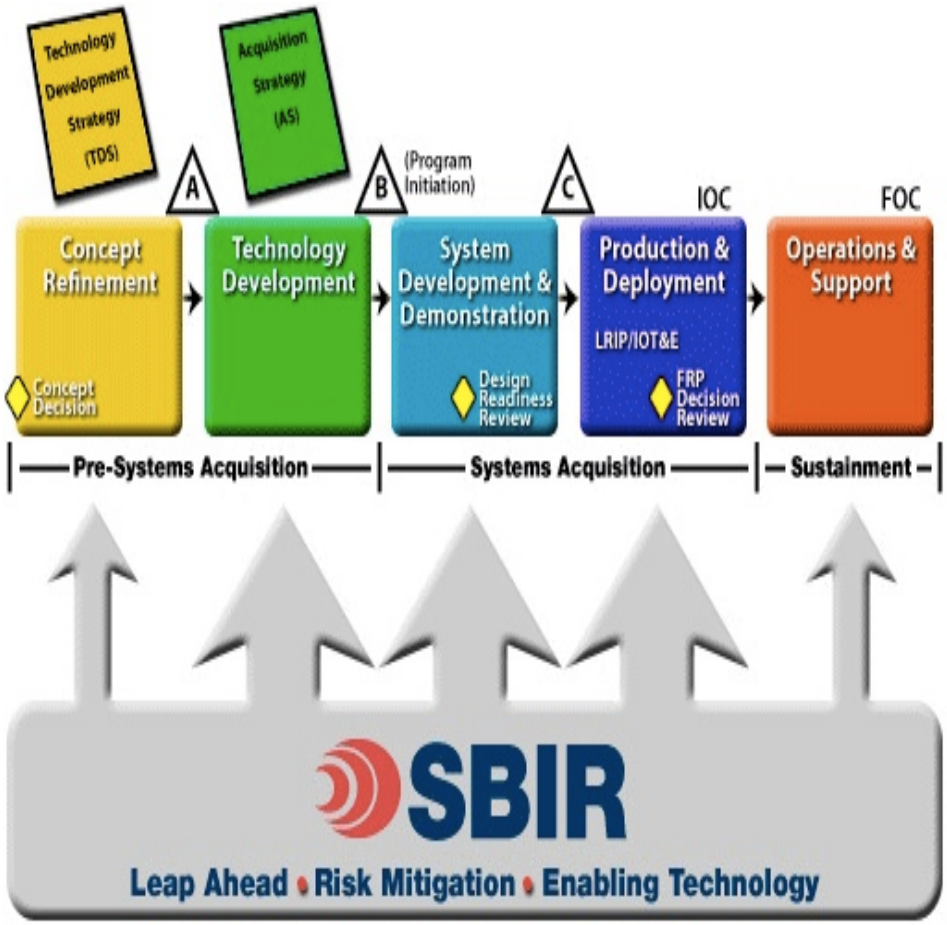
U.S. Venture Investments Down 37% in 2009



SBIR vs. VC Early Stage Investments 2010

SBIR/STTR = $2.5B

VC = $1.7B



The Small Business Innovation Research (SBIR) Program

• The SBIR Program converts Knowledge into Products to meet Government and Societal Needs

• SBIR is a highly-competitive, gated innovation system, providing merit-based awards to small companies to– Provide Proof of Principle

Develop Prototypes

•Successful Companies Attract Private Capital and/or win Public Contracts

•Largest U.S. Innovation Partnership Program: $2.5 billion per year

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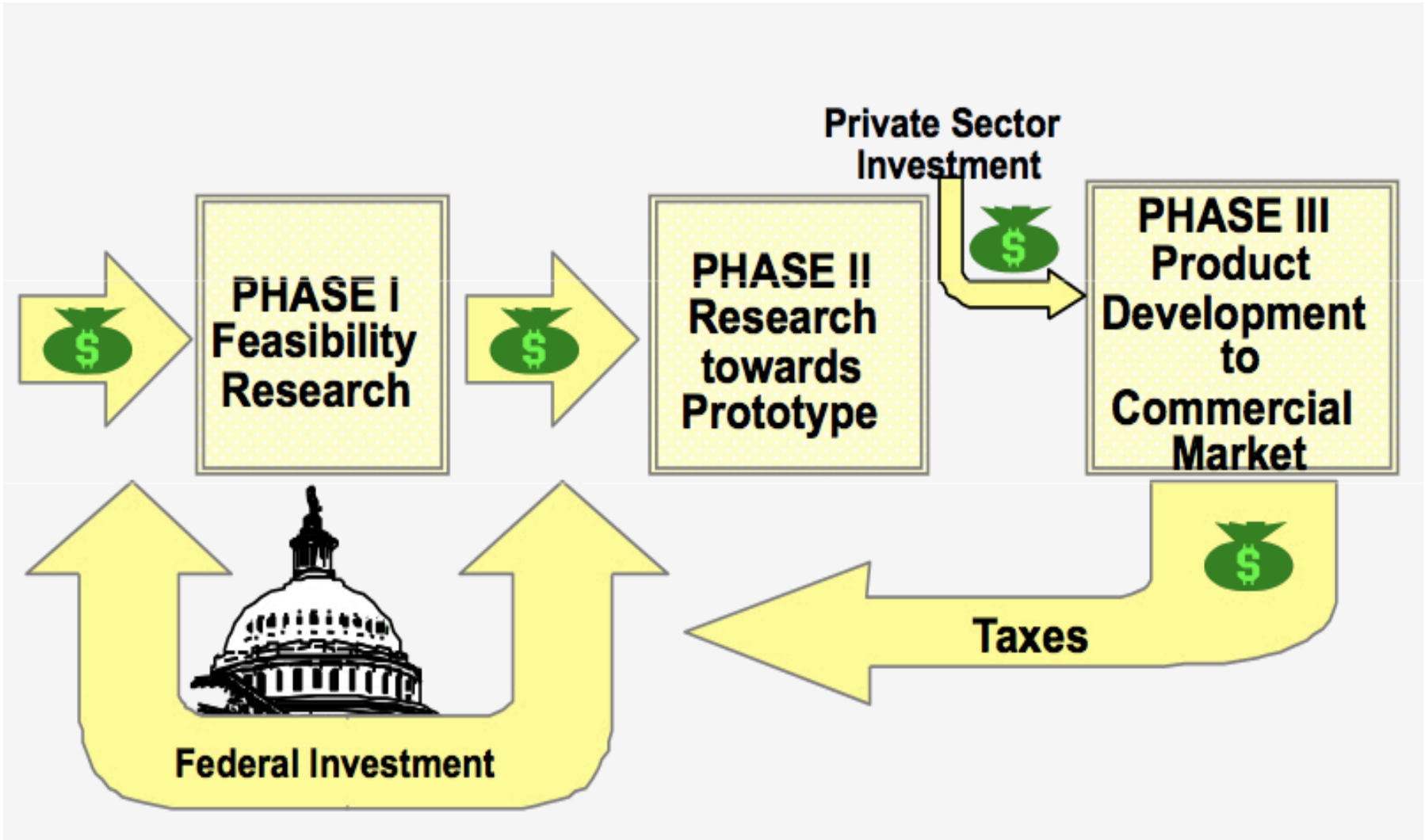
The SBIR Program



SBIR - Small Business Innovation Research

SBIR

•U.S. Federal Agencies with R&D Budgets in excess of **$100 Million**

•**2.5%** Set Aside of Extramural Research Budget = **$2 Billion**

•**$14 Billion** Awarded via 50,000 awards since Inception

STTR

•Largest 5 agencies participate

•**.3% set aside**

•Currently = **$100 million**

SBIR Key Features

SBIR: Key Features

- **Large Scale:** Largest U.S. Innovation Partnership Program:
  - Currently a $2.5 billion per year
- **Modest Award Amounts**
  - Small initial contract or grant
  - Larger Phase II award for successful companies
  - Follow-on acquisition in Phase III
  - Speculation permitted
- **Needs driven:** Participants vary
  - Government missions addressed by start-up firms, contract researchers, and high-growth gazelles

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Advantages of SBIR

1. Significant amount of funds reserved for small, innovative firms
2. Public venture funds without dilution features
3. Funds high risk projects
4. No Payback
5. No personal guarantees
6. Firm retains IP – no dilution
7. Provides valuable credibility
8. Offers a simplified route to obtaining federal R&D funds

SBIR / STTR
Small Business Innovation Research
Small Business Technology TRansfer

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SBIR – The Mechanics of the Program

Phase I

•Evaluate viability and feasibility of an idea
•Up to **$150K** for 6 month period *(STTR 12 months)*
•Win Rates: *approx. 1-8 (varies widely)*

Phase II

•Expand results and Further pursue development
•Up to $1.000,000 for up to 24 months
•Win Rates: approx. 1-3 (varies widely)

Phase III Commercialization

•Most important requirement in getting to this point is having successfully won a Phase I and Phase II award.
    •Selling Product Development under a Phase II
    •Non-Government Funding to Develop Technology or Product
    •Non-SBIR Funding from Government to Develop Technology or Product

SBIR – Qualifications & Eligibility

1. Organized for-profit U.S. business
2. At least 51% U.S. owned and independently operated
3. Business is located in U.S.
4. Principal investigator primary employment is with small business during the project *(either business or university in STTR) 500 or fewer employees*

SBIR 2.0

Simplification and Streamlining

•Setting the target time-frame between selection of a proposal and award to an applicant at less than 60 days for all agencies.

•The program will work to standardizing contracts and share best practices to enable faster turnaround times.

•Building a “one-stop-shop” web portal with all solicitation topics available and searchable with current announcements and news that will allow entrepreneurs to find what they need in one place – instead of having to sift through 11 different agency sites for solicitations.

•Evaluating opportunities to clarify and simplify data rights for the Federal Government and entrepreneurs.

SBIR 2.0

- **Expanding bridge financing programs** –
- **Expanding use of the SBIR program to facilitate technology transfer from federal labs.**
- Encouraging agencies to issue joint solicitations to work together to streamline topics for applicants and address areas of nati**on**al priorities. NIH, DHS, DARPA, NSF and USDA are participating
- **Better Performance Management**
- **Implementing common performance metrics** across the **SBIR** agencies to clearly define commercialization and innovati**on** successes for agencies and individual companies.
- **Sharing performance data publicly**, consistent with the Administration's priorities **on** transparency and open government.

IPART

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Technology Innovation Program

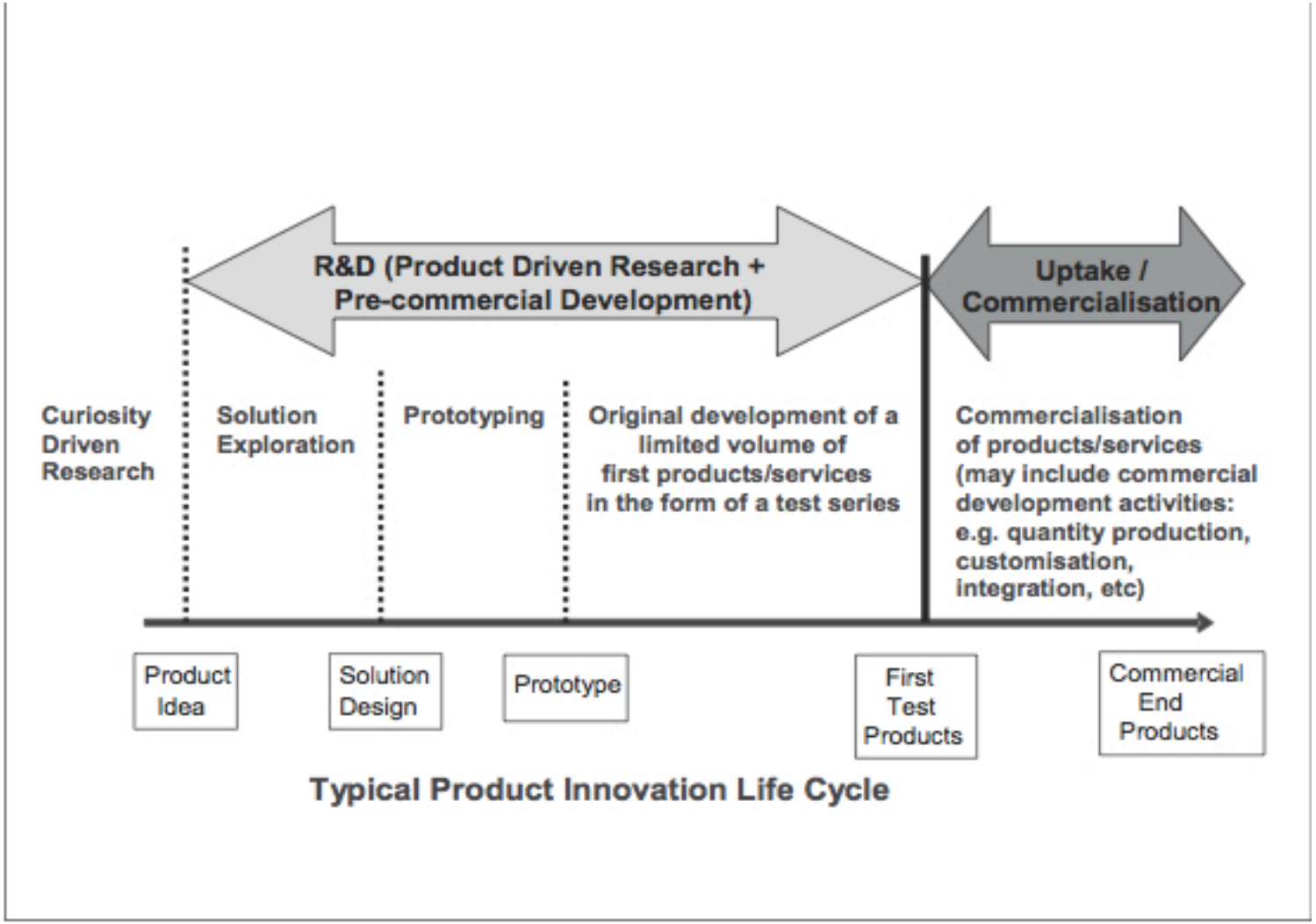
The Technology Innovation Program (TIP)

- TIP accelerates innovation through high-risk, high-reward research in areas of "critical national need"
- Aim is to speed the development of high-risk, transformative research
- Targeted to address key societal challenges
- TIP provides funding to universities, small and medium-sized businesses, and consortia for research on promising technologies
- Awards are Merit Based
- Funding provided through cost-shared research grants, cooperative agreements, or contracts

Pre-Commercial Procurement

- The scope is R&D services only
- The application of risk-benefit sharing
- A competitive procurement designed to exclude State aid

R&D versus Commercialization Phase

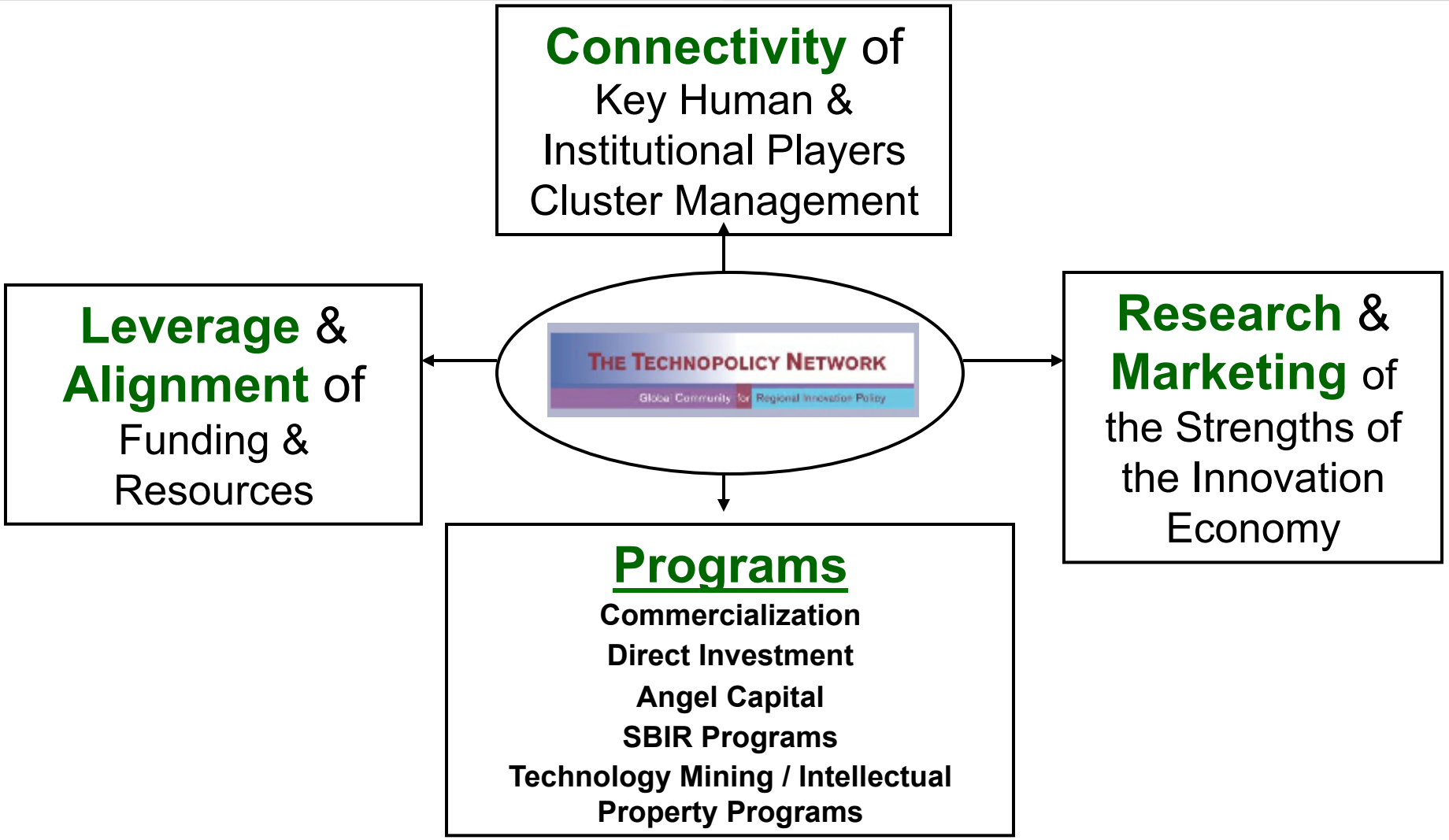


Typical Product Innovation Life Cycle

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.

21st Century Innovation Intermediary



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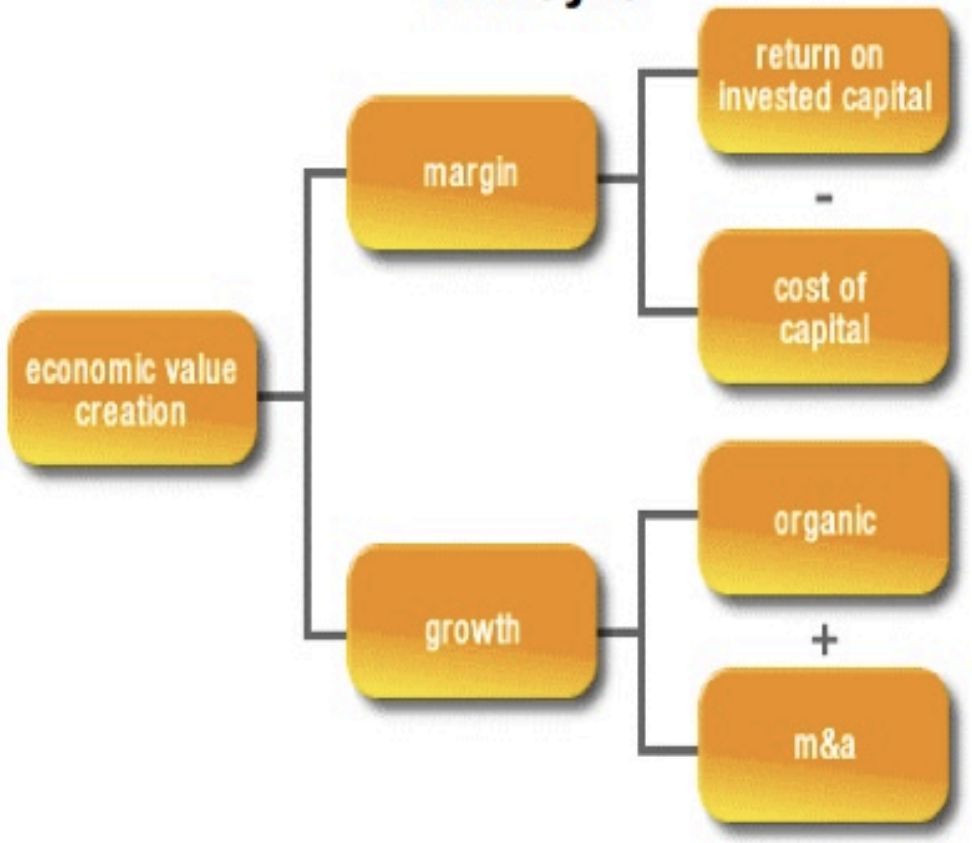
Innovation Intermediary Commercialization Structure

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

Innovation Paradigm Shift

PROOF OF CONCEPT
(Technological Feasibility)
"It Works!"

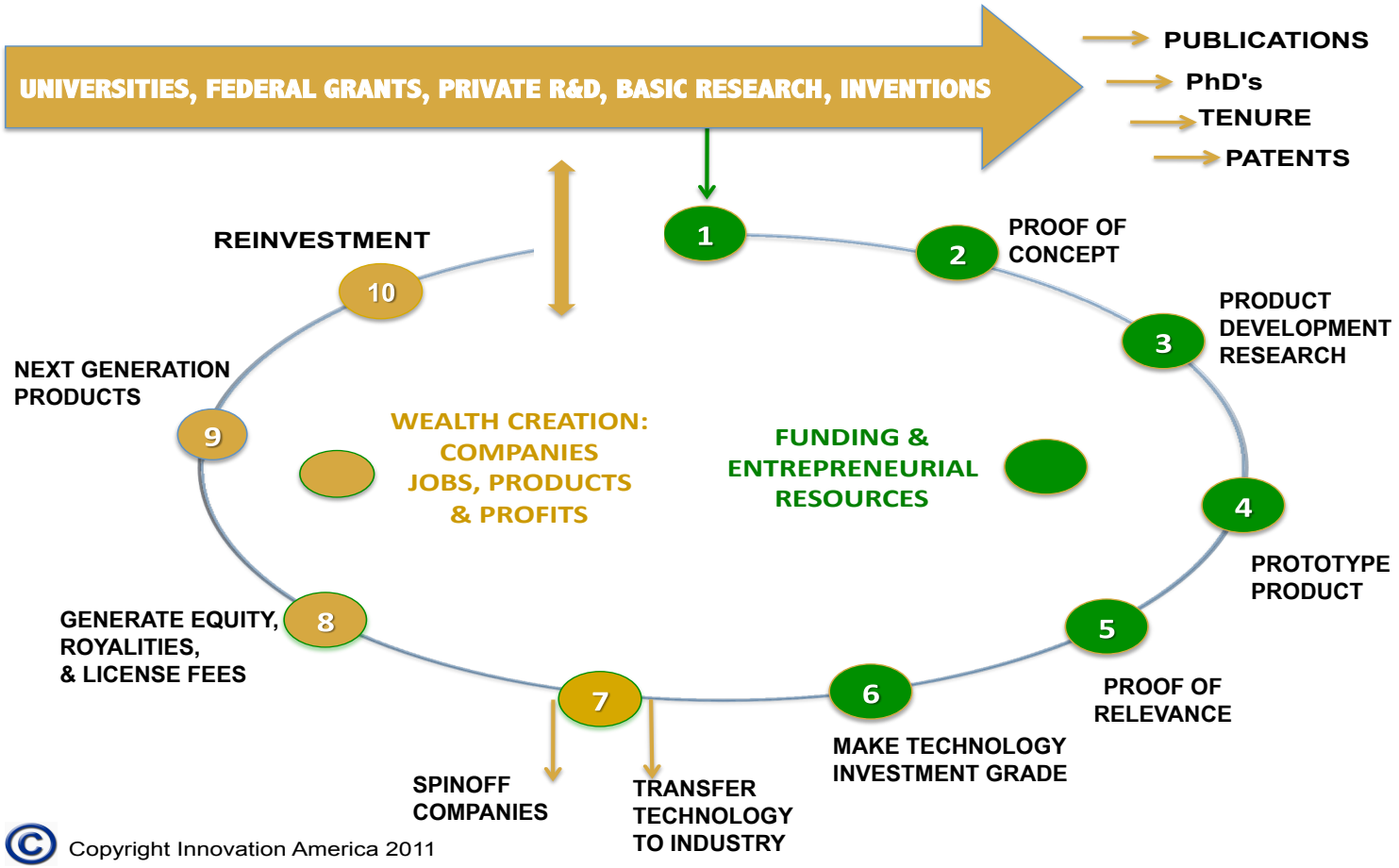
PROOF OF RELEVANCE
(Market Pull)
"I'll Buy It"



7 Basic Components Of A Business Model

1. Reaching customers.
2. Differentiating your product.
3. Pricing.
4. Selling.
5. Delivery/distribution.
6. Supporting Customers.
7. Achieving customer satisfaction.

Innovation America Commercialization Model



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U.S. State IBED Programs

Ben Franklin Technology PArtners

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

Ohio Third Frontier
Innovation Creating Opportunity

KTEC
KANSAS TECHNOLOGY ENTERPRISE CORPORATION

ARKANSAS SCIENCE & TECHNOLOGY AUTHORITY

IOWA innovation COUNCIL

GEORGIA RESEARCH ALLIANCE

OCAST

USTAR
Turning innovation into industry.

TTDC
TENNESSEE TECHNOLOGY DEVELOPMENT CORPORATION

NEW JERSEY ECONOMIC DEVELOPMENT AUTHORITY

First State INNOVATION

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European Innovation Intermediaries

http://www.cotec.pt

http://www.tekes.fi

http://techsoutheast.ca/index.php

http://www.innovasjonnorge.no

http://www.vinnova.se

http://www.senternovem.nl

Partners in International Innovation

http://www.aurp.net/

http://www.angelcapitalassociation.org/

http://www.nasvf.org/

http://www.evca.com/

http://www.cdvca.org/

http://www.autm.net/

http://www.eban.org/

http://www.nbia.org/

http://www.ssti.org/

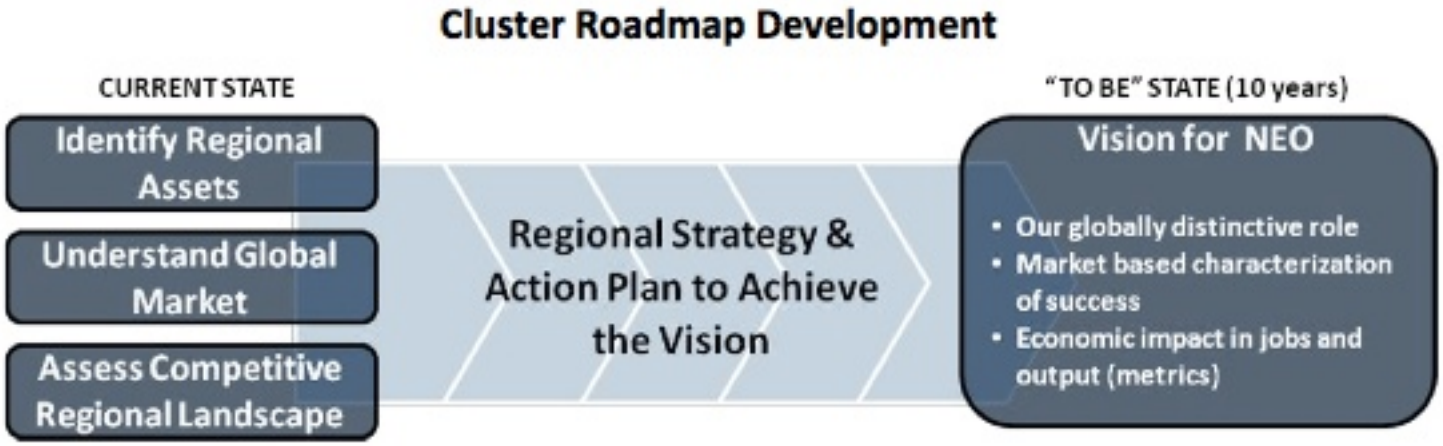
http://www.astp.net/

www.nvca.org

http://spice-group.net/

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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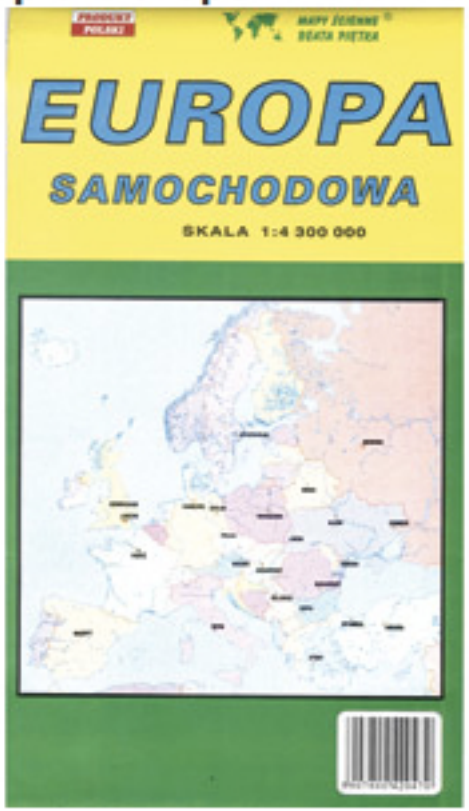
Key Innovation Road Map Elements

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

Road Map of Europe



THE BEST WAY TO PREDICT THE FUTURE IS TO CREATE IT

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