

Clustering for Innovation

The Role of S&T Research Parks



Policies for Innovation in the 21st Century:
Broadening the Horizons of Collaboration and Risk Sharing
United Nations Economic Commission for Europe
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Current Global Mega-Challenges

- Fostering Economic Growth
 - Gaining domestic Growth and Employment through Innovation
- Developing New Sources of Energy
 - Commercializing renewable alternatives to oil
 - Increasing the capacity to fuel growing global demand for electricity
- Addressing Global Warming
 - Growing a Green Economy; A major Growth opportunity
- Delivering Global Health
 - Transforming large investments in research to affordable and personalized treatment and care
- Improving Security
 - Through all of the above



How can we address these Challenges?

Innovation is the Path Forward



The Global Innovation Imperative

- Key Points
 - **Innovation** is Widely Recognized as Key to Growing and Maintaining a Country's Competitive Position in the Global Economy and to address Global Challenges
 - **Collaboration** is Essential for Innovation as Small and Large Businesses, Universities, and Research Institutes Contribute to Regional Growth and Job Creation
 - **New Institutions and New Incentives**, are increasingly important to foster innovation and collaboration

Competition in the 21st Century is Based on Innovation

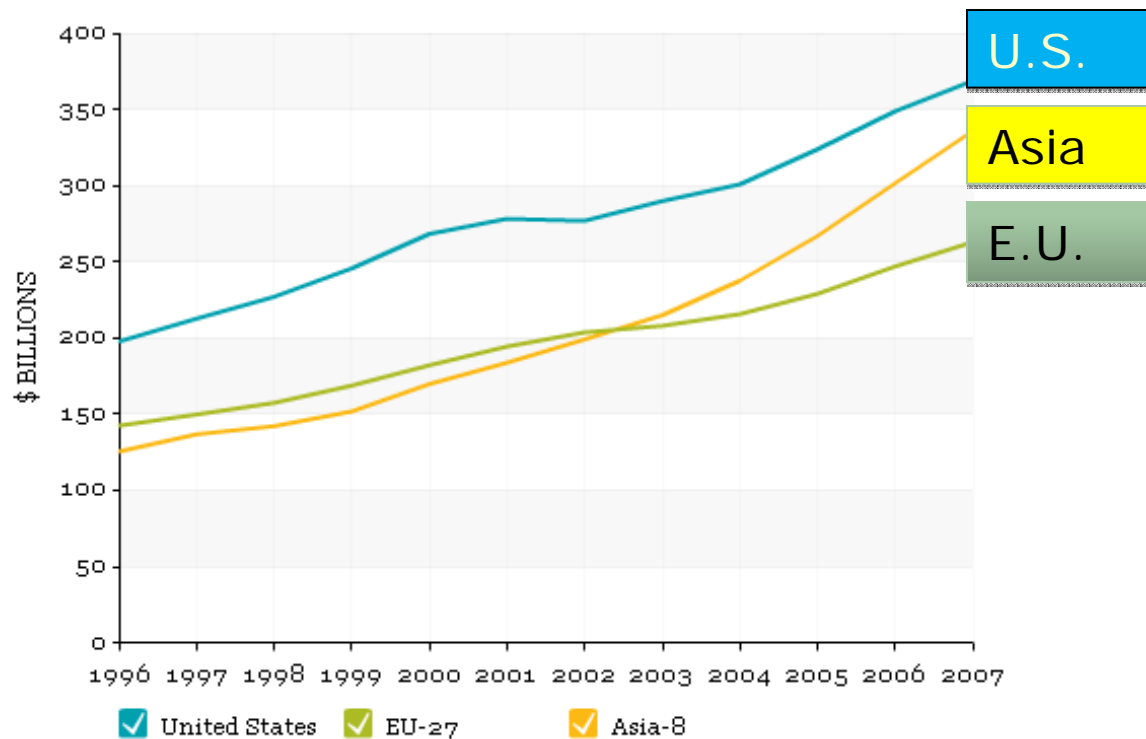
- **What are the Key Challenges?**
 - Growing national **R&D Budgets**
 - Creating Positive **Framework Conditions** for Innovation
 - Growing the Innovation Ecosystem with Vibrant **High Tech Clusters**
 - Facilitating the Commercialization of New Ideas with **Innovation Awards**
 - These Awards are the Oxygen of Innovation and Entrepreneurship

Asia's Surge

Global R&D: Measuring Commitment to Innovation

[Chart](#) | [Data](#) | [Download](#)

R&D expenditures for the United States, EU-27, and Asia-8 economies: 1996–2007



The rapidly growing R&D expenditures of the Asia-8 economies (China, India, Japan, Malaysia, Singapore, South Korea, Taiwan, Thailand) surpassed those of the EU-27 in 2003.

Source: NSF 2010 S&E Indicators

SEI 2010: [Global Patterns of R&D Expenditures](#), Chapter 4.

Positive Framework Conditions Drive Innovation in the U.S.

- Openness to science and innovation
 - Trust in Science & Scientific Institutions
- Positive Social Norms
 - High Social Value on Commercial Success
 - Forgiving Social Norms allow more than one try
- Entrepreneur-friendly Policies
 - Markets Open to Competition
 - Gentle Bankruptcy Laws permit rapid recovery
 - Taxes give Prospect of Substantial Rewards
- Strong Intellectual Property Regime:
 - Encourages Research & Diffusion of Research Results

The Role of Innovation Clusters

Successful Innovation
Clusters feature
collaboration among
Universities, Small
Companies and Large firms



What are Innovation Clusters?

- Clusters are a combination of geographically co-located...
 - Research universities and teaching institutions
 - Government sponsored laboratories and technology programs
 - Small and large companies with R&D initiatives
 - Related manufacturing and service industries
- Successful clusters emerge from networks of trust and cooperation that reaches across multiple organizations
 - You cannot build a cluster alone

Source: National Academies Conference on "Growing Innovative Clusters"- June 3, 2009

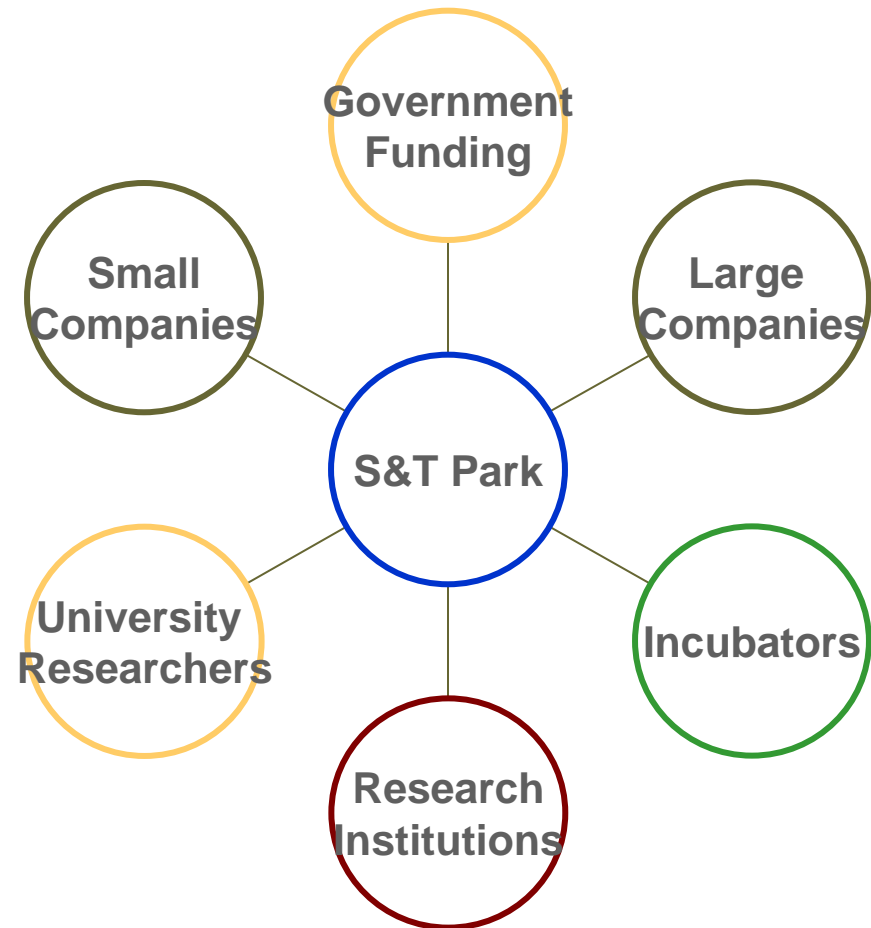
How to Foster Cluster Synergies?

The Role of S&T Parks and Innovation Awards

S&T Parks Provide an Environment for University-Industry Cooperation

Successful S&T Parks:

- Help advance university missions
- Build partnerships among researchers, small companies, and large companies
- Provide tangible outcomes from university research. This helps justify university funding



Advantages of S&T Research Parks

- Research Parks encourage the flow of knowledge among universities, R&D institutions, firms and markets
 - They help bring university research closer to the market
- Parks facilitate the creation and growth of innovation-based companies
- Good Parks provide value-added services together with high quality space and facilities
- Parks stimulate the development of Innovation Clusters

Source: National Research Council, Understanding Research, Science and Technology Parks: Global Best Practices (2009)

Universities Gain from Research Parks

- Universities Successfully Associated with S&T parks generate:
 - Higher publication rates
 - More successful patents
 - Stronger Ability to hire star faculty
 - Larger extramural grants
 - “Market-ready” students
 - More robust regional growth

Source: Prof. Al Link, Understanding Research S&T Parks, National Academies Press (2009)

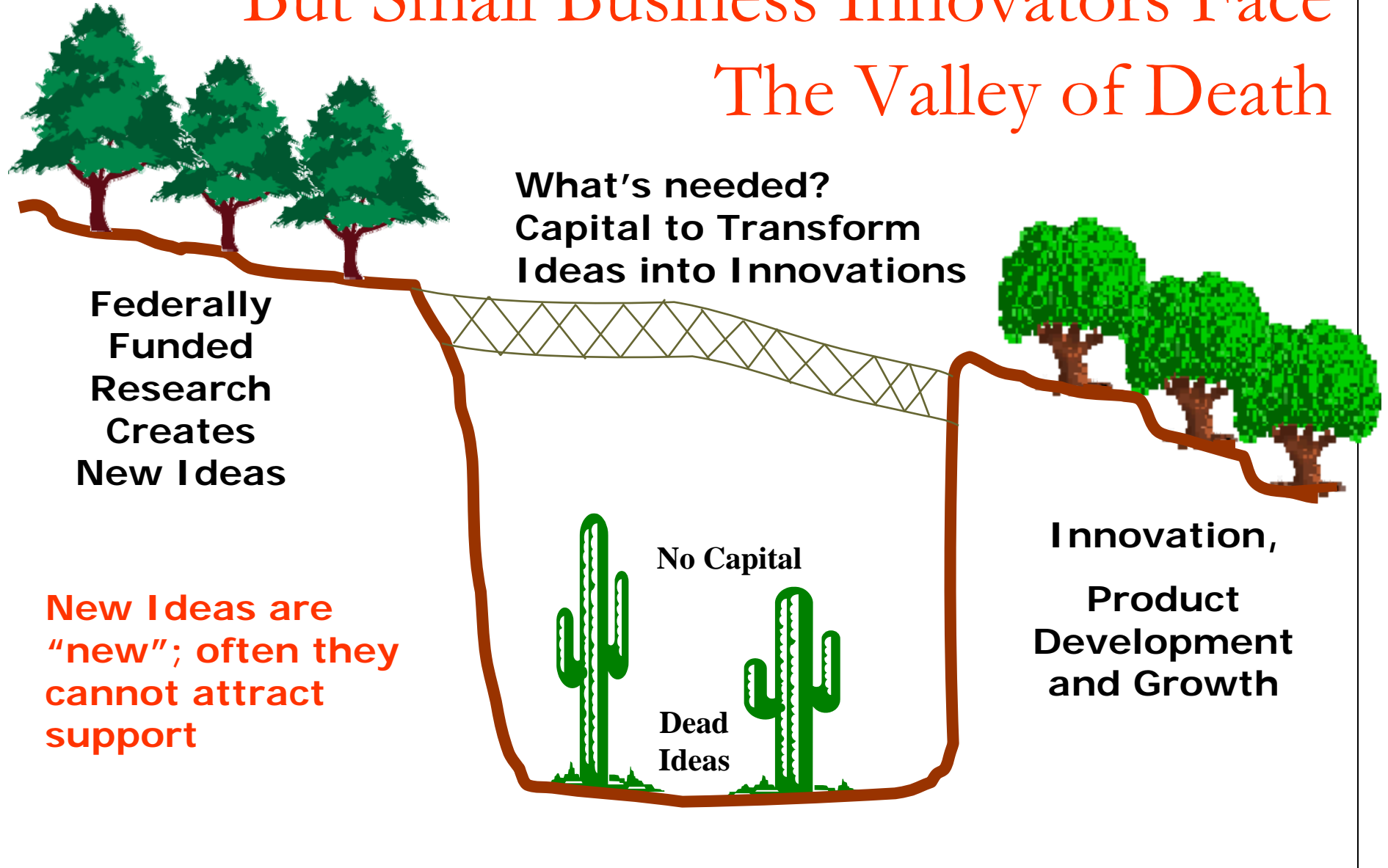
Fostering Clusters: Innovation Awards Stimulate Small Business Formation and Growth

Why do Small Businesses Matter?
What Challenge do they Face?

Small Companies Drive High-Technology Innovation

- Small Companies are Key Players in Bringing New Technologies to Market
 - Audretsch & Acs
- Innovative Small Businesses
 - Create Welfare-Enhancing Technologies
 - Increase Market Competition
 - Generate Taxable Wealth
 - Over time, innovative small businesses (like Microsoft, Intel and Google) transform the composition of the economy

But Small Business Innovators Face The Valley of Death



What is SBIR? Money for Innovation

- SBIR is a highly-competitive, double-gated innovation system, providing competition-based awards to small companies to
 - Provide Proof of Principle
 - Develop Prototypes
- Founded in 1982, SBIR converts Knowledge into Products to meet Government and Societal Needs
- Successful Companies Attract Private Capital and/or win Public Contracts

Today's Sessions

- “The Territorial Dimension of Collaboration for Innovation”
 - Location-based Competitiveness
 - Fostering Innovation Clusters
 - The Role of Technology Parks
- “Collaboration as a Tool for Setting and Implementing the Innovation Agenda”
 - Participative Decision-making and Collaborative Platforms

Thank You



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