

S&T Collaborations: PA Partnerships for Growth

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Pennsylvania: Observations & Opportunities

- **Build on successful strategies, initiatives and programs**
- **Partnership**
 - **University partnerships**
 - **State vehicles for economic development**
- **Challenge & Opportunity**
 - **Access the next generation of technology to spur national competitiveness and innovation**

Partnership for Growth: University-Initiated



- 350 Start-up companies since 1968
- 26,000 jobs
- \$7.4 billion annual revenues
- 4.5m sf lab and office space created

Science Center incorporated November 13, 1963 to:

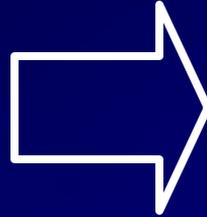
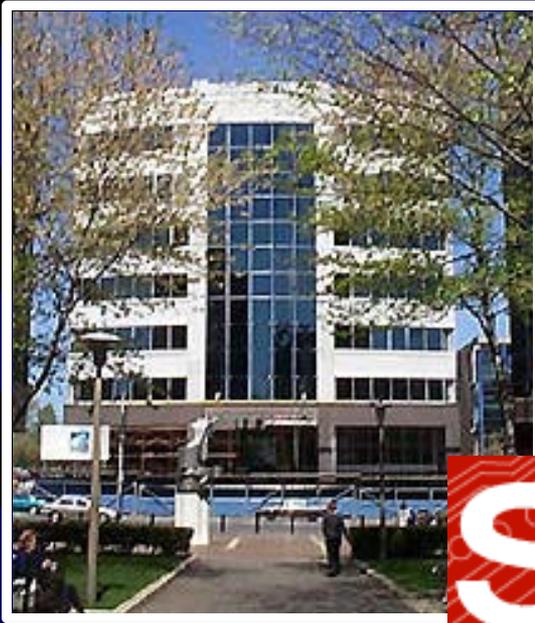
- Develop Science Park
- Create multi-institutional research institutes



UNIVERSITY OF THE
SCIENCES IN
PHILADELPHIA



Strategic Investment Fuels Growth



- Commonwealth formed three Greenhouse Funds using tobacco settlement monies
- Provides \$20 million fund for pre-seed/seed investment
- Invests \$0.5 million in a project funding cycle
- Two cycles completed; \$6 million allocated to date

Opportunity & Challenge in the Value Chain

*Significant
IP Overhang*

Idea Patent

Product

**Grant
Funding**

**Increasing
Gap**

Federal

*High Value Opportunity
(for example: New Scheme
to Move University
Innovation towards
Commercialization)*

State

*Tech-Based
Economic
Development
Strategies*

University

*Next Generation of
Commercialization Efforts
(TRVF)*

Corporate

*Early Stage
Technology
Venture
Funds*

Funding Sources

Seed to Series A/B



Seed to Seed



Private Equity &
VCs

BioAdvance
Ventures

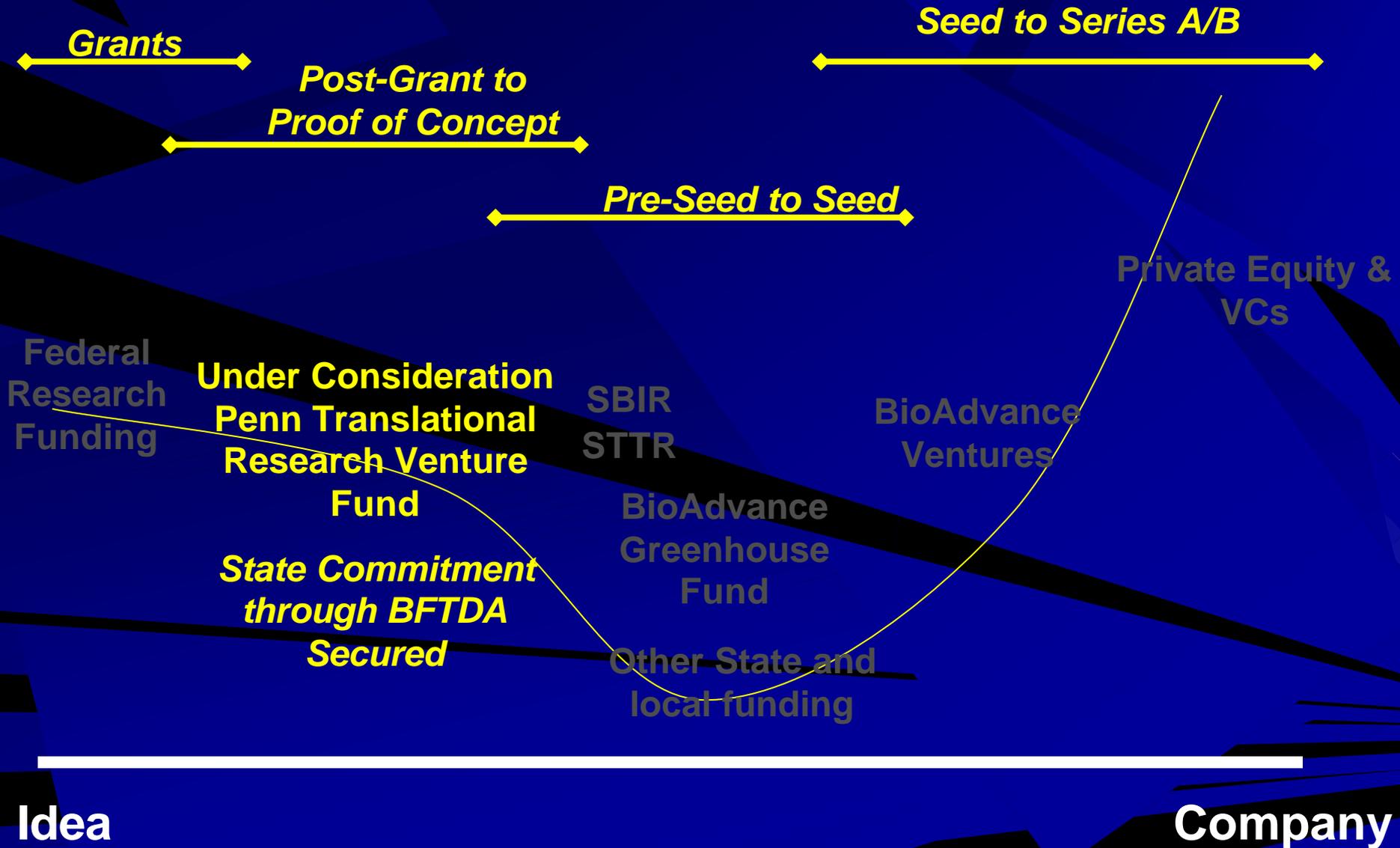
Advance
house
fund

State and
funding

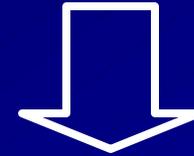
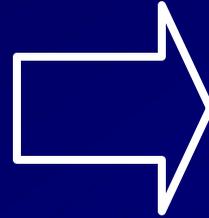
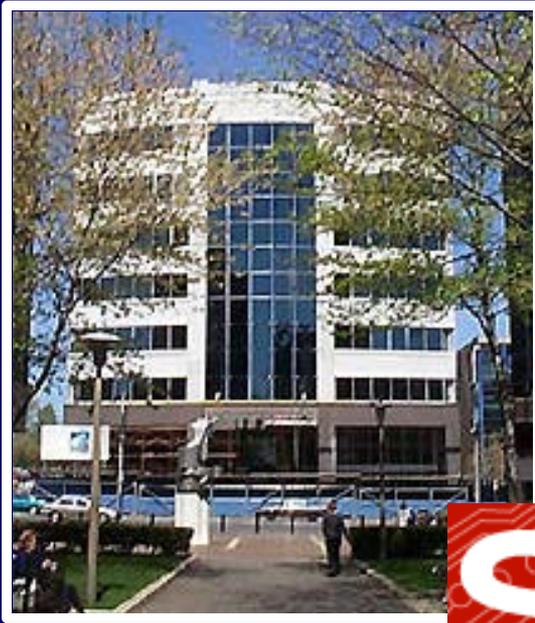


Company

PA Strategy for Funding Sources



Attaining Critical Mass

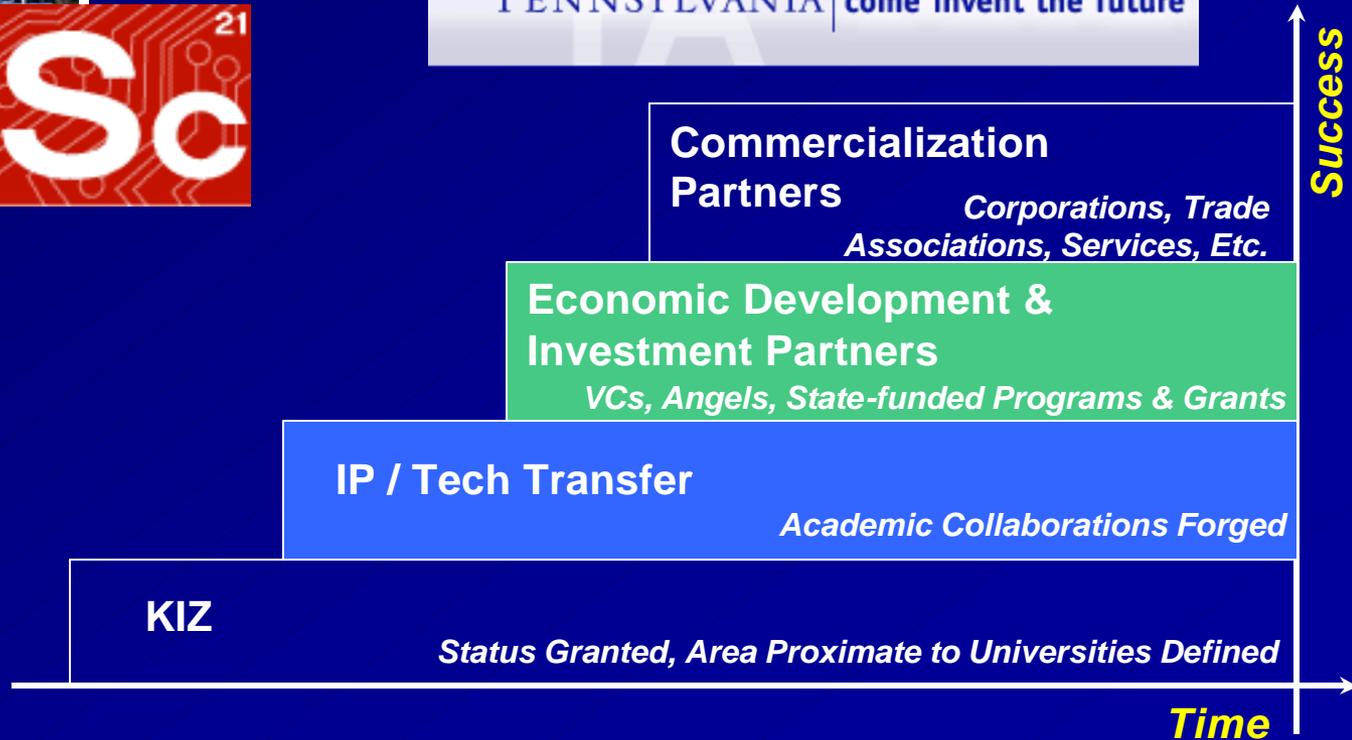
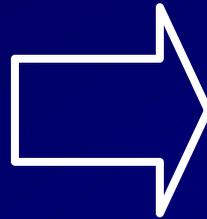
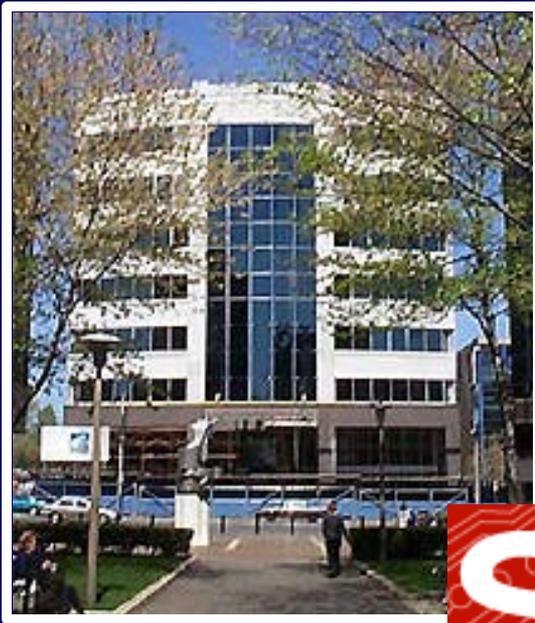


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KIZ Collaboration Means:

- ***Increased Access to Capital***
- ***Coordination of Existing Resources***
- ***Entrepreneurial Networks***
- ***Tradable Tax Benefits***
- ***Jobs***

Attaining Critical Mass



Partnership for Growth: State-Initiated

Capital



Connections



Coaching



Community

- *Formed in 1982*
- *Stimulate economic growth through investment; innovation, entrepreneurship and new technologies*

Partnership for Growth: State-Initiated

Capital



Connections



Coaching



Community

- State-wide funding = \$28m / year
- Since 1989, state-wide program:
 - Created 37,361 jobs
 - Funded 1,009 companies
 - Generated 23:1 ROI on state's investment
- BFTP of SE PA:
 - Invested \$110m in 1,400 ventures since 1983
 - Has a \$20m, 124-company investment portfolio

Regional Resources Align for Commercialization



CORPORATE PARTNERS



- Partnership with industry to drive driven technology development
- Enhance corporate access to research, facilities, IP
- Harness product *pull*
- Workforce development

State Maps Out Collaborative Efforts



State Strategy:

- *Promote cross-region collaboration*
 - *Bio & Pharma in East*
 - *Manufacturing, Lithography in Central*
 - *Robotics in West*
- *Leverage industry to drive commercialization*
- *Create a nano-enabled workforce*
- *Establish nano clusters and national nano leadership*

S&T Collaboration: Recommendations for Improvement

- **Develop federal scheme for university commercialization**
 - Bridge gap between federal funding for basic research and federal grants for businesses
 - Would leverage matching funds from state & universities
- **Create mechanism or “Single Portal” for coordinating to federal agencies and grants**
 - Centralized, streamlined information source for states, universities and business
- **Establish competitive grants for states’ technology-based economic development efforts**
 - Incentives for states to develop a compelling, coherent strategy
 - Award criteria could include leverage of funds, corporate / foundation match, return on investment, etc.
 - States must match funds – grant does not replace state investment, but builds on it

Federal-State S&T Collaboration: Lessons Learned

- **Coherent and sustained strategies work**
- **Efforts should span the roles & resources of federal, state, university and corporate partners**
- **Pennsylvania has recently focused on a limited number of high priorities with catalyst funding**
- **“Gazelle” companies have particular value; identify, nurture and retain**
 - **Particularly effective growth drivers**
 - **Spur expansion into new markets**
- **Cluster analysis identifies leverage-able strengths**