

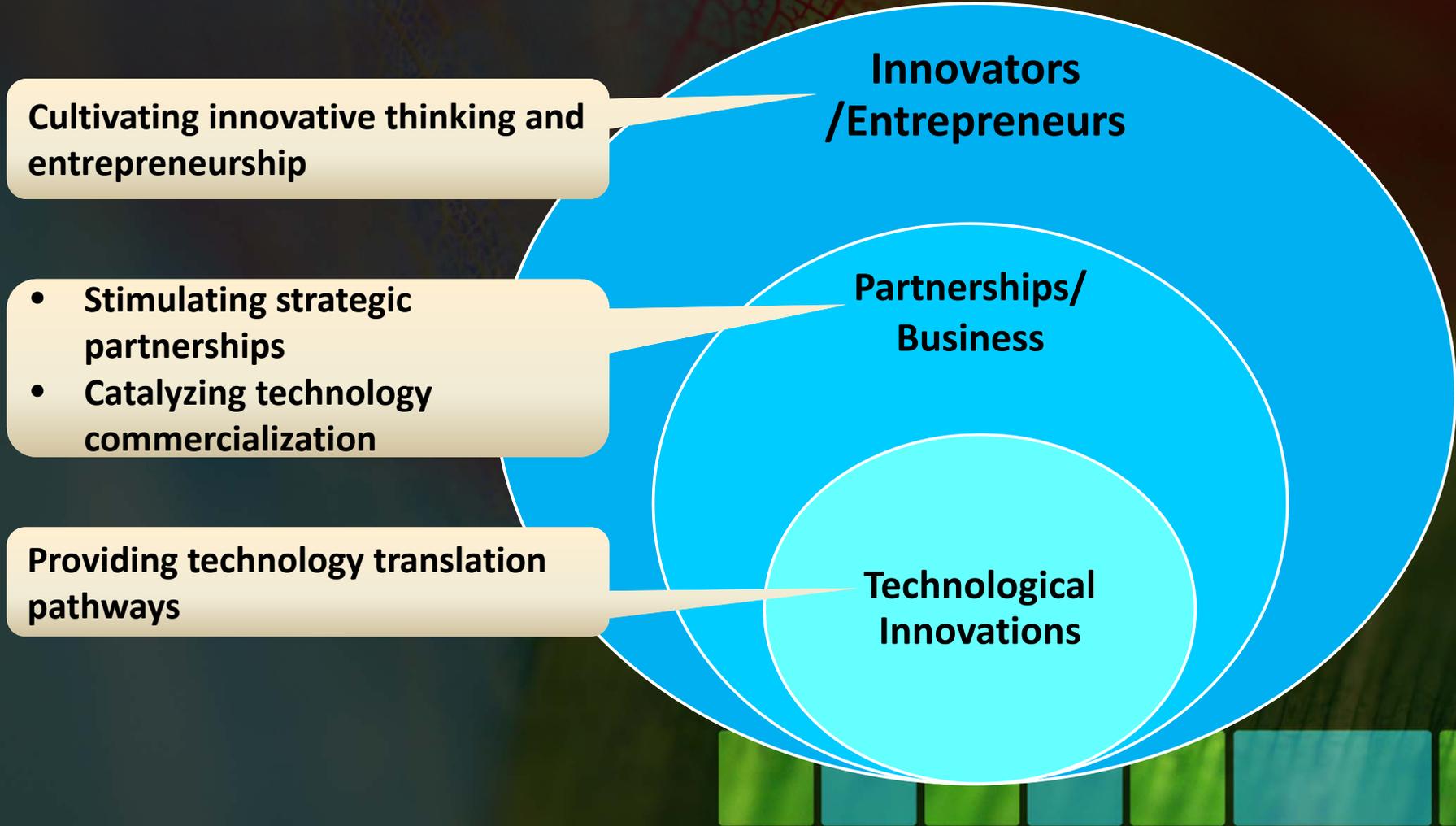


# Industrial Innovation and Partnerships Overview

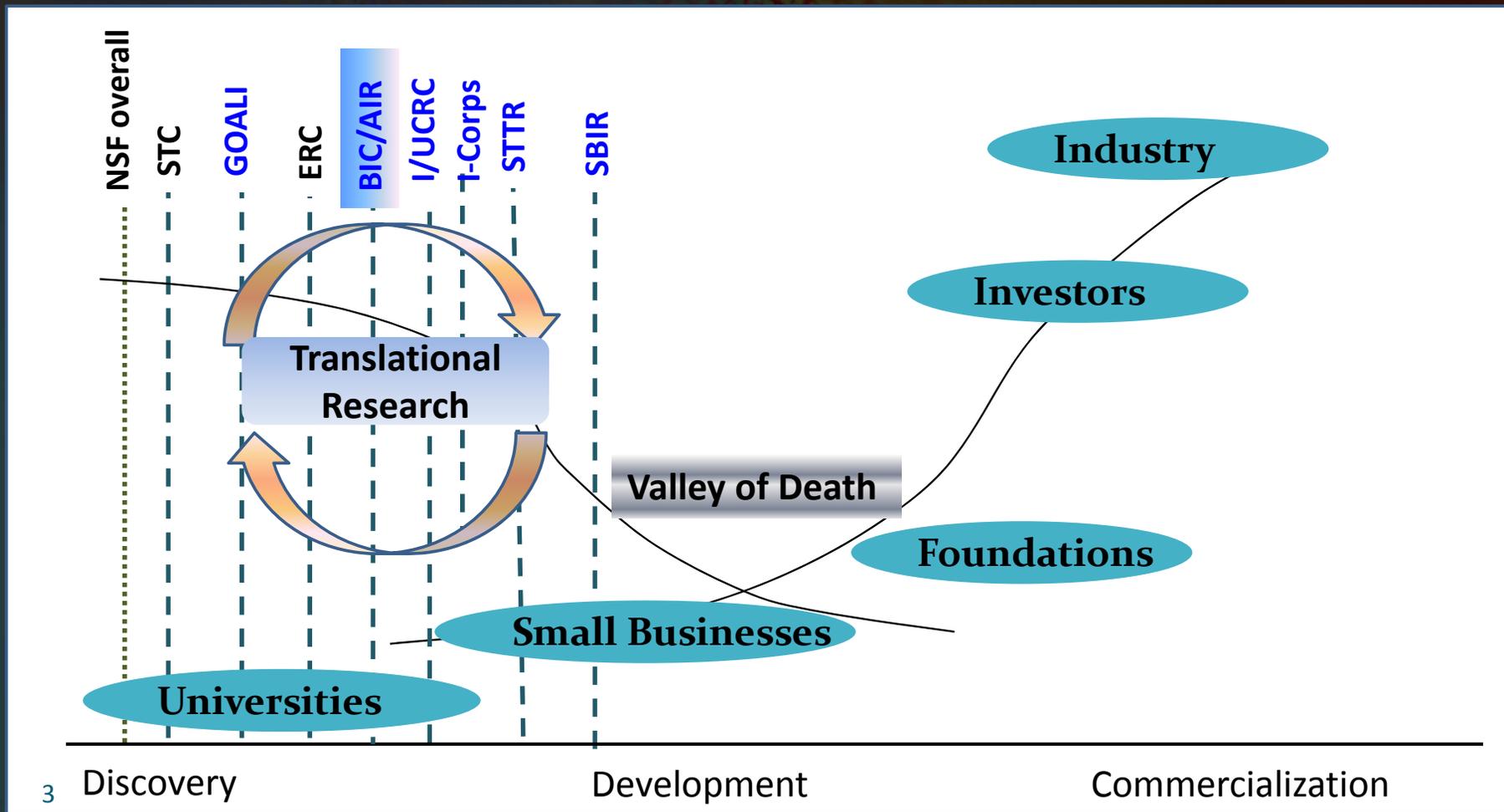
Spring 2014  
ENG Advisory Committee Meeting

Grace Wang  
Industrial Innovation and Partnerships  
Directorate for Engineering

# Driving the Expansion of Innovation Capacity



# Providing Technology Translation Pathways





# Accelerating Innovation Research (AIR)

- To capitalize on NSF investment in basic research

**NSF funding lineage required**

**Linking to previously NSF-funded basic research awards**

➤ **TECHNOLOGY TRANSLATION (TT)**

- Proofs-of-concept and/or pre-commercial prototypes
- Promote entrepreneurial thinking among faculty and students

➤ **RESEARCH ALLIANCE (RA)**

- Develop innovation ecosystem
- Stimulate entrepreneurial & innovation activities





# Small Business Technology Transfer (STTR)

- A vehicle for university technology commercialization
  - ✓ **Mandatory subcontract to universities**
  - ✓ Increased Phase I from \$150k to \$225k
  - ✓ Encourage the commercialization of previously NSF-funded basic research
- In June 2013 cycle
  - ✓ **54%** of STTR submissions showed NSF funding lineages
  - ✓ Linking to **321** previously NSF-funded basic research awards in one cycle





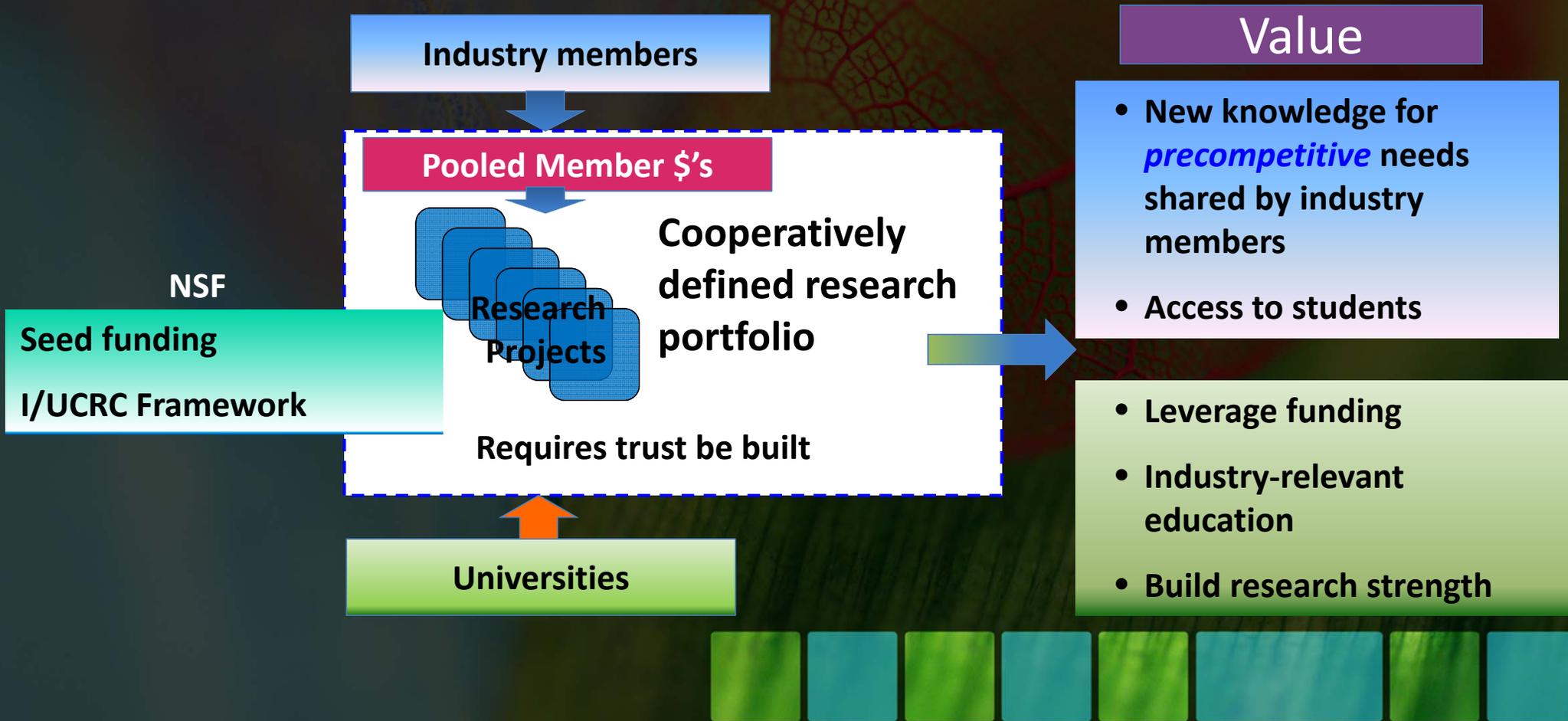
# Stimulating Strategic Partnerships



# Industry University Cooperative Research Centers (I/UCRC)



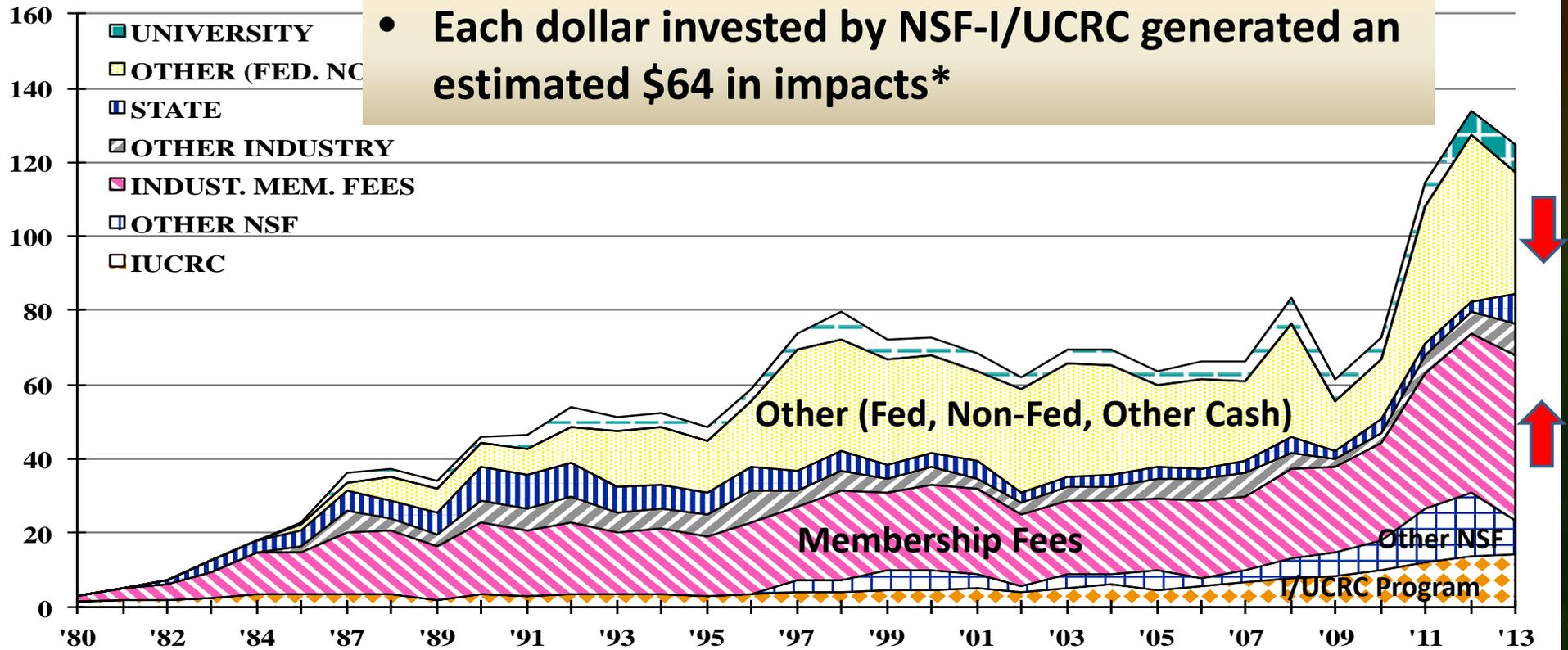
– Building Long-term U-I Partnerships



# I/UCRC Program Impacts



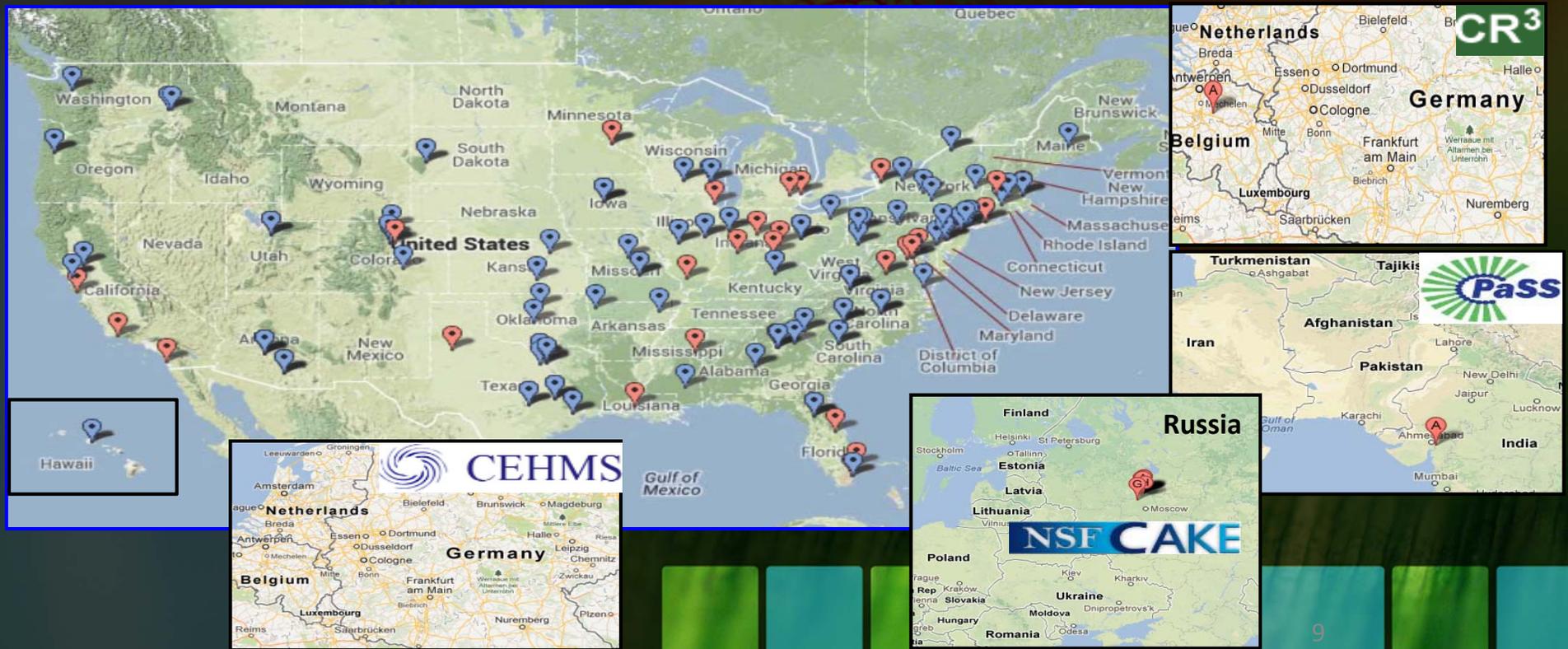
- 8:1 Leveraging of Program funds in '13
- Each dollar invested by NSF-I/UCRC generated an estimated \$64 in impacts\*



FY 2012-2013 NSF-I/UCRC Center Structure Database  
 \*Based on case studies of three centers



- 67 centers, 191 sites (4 international sites)
- About 1,100 memberships
- 2077 students participated in 2013
- 30% of students graduated in 2013 were hired by industry members





# Catalyzing Technology Commercialization



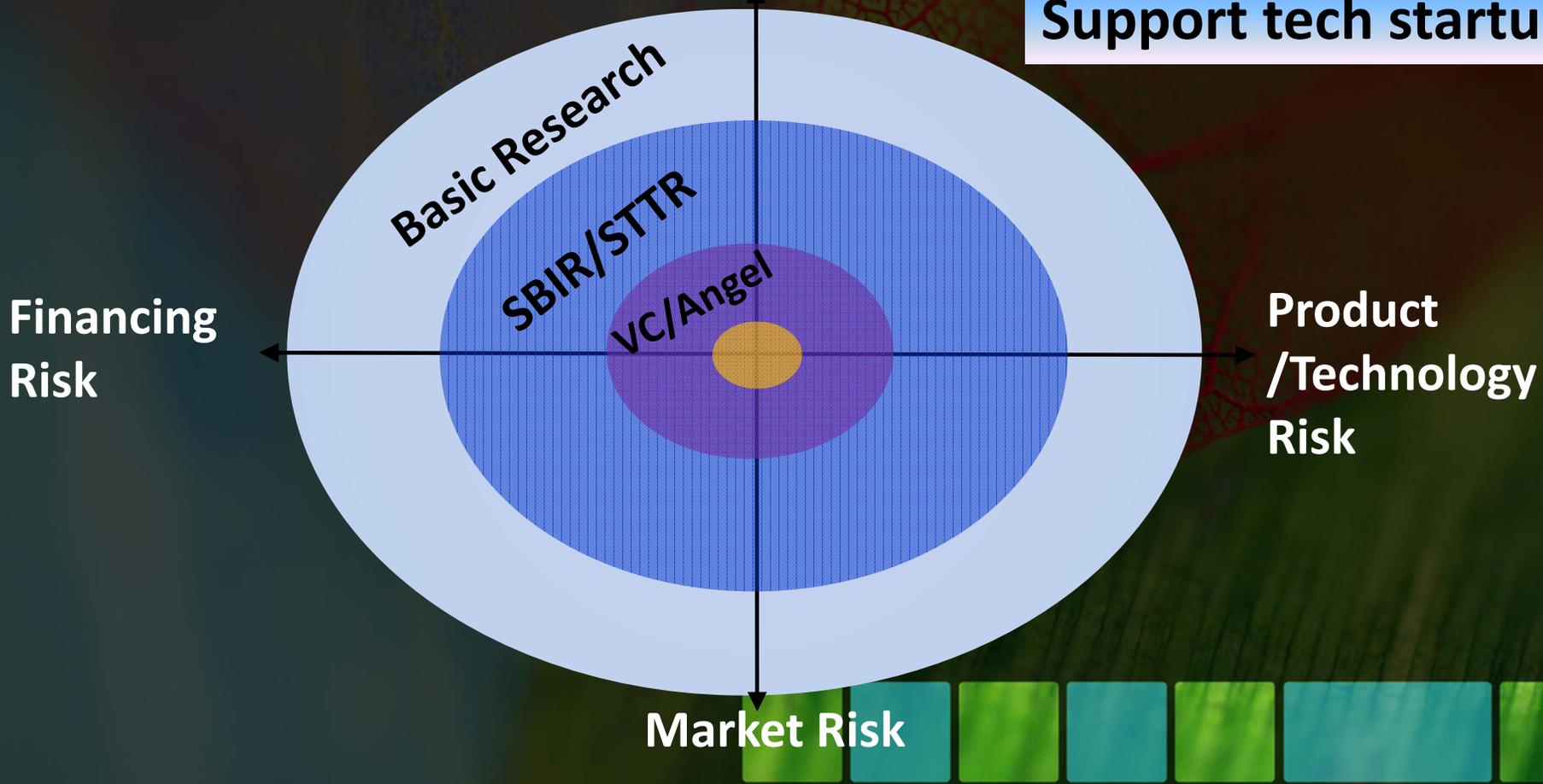
# Positioning of NSF SBIR/STTR Program

– *Help Mitigate Technical , Business and People Risks*



Company/Team Risk

Support tech startups





# Supporting High-Risk Tech Startups

- **FY2012 SBIR/STTR Phase I awardees**
  - ✓ 86% - 10 or fewer employees
  - ✓ 90% - 5 years old or younger
- **FY2013 SBIR/STTR Phase I awardees**
  - ✓ 81% - 10 or fewer employees
  - ✓ Median company age = 4 years





# Connecting Our Grantees to Market Reality

## - *Help mitigate market risk*

- Leverage large networks of other organizations
  - ✓ Providing opportunities to network with potential customers and investors
- Support SBIR/STTR grantees to attend selected tradeshows/venture fairs (CES ACA, ISTE, BIO, FETC etc.)
  - ✓ Partnering with **37** organizations
  - ✓ About **200** grantees at **50** events with 500K attendees (2013-2014)





## Encourage Fundraising from Private Sectors - *Help mitigate financing risk*

- Phase IIB supplement
  - ✓ Match 50% of third-party investment up to \$500k
- Third-party investment that SBIR/STTR Phase II grantees collectively raised
  - ✓ **\$78 million in FY2012**
  - ✓ **\$83 million in FY2013**
- 19 acquisitions in last 2 years for >\$600 million acquisition value





# Cultivating Innovative Thinking and Entrepreneurship





# Innovation Corps (I-Corps)

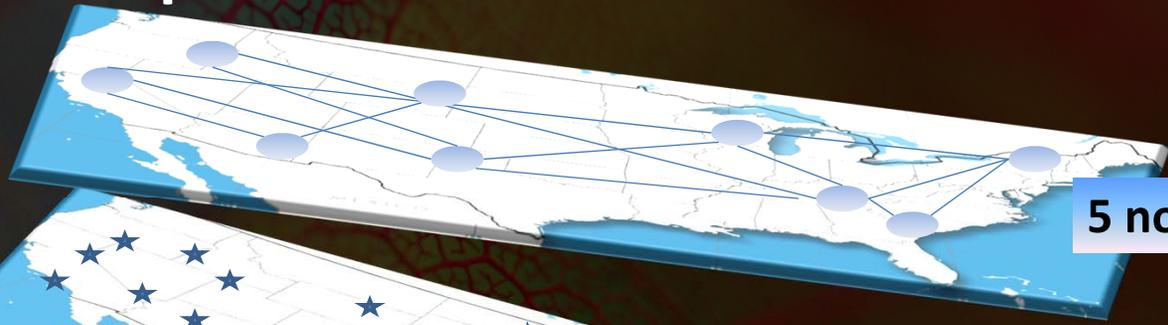
- Why I-Corps?
  - ❖ Capitalize on previously NSF-funded basic research
  - ❖ Cultivate entrepreneurial culture
- I-Corps approach
  - ❖ “Lean Launchpad” curriculum
  - ❖ Team: PI + Entrepreneurial Lead + Business Mentor
  - ❖ Experiential entrepreneurial education



# Building the Nation's I-Corps™ “Fabric”

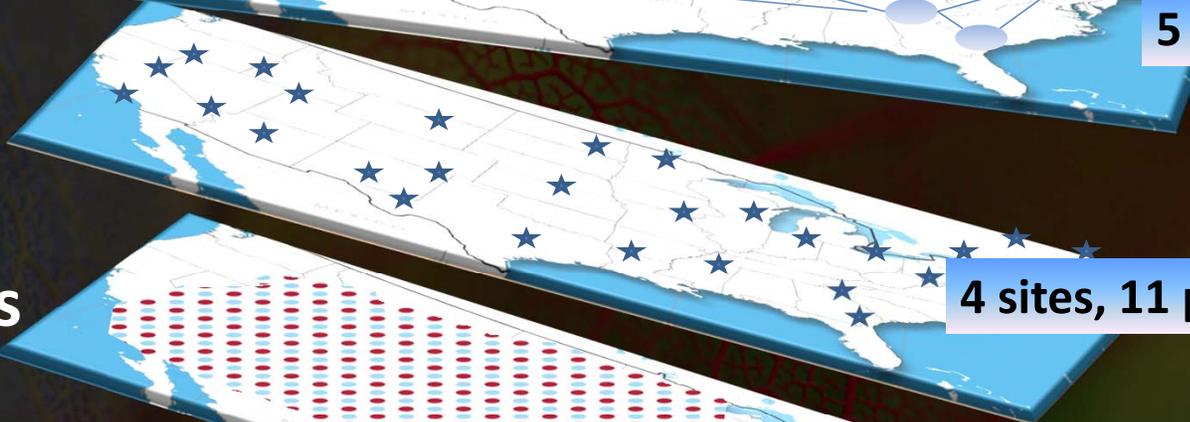


I-Corps™ Nodes



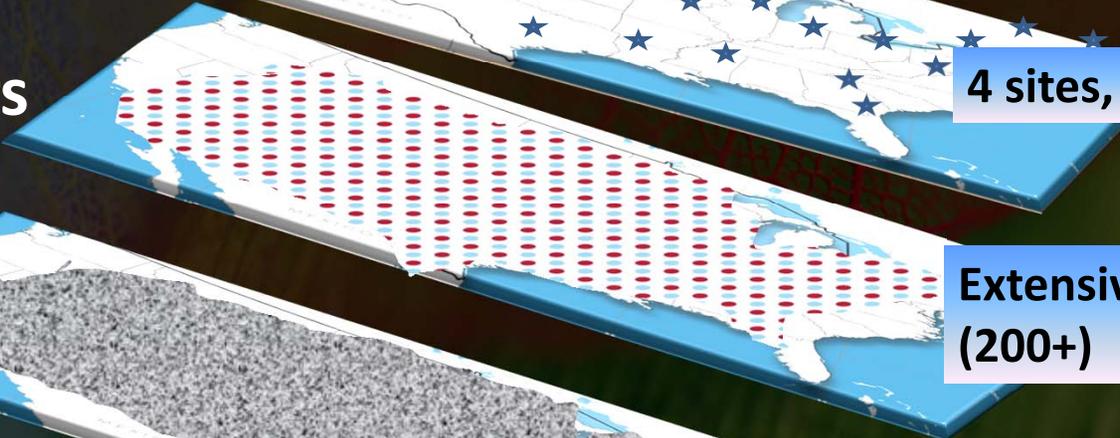
5 nodes

I-Corps™ Sites



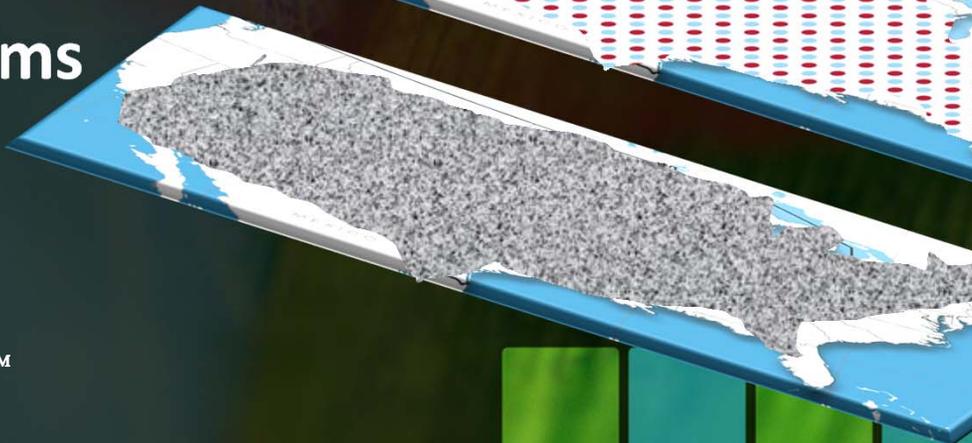
4 sites, 11 planned

I-Corps™ Mentors



Extensive network (200+)

I-Corps™ Teams



296 teams, 42% started companies, one acquisition



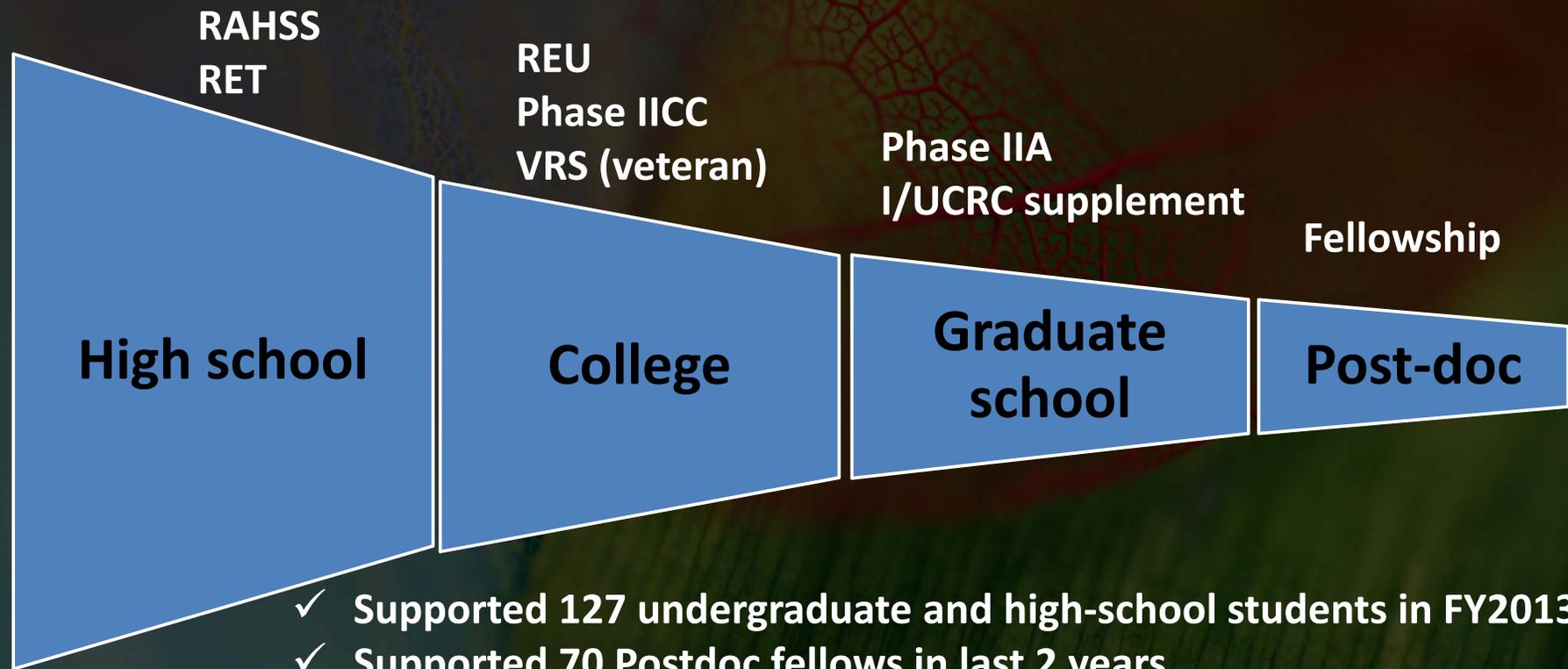


# Cultivating Entrepreneurship

- Launched SBIR “Beat The Odds” boot-camp
  - ❖ 148 small businesses participated in 2013-14
  - ❖ I-Corps concept: customer discovery
  - ❖ Overwhelmingly positive feedback
- SBIR/STTR Grantees Conferences
  - ❖ Focus on entrepreneurial education
  - ❖ USPTO partnership



# Providing Students with Real-Life Startup Experience (SBIR/STTR)



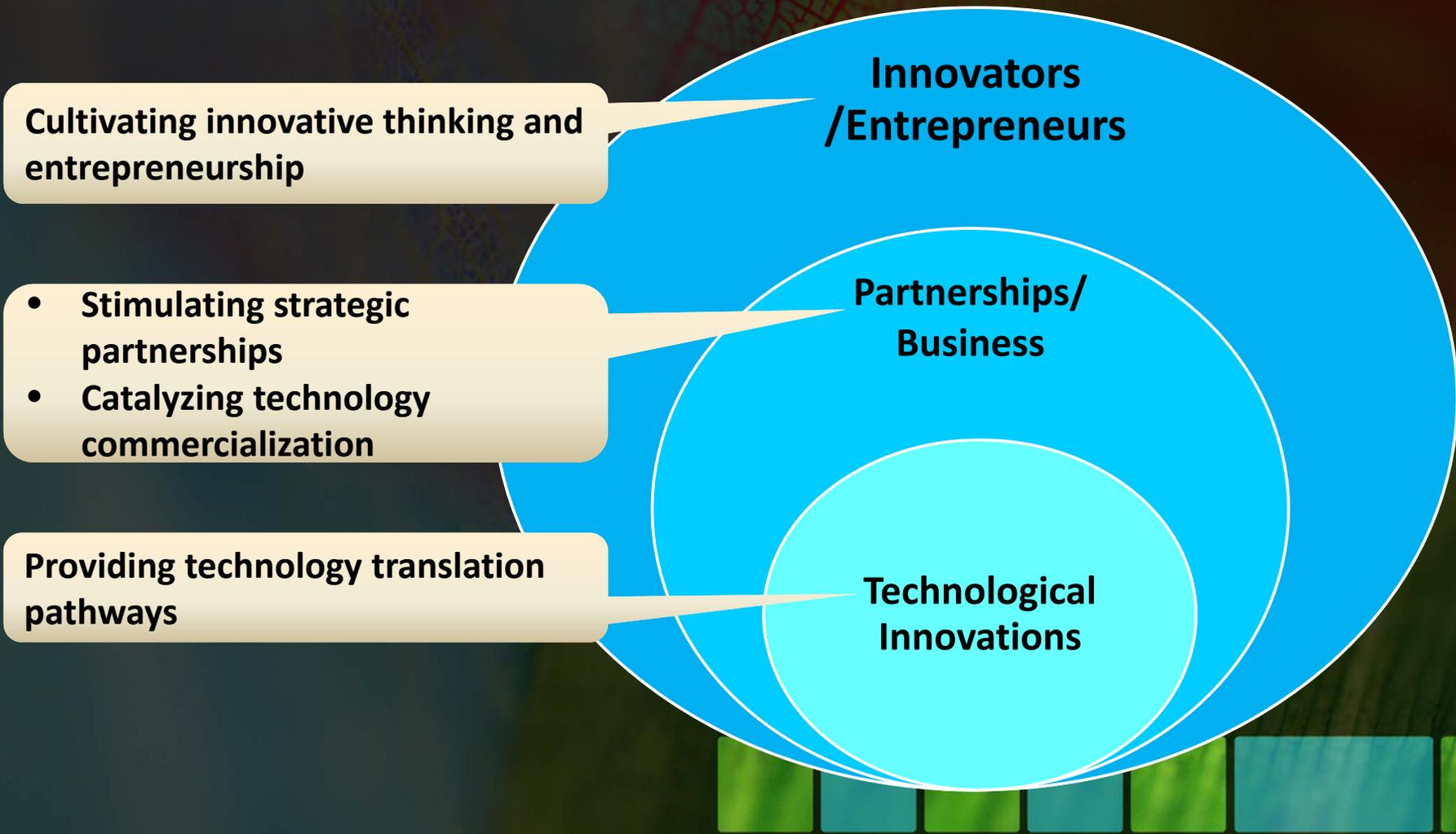


# IIP by Numbers

- **FY2013**
  - ❖ **Total operation budget: ~\$202M**
  - ❖ **2216 proposals received**
  - ❖ **638 awards**
  - ❖ **96% of proposals were completed within 6 months**
- **Twitter: > 1,700 followers, about 35,000 accounts reached/week**
- **YouTube: 45 videos, more than 5,000 views**
- **ListServ: >1,800 subscribers**



# Driving the Expansion of Innovation Capacity



Cultivating innovative thinking and entrepreneurship

Innovators  
/Entrepreneurs

- Stimulating strategic partnerships
- Catalyzing technology commercialization

Partnerships/  
Business

Providing technology translation pathways

Technological  
Innovations

