

Overview of Industrial Innovation and Partnerships Division at NSF

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Industry Innovation and Partnerships (IIP)

Directorate for Engineering

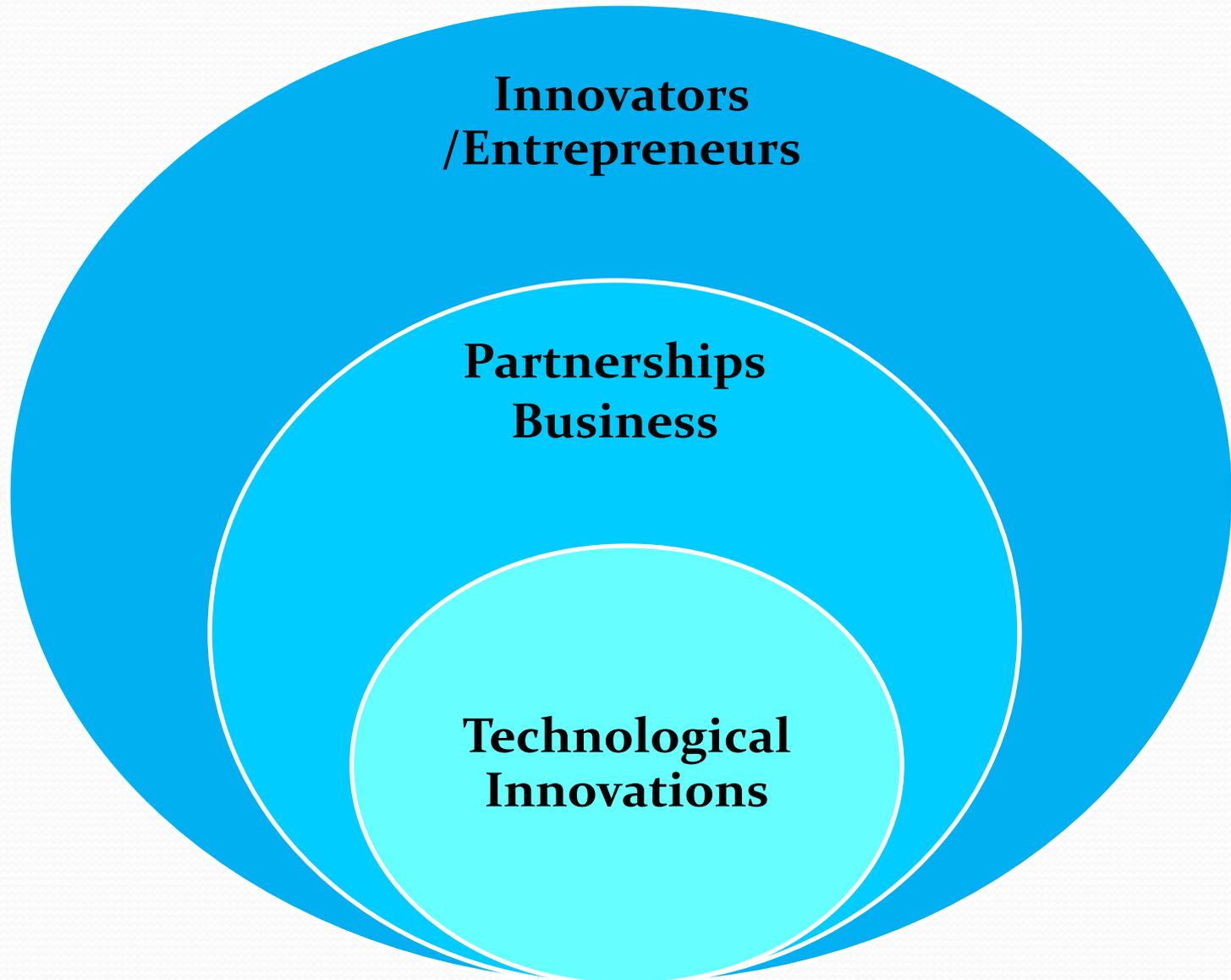


IIP Vision

**Driving the expansion of our
nation's innovation capacity**



What Is Innovation Capacity?



Why EPSCoR States?

**22% of U.S.
workforce**

**Innovators
/Entrepreneurs**

**Home to 57 of
Fortune 500
companies**

**Partnerships
Business**

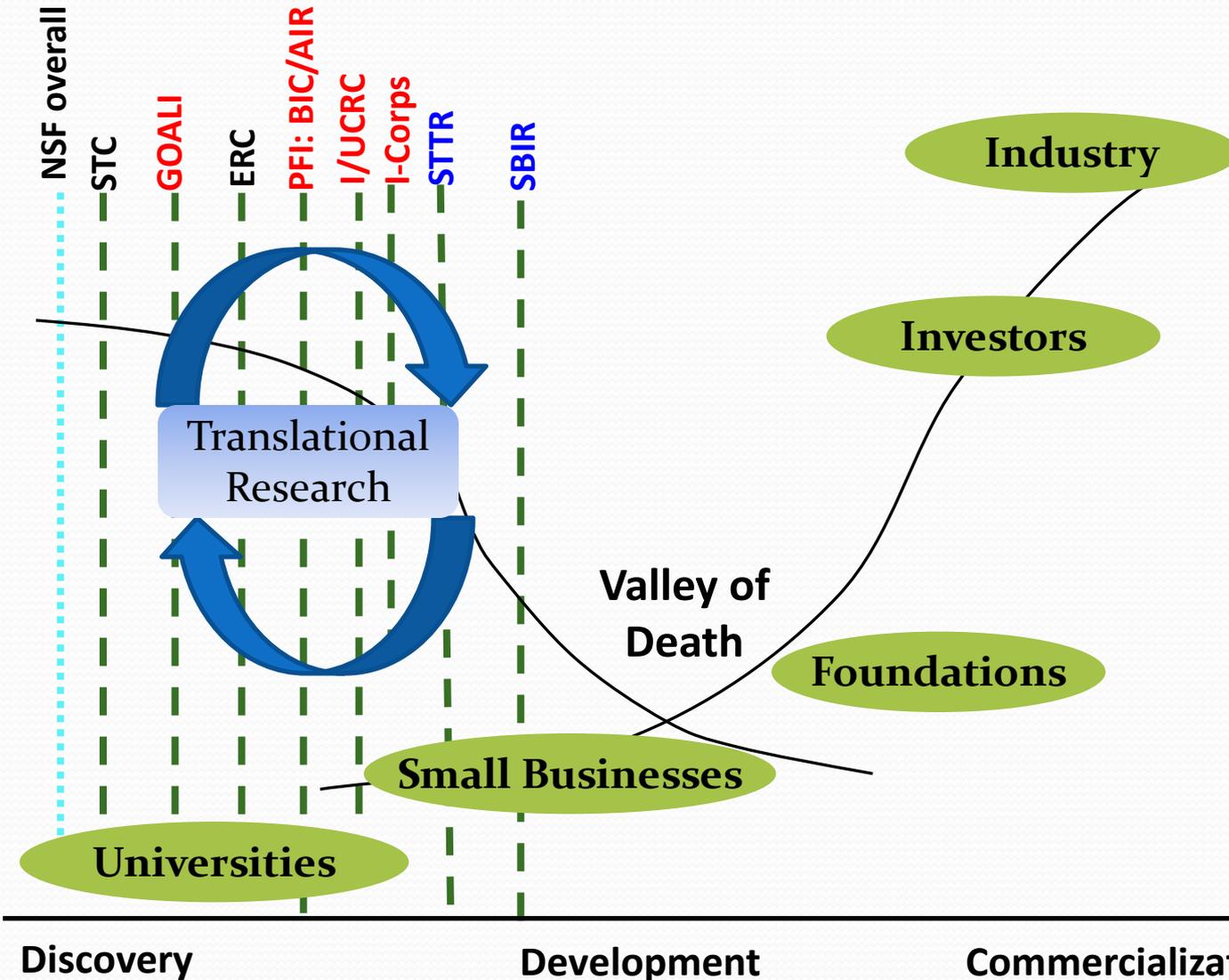
**16% of S&E PhDs
and many
universities**

**Technological
Innovations**

**~19% of IIP awards
to EPSCoR states**



Research to Commercialization



Accelerating Innovation Research (AIR)

Require lineage to previously NSF-funded basic research awards

Proofs-of-concept and/or pre-commercial prototypes

Promote entrepreneurial thinking among faculty and students

- **TECHNOLOGY TRANSLATION (TT)**
 - ✓ Single investigators
 - ✓ \$200k/1.5 years

- **RESEARCH ALLIANCE (RA)**
 - ✓ NSF-Funded research alliances
 - ✓ \$800k/3 years
 - ✓ Third-party investment required



Building Innovation Capacity (BIC)

- ***Platform technologies* to enable human-centered and market-driven "smart" service systems**
- **Academe-industry partnerships required**
 - Industry contribution of market knowledge to ensure relevance
- **Social behavioral and/or cognitive science component required** to understand the potential interaction of the technology with users
- Up to \$800k for 3 years

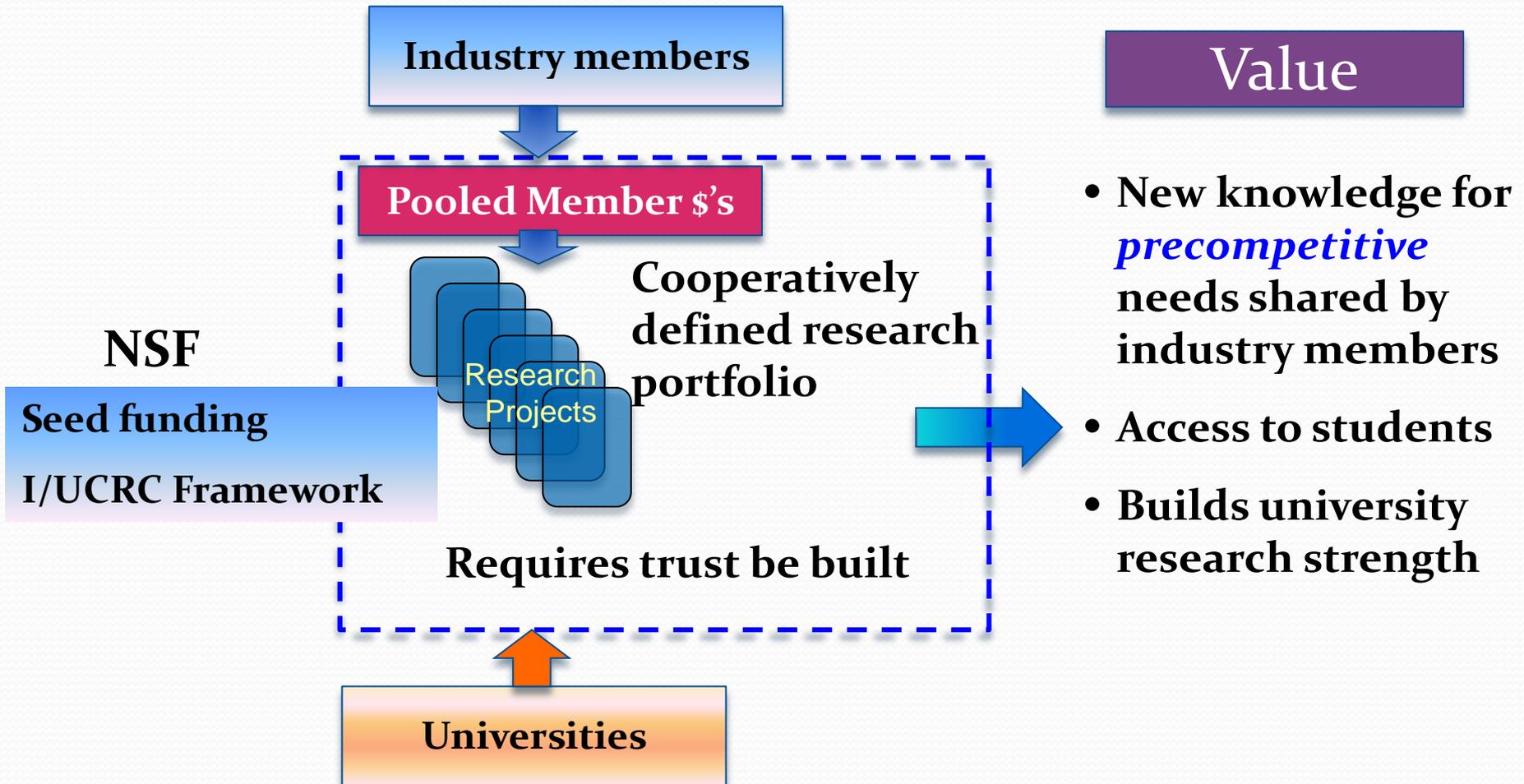


Industry/University Cooperative Research Centers (I/UCRC)

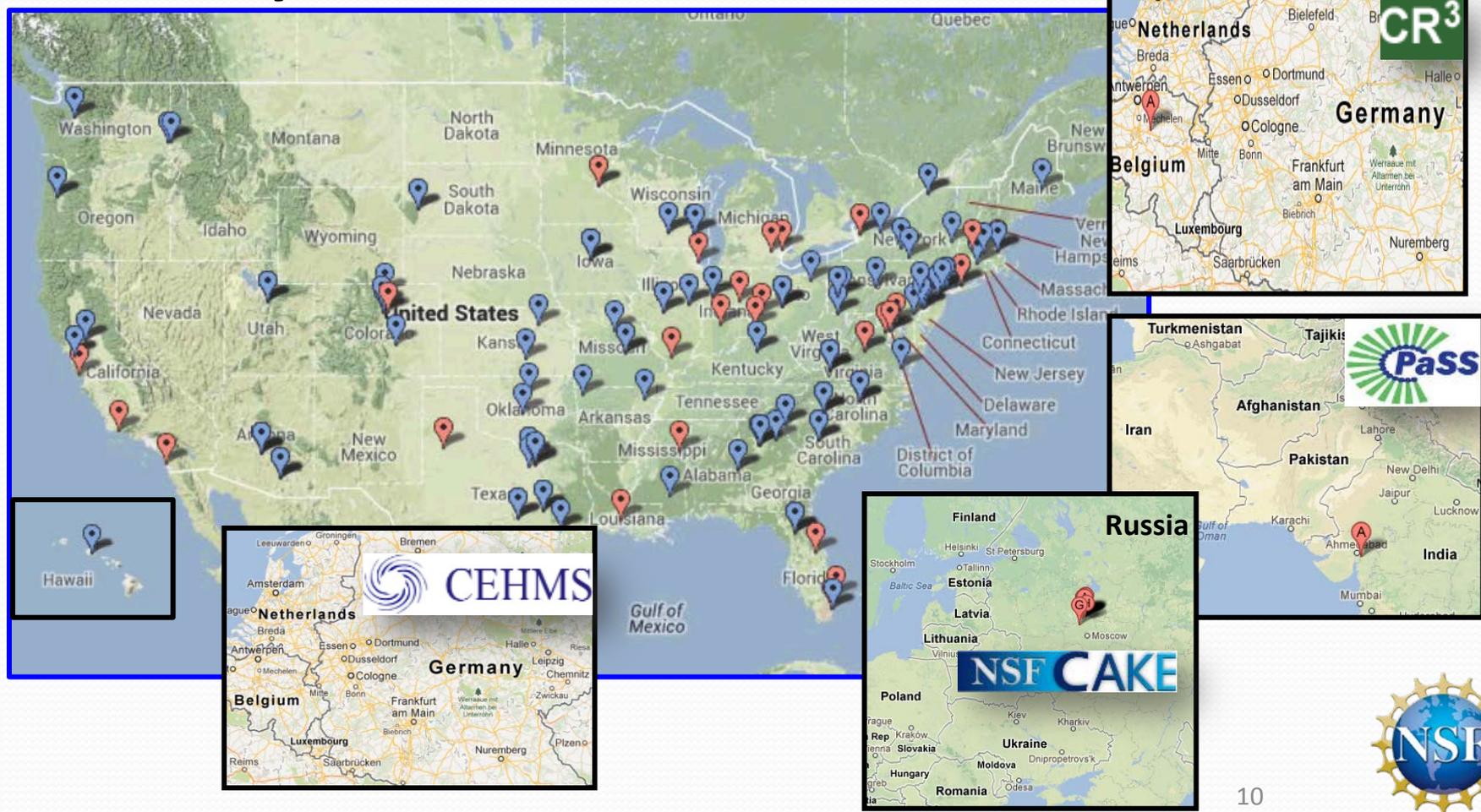
- Developing **long-term partnerships** among industry, academe and government
- Providing **industrially relevant research experience** to graduate students



Industry University Cooperative Research Centers (I/UCRC)

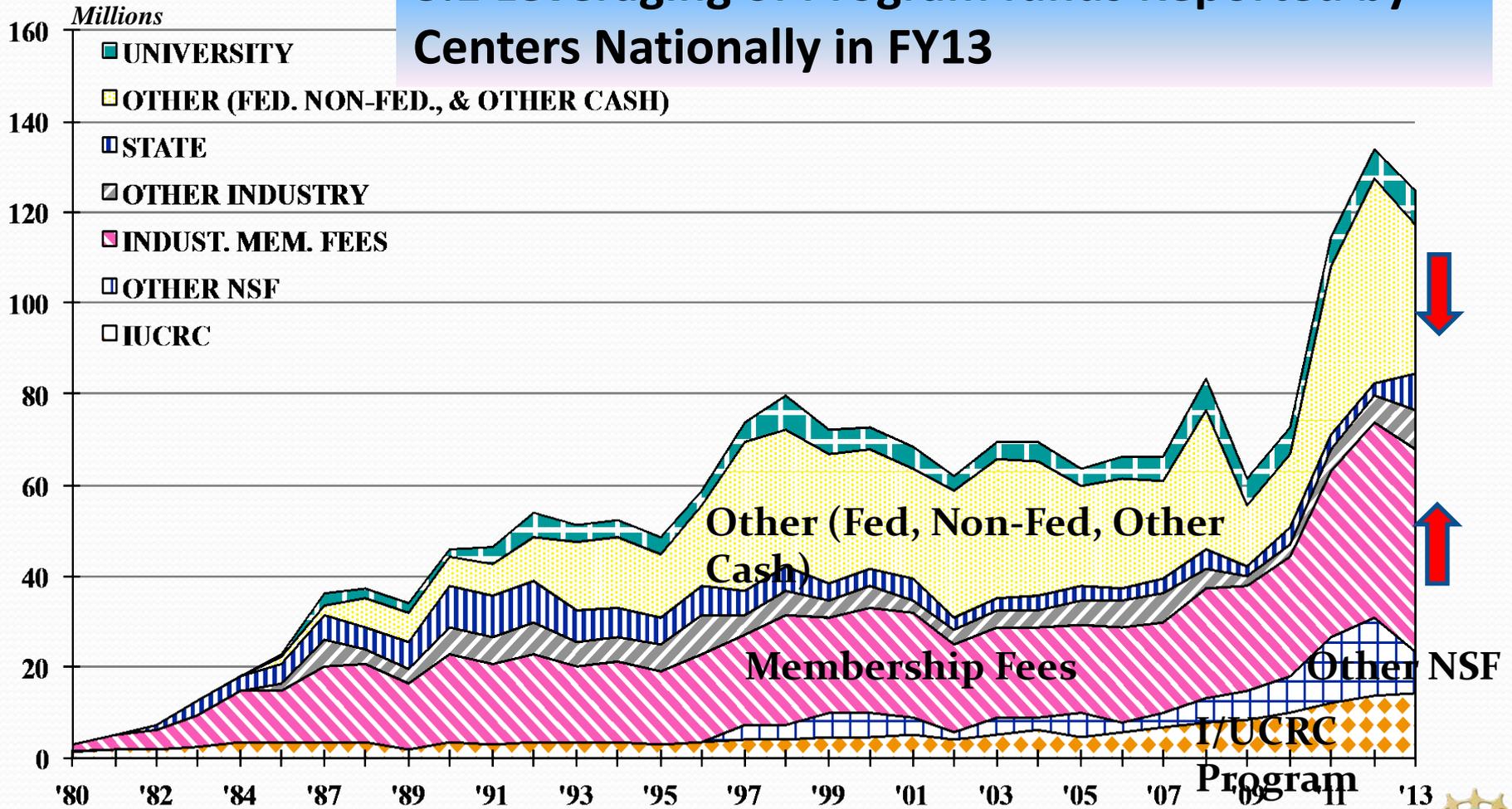


- 67 centers, 191 sites (4 international sites)
- About 1,100 memberships
- 2077 students participated in 2013
- 30% of students graduated in 2013 were hired by industry members



Leveraging Funding – I/UCRC Program

8:1 Leveraging of Program funds Reported by Centers Nationally in FY13



Innovation Corps (I-Corps)

➤ Why I-Corps?

- ✓ Capitalize on previously NSF-funded basic research
- ✓ Cultivate entrepreneurial culture

➤ I-Corps approach

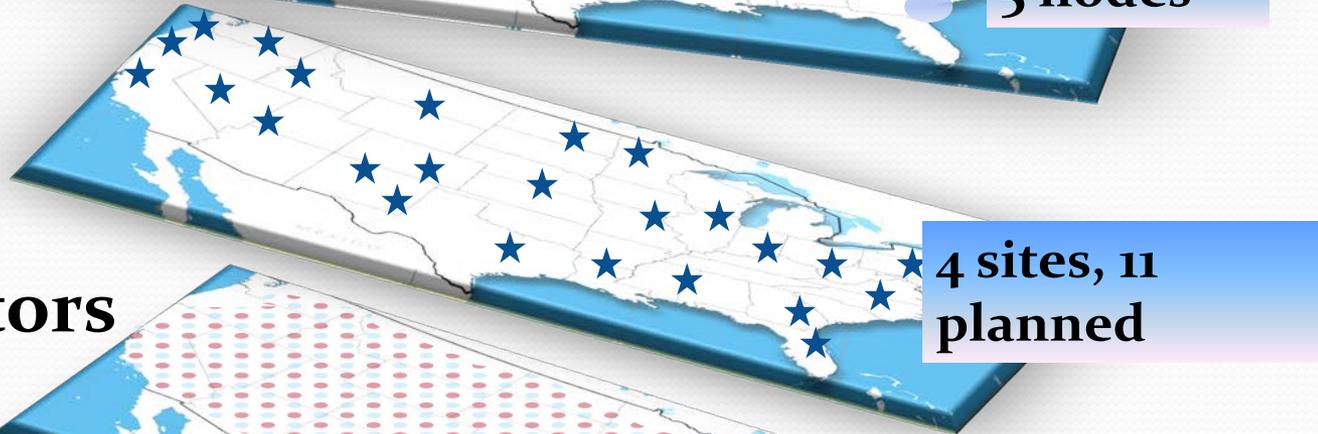
- ✓ “Lean Launchpad” curriculum
- ✓ Team: PI + Entrepreneurial Lead + Business Mentor
- ✓ Experiential entrepreneurial education

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

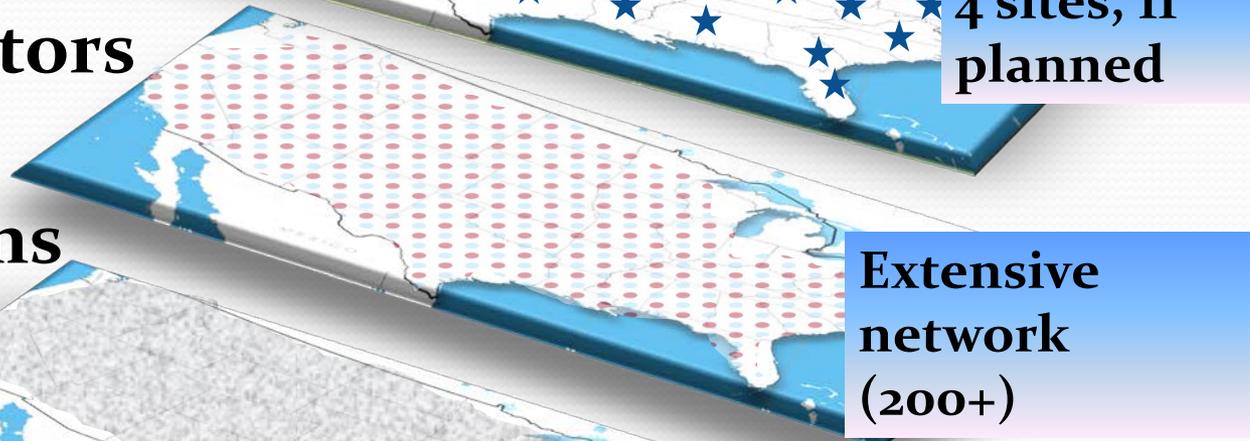
I-Corps™ Nodes



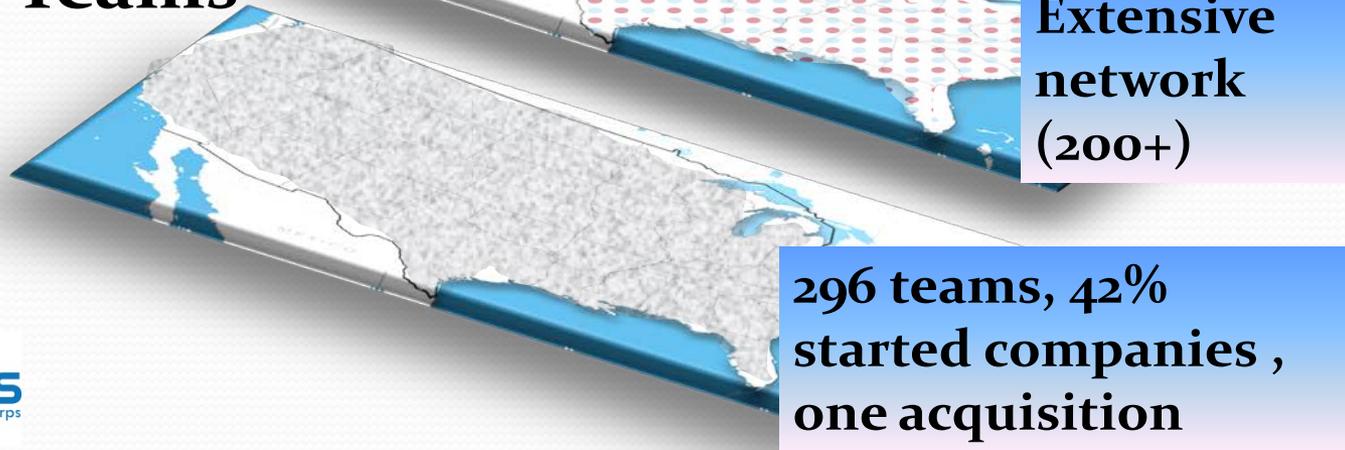
I-Corps™ Sites



I-Corps™ Mentors



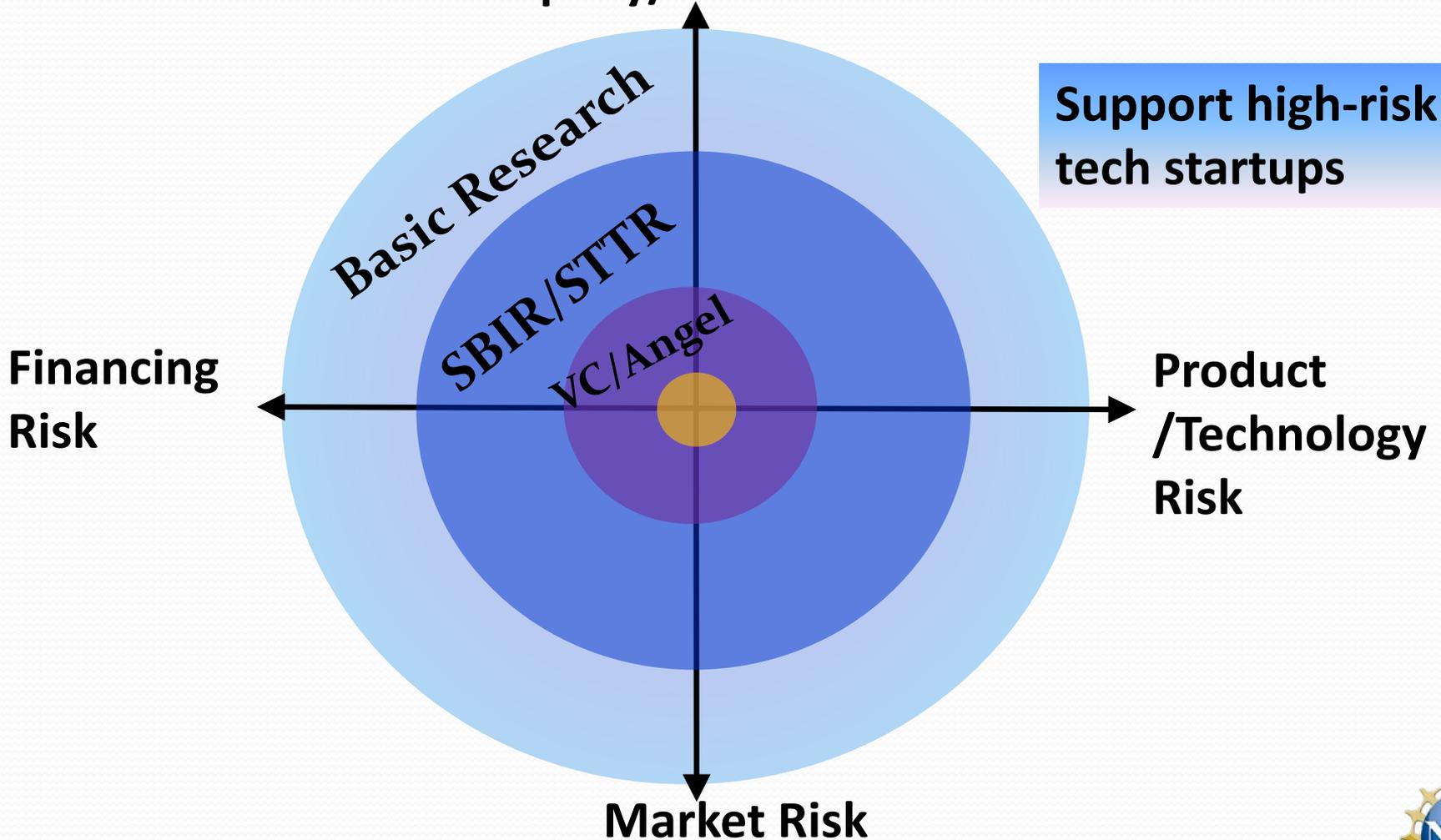
I-Corps™ Teams



NSF SBIR/STTR Program

- *Help Mitigate Risks*

Company/Team Risk



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**



Strong Ties to Universities

➤ STTR

- ✓ Subcontract to universities is mandatory
- ✓ Strongly encourages NSF funding lineage

➤ Phase I:

- ✓ STTR \$225K, 12 months
- ✓ SBIR: \$150K, 6 months

➤ Phase II

- ✓ SBIR/STTR: \$750K, 2 years



Inclusive Topic Areas

- **Educational Technologies and Applications (EA)**
- **Information and Communication Technologies (IC)**
- **Semiconductors (S) and Photonic (PH) Devices and Materials**
- **Electronic Hardware, Robotics and Wireless Technologies (EW)**
- **Advanced Manufacturing and Nanotechnology (MN)**
- **Advanced Materials and Instrumentation (MI)**
- **Chemical and Environmental Technologies (CT)**
- **Biological Technologies (BT)**
- **Smart Health (SH) and Biomedical (BM) Technologies**



Grant Opportunities for Academic Liaison with Industry (GOALI)

Co-funding opportunity



Industrial
scientists and
engineers to
universities

Faculty,
postdoctoral
fellows, and
students to
industry

University-
industry teams
to conduct joint
research
projects



IIP Strategies

Cultivating innovative thinking and entrepreneurship

**Innovators
/Entrepreneurs**

- **Stimulating strategic partnerships**
- **Catalyzing technology commercialization**

**Partnerships
Business**

Providing technology translation pathways

**Technological
Innovations**



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