



The Industry University Cooperative Research Center Program

Andre Marshall, awmarsha@nsf.gov

Program Director, National Science Foundation

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Overview

- National Science **Foundation**
- IUCRC **Program**
- IUCRC **Center**



National Science Foundation

Vision | Impact

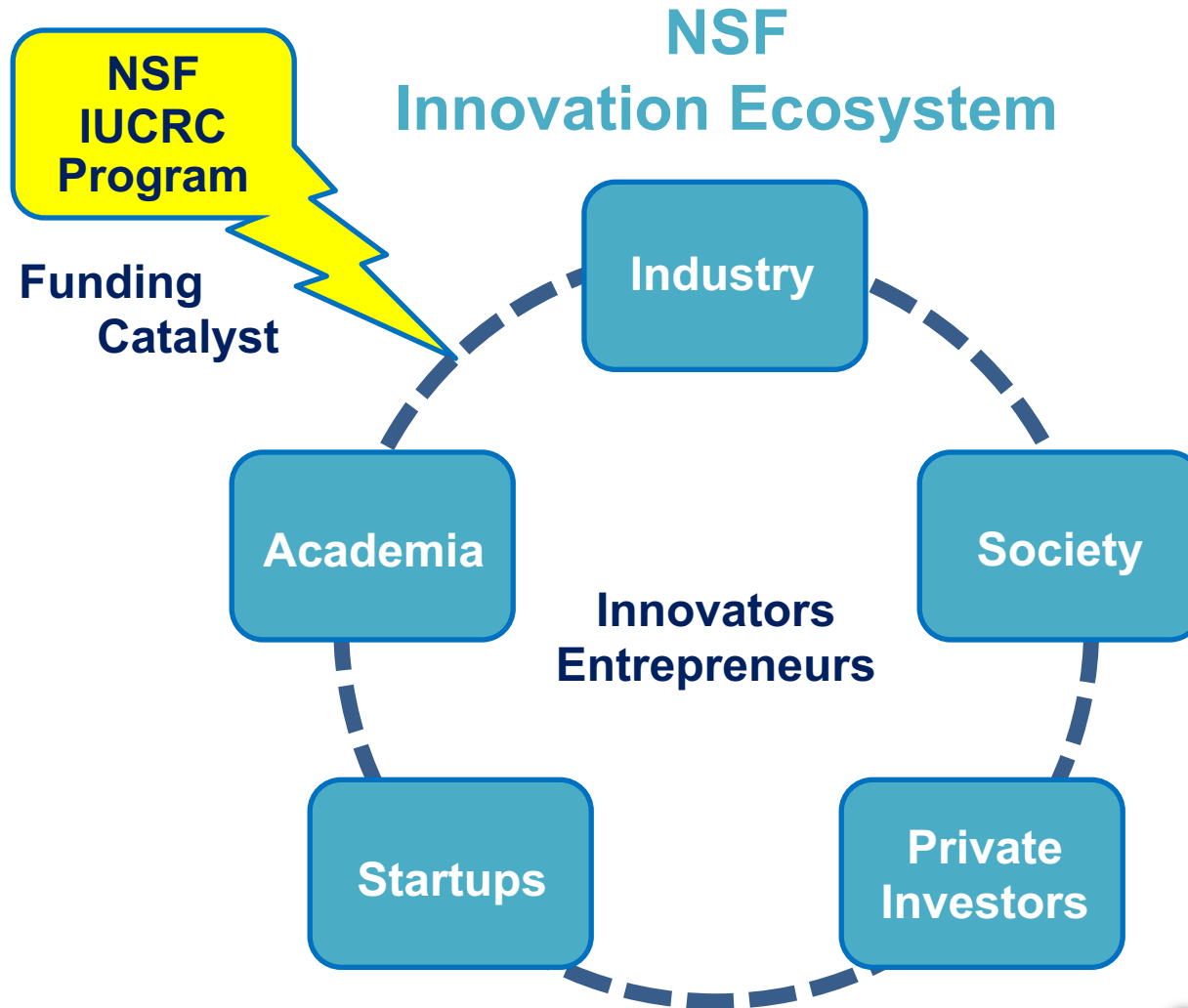
NSF envisions a nation that **creates and exploits** new concepts in **science and engineering** and provides **global leadership** in research and education

- ~ \$7.5B Budget
- 220+ Nobel Laureates supported
- Overall: 350,000 researchers, postdoctoral fellows, trainees, teachers, and students supported
- ~ 400 startups/small businesses funded each year



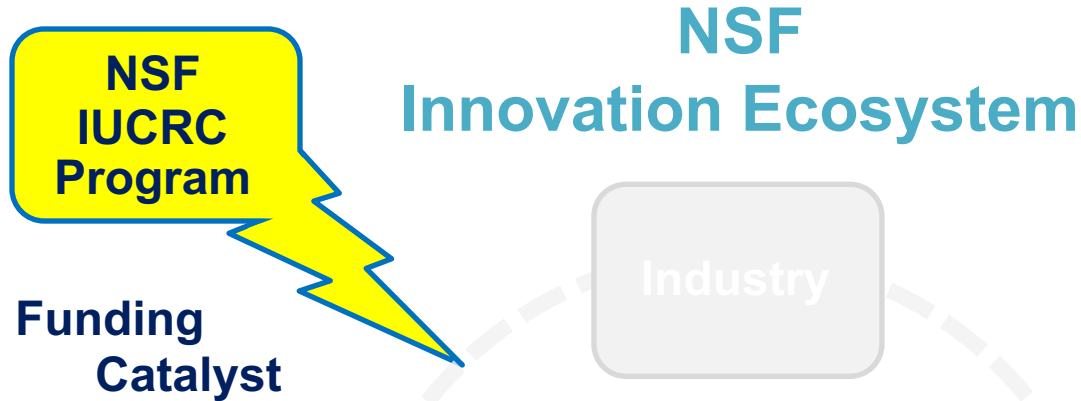
National Science Foundation

NSF Innovation Role



National Science Foundation

NSF Innovation Role



The IUCRC program provides seed money to multiple universities to work together and conduct pre-competitive IP R&D that is of interest to companies who pay a fee to participate.

IUCRC Program

Objective

“Determine effective ways of **stimulating non-Federal Investment** in R&D and of Improving the **application of R&D** results.”

President’s message to the Congress on S&T, March 16, 1972

45 Years of Building Research and Innovation Capacity

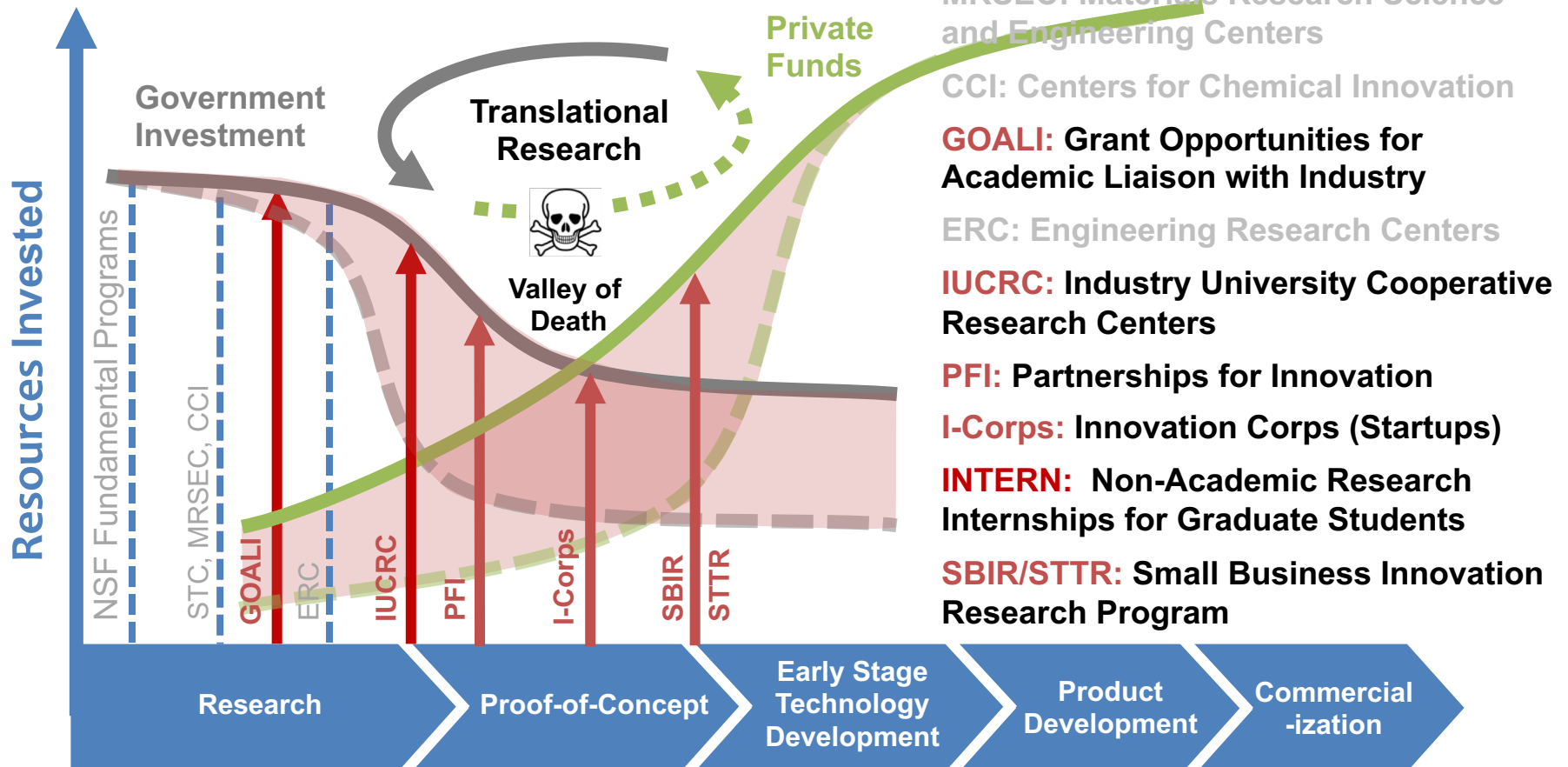
- First Center Proposals Received in 1972
- First “Experimental” Awards Made in 1973

*Cooperatively Defined and Shared, Sector
Precompetitive Research*



IUCRC Program Background

NSF Innovation Ecosystem

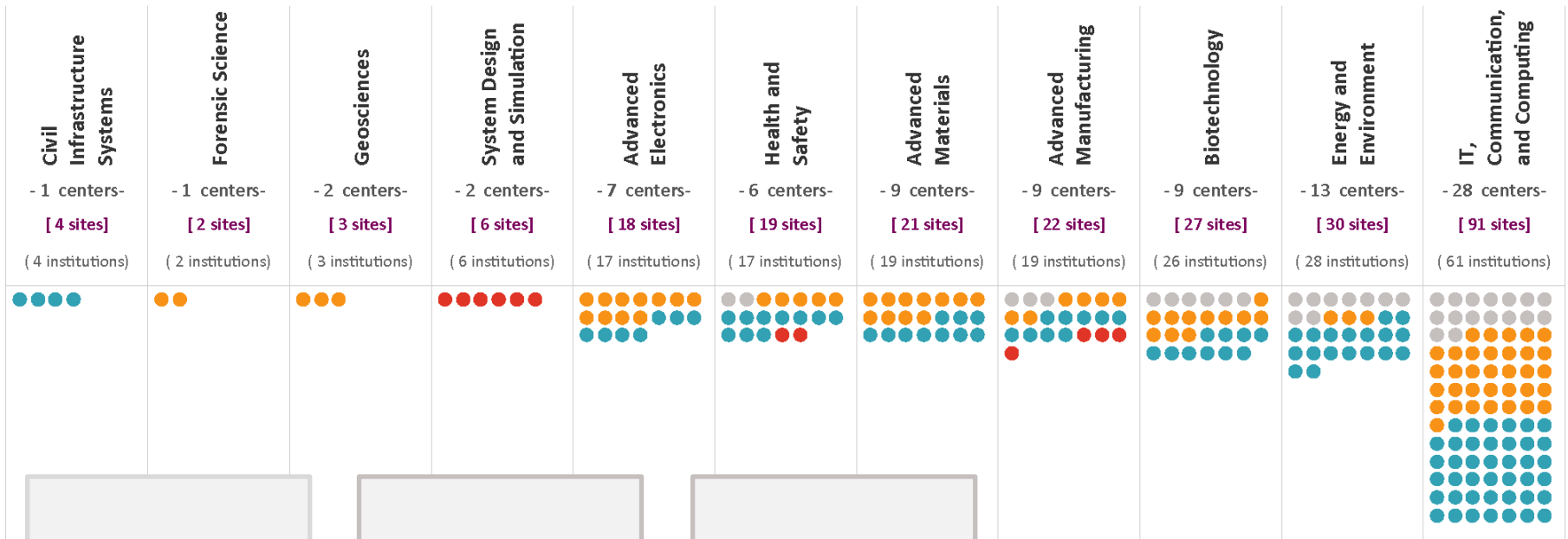


Technology Translation: A Long Road...

IUCRC Program

Portfolio

Distribution of Sites by Phase and Technology Thrust



87
Centers

243
Sites

126
Institutions

Current Phase

- Planning (12 centers; 14 %)
- Phase I (33 centers; 38 %)
- Phase II (37 centers; 42 %)
- Phase III (5 centers; 6 %)

FY2017 Data



IUCRC Program

Portfolio: Universities

75

Active Centers

231

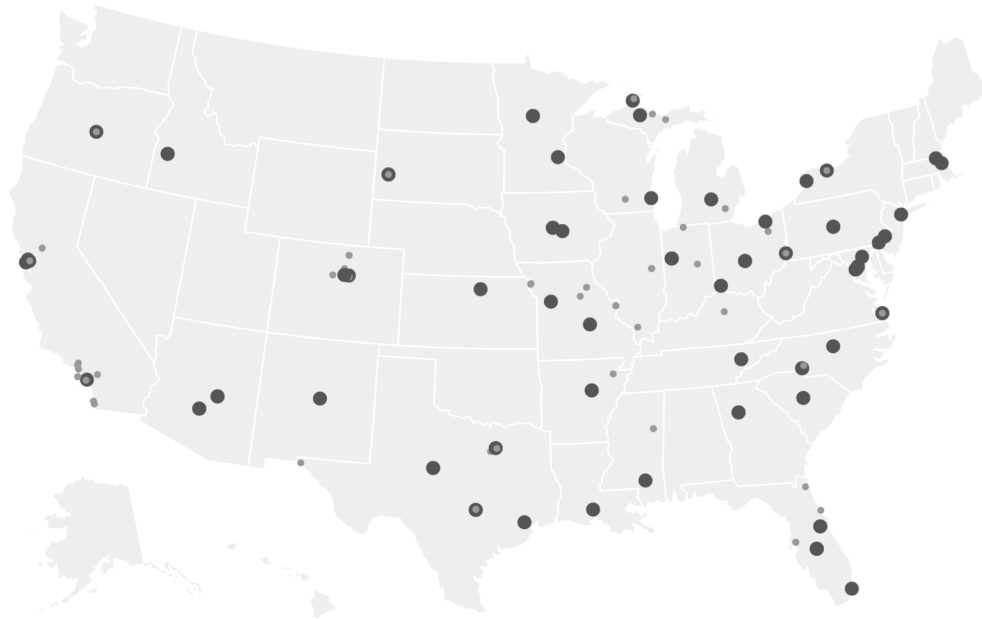
Research sites

6

International sites

804

Unique members



1:33

\$1 in member contributions leverage \$33 additional dollars in value

1,705

Center trained students hired by members (2006 – 2017)

FY2017 Data

*Data from 2015



IUCRC Program

Portfolio: Industry

804

Unique
U.S. Member Institutions
Involved

52%

Large
Businesses

27%

Small
Businesses

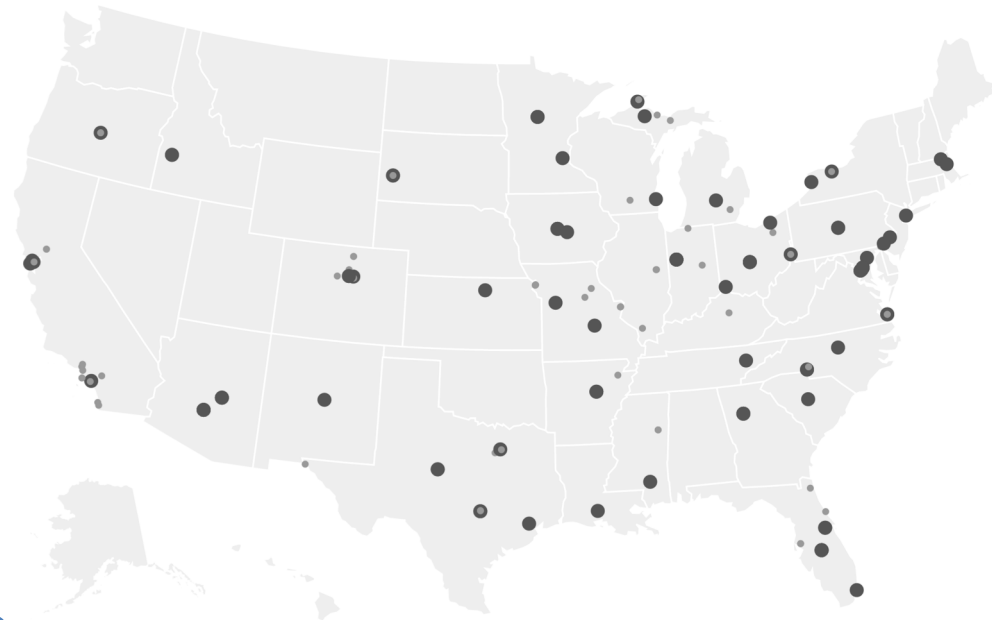
12%

Federal
Government
Agencies

9%

State
Governments
& Non-profits

Data from 2017



FY2017 Data



IUCRC Program

NSF Innovation Role

NSF IUCRC Environment

- NSF Proposal Merit Review and Center Oversight
- NSF Award Seed Funding Support
- Industry | University Center Franchise
(Operational Framework & Cooperative Agreement)
- Institutional Knowledge (45 years at NSF)
- Long-term Industry | University Relationships
- NSF Award Supplemental Funding



IUCRC Center

Focus

An IUCRC is a partnership enabling **sustained research cooperation** among industry, universities, and government.

Centers bring together:

(1) IUCRC Industry Members

consisting of companies, state/federal/local government, and non-profits,

(2) IUCRC Academic Institutions (Sites)

consisting of faculty and students from different academic institutions



IUCRC Center

Focus

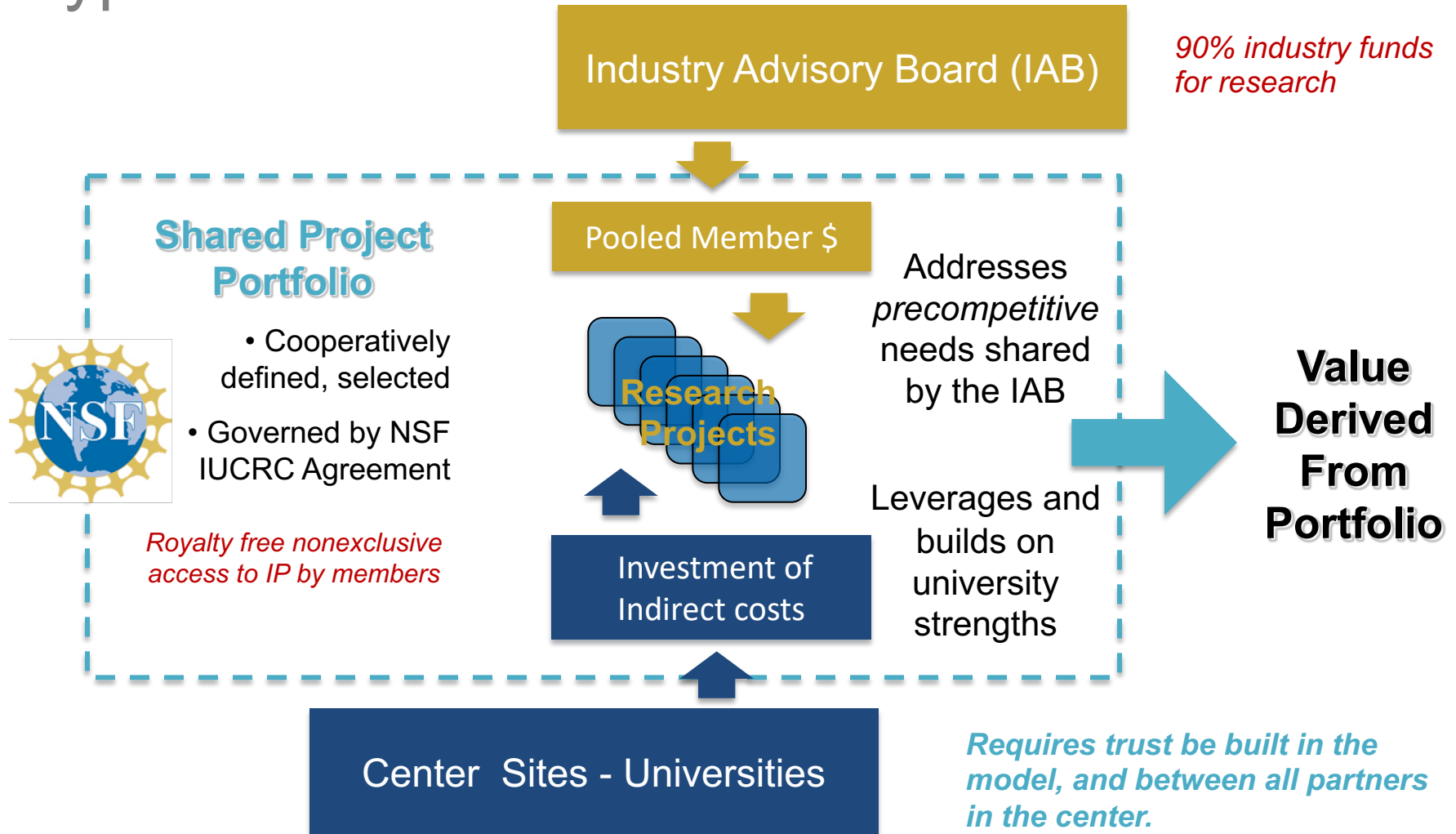
An IUCRC focuses on cutting-edge **pre-competitive fundamental research** in science, engineering, technology area(s) of interest to industry that can drive innovation and the U.S. economy.

Members guide the direction of Center research through active involvement and mentoring.

Current IUCRC Centers

Typical Centers

Use-inspired, pre-competitive research portfolio that is cooperatively defined and funded on the basis of shared value

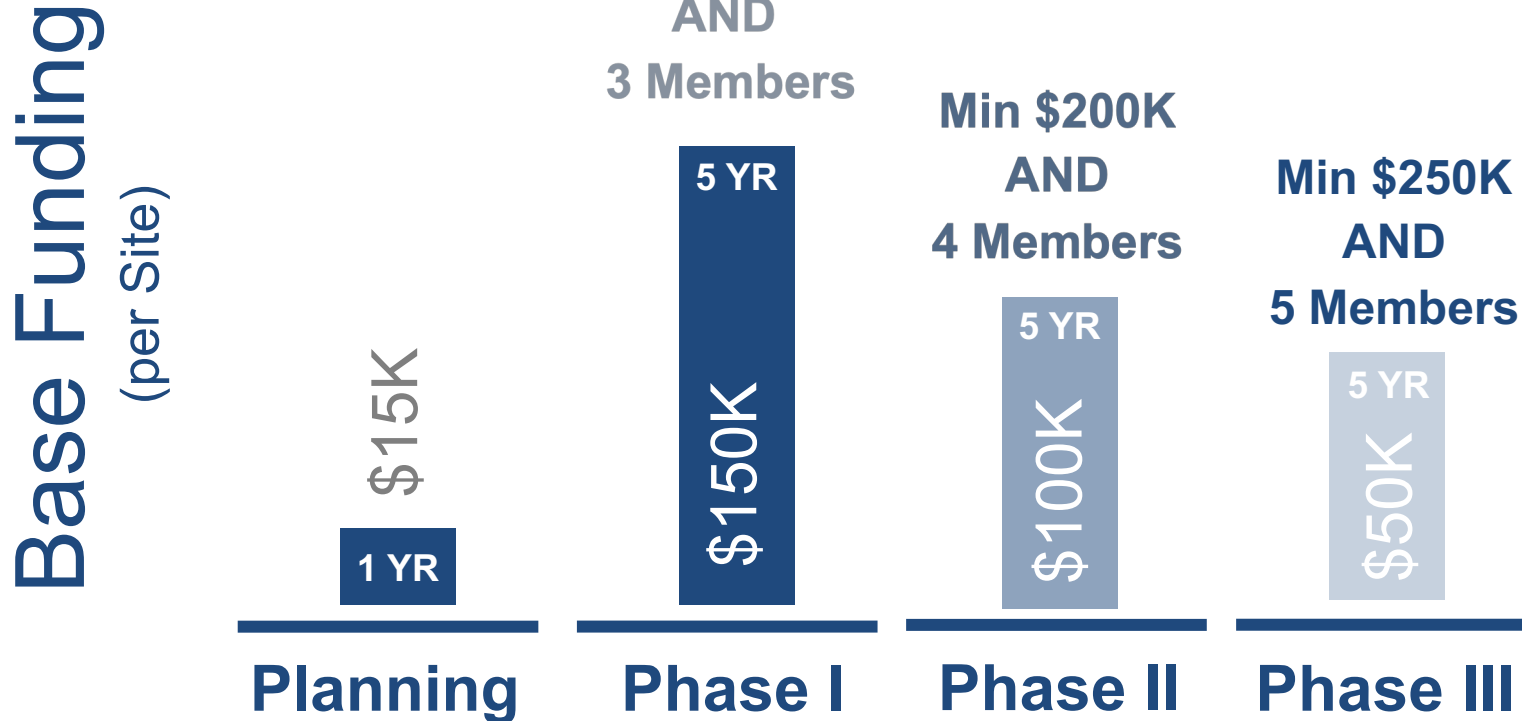


Current IUCRC Centers

Typical Centers

NSF Base Funding seeds the launch and operation of your Center

indirect costs @ 10% of members fee



IUCRC Center

Organization

IUCRC Membership Agreement

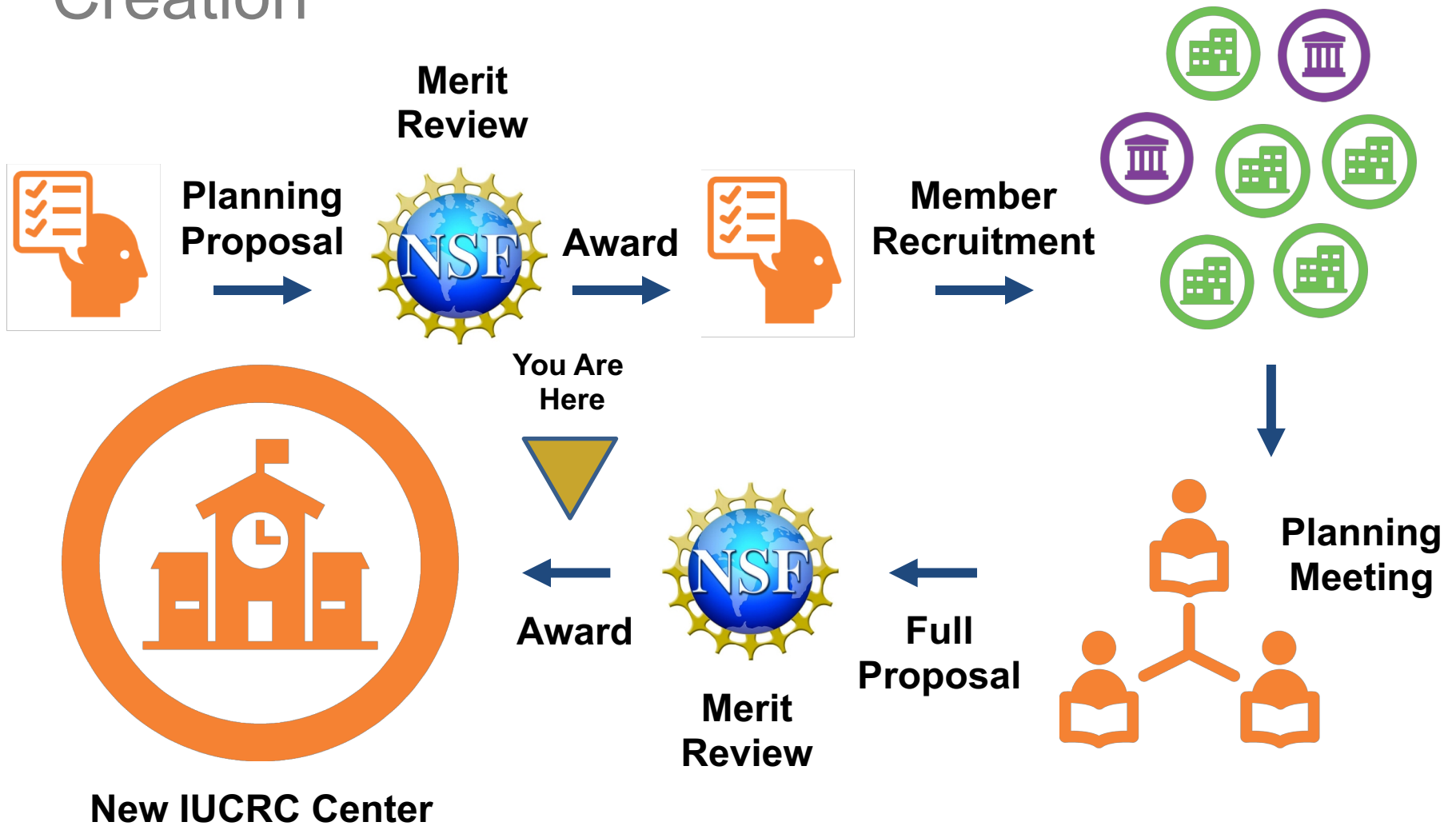
- **Parties to Agreement: Universities, IAB Members, and the IUCRC.**
- **Industrial Advisory Board:** one rep from each company per membership.
- **Annual Membership Fee Structure**
- Patent rights held by university with royalty free, non-exclusive rights to Center members.
- Compliance with chapter 18 of title 35 of the US Code (Bayh-Dole Act)
- Companies wishing to exercise rights to a royalty-free license pay for patent application.
- If only one company seeks license it may obtain an exclusive fee-bearing license.
- Publication delay policy.

All Members sign the agreement upon Center Award
ONE center, and ONE membership agreement form



IUCRC Center

Creation



IUCRC Center

Value

Shared Value

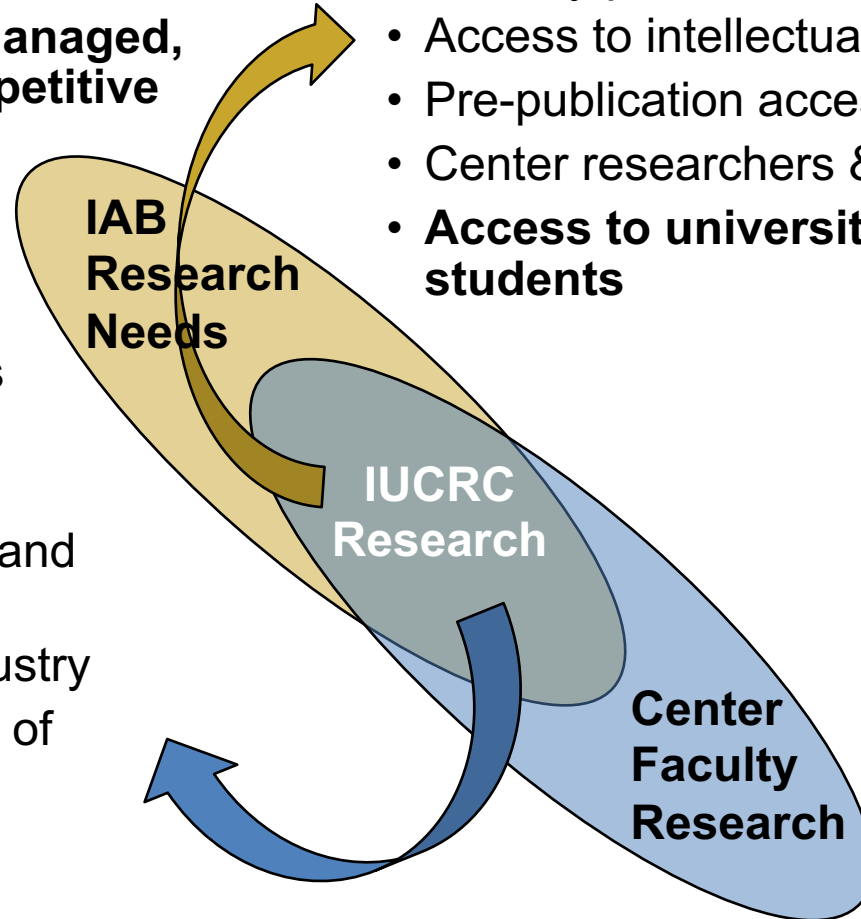
- **Cooperatively defined and managed, portfolio of industry-precompetitive research.**
- Research outcomes

University Value

- Understanding industry needs
- New research and education program dimensions
- Student training, recruitment, and placement
- Trusted relationships with industry
- Ready partners for translation of discoveries
- Means to achieve institutional mission.

Industry Value

- Cutting edge research projects
- **Investment leveraging**
- Sector networking, learning from industry peers and customers
- Access to intellectual property
- Pre-publication access to research
- Center researchers & facilities
- **Access to university faculty and students**



IUCRC Center

Additional NSF Support

(www.nsf.gov/eng/iip/iucrc/funding.jsp)

Value

Base NSF IUCRC
Funding

+

Funding
Supplements

Research Experience for Undergraduates (REU)

Research Experience for Teachers (RET)

Veterans Research Supplement (VRS)

Non-Academic Research Internships for Grad. Students (INTERN)

Funding
Programs

Grant Opportunity for Academic Liaison with Industry (GOALI)

Partnerships For Innovation (PFI - TT, RP)

Major Research Instrumentation (MRI)

Innovation
Ecosystem
Network

Federal Government Interagency Exchange of Funds (IAA)/
Military Interdepartmental Purchase Requests (MIPR)
(Federal Agency | DoD Engagement)

SBIR / STTR (Small Business Engagement)

Innovation Corps (Startup Engagement)



Thank you!

To learn more about IUCRCs

<http://www.iucrc.org/>

Questions?!

Dr. Andre Marshall, awmarsha@nsf.gov

Dr. Prakash Balan, pbalan@nsf.gov

Dr. Dmitri Perkins, dperkins@nsf.gov

