Overview of Industrial Innovation and Partnerships Division at NSF

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FY2013 Highlights

- FY 2013 IIP operation budget
  - Total: ~ $202 million
  - SBIR/STTR: ~$161 million

- Released new BIC solicitation
- Restructured AIR solicitation
- Released new I/UCRC agreement template
- Increased SBIR/STTR Phase II award size to $750 k
- Increased STTR Phase I award size to $225 k
Research to Commercialization

- NSF overall
- STC
- GOALI
- ERC
- PFI: BIC/AIR
- I/U CRC
- I-Corps
- STIR
- SBIR

- Investors
- Industry
- Foundations
- Small Businesses
- Valley of Death
- Universities
- Discovery
- Development
- Commercialization

Translational Research
Grant Opportunities for Academic Liaison with Industry (GOALI)

Synergize university-industry partnerships and fund transformative research that lies beyond that which industry would normally fund.

- Industrial scientists and engineers to universities
- Faculty, postdoctoral fellows, and students to industry
- University-industry teams to conduct joint research projects
Platform technologies for smart service systems

- NSF funding lineage required
- Proof of concept
- Innovation ecosystem
Accelerating Innovation Research (AIR)
NSF funding lineage required

AIR choice 1: TECHNOLOGY TRANSLATION (TT)
- Proofs-of-concept and/or pre-commercial prototypes
- Promote entrepreneurial thinking among faculty and students
  - Up to $200k for 18 months

AIR choice 2: RESEARCH ALLIANCE (RA)
- Develop innovation ecosystem
- Stimulate entrepreneurial & innovation activities
  - Up to $800k for 3 years
  - Third party investment required
Building Innovation Capacity (BIC)

- **Platform technologies** to enable customer-centered and market-driven "smart" service systems
  - Potential to achieve transformational change

- Academe-industry partnerships required
  - Industry contribution of customer feedback and market knowledge to ensure relevance

- **Social behavioral and/or cognitive science component required** to understand the potential interaction of the technology with customers/users

- Up to $800k for 3 years
Industry/University Cooperative Research Centers (I/UCRC)

Mission:

- To contribute to the nation’s research infrastructure base by developing long-term partnerships among industry, academe and government
- To leverage NSF funds with industry to support graduate students performing industrially relevant research
Industry University Cooperative Research Centers (I/UCRC)

Value

• New knowledge for precompetitive needs shared by industry members
• Access to students
• Builds university research strength

Requirements

Cooperatively defined research portfolio

Industry members

Pooled Member $’s

Research Projects

Requires trust be built

Universities

I/UCRC Framework

Seed funding

NSF
Total I/UCRC Funding by Source in Dollars

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

- UNIVERSITY
- OTHER (FED. NON-FED., & OTHER CASH)
- STATE
- OTHER INDUSTRY
- INDUST. MEM. FEES
- OTHER NSF
- IUCRC

Other (Fed, Non-Fed, Other Cash)
Membership Fees
Other NSF
I/UCRC Program

'80 '82 '84 '87 '89 '91 '93 '95 '97 '99 '01 '03 '05 '07 '09 '11 '13

8:1 Leveraging of Program funds Reported by Centers Nationally in FY13
I/UCRC Network

- 67 centers (over 190 universities participated)
- Over 900 faculty and 2100 students participate in I/UCRC projects
- Over 1000 memberships
- 4 formal international sites
NSF SBIR/STTR Program
- Help Mitigate Technical/Business Risks

Seeking high-risk, high-payback innovations

Company/Team Risk

Revenue/Financing Risk

Product/Technology Risk

Basic Research

SBIR/STTR

VC/Angel

Market Risk
Thrust 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
SBIR/STTR: Strong Ties to Universities

- **STTR**: Subcontract to universities is mandatory

- **SBIR**: Subcontract to universities is optional

- **STTR** program strongly encourages the commercialization of previously NSF-funded basic research (*funding lineage*)
I-Corps™ Approach

- Emphasizes experiential learning and feedback
- Challenges teams to create their own business model canvas
- Values revision and continual improvement of business development elements
- Expects teams to be inquisitive, motivated and capable of self management
- Full contact immersive class
Building the Nation’s I-Corps™ “Fabric”

I-Corps Nodes

I-Corps Sites

I-Corps Mentors

I-Corps Teams

5 Nodes

11 Sites

233 Teams
Questions?