# Major Facility Innovation and Technology Transfer (Socio-economic Impact)

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# Why is this important?

- To many stakeholders, the science does not automatically justify the investment
- “How does it effect me?” (directly & indirectly)
- U.S. innovation ecosystem impact from NSF-funded Research Infrastructure is under-reported

# On-going Activities

- Other U.S. agencies
- European Union
- Group of Senior Officials (GSO)

# National Synchrotron Light Source II DOE

"*But when the project was launched in August 2005, the specifications for NSLS-II were at or beyond the state-of-the-art, particularly with respect to magnet precision and alignment and advanced optics. This meant* ***substantial innovation was needed*** *in the R&D phase to deliver a resource that would support cutting edge research for the facility life-span, which is roughly 30 years."*

*"In many cases, the* ***vendors*** *had difficulty in meeting [the project's] demanding requirements."*

PM Network, September 2016, pg 41

# NASA


"Since 1976, Spinoff has annually profiled an average of 50 commercial technologies with origins in NASA missions and research."

# Europe
## Organization for Economic Co-operations and Development (OECD)

- GUIDELINES FOR COLLECTING AND INTERPRETING INNOVATION DATA (Oslo Manual; 2005)
- “The Impacts of Large Research Infrastructures on Economic Innovation and on Society: Case Studies at CERN” (2014)
- Surveys currently underway with research infrastructure managers and funders

# Group of Senior Officials (GSO)

**13. Innovation, Technology Transfer and Intellectual Property.** Global Research Infrastructures should develop an Innovation Promotion Plan (IPP) with clear goals and strategies for the promotion of innovation and technology transfer and the management of intellectual property. **The plan should also describe how the GRI will monitor and assess the socio-economic impact of innovation and technology transfer.** These plans should recognize the differing opportunities for innovation at each stage of the RI lifecycle as well as the barriers and drivers appropriate to the particular GRI context.

# NSF

- Focus on Programs & Centers:
  - "Mid-scale Innovations Program"
  - "Innovations at the Nexus of Water, Energy and Food Systems"
  - "Centers for Chemical Innovation"
  - "Partnerships for Innovation"
- OLPA: nsf.gov/impacts

# NSF


https://www.research.gov/research-portal/appmanager/

# Objective

In the current budget and political landscape, how do we (Recipients and NSF) do better at “telling the story” to external stakeholders?

- More routinely
- More clearly
- More easily
- More consistently

# Major Facilities Questionnaire

**Purpose:** Gather initial information from NSF-funded Major Facilities related to socio-economic impact ("Broader Impacts"):

- What to we know already?
- What data do Facilities already collect?
- How can we do it better w/o adding undo burden?

# Major Facilities Questionnaire

- Tailored questions from:
  - NSF's BRDIS (2009) – NCSES
  - The Community Innovation Survey 2012 (EU)
  - Current OECD Surveys

- Four Sections:
  - General Information
  - Economic Impact
  - Societal Impact
  - Data Collection and Dissemination

# How will the data be used?

- Generate aggregate statistics for NSF internal use
- Shared with Major Facilities community to help inform decision making on information gathering and reporting
- Shared in aggregate with international partners for cross-comparison

# Questions

- Are you interested in reviewing the questionnaire?
- Are you interested in taking this questionnaire?
- If so, who is the appropriate POC at your Facility?

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# Thank You