



# Lab-to-Market Progress Report

PCAST Public Meeting  
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# R&D commercialization as national imperative

“[The] research and development being done right here ... not only gives a great place for young researchers to come and ply their trade, but also ends up creating all kinds of spinoffs that create good jobs and good wages.

“I want the next great job-creating breakthroughs -- whether it's in energy or nanotechnology or bioengineering -- I want those breakthroughs to be right here in the United States of America, creating American jobs and maintaining our technological lead.”



**President Barack Obama  
Argonne National Laboratory  
March 15, 2013**



# R&D commercialization as national imperative

- The Federal Government spends more than \$130 billion on research and development (R&D) each year, conducted primarily at universities and Federal laboratories.
- This investment supports fundamental research that expands the frontiers of human knowledge, and yields extraordinary *long-term* economic impact through the creation of new knowledge and ultimately new industries – often in unexpected ways.
- The Federal R&D enterprise must continue to support fundamental research that is motivated primarily by our interest in expanding the frontiers of human knowledge, and diffusing this knowledge through open data and publications.
- At the same time, some research discoveries show *near-term* potential for commercial products and services, and the purpose of this initiative is to accelerate these promising technologies from the laboratory to the marketplace.



# Policy milestones

- **Presidential Memorandum**  
Accelerating Technology Transfer and Commercialization of Federal Research in Support of High-Growth Businesses (Oct. 2011)
- **PCAST Report**  
Transformation and Opportunity: The Future of the U.S. Research Enterprise (Nov. 2012)
- **President's Management Agenda**  
Creating a 21<sup>st</sup> Century Government:  
Opening Government Assets as a Platform for Innovation and Job Creation (Mar. 2014)



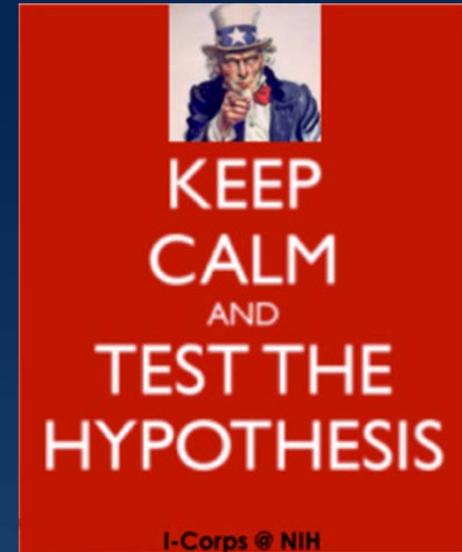
# Developing Human Capital

- Expand the number of individuals with private-sector experience serving in limited-term **technology transfer fellowships** within research agencies
- Establish clear ethical and policy guidelines that enable and encourage Federal researchers to work outside government for limited periods on **industrial/entrepreneurial detail**
- Provide widespread opportunities for **experiential entrepreneurship education** among both students and investigators who work on Federally funded R&D projects

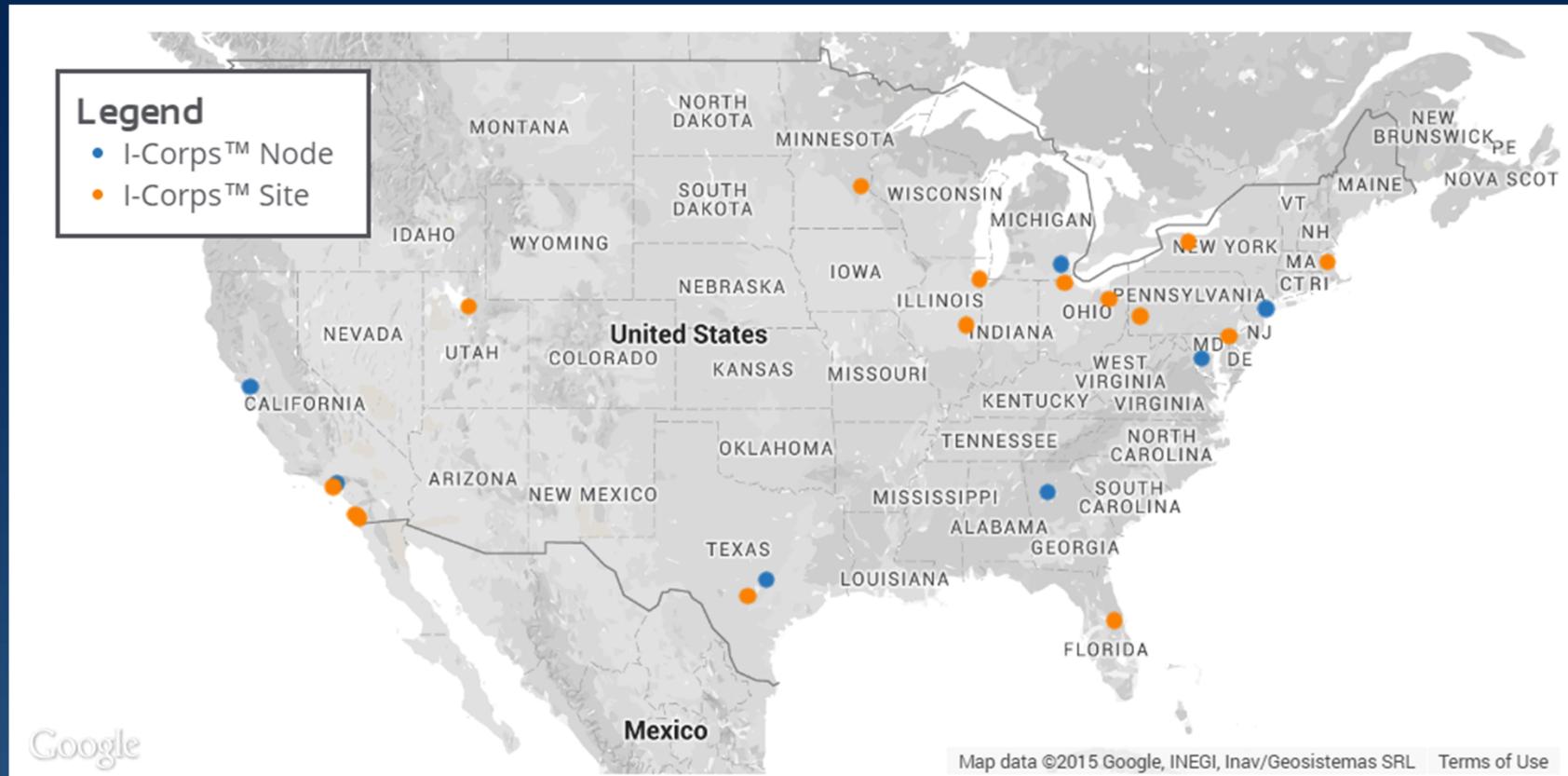


# Innovation Corps (I-Corps)

High-impact entrepreneurship training for teams of scientists at universities and national laboratories – bringing together the scientific method and lean startup methodology



# Innovation Corps (I-Corps)



# Empowering Effective Collaborations

- Increase the **priority level of R&D commercialization** activities and outcomes at Federal laboratories, consistent with agency mission and commercialization strategy
- Optimize **technology transfer authorities** and best practices across Federal laboratories to remove barriers to collaboration with external entities, as appropriate
- Fully utilize existing authority for research agencies to **co-fund projects** between agencies and leverage charitable gifts to advance R&D commercialization.



# Opening R&D Assets

- Make all **relevant data** about both (a) Federally funded IP and (b) Federal R&D facilities open and machine-readable
- Reduce the time, cost, and complexity of **executing IP licenses**
- Increase the **utilization of R&D facilities** by external innovators and entrepreneurs, where appropriate and consistent with agency mission



# Fueling Small Business Innovation

- Make data on all open SBIR/STTR **solicitations** available to third parties in real time
- Streamline the SBIR/STTR **application process**
- Reduce **undue burdens** on small businesses during the award performance period, wherever appropriate
- Publish and share **best practices for Phase III commercialization** from all agencies on a regular basis
- Align SBIR/STTR solicitation topics with **multi-agency science and technology priorities**



# Evaluating Impact

- Current metrics are tracking commercialization outputs such as:
  - number of IP licenses
  - number of Cooperative Research and Development Agreements
  - number of new startups created
  
- Potential for outcome metrics that capture longer-term economic impact, such as:
  - dollars of follow-on capital attracted
  - revenue generated
  - jobs created
  - new products developed



# Areas for Exploration

- Engagement with universities on opening IP data
- Best practices across technology transfer offices
- Federally supported startup accelerator programs



**ONC MARKET R&D  
PILOT CHALLENGE**

