Index to Charts: Guidance to NIST Funding

To get copies of these charts, pertinent reports and other reference information go to:
Central Desktop http://www.centraldesktop.com/
to login to the USC site, get username and password from nlwalker@usc.edu

NIST Extramural Research Funding Information on Central Desktop

"Guide to FY2015 NIST Research Funding Opportunities"

Agency (NIST) Program Charts (~20)

NIST Program Officer Data Sheets

Various resources - charts, plans, workshops, presentations

To get copies of these charts, pertinent reports and other reference information go to:
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NIST Organizational Structure
Executive Officer for Administration
Management and Organization
Administrative Support
Director
Under Secretary of Commerce for Standards and Technology
Patrick Gallagher
Chief of Staff
Program Coordination
Public and Business Affairs
Congressional and Legislative Affairs
International and Academic Affairs
Associate Director for Laboratory Programs/ Principal Deputy
Willie E. May
Staff Offices
Standards Coordination
Special Programs
Associate Director for Innovation & Industry Services
Phillip Singerman
Staff Offices
Advanced Manufacturing
Economic Analysis
Technology Innovation
Technology Partnerships
Associate Director for Management Resources
Mary Saunders
Staff Offices
Civil Rights and Diversity
Research Support Services
Material Measurement Laboratory
Laurie E. Locascio
Communications Technology Laboratory
Kent Rochford
Physical Measurement Laboratory
Joseph Dehmer
Engineering Laboratory
Howard Harary (acting)
Information Technology Laboratory
Charles Romine
Center for Nanoscale Science and Technology
Robert Celotta
NIST Center for Neutron Research
Robert Dimeo
Baldrige Performance Excellence Program
Robert Fangmeyer
Hollings Manufacturing Extension Partnership
Phillip Singerman (acting)
Office of Acquisition and Agreements Management
Cecelia Royster (acting)
Office of Safety, Health and Environment
Richard Kayser
Office of Financial Resource Management
George Jenkins
Office of Human Resources Management
Susanne Porch
Office of Information Systems Management
Delwin Brockett
Office of Facilities and Property Management
Steve Salber

NIST Funding Opportunities

http://www.nist.gov/director/ocfo/grants/grants.cfm

Measurement Science and Engineering (MSE) Research Grant Program

Support NIST laboratories with research in fields such as: material measurement; physical measurement; engineering; fire research; information technology; neutron research; nanoscale science and technology; standards services; and law enforcement standards.

Precision Measurement Grants

Support researchers in U.S. colleges and universities for experimental and theoretical studies of fundamental physical phenomena

Measurement Science for Advanced Manufacturing (MSAM) Research Grant Program

Address development of measurement science to support high-priority metrology and standards required to advance U.S. technical programs and ongoing national investments, technology transition, and commercial activities in additive manufacturing technology.

Nanoelectronics

Supports research and innovation in nanoelectronics through a partnership between NIST and the Semiconductor Research Corp. (SRC).

National Network for Manufacturing Innovation (NNMI)

$2.4B in the FY2015 Opportunity, Growth and Security Initiative: Securing our Nation's Future

(NNMI was unfunded by Congress in prior budget requests in FY2013 and FY2014)

The key objective of the NNMI is to accelerate innovation and transition technology to US manufacturing enterprises.

Advanced Technology Manufacturing Consortia (AMTech)

$21 in FY2014 **Budget Request (unfunded in FY2012 and FY2013)**

Grants would fund development of research road maps and projects in advanced manufacturing and enhance the research productivity of consortia members through improved coordination and efficiencies.

Centers of Excellence

Establish four (one already selected in 2013) competitively selected Centers of Excellence in measurement science areas defined by NIST that will leverage and expand NIST research capabilities.

National Strategy for Trusted Identities in Cyberspace (NSTIC)

Advance the NSTIC vision of an Identity Ecosystem that is secure and resilient; privacy-enhancing and voluntary; interoperable, and; cost effective and easy to use.

Manufacturing Extension Partnerships (MEP)

MEP is a catalyst for strengthening American manufacturing – accelerating its ongoing transformation into a more efficient and powerful engine of innovation driving economic growth and job creation.

Measurement Science and Engineering

Federal Funding Opportunity: 2014-NIST-MSE-01

What:
This grant program offers assistance for efforts consistent with the various laboratory/center responsibilities in measurement science, metrology and standards.

(1) Material Measurement Laboratory (MML) Grant Program;
(2) Physical Measurement Laboratory (PML) Grant Program;
(3) Engineering Laboratory (EL) Grant Program;
(4) Fire Research (FR) Grant Program;
(5) Information Technology Laboratory (ITL) Grant Program;
(6) NIST Center for Neutron Research (NCNR) Grant Program;
(7) Center for Nanoscale Science and Technology (CNST) Grant Program;
(8) Standards Services Group (SSG) Grant Program; and
(9) Office of Special Programs (OSP) Grant Program.

How Much: Depends on the program, but ranges from $5K to $1.5M for up to 5 years
Prior awards have totaled approximately $30M in FY12, and $22M in FY13

Who: Institutions of higher education and others

When:
For FY2014 proposals are accepted on a continuing basis. Solicitation proposals received after June 2, 2014 may be processed and considered for funding under this FFO in the current fiscal year or in the next fiscal year until a new FFO is posted on the Grants.gov Web site (www.grants.gov), subject to the availability of funds. For the FR program the primary deadline for applications is March 31, 2014.

Measurement Science for Advanced (Additive) Manufacturing (MSAM)

Federal Funding Opportunity: 2013-NIST-MSAM-01
No subsequent solicitation as of 21 Apr 2014

What: Proposals that address development of measurement science to support high-priority metrology and standards required to advance U.S. technical programs and ongoing national investments, technology transition, and commercial activities in additive manufacturing technology. Measurement science includes the following activities and their associated products and outputs:

1. Development of performance test methods and metrics, measurement methods, predictive models and simulation tools, knowledge models, protocols, technical data, reference materials, and/or test artifacts;
2. Conduct of inter-comparison studies and calibrations;
3. Evaluation of technologies, systems, and practices, including uncertainty analysis; and
4. Development of the technical basis for standards, codes, and practices.

The funding instrument used in this program will be a cooperative agreement. The nature of NIST's "substantial involvement" will generally be collaboration between NIST and the recipient organizations.

How Much: In FY13 a total of approximately $5M is available over a project performance period of up to 2 years.

Who: Institutions of higher education and others

When: for FY2013

LOI	12 Apr 2013
Proposal	7 May 2013

Precision Measurement Grant Program (PMGP)
2014-NIST-PMGP-01

What:
Since 1970, the National Institute of Standards and Technology (NIST) has awarded Precision Measurement Grants to faculty members of U.S. universities or colleges for significant research in the field of fundamental measurement or the determination of fundamental constants. NIST sponsors these grants to encourage basic, measurement related research in universities and colleges and other research laboratories and to foster contacts between NIST scientists and those faculty members of academic institutions and other researchers who are actively engaged in such work. The Precision Measurement Grants are also intended to make it possible for researchers to pursue new ideas in areas where other sources of support may be difficult to find.

How Much:
For FY2014, if funding is available, two new grants in the amount of $50,000 per year will be awarded for the initial period of October 1 through September 30 of the following year. Each award may be continued for up to two additional years; however, future or continued funding will be at the discretion of NIST based on satisfactory performance, continuing relevance to program objectives, and the availability of funds.

- Approximately $100,000 to fund the first year of new multiyear awards.
- NIST anticipates funding two (2) projects for up to three (3) years at $50,000 per year

Who: Accredited institutions of higher education

When:
For FY2014 - Abbreviated Proposals must be received no later than February 4, 2014. Abbreviated proposals received after this deadline will not be reviewed or considered. Review of abbreviated proposals and selection of finalists is expected to be completed by March 25, 2014. Full proposals must be received no later than May 6, 2014.

Centers of Excellence

http://www.nist.gov/coe/

What: NIST requested $20.0 million in FY2014 for funds to be used to provide grants to establish four competitively selected Centers of Excellence in measurement science areas defined by NIST that will leverage and expand NIST research capabilities. Each Center of Excellence will provide an interdisciplinary environment in which NIST, academia and industry will collaborate in pursuing early stage basic and applied research focused on innovations in measurement science and emerging technology areas. Potential focus areas include (NIST is engaged in a process to identify the preferred areas):

- Advanced Communications
- Advanced Manufacturing
- Biomanufacturing
- Cyberphysical Systems
- Forensic Science
- Human-Robotic Integration
- Materials Modeling and Design
- Quantitative Biology
- Telecommunications

NIST would look to evolve the Center program as technologies evolve and these specific areas and Centers will be evaluated periodically and, potentially, new areas will be selected, at which time the grants will again be competitively awarded.

The Centers of Excellence will spark the development of regional expertise in measurement science, while educating scientists and engineers in the importance and specifics of measurement science.

How Much: In 2013 the first competition, on Materials Research to Advance Manufacturing and Innovation, led to the selection of a consortium led by Northwestern University, the Center for Hierarchical Design. The NIST investment in this center is ~$5M/year for up to 10 years.

When: Additional Centers are expected to be competed in 2014 with roughly similar size and scope. The topics are under discussion at NIST

NIST

National Cybersecurity Center of Excellence (NCCoE)

http://csrc.nist.gov/nccoe/

The NCCoE is part of the NIST Information Technology Laboratory and operates in close collaboration with the Computer Security Division. It was established in 2012 through a partnership among NIST, the State of Maryland and Montgomery County, the National Cybersecurity Center of Excellence (NCCoE) and is dedicated to furthering innovation through the rapid identification, integration and adoption of practical, standards-based cybersecurity solutions.

Projects

- Secure Exchange of Electronic Health Information
  - Mobile Devices Use Case
- Securing Assets for the Financial Services Sector
  - Access Rights Management Use Case
  - IT Asset Management Use Case
- Securing Networked Infrastructure for the Energy Sector
  - Identity and Access Managment Use Case
  - Situational Awareness Use Case

Building Blocks

- Software Asset Management
- Trusted Geolocation in the Cloud
- Mobile Device Security

Collaborators welcome with:

- Information Technology Users

  If you have an intractable cybersecurity problem, or ideas or components for an example solution, we'd like to hear from you.

- Reference Design Users

  Deploy one of our example solutions, then provide feedback to help us validate and improve it. Check our website for news about the formation of user communities.

- Integrators

  You can help companies implement our reference designs in real-world environments and provide feedback to help make them more easily deployable.

- National Cybersecurity Excellence Partners

  Our core partners provide hardware, software, knowledge or personnel, designating guest researchers to work with us in person or remotely.

NIST/NCCOE

FFRDC in support of National Cybersecurity Center of Excellence

What: The Federally Funded Research and Development Center (FFRDC) will provide scientific and engineering support needed to carry out the research and engineering agenda set by NIST. This will include engaging in, assisting, and contributing to the support of scientific activities and projects for developing practical cybersecurity solutions composed from commercial components; and performing and engaging in research, engineering, and technology transfer/ integration services for trustworthy information systems to the U.S. Government. The FFRDC will address an urgent national requirement that scientific and engineering talent be rapidly assembled and put to work to enhance the trustworthiness of our nation's government and private sector information systems. The confidentiality, integrity, and assured service shortcomings of these information systems pose a serious risk to national security, public safety and economic prosperity. Widespread adoption of components and systems designed to address threats to our information technologies is inhibited by shortcomings in usability, affordability, and performance impacts. The FFRDC will enhance the National Cybersecurity Center of Excellence's (NCCoE) ability to address these shortcomings.

When: Interested parties have until May 22, 2014 to submit sealed offers.

Where: Solicitation number SB1341-14-RP-0005, visit https://www.fbo.gov/spg/DOC/NIST/AcAsD/SB1341-14-RP-0005/listing.html.

National Strategy for Trusted Identities in Cyberspace Grants Program

http://www.nist.gov/nstic/
http://www.nstic.us/

What: Applicants are to pilot online identity solutions that embrace and advance the NSTIC vision: that individuals and organizations utilize secure, efficient, easy-to-use, and interoperable identity credentials to access online services in a manner that promotes confidence, privacy, choice, and innovation. Specifically, the Federal government seeks to initiate and support pilots that address the needs of individuals, private sector organizations, and all levels of government in accordance with the NSTIC Guiding Principles that identity solutions will be:

(1) privacy-enhancing and voluntary,
(2) secure and resilient,
(3) interoperable, and
(4) cost-effective and easy-to-use.

NIST will fund projects that are intended to test or demonstrate new solutions, models, and frameworks that either do not exist or are not widely adopted in the marketplace today.

How Much: NIST anticipates that awards will be in the range of approximately $1,250,000 to $2,000,000 per year per project for up to two (2) years.

FY 2014 appropriations for NSTIC had not been determined at the time of the solicitation publication, but the maximum possible for new awards is not expected to exceed $6 million.

When: Abbreviated proposals must be received by NIST no later than March 6, 2014, via the Grants.gov website. Full proposals from applicants whose abbreviated proposals are selected as finalists must be received no later than May 13, 2014, via the Grants.gov website.

Where: 2014-NIST-NSTIC-01

Nanoelectronics Research Initiative (NRI)

Semiconductor Research Corporation / NIST / University Partnership
http://www.src.org/program/nri/nri-projects/

May 15, 2013 The Semiconductor Research Corporation (SRC) and the National Institute of Standards and Technology (NIST) today announced the second phase of the Nanoelectronics Research Initiative (NRI). For this phase, the SRC and NIST will provide a combined $5 million in annual funding for three multi-university research centers tasked with demonstrating, over the course of the next 10 years and beyond, a number of nonconventional, low-energy technologies that outperform current devices on critical applications. The three research centers are:

- the Institute for Nanoelectronics Discovery and Exploration (INDEX) at SUNY's College of Nanoscale Science and Engineering (CNSE);
- the Center for Nanoferroic Devices (CNFD) at the University of Nebraska-Lincoln; and
- the South West Academy of Nanoelectronics (SWAN) at the University of Texas at Austin.

The second phase of the NRI also features joint projects with the National Science Foundation (NSF) and the multi-university research network, which involves 34 universities in 17 states.

Advanced Manufacturing Technology Consortia

(AMTech)

http://www.nist.gov/ampo/

Support R&D in advanced manufacturing and strengthen long term US leadership in critical technologies leading to sustainable economic growth and job creation

- Convene key players on eliminating critical barriers to innovation, increasing efficiency of domestic innovation efforts and collapsing time scale to deliver new products and services based on scientific and technological advances.

- Promote the development of technology roadmaps and the formation of new, industry-led consortia to address critical, long-term industrial research needs.

- Consortia will develop road-maps of critical long-term industrial research needs as well as fund facilities, equipment and research at leading universities and government laboratories.

- AMTech is based on NIST's experience with Nanoelectronics Research Initiative (NRI) partnership with the Nation's semiconductor industry.

http://www.nist.gov/public_affairs/releases/npo-121911.cfm

Advanced Manufacturing National Program Office (NPO)

Mr. Michael Molnar, Director

- Advanced Manufacturing National Program Office
  - Announced by Secretary Bryson, December 19, 2011
  - True interagency staff, with IPA/fellows from industry and academia
  - Hosted by Department of Commerce/NIST

- The AM-NPO will:
  - Lead other federal agencies involved in U.S. manufacturing and support interagency coordination of advanced manufacturing programs
  - Provide a linkage to the private-sector partnerships between manufacturers, government, and universities.
  - Satisfy the PCAST report recommendation to create an integrated private/public advanced manufacturing initiative.
  - Work to implement recommendations from AMP

Credit: Carnegie Mellon Univ.

National Network for Manufacturing Innovation (NNMI)

http://www.manufacturing.gov/nnmi.html

See report - “National Network for Manufacturing Innovation: A Preliminary Design, NSTC, Advanced Manufacturing National Program Office, Jan 2013

What: The Federal investment in the National Network for Manufacturing Innovation (NNMI) serves to create an effective manufacturing research infrastructure for U.S. industry and academia to solve industry-relevant problems. The NNMI will consist of linked Institutes for Manufacturing Innovation (IMIs) with common goals, but unique concentrations. In an IMI, industry, academia, and government partners leverage existing resources, collaborate, and co-invest to nurture manufacturing innovation and accelerate commercialization.

As sustainable manufacturing innovation hubs, IMIs will create, showcase, and deploy new capabilities, new products, and new processes that can impact commercial production. They will build workforce skills at all levels and enhance manufacturing capabilities in companies large and small. Institutes will draw together the best talents and capabilities from all the partners to build the proving grounds where innovations flourish and to help advance American domestic manufacturing.

Current Institutes:

National Additive Manufacturing Innovation Institute (2013)
National Center for Defense Manufacturing and Machining, lead institution
The NAMII will provide the innovation infrastructure needed to support new additive manufacturing technology and products in order to become a global center of excellence for additive manufacturing. Funded by NIST, NSF, DOD, and the DOE.

Next Generation Power Electronics Manufacturing Innovation Institute (2014)
North Carolina State University, lead institution
It is focused on enabling energy-efficient, high-power electronic chips and devices by making wide bandgap semiconductor technologies cost-competitive with current silicon-based power electronics. DOE funded

Digital Manufacturing and Design Innovation Institute (2014)
UI Labs, Chicago, Il (part of Univ Illinois), lead Institution
This partnership will work to enable interoperability across the supply chain, develop enhanced digital capabilities to design and test new products, and reduce costs in manufacturing processes across multiple industries. DOD funded

Lightweight and Modern Metals Innovation Institute (2014)
EWI, Columbus Ohio, lead Institution
will develop processes that accelerate scale-up of production of lightweight alloys for use in wind turbines, air frames, medical devices, combat vehicles, and other products, leading to significant reductions in manufacturing and energy costs. DOD funded

Future Institutes: Another 4-5 expected opportunities expected in the coming year, with one by the USDA focused on biomanufacturing and one by DOE on advanced composites.

Institute for Manufacturing Innovation (IMI)

Key Attributes

1) Technology

- Well-defined technology focus with broad applications
- Focus on applied research, commercialization and manufacturability *(TRL/MRL 4-7 range)*
- For Pilot IMI, consistent with funding agency missions (agreed list of priority technologies)
- Addresses industrially-relevant challenges with clearly defined outputs

2) Budget

- Planned 5 year budget (including co-investment) of roughly $100 million
- Planned industry (multi-company) and 3rd party (state, foundation, etc.) co-investment of at least 50% of 5 year budget. State or regional organization is a key participant.
- Multi-agency start-up investment for Pilot
- Co-investment match of federal start-up investment
- Demonstrates a plan to be self-sustaining in roughly five years

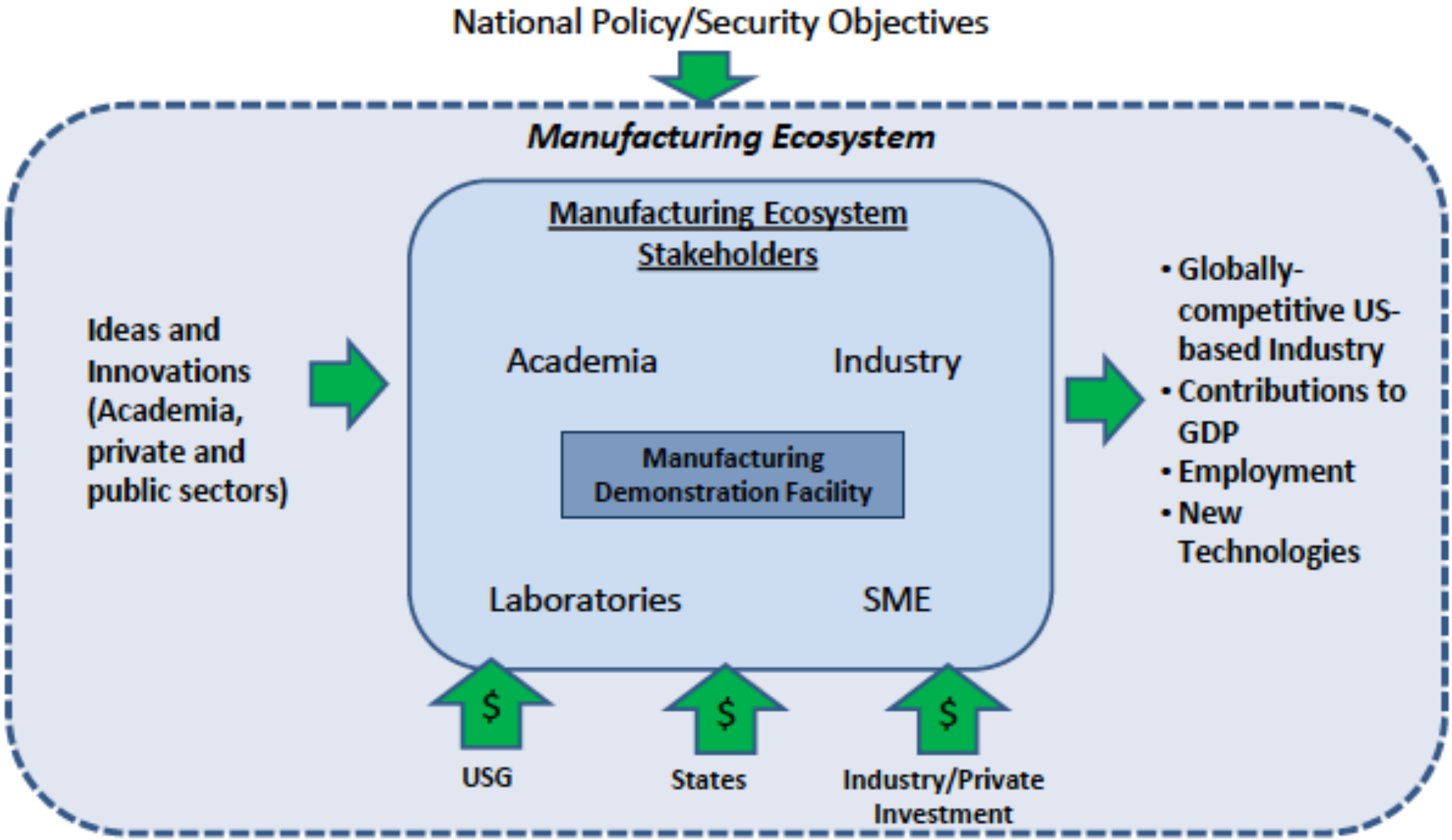
3) Governance

- Grantee is self-assembled team of organizations
- Separate identity, linked to a research institution (university, national lab, or non-profit)
- Governing board representing all key stakeholders and plurality of industry representatives

4) Activities must extend beyond RD&D:

- Effective for Small and Medium size Enterprises (SMEs) through shared use of facilities and tools
- Enhances manufacturing education and workforce training opportunities for the local area

Proposal for Pilot Manufacturing Innovation Institute



Manufacturing Extension Program (MEP)

http://www.nist.gov/mep/

The MEP is to act as a strategic advisor to promote business growth and connect manufacturers to public and private resources essential for increased competitiveness and profitability.

The National Institute of Standards and Technology's Hollings Manufacturing Extension Partnership (MEP) works with small and mid-sized U.S. manufacturers to help them create and retain jobs, increase profits, and save time and money. The nationwide network provides a variety of services, from innovation strategies to process improvements to green manufacturing. MEP also works with partners at the state and federal levels on programs that put manufacturers in position to develop new customers, expand into new markets and create new products.

MEP field staff has over 1,400 technical experts – located in every state – serving as trusted business advisors, focused on solving manufacturers' challenges and identifying opportunities for growth. As a program of the U.S. Department of Commerce, MEP offers its clients a wealth of unique and effective resources centered on five critical areas: technology acceleration, supplier development, sustainability, workforce and continuous improvement.

MEP's mission is to support, strengthen, and grow U.S. manufacturing. To do this, MEP provides customized and direct assistance to manufacturers through the nationwide network of MEP centers, with over 350 locations across the country, and more than 1400 field staff working every day with companies in their plants and offices.

MEP center specialists provide an array of services to companies, from initial assessments prioritizing opportunities for improvement, to implementation projects guiding companies through process improvements, productivity increases and growth. Centers provide companies with access to training resources as well as specific project assistance. Some engagements are short-term classes or basic projects. Other companies engage in multiple projects with their local field specialist as one project often leads to several others.

Wireless Innovation Fund

http://www.nist.gov/public_affairs/factsheet/wireless_innov2013.cfm

No further mention of this program as of 21 April 2014

NIST will create a Wireless Innovation (WIN) Fund to help develop cutting-edge wireless technologies for public safety users. The WIN Fund will provide $300M to help industry and public safety organizations conduct research and develop new standards, technologies and applications to advance public safety communications in support of the initiative's efforts to build an interoperable nationwide broadband network for first responders. WIN will be funded from spectrum auction proceeds deposited in the Public Safety Trust Fund.

Core components of this program will include:

- documenting public safety requirements and driving the adoption of those requirements into the appropriate standards
- developing the capability for communications between currently deployed public safety narrow band systems and the future nationwide broadband network
- establishing a roadmap that addresses public safety's needs beyond what can be provided by the current generation of broadband technology and driving technological progress in that direction

The WIN Fund will initially provide $100 million from spectrum auction proceeds to help industry and public safety organizations conduct research and develop new standards, technologies and applications to advance public safety communications in support of the initiative's efforts to build an interoperable nationwide broadband network for first responders. Obligations for this program will not occur until well after FY 2014.

Where appropriate, NIST will collaborate with other government research agencies and transfer funding if particular agencies are better suited to sponsor and oversee relevant research development or demonstration projects.