

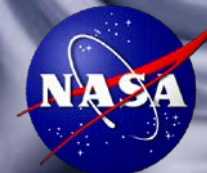


ADVANCED MANUFACTURING NATIONAL PROGRAM OFFICE
NATIONAL NETWORK FOR MANUFACTURING INNOVATION

Building a new partnership
**The National Network for
Manufacturing Innovation**

Visiting Committee on Advanced Technology
June 7, 2016

Mike Molnar
Advanced Manufacturing
National Program Office



NNMI Authorized by the Revitalize American Manufacturing & Innovation (RAMI) Act



Rep. Tom Reed
R NY-23



Rep. Joe Kennedy
D MA-4



Sen. Sherrod Brown
D Ohio



Sen. Roy Blunt
R Missouri



September 15, 2014 –
Passed House
100 Cosponsors (51D, 49R)



December 11, 2014 –
Passed Senate with 2015 Appropriations
18 Cosponsors (10D, 7R, 1I)



December 16, 2014 –
Signed By President Obama

118 Bipartisan RAMI Bill Sponsors

NIST NNMI Responsibilities by RAMI

The Revitalize American Manufacturing Innovation Act (RAMI) calls upon the U.S. Secretary of Commerce to establish:

- 1. The “Network for Manufacturing Innovation Program”** — to convene and support a network of Institutes
(Network function)
- 2. The National Program Office at NIST** — to oversee and carry out the Program *(coordination, network support, and reporting function)*
- 3. New “Centers for Manufacturing Innovation”** — using an open topic, open competition process *(establish new Institutes)*

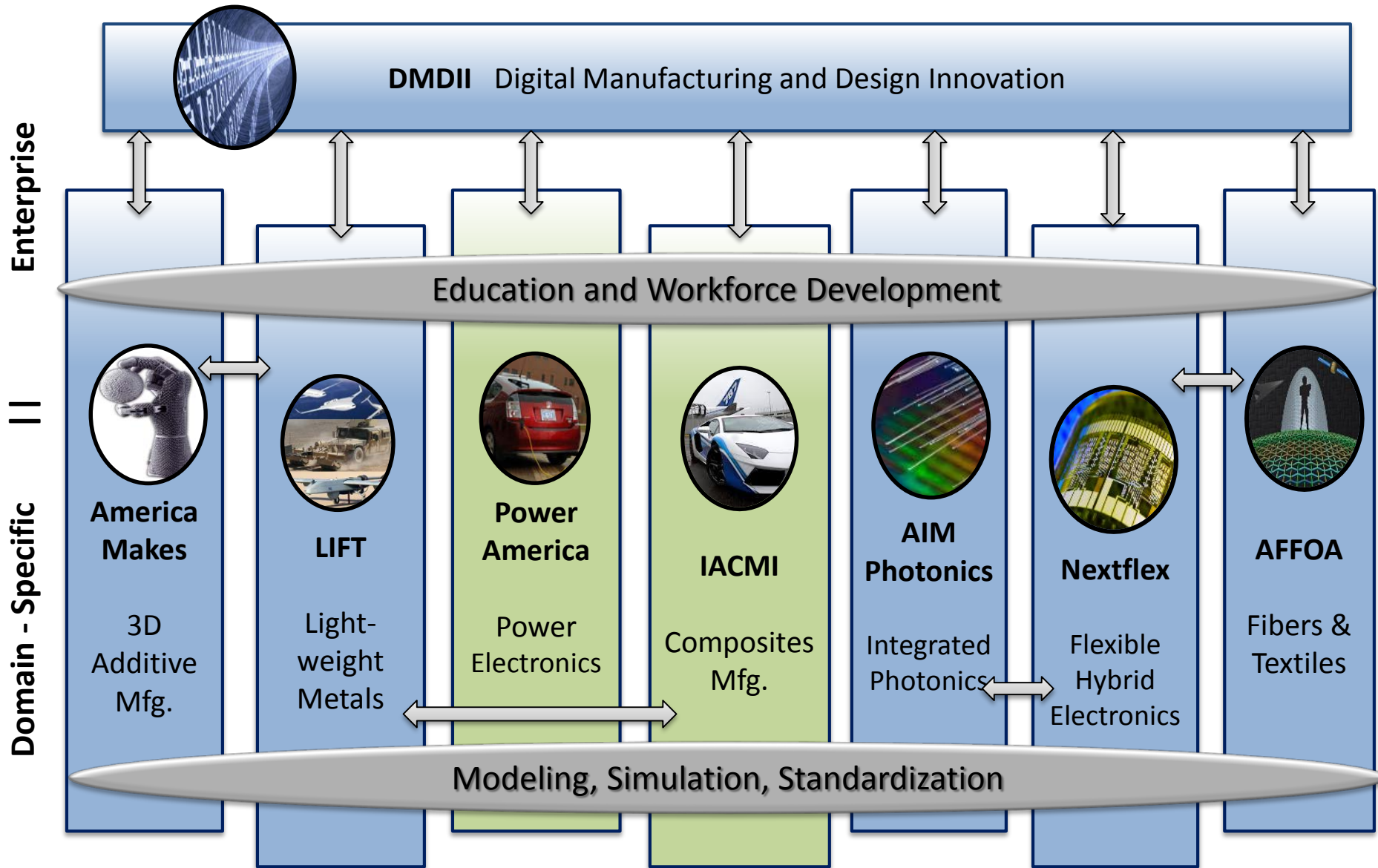
NNMI Program Vision and Mission

The vision of the National Network for Manufacturing Innovation (NNMI) Program is a future in which American technological leadership continues to sustain revolutionary advances in manufacturing that enhance America's global competitiveness — resulting in increased economic growth and security, high-paying and highly skilled jobs.

The NNMI Program is composed of the collective of Institutes and a connective Network, each with a complementary mission.

- ***The NNMI Program mission*** is to advance American domestic manufacturing innovation by creating an effective manufacturing research and development infrastructure for U.S. industry and academia to solve industry-relevant problems.
- ***The NNMI Institutes mission*** is to build U.S. leadership in and create regional impact around specific emerging technology areas by combining the efforts of the U.S. government, industry, and academia to solve the technological, workforce, and deployment challenges to advance these technologies into commercial production.
- ***The NNMI Network mission*** is to maximize the integrated impact of the manufacturing innovation institutes on U.S. manufacturing competitiveness.

Current NNMI Institutes — Portfolio



NNMI Network Goals and Key Functions

Network Goals

- Deliver long-term value to the U.S. manufacturing economy by amplifying the positive impacts of individual institutes
- Support the diverse business and operational models of Institutes
- Respond to lessons learned, evolving needs, and external change

Network Top Level Functions

- Establish the Network
- Facilitate value-added, intra-Network collaboration
- Foster robust communication between the Network and external stakeholders
- Sustain, strengthen and grow the Network

NIST is extensively engaged with every institute...

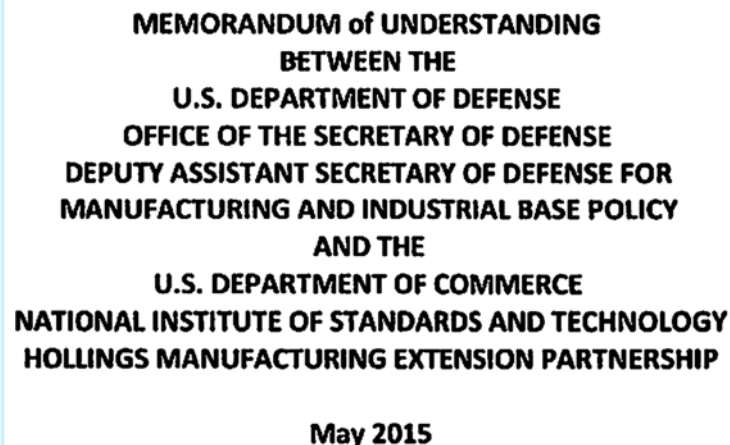
NIST Laboratory Programs

- NIST has lab programs and activities related to every NNMI institute.
- Summary document of engagement



MEP Engagement

- MOU in place with DOD and DOE
 - *Increase small manufacturer awareness of Institute focus areas, resources*
 - *Facilitate small manufacturer informing Institute research*
 - *Facilitate small manufacturer participation in Institute research*
 - *Help deploy results of Institute research to small manufacturers*



NIST MEP FFO: Embedding MEP in NNMI Institutes

Facilitates expanded collaborations involving NNMI Institutes and MEP Centers, embedding MEP Center representatives at participating Institute(s)

Purpose

To enhance the scale of Institute impacts on small U.S. manufacturers by **conducting new pilot projects** that **broaden and deepen engagements** involving NNMI Institutes and MEP Centers

Objectives

- Create approaches to engaging small U.S. manufacturers in the work of NNMI Institutes through hands-on assistance mechanisms and services such as those that are currently, or could be, offered by MEP Centers
- Develop and test business models for serving needs of small U.S. manufacturers in technology areas of NNMI Institutes by leveraging the resources, assets, and assistance capacities of MEP Centers
- Facilitate knowledge and best practice sharing between NNMI Institutes and MEP Centers – as set within the framework of the NIST-DOD MOU
- Cultivate an enhanced nationwide network of partnerships among NNMI Institutes and MEP Centers for the benefit of small U.S. manufacturers.

NIST NNMI Responsibilities by RAMI – 2/3

The Revitalize American Manufacturing Innovation Act (RAMI) calls upon the U.S. Secretary of Commerce to establish:

1. **The “Network for Manufacturing Innovation Program”** — to convene and support a network of Institutes
(Network function)
2. **The National Program Office at NIST** — to oversee and carry out the Program *(coordination, network support, and reporting function)*
3. **New “Centers for Manufacturing Innovation”** — using an open topic, open competition process *(establish new Institutes)*

NNMI Network 2016 Thrusts

2016 Network Thrusts

- Network Branding and Communications
- Shared Services
 - Information and Best Practice Sharing
 - Technology Coordination among Institutes
- Online, secure services system design and launch
 - Committed to a basic online system by April, a complete and robust system by Q4.
 - Voice of Customer interviews with Institutes
 - We are implementing services in order of highest priority as determined by institutes

We launched a trial Shared Services Site

The screenshot shows a SharePoint Shared Services Site interface. At the top, there is a navigation bar with "Office 365" and "Sites" on the left, and notification, settings, and help icons on the right. Below this is a secondary navigation bar with "BROWSE" and "PAGE" on the left, and "SHARE", "FOLLOW", "EDIT", and a refresh icon on the right. The main header area features the "Network" logo (a gear and stripes) and a search box labeled "Search this site". Below the header, there are three tabs: "NNMI", "Network" (selected), and "AIM Photonics".

The main content area is divided into several sections:

- Left Navigation Pane:** A vertical list of links including Home, Announcements, Library, Tasks, Notebook, Network Calendar, Recent (highlighted), Picture Library, and EDIT LINKS.
- Top Row of Tiles:** Four large icons representing "Calendar" (a calendar with the number 15), "Library" (a blue folder), "Collaborations" (an orange briefcase), and "Contacts" (a person silhouette).
- Announcements Section:** A header "Announcements" with a checkmark icon and columns for "Title" and "Modified". Below the header, it states "There are no items to show in this view of the 'Announcements' list."
- Recent Uploads Section:** A header "Recent Uploads" followed by a table with columns: Type, Name, Description, Published, and Source.
- Welcome Section:** A header "Welcome" with a sub-header "Welcome to the NNMI network Collaboration site."
- Upcoming Events Section:** A header "Upcoming Events" followed by a table with columns: Date and Title.

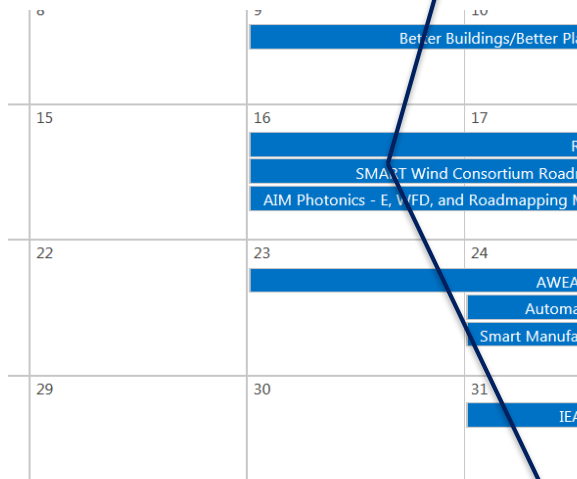
Type	Name	Description	Published	Source
	Summary of Institute Membership	This file contains a summary of the tie	5/20/2016	AMNPO

Date	Title
03/13/2016	GOMACTech Conference

And implemented a shared calendar

- Events are entered by the agencies and by institute staff
- Information is relevant to institute directors
- Calendar events can be directly imported into personal calendars on all common platforms (Outlook, Google Calendar, etc.)

EDIT LINKS



Title: RAPID Conference
Location: Orlando, FL
Start Time: 5/16/2016 12:00 AM
End Time: 5/19/2016 11:59 PM
Description: <http://www.rapid3devent.com/>
RAPID is the Authority on 3D: Printing, Scanning, and Additive Manufacturing

Orange County Convention Center | West Building
9800 International Drive
Orlando, FL 32819

The Role of a Public-Private Partnership in Advancing Additive Manufacturing

- Ed Morris, America Makes

As the first Manufacturing Innovation Institute established by the federal government, America Makes – the National Additive Manufacturing Innovation Institute has been pushing the envelope on the public-private partnership business model. Ed Morris, Director of America Makes, will discuss the public-private partnership benefits and challenges impacting what America Makes is doing to accelerate the use of additive manufacturing in the United States. Combining public funds with industry and academia cost share investments is proving to be an effective way to partner in multiple areas of common interest and importance.

Panel Discussion: Transition to Production

- Kevin Creehan, America Makes

And are Setting up a Shared Practices Library

- With document areas that are well organized, easy to navigate, and searchable.
- Documents have full titles and clear brief descriptions.

<input type="checkbox"/>	Type	Name	Description	Published	Source
		DMDII Membership Agreement (v3.2)	This file is the membership agreement (version 3.2) for joining DMDII. It is applicable to industry and academic organizations joining DMDII at any tier level.	12/8/2015	DMDII http://dmdii.uilabs.org/membership/become-a-member
		IACMI Membership Application	This is a membership application form for joining IACMI. It is applicable to all types of organizations.	1/1/2016	IACMI http://iacmi.org/membership/apply-for-iacmi-membership/
		PowerAmerica Membership Agreement			
		America Makes Sub-Recipient Agreement	This is an agreement used by America Makes to engage with a sub-recipient on projects.	5/24/2016	America Makes https://www.americamakes.us/membership/become-a-member

 Add document

First NNMI Reports Released



NATIONAL NETWORK FOR
MANUFACTURING INNOVATION
PROGRAM
ANNUAL REPORT

Executive Office of the President
National Science and Technology Council
Advanced Manufacturing National Program Office

February 2016



**First Annual Report
on the NNMI Program**



NATIONAL NETWORK FOR
MANUFACTURING INNOVATION
PROGRAM
STRATEGIC PLAN

Executive Office of the President
National Science and Technology Council
Advanced Manufacturing National Program Office

February 2016



**First Strategic Plan
on the NNMI Program**

NIST NNMI Responsibilities by RAMI – 3/3

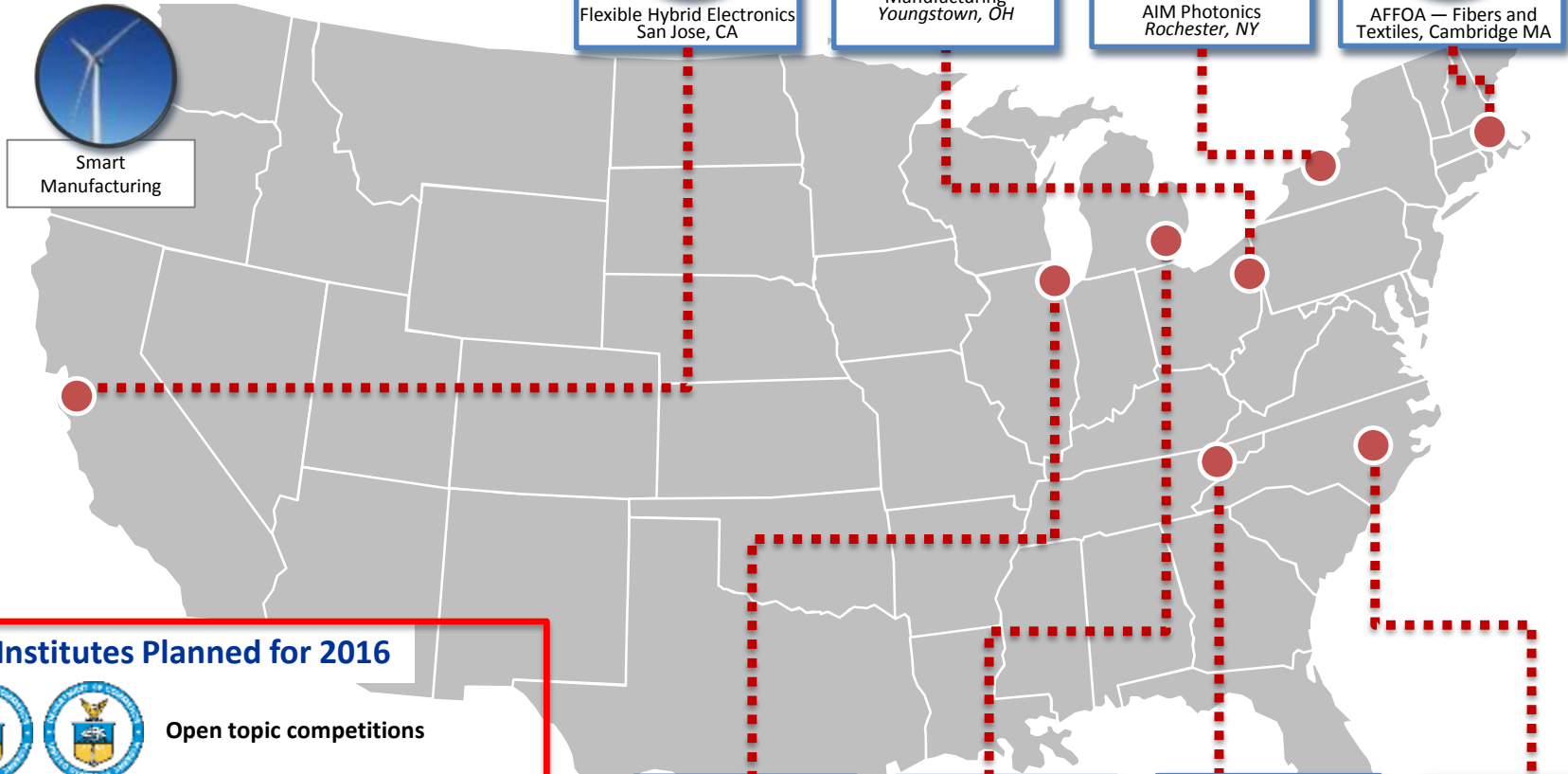
The Revitalize American Manufacturing Innovation Act (RAMI) calls upon the U.S. Secretary of Commerce to establish:

1. **The “Network for Manufacturing Innovation Program”** — to convene and support a network of Institutes (*Network function*)
2. **The National Program Office at NIST** — to oversee and carry out the Program (*coordination, network support, and reporting function*)
3. **New “Centers for Manufacturing Innovation”** — using an open topic, open competition process (*establish new Institutes*)

NNMI Network Status and 2016 Plans

Future Network Goal: 45 Regional Hubs

Upcoming 2016 Award




Flexible Hybrid Electronics
San Jose, CA



America Makes
Additive Manufacturing
Youngstown, OH



AIM Photonics
Rochester, NY



AFFOA — Fibers and Textiles
Cambridge MA



Smart Manufacturing



DMDII
Digital Manufacturing & Design
Chicago, IL



lift
Lightweight Metal Manufacturing
Detroit, MI



iacmi
Advanced Fiber—Reinforced Polymer Composites
Knoxville, TN



PowerAmerica
Wide Bandgap Semiconductors
Raleigh, NC

New Institutes Planned for 2016



Open topic competitions



Selected topic competitions supporting agency mission, using agency authorities and budgets

Next Institute Topics under Consideration

DoD



- Bioengineering for Regenerative Medicine
- Assistive and Soft Robotics
- Bioprinting across Technology Sectors
- Cybersecurity for Manufacturing
- Advanced Machine Tools and Control Systems
- Certification, Assessment, and Qualification

DoC



- Per RAMI legislation, DOC/NIST runs “open topic” institute competitions where any topic not already covered may be proposed.
- Institute competition is presently underway
- Subject to funding availability, intention is to award at least two institutes from the 2016 competition

DoE



- Modular Chemical Process Intensification
- Sustainable Manufacturing — *Recycling and Remanufacturing*
- Materials for Harsh Service Conditions
- High Value Roll to Roll (R2R) Manufacturing

- Topic selected

Commerce/NIST Institutes “Open Topic” Competition

Uses new authorities under the Revitalize American Manufacturing and Innovation Act (RAMI) —

*Proposals accepted on **any topic** not already covered by existing NNMI institutes or in-process competition*

- Key attributes

- Open topic competition
- Up to \$70 M federal share per Institute
- Each institute to serve as a regional hub with well-defined focus area
- Two-step process, Pre-Applications then Invited Full Applications — each step to be open no less than 60 days

Competition Outreach

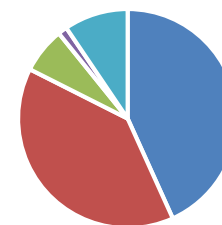
- FAQs Developed
 - 100 plus Questions Answered
 - Available On-line
- Proposers' Day Conference
 - Details next slide
- Webinars Conducted
 - Resources and FAQs
 - Budget & Operating Plan Template
 - Document Library
 - Event Recordings
 - NNMI Institute Budget – June 8th
 - RAMI Requirements
 - How to Convey an Understandable Budget
 - Cost Share
 - Proposal Feedback Provided to Successful Applicants on 5/23

NIST Proposers' Day - March 8, 2016

- Event Purpose:
 - To provide additional details regarding the Requirements
 - To provide opportunity to ask questions
 - To provide networking opportunities
- Content Presented at the Event:
 - Educate Attendees details about the competition
 - elements of a complete and competitive application
 - how applications will be evaluated
 - leveraging the network of NIST MEP Centers
 - administrative and award requirements
- Meeting Format:
 - A live event with simulcast webinar
 - **100 plus Attendees** at NIST;
 - **145 online Attendees;**
 - Twitter reach - 299,723 accounts



Proposers' Day Stakeholder Attendance



- Academia
- For Profit
- Gov't Fed
- Institute
- Non Profit

NIST Competition Schedule

Compressed Schedule for January 2017 Announcement

Work Phase	Item	2016-NIST-NNMI-01 Competition	
		Status	Dates
FFO	FFO Published	✓	Feb. 19, 2016
Competition Outreach	Events (Proposer's Day)	✓	March 8, 2016
	Events (Webinar #1 – Resources & FAQs)	✓	March 28, 2016
	Events (Webinar #2 – Assembling a Budget)	☐	June 6, 2016
Competition	Pre-Applications Due	✓	April 20, 2016
	Pre-Application Notifications – Invitations to submit Full Applications were issued those applicants with merit	✓	May 23, 2016
	Full Applications Due	—	July 22, 2016
	Full Application Evaluation – Technical reviews – Panel deliberations – Orals – Final Ranking	—	July 25 to Oct 25, 2016
	Recommendations to Selecting Official	—	Oct 26, 2016
	Selecting Office decision final	—	November 3, 2016
	Packages to Grants & Negotiations	—	Nov. 3, 2016 – January 2017
	Award(s)	Cooperative Agreement signed, Institute Award Announced	—
	Institute(s) Start		March 2017

Thank You! – How to connect

Advanced Manufacturing National Program Office

Phone: (301)-975-2830

Email: amnpo@nist.gov

Web: www.manufacturing.gov

