

**NIST Advanced Manufacturing Series 600-4
Revision 1**

**Network Charter
Manufacturing USA Program**

October 2019

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NIST
**National Institute of
Standards and Technology**
U.S. Department of Commerce

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Manufacturing USA Interagency Working Group

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MANUFACTURING USA NETWORK CHARTER

A. Introduction

Under the authority of the Revitalize American Manufacturing and Innovation Act (RAMI) of 2014,¹ the Secretary of Commerce established the Network for Manufacturing Innovation, generally called the Manufacturing USA network. The network, along with its manufacturing innovation institutes, makes up the Manufacturing USA program. This document is a revision of the original document published December 2016 that chartered the Manufacturing USA network.

B. Manufacturing USA Background

The goal of Manufacturing USA is to enhance the nation's global manufacturing competitiveness by more effectively connecting the best talents and capabilities from all partners in the Manufacturing USA network of institutes. The institutes similarly are individually strengthening their technology ecosystems, with projects, facilities and collaborations.

The network is composed of unique Manufacturing USA institutes, each with a distinct technology focus. These institutes seek to develop transformative new technologies as well as address the workforce skills gaps related to these technologies for the domestic production of goods. This concept was established by the RAMI legislation, which called for a "Network for Manufacturing Innovation" (referred to as the "network"),¹ recognizing the collective power of this family of institutes pursuing common objectives.

Thus, the network of Manufacturing USA institutes leverages the combined assets of all stakeholders and participants within the manufacturing community throughout each region, forming a national network of associations that serves to amplify and enhance the effects of the innovation ecosystem created by each institute.

A network of regional, collaborative institutes can collectively address the immediate needs of individual stakeholders and provide safe, collaborative environments to address common and pre-competitive manufacturing challenges. The institutes, strengthened by the network, provide a powerful platform for U.S. manufacturers to compete in the global marketplace and help to grow the economy, strengthen national security through manufacturing capability improvements, and enable the growth of the manufacturing sector and supply chain. A key to ensuring that the Manufacturing USA network remains connected to those it is intended to serve and meets its intended purposes is to leverage a structure that includes representatives from key stakeholders in its governance and various advisory groups.

¹ Consolidated and Further Continuing Appropriations Act, 2015, Pub. L. 113-235, Title VII – Revitalize American Manufacturing and Innovation Act of 2014, codified at 15 U.S.C. § 278s, ([http://uscode.house.gov/view.xhtml?req=\(title:15+section:278s+edition:prelim\)](http://uscode.house.gov/view.xhtml?req=(title:15+section:278s+edition:prelim))).

Electronics	Materials	Energy/ Environment	Digital / Automation	Bio- Manufacturing
 Integrated Photonics Albany, NY Rochester, NY	 Advanced Fibers and Textiles Cambridge, MA	 Modular Chemical Process Intensification New York, NY	 Additive Manufacturing Youngstown, OH El Paso, TX	 Regenerative Manufacturing Manchester, NH
 Flexible Hybrid Electronics San Jose, CA	 Advanced Composites Knoxville, TN Detroit, MI	 Sustainable Manufacturing Rochester, NY	 Advanced Robotics Pittsburgh, PA	 Biopharmaceutical Manufacturing Newark, DE
 Wide Bandgap Semiconductors Raleigh, NC	 Lightweight Materials Detroit, MI	 Smart Sensors and Digital Process Control Los Angeles, CA	 Digital Manufacturing Chicago, IL	

The fourteen institutes of Manufacturing USA as of October 2019

Program Vision

The vision of the Manufacturing USA program is U.S. global leadership in advanced manufacturing.

Program Mission

The Manufacturing USA program is composed of the collective of institutes, each with a complementary mission and a connective network.

- The Manufacturing USA program mission is connecting people, ideas, and technology to solve industry-relevant advanced manufacturing challenges, thereby enhancing industrial competitiveness and economic growth, and strengthening our national security.
- The Manufacturing USA 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 towards commercial production.
- The Manufacturing USA network mission is to maximize the integrated impact of the manufacturing innovation institutes on U.S. manufacturing competitiveness.

Program Elements

The network serves the institutes, the institutes connect through the network, and the program serves the Nation.

Each institute is a public-private partnership, with sponsorship from a lead funding agency. The sponsoring agency and institute are jointly responsible for institute management.

The Advanced Manufacturing National Program Office (AMNPO) is a Federal interagency team that supports network functions and provides required reporting to Congress on the Manufacturing USA program.

C. Scope

Under the authority of the Revitalize American Manufacturing and Innovation Act, the Department of Commerce associates the Manufacturing USA institutes into a network to assist and better enable the institutes to strengthen America's global competitiveness by more effectively connecting the best talents and capabilities from all partners.

New institutes established by the U.S. Government after the passage of RAMI and any existing, qualified, and accepted institutions that were established outside² of the Manufacturing USA program are members of the network, consistent with the RAMI Act. Manufacturing USA already includes institutes sponsored by the Department of Commerce (DOC), Department of Defense (DoD), and the Department of Energy (DOE). See www.ManufacturingUSA.com for a full listing of institutes.³

D. Network Operating Principles

The Manufacturing USA Interagency Working Team Representatives agreed to the following four operating principles regarding network governance:

1. The network supports its member institutes in meeting the goals of the program and creates a collective impact greater than the sum of constituent parts. Individual institute governance is the purview of the lead funding agency and respective institute members. Legislatively mandated reporting on individual institute performance is the responsibility of the respective lead funding agencies.
2. Network governance is a shared responsibility amongst the network membership. Mechanisms and structures are necessary to collect inputs and needs of key stakeholders, including those in the private sector.
3. Decisions concerning inter-institute issues in the network should be made at the lowest responsibility level. In resolving issues, there should be a general preference towards empowering action at the institute level.
4. The AMNPO is responsible for supporting network functions.⁴ The AMNPO, working with the lead funding agencies and other participating Federal agencies, is also responsible for reporting to Congress on the Manufacturing USA program and related institutes.

E. Network Functions

The network is expected to provide or support a variety of functions and activities based on the evolving needs of its members. The agencies participating in Manufacturing USA have prepared a preliminary list of four high-level network functions with several sub-functions that has been reviewed by various stakeholders, including the existing institutes.

1. *Establish the network.* This function serves the purpose of creating the network, including the following sub-functions: i) establishing memoranda of understanding (MOUs) as needed between the AMNPO and affected Federal departments and agencies; ii) developing and deploying essential network operational policies,

² Entry into the network by existing institutions established outside the RAMI authority requires "recognition" by the Secretary of Commerce.

³ <https://www.manufacturingusa.com/>

⁴ The Secretary of Commerce has charged the Advanced Manufacturing National Program Office at NIST with overseeing and carrying out the tasks assigned by RAMI to the "National Office of the Network for Manufacturing Innovation Program" (also called the "National Program Office").

procedures, and protocols; and iii) developing and deploying the initial version of the Manufacturing USA Program Strategic Plan.

With the network well established at the time of this revision, this function is complete. This revised Charter includes some of these procedures and protocols categorized into three high-level network functions. Together they characterize the Manufacturing USA Network Governance System – and the related Roles and Responsibilities. The following table identifies which of the various parties are to be responsible, accountable, consulted, or informed for each item within the list of network functions.

2. *Facilitate intra-network collaboration.* This function serves the network’s internal information clearinghouse needs, including the following sub-functions: i) establishing forums for network collaboration, information exchange, and knowledge management; ii) facilitating the organization and sharing of lessons learned and best practices across the network; iii) identifying challenges or problems faced by all institutes and their approaches to addressing them; iv) communicating awareness of key legislative and administration activity, relevant international affairs, etc.; v) facilitating network-level discussions between institutes regarding management of technology interfaces, technology gaps, etc.; and vi) enabling resolution of disputes not addressed by other network functions.
3. *Foster robust communication between the network and external stakeholders.* This function serves the network’s external information clearinghouse needs, including the following sub-functions: i) developing and deploying a network brand and public messaging strategy; ii) establishing a framework and facilitating two-way information flow across the network; iii) promoting U.S. advanced manufacturing to government, non-member industries and academic stakeholders, and the media and public; and iv) managing administration, congressional, and interagency communications as they relate to the network.
4. *Sustain, strengthen, and expand the network.* This function serves the network’s longer-term sustainment and growth needs, including the following sub-functions: i) updating the Manufacturing USA Strategic Plan; ii) facilitating acquisition of funding and other resources need to sustain network-level functions; iii) identifying and achieving economies of scale in areas of common-need of the institutes; iv) establishing, maintaining, and executing network membership policies; v) providing network-level support and guidance for newly established institutes; vi) assessing and reporting on the program; vii) adjusting the Governance system and functions over time as needed.

Disclaimer

This document was produced by Manufacturing USA. The contents of this publication do not necessarily reflect the views or policies of the National Institute of Standards and Technology or the US Government.

Manufacturing USA Network Governance System¹

- Roles and Responsibilities -

Version 4.0, October 2019

RACI LEGEND

A	Accountable
R	Responsible (works on)
C	Consulted
I	Informed

Network Level Functions			NEC, OMB, OSTP ²	NSTC SAM Leaders ³	DOC/NIST ⁴	AMNPO ⁵	Lead Funding Agencies ⁶ (LFAs)	Network Member Institutes ⁷	Other Agencies ⁸ - general engagement	Other Agencies ⁸ - programmatic ⁹	Active Congressional Committees ¹⁰	Media / Public ¹¹
Level 1 Functions	Level 2 Functions (Sub-Functions or Tasks)	Level 2 Amplifying Notes										
1. Facilitate value-added, intra-Network collaboration. Focus is on the Network's internal information clearinghouse tasks. Includes inter-Institute and interagency collaborations and information exchange.	1a. Establish forums for robust Network collaboration, information exchange and knowledge management.	Establish and maintain Network collaboration and information exchange protocols - reasonable meeting practices, workshop/conference activity, etc.				A, R	R		I	I		
	1b. Facilitate the organization and sharing of lessons learned and best practices across the Network.	Special case of Sub-Function above. Facilitate knowledge transfer of lessons learned and best practices to/between individual Institutes.				A, R	R	C	I	C		
	1c. Identify all-Institute challenges, issues, and problems, study how Institutes address them in their policies/procedures, and document comparative options, examples, and rationales.	Applies to 'collective, all-Institute' (i.e., full Network) challenges, issues, and problems. AMNPO is not accountable for addressing Lead Funding Agency (LFA)-specific matters or matters already being adequately addressed and documented by LFAs. If an LFA requests AMNPO assistance, AMNPO should provide it as able. AMNPO can/should address the 'white space' of relevant, Network-level challenges, issues, and problems--i.e., those Network matters still needing attention.				A, R	R	R, C				
	1d. Provide situational awareness to individual Institutes regarding key contextual landscape issues.	Help individual Institutes to maintain sufficient awareness of key legislative and administration activity, industrial developments, international affairs, etc., that relate to the full Network.				A, R	R		I	I		
	1e. Facilitate the management of technology interfaces to improve Network efficiency and generate leveraged funding.	Facilitate Network-level discussions between Institutes regarding the management of technology interfaces, shared interest areas between Institutes, as well as technology gaps.		I	I	A, R	R	C		I		
	1f. Resolve disputes not otherwise addressed through other Network functions.				A, R	R	R	C				

Network Level Functions			NEC, OMB, OSTP ²	NSTC SAM Leaders ³	DOC/NIST ⁴	AMNPO ⁵	Lead Funding Agencies ⁶ (LFAs)	Network Member Institutes ⁷	Other Agencies ⁸ - general engagement	Other Agencies ⁸ - programmatic ⁹	Active Congressional Committees ¹⁰	Media / Public ¹¹
Level 1 Functions	Level 2 Functions (Sub-Functions or Tasks)	Level 2 Amplifying Notes										
2. Foster robust communication between the Network and external stakeholders. Focus is on the Network's external information clearinghouse tasks. Includes information exchange and messaging with stakeholder entities that are generally viewed as external to the Network.	2a. Develop, deploy, and update a Network brand and public messaging strategy.	Special adjunct to, or subset of, the Network Strategic Plan.		C	C	A, R	R	R, C	I	I		
	2b. Establish a framework and facilitate effective, two-way flow of collective information across the Network boundary.	Leverage IT, media services, etc. in the development of web sites, newsletters, and other information exchange forums to enable sustained, two-way information flow across the Network boundary (both push and pull). This applies only to 'collective' (all Institutes), Network-level information flow, and not to the flow of information between external entities and individual Institutes or sub-groupings of Institutes.				A, R	R	R	I	C		
	2c. Promote U.S. advanced manufacturing to Government stakeholders (e.g., Executive/Interagency, Legislative).	Provide a platform where all Institutes can combine their voices and messaging on core/central issues to affect national policy and maximize governmental support for the Manufacturing USA initiative and advanced manufacturing.				A, R	R	R	R	R		
	2d. Promote and advocate U.S. advanced manufacturing to non-member industrial and academic stakeholders.	Targeted and sustained engagement activity with industry associations, non-member companies (e.g., original equipment manufacturer, small-to-medium enterprises) and academic institutions, and other non-member industrial activities. Partner with other efforts in U.S. advanced manufacturing.				A, R	R	R	R	R		
	2e. Promote and advocate U.S. advanced manufacturing to the media, public, and others.	Targeted and sustained engagements with the media and in other public forums to raise public awareness and support for the Manufacturing USA program and advanced manufacturing.				A, R	R	R	C	C		
	2f. Manage White House, Congressional and Interagency communications interfaces as they relate to the Network.	Recognizes that the Manufacturing USA Network of Institutes is both an executive branch and Congressional initiative within a broad national economic strategy to improve U.S. global manufacturing competitiveness--key need for healthy White House, Interagency, and Congressional communication teams.		R	I	I	A, R	R	C	C	C	I

Network Level Functions			NEC, OMB, OSTP ²	NSTC SAM Leaders ³	DOC/NIST ⁴	AMNPO ⁵	Lead Funding Agencies ⁶ (LFAs)	Network Member Institutes ⁷	Other Agencies ⁸ - general engagement	Other Agencies ⁸ - programmatic ⁹	Active Congressional Committees ¹⁰	Media / Public ¹¹
Level 1 Functions	Level 2 Functions (Sub-Functions or Tasks)	Level 2 Amplifying Notes										
3. Sustain, strengthen and grow the Network. Focus is on longer-term Network sustainment and growth tasks.	3a. Update the Network Strategic Plan.	Three-year update cycle (per RAMI). The sub-functions/tasks that follow are subsets of this sub-function and represent the operational execution of the Network Strategy.	I	C	A	R	R, C	C, R	C	C	I	I
	3b. Maintain and execute an effective Network resourcing strategy.	Facilitate obtaining sufficient funding and other resources necessary to sustain Network-level functions. Note this applies to resources at the full Network level; not Individual Institutes or sub-groups of Institutes.	I	I	A	R	R, C	I	I	I		
	3c. Find and achieve economies of scale in common infrastructure for the benefit of individual Institutes.	Goal: free-up individual Institutes for more effective core research, technology transfer and workforce development. Examples of common infrastructure include IT services, external communications services, and common event planning and execution.				A, R	R	C	I	I		
	3d. Establish, maintain/amend, and execute Network membership policies.	Addresses ingress and egress to the network as entities want to join, or changes occur such as Cooperative Agreement ends, non-Network member wants to join, or a member leaves the Network.		C	A	R	R, C	R, C	I	C		I
	3e. Provide Network-level support and guidance for newly established Institutes.	Network-level education on the best practices/lessons-learned, web site support, database support, and related logistical and administrative support as appropriate.			I	A, R	R	R	I	I		
	3f. Identify and help to establish long-term Manufacturing USA Program non-financial support mechanisms.	Provide non-financial support functions to Institutes to help them succeed and thrive.		I		A, R	R	R	C	C		
	3g. Assess and report on Manufacturing USA Program performance.	Establish agreed-upon data sharing protocols and review cycles with a focus on assessing and reporting Network performance and value added by Network.	I	C		A, R	R	C	C	R	I	
	3h. Adjust governance system and functions over time as needed.	This function recognizes the dynamic and evolving nature of the Manufacturing USA Network; particularly the fact that the USG's roles and relationships as a key public partner will evolve over time, particularly as the cooperative agreements or other frameworks defining the use of initial federal seed funding to establish new Institutes begin to expire or change form.		C	A	R	R	C	C	C		
	3i. Facilitate information sharing	Facilitate information sharing about federal programs and funding opportunities relevant to institutes.			I	A	R	I		R		

NOTES:

1. The Manufacturing USA Network Governance System applies to the national collective of all Manufacturing USA institutes, distinct from governance of each individual Manufacturing USA institute. This governance will be regularly reviewed for updates by the interagency team guided by input from Manufacturing USA institutes.
2. Office of Science and Technology Policy (OSTP), Office of Management and Budget (OMB), and National Economic Council (NEC)
3. National Science and Technology Council (NSTC) Committee on Technology, Subcommittee on Advanced Manufacturing (SAM)
4. Reflected here in its Revitalize American Manufacturing and Innovation Act of 2014 (RAMI)-assigned Network-related roles and responsibilities only, and NOT as a Lead Funding Agency (LFA) establishing institutes.
5. The Advanced Manufacturing National Program Office (AMNPO) is the Congressionally designated Manufacturing USA Program Office. The AMNPO is the interagency office housed at the National Institute of Standards and Technology (NIST). The AMNPO also serves as Executive Secretariat for the NSTC SAM.
6. All agencies with the lead responsibility to establish and fund Manufacturing USA institutes, including the Department of Defense (DoD), Department of Energy (DOE), and Department of Commerce (DOC).
7. All institutes recognized under RAMI authority, including institutes established by federal agency authorities and funding, and any other manufacturing centers recognized by DOC per RAMI.
8. All agencies not acting in a lead funding agency role and that provide secondary/support funding, technical support, or other active support to one or more recognized Manufacturing USA institutes.
9. Non-lead funding agency's specific program role for Manufacturing USA institutes, e.g., NIST-Manufacturing Extension Partnership (MEP).
10. All authorizing and appropriating committees providing authority or appropriated funds to federal agencies for Manufacturing USA institutes.
11. Including media directed at U.S. industry.

RACI LEGEND:		
A	Accountable	The group ultimately answerable for the correct and thorough functional performance/task completion. Cannot be delegated.
R	Responsible	Those who do work to perform a function or achieve a task. Multiple groups can be responsible.
C	Consulted	Those whose opinions (or coordination) are sought. Two-way communication.
I	Informed	Those who are kept apprised. One-way communication.
	(Blank)	A blank cell (no letter or shading) signifies no identified role for that stakeholder and function/task.
A, R	R, A	A/R Combo Involves a combination of Accountable and Responsible roles. Order of letters conveys precedence of roles.
R, C	C, R	R/C Combo Involves a combination of Responsible and Consulted roles. Order of letters conveys precedence of roles.
C, I	I, C	C/I Combo Involves a combination of Consulted and Informed roles. Order of letters conveys precedence of roles.