

# Manufacturing USA Technology Roadmap (MfgTech) Grant Program

Lisa Jean Fronczek

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Advanced Manufacturing National Program Office

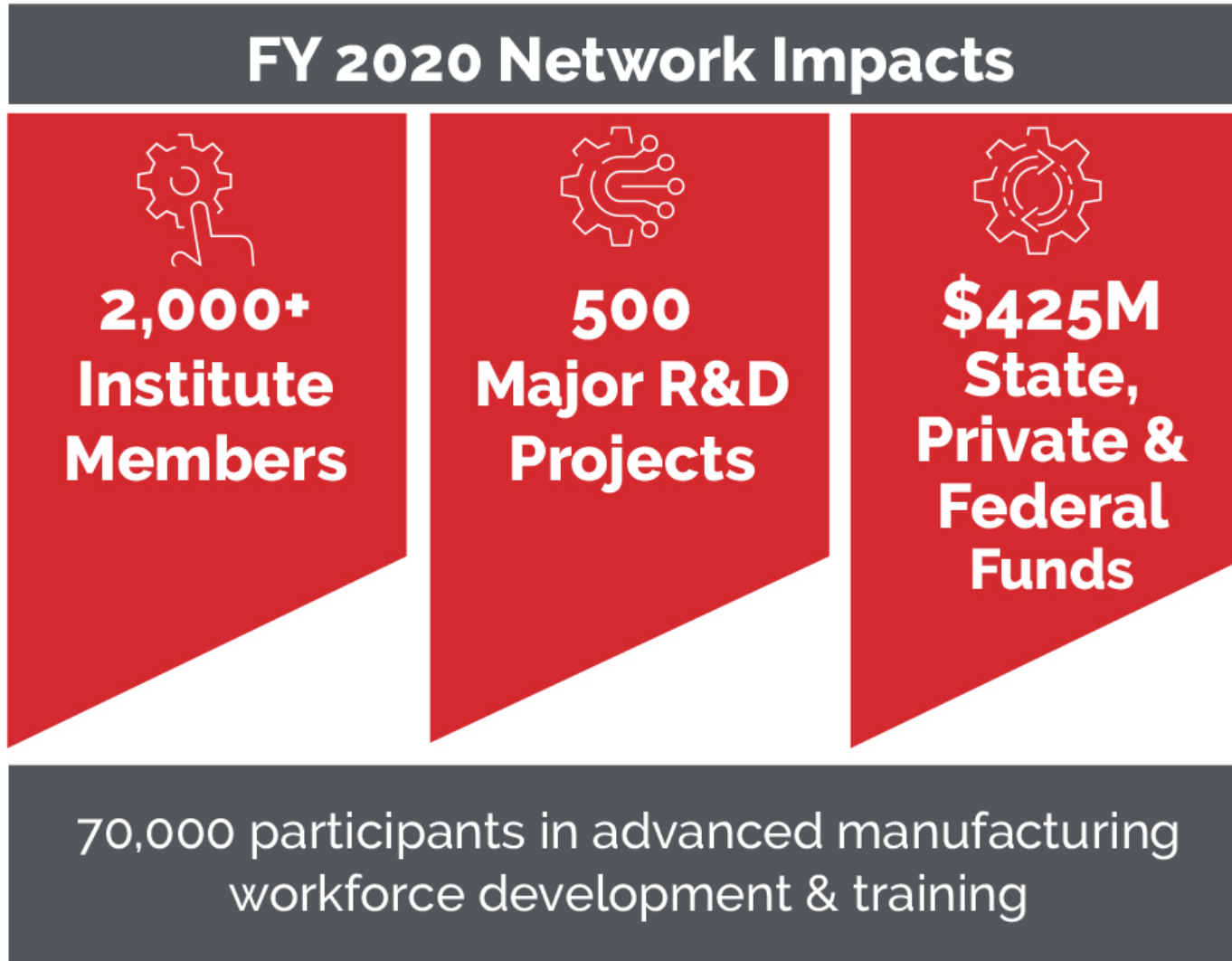
# Manufacturing USA: Securing U.S. Global Leadership in Advanced Manufacturing

Connecting people, ideas, and technology

- solve industry-relevant advanced manufacturing challenges
- enhance industrial competitiveness and economic growth
- strengthen our national security



**Manufacturing  
USA**



# Technology Roadmap (MfgTech) Grant Program Funding Opportunity



The notice of funding opportunity (NOFO) is the official competition document. Nothing in this presentation is intended to contradict or supersede the NOFO in any way. Any questions regarding the terms of the competition must be resolved by referring to the NOFO.

<https://www.grants.gov/web/grants/view-opportunity.html?oppId=334211>



## Notice of Funding Opportunity

- Eligibility
- Application Deadline
- Funding
- Scope
- Evaluation Criteria
- Application Process

## Seek proposals to develop **technology roadmaps** for promising advanced manufacturing clusters

- Emphasis on areas of critical interest to the nation, including technology areas that may be appropriate for potential Manufacturing USA institutes
- Establish new or strengthen existing industry-driven manufacturing technology consortia

This initiative will strengthen long-term US leadership in critical advanced manufacturing technologies leading to sustainable economic growth and job creation..

- Tackle common technological barriers to the innovation and manufacturing of new products
- Support the development of innovative new technologies aligned with industry needs
- Compress the timescale of technological innovation

## 2013 & 2014 Advanced Manufacturing Technology Program

- Resulted in numerous technology roadmaps
- Five of the current Manufacturing USA Institutes





## What are they? How are they used?

Proven, strategic tools:

- Identifies technological barriers and related development steps needed to achieve grand challenges
- Identifies pre-competitive challenges, not solutions, and time frame
- Aligns industry, academia, government, and other interested entities
- Enablers for high-risk/high-reward research and development of transformative tools and methodologies
- Enables game changing teams - competitors become collaborators

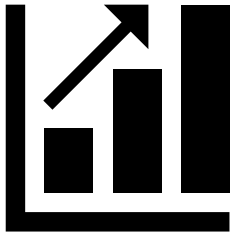
## What are the characteristics of good roadmap teams?

- Bring together diverse members of the ecosystem (industry, academia, workforce, supply chain, etc.)
- Work together to establish or strengthen **industry-focused** research consortia and to develop a **shared vision of** technology challenges

# Advanced Manufacturing Technology Roadmaps

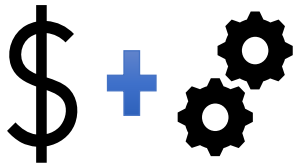
## RECAP... MfgTech Roadmaps should

- Define major technological barriers that inhibit the growth of U.S. advanced manufacturing that no single organization could tackle on its own
- Identify and prioritize research projects supporting long-term industrial research needs
- Create new or update broadly available **industry-driven, shared-vision** technology roadmaps to support strategic and long-range planning
- Catalyze development and support the maintenance of an American technology infrastructure in advanced manufacturing, including identifying technology areas appropriate for potential new Manufacturing USA institutes



## Increase in Industry-led consortia in advanced manufacturing

### Over time, we may see...









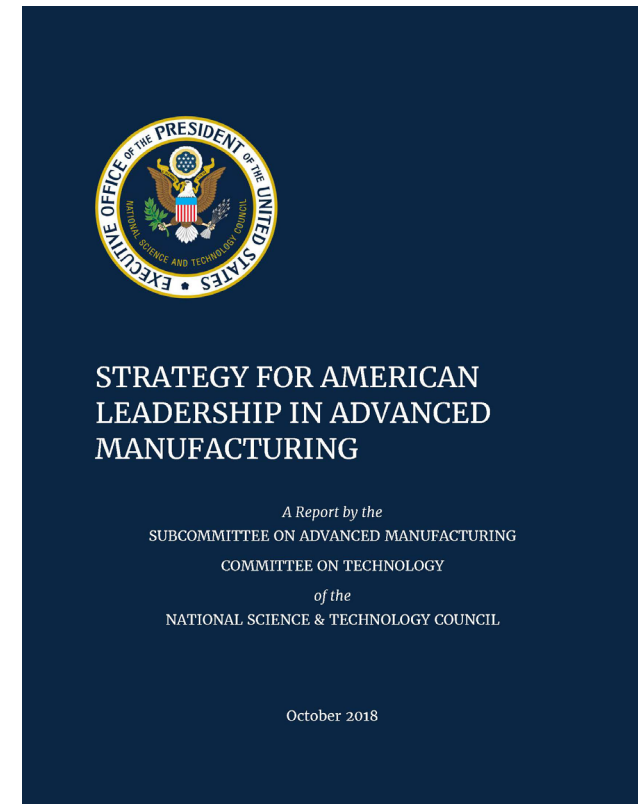
- Increase in industry sectors and organizations involved in technology partnerships
- Companies working together to solve critical pre-competitive, manufacturing challenges
- Technology transfer & knowledge dissemination
- New Manufacturing USA institutes
- New capital and industry-driven research



# National Need for Manufacturing Innovation


**Below are some of the 40+ technology topics with the potential for transformative impact**

-  Intelligent Manufacturing Systems
-  Semiconductors, Electronics Design and Fabrication
-  Food and Agricultural Manufacturing
-  Advanced Transportation Systems Manufacturing
-  Healthcare Products & Drugs Manufacturing
-  Aeronautics/Aerospace & Space Manufacturing
-  Energy Production and Utilization
-  Advanced Materials Discovery and Processing
-  Biomaterials and Products Manufacturing
-  Nano/microsystems Manufacturing

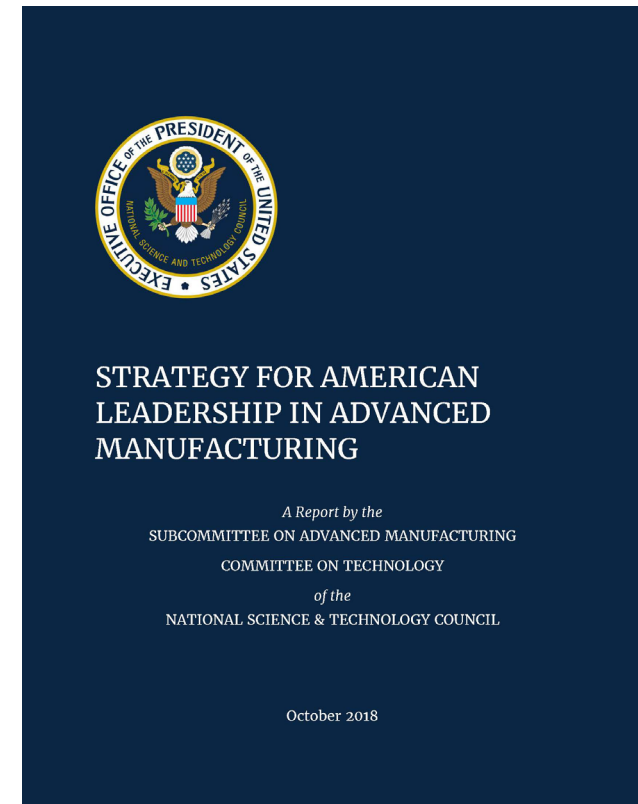


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-  Aeronautics, Aerospace & Space Manufacturing
-  Energy Production and Utilization
-  Advanced Materials Discovery and Processing
-  Biomaterials and Products Manufacturing
-  Nano/microsystems Manufacturing

**Not limited to these sectors!**





## Open to all domestic non-Federal entities, including

- Accredited institutions of higher education;
- Non-profit organizations
- For-profit organizations incorporated in the United States
- State, local, territorial, and Indian tribal governments



## Not eligible -- “non-Federal entities”

Individuals and unincorporated sole proprietors



## Organizations may

- work individually,
- include proposed subrecipients, contractors, and/or unfunded collaborators
- Subrecipients must be eligible to apply too

# Application Deadline

**August 17, 2021**  
**11:59 pm Eastern Time**





Up to \$300,000 per award

(~6-10 awards)

Period of Performance:  
18 months

An entity may apply only once as a recipient; however, they may participate in any number of proposals as a subrecipient or collaborator



Bring together key expertise, access to facilities, or specialized goods and services especially if this will result in a larger national or regional impact.



Strongly supports outreach to, recruitment of, and engagement with a diverse array of project participants.



Letters of commitment needed from all known partners.

# Hollings Manufacturing Extension Partnership (MEP)

## MEP Centers

- Work with small and medium size manufacturers to help them create and retain jobs and sales, increase profits, and save time and money.
- Focus on meeting manufacturer's short-term needs, but in context of overall company strategy.
- Provide companies with tailored services including:



Supply Chain



Technology



Workforce



Lean and Quality



Innovation and Growth



Sustainability



Export



Product Development



Website: [www.nist.gov/mep](http://www.nist.gov/mep)

Contact: [mfg@nist.gov](mailto:mfg@nist.gov)

Blog: [www.nist.gov/blogs/manufacturing-innovation-blog](http://www.nist.gov/blogs/manufacturing-innovation-blog)

## Looking for diversity in the project teams and equity in the project outcomes

- Engage Minority Service Institutions
- Consider how your project may benefit low-socio-economic or rural regions



- #1 – Technical Challenges with National Impacts**  
(40 points)
- #2 – Roadmap Development Plan**  
(45 points)
- #3 – Resource Availability**  
(15 points)

# #1 - Technical Challenges with National Impacts

**Vision, goals, & objectives** – Major scientific and technology barriers that inhibit growth of US advanced manufacturing

**Technical challenges** – Strategic and long-term goals and barriers to success, pre-competitive enabling manufacturing processes and platform technology research, & state-of-the-art in that sector

**National impacts** – Importance and significance of the challenges

(i.e., national needs, existing industry capabilities, identification of ongoing and exiting efforts, and potential for having economic impacts, enhancing, or revitalizing US advanced manufacturing)

All sub-criteria will be weighted equally

**Roadmap** – strategic plan, project development and execution, knowledge and technology diffusion, and pathways to adoption

**Teaming** – industry leadership and involvement, representatives across the value chain innovation ecosystem, involvement/consideration of small- and medium enterprises

## **Award Activities & Post-project plans**

- Roadmapping activities
- Measurable success metrics, timelines, relationship between major tasks, and people involved

All sub-criteria will be weighted equally.

## **Resources -> people, budget, & facilities**

Appropriateness and cost-effectiveness with respect to carrying out the work and meeting the objectives



## Merit Review

- Three independent reviews

## Panel

- Federal panel of at least 3 people
- A programmatic review

# Selection Factors: One or more



Alignment with grant program objectives



Duplication of efforts (avoid)

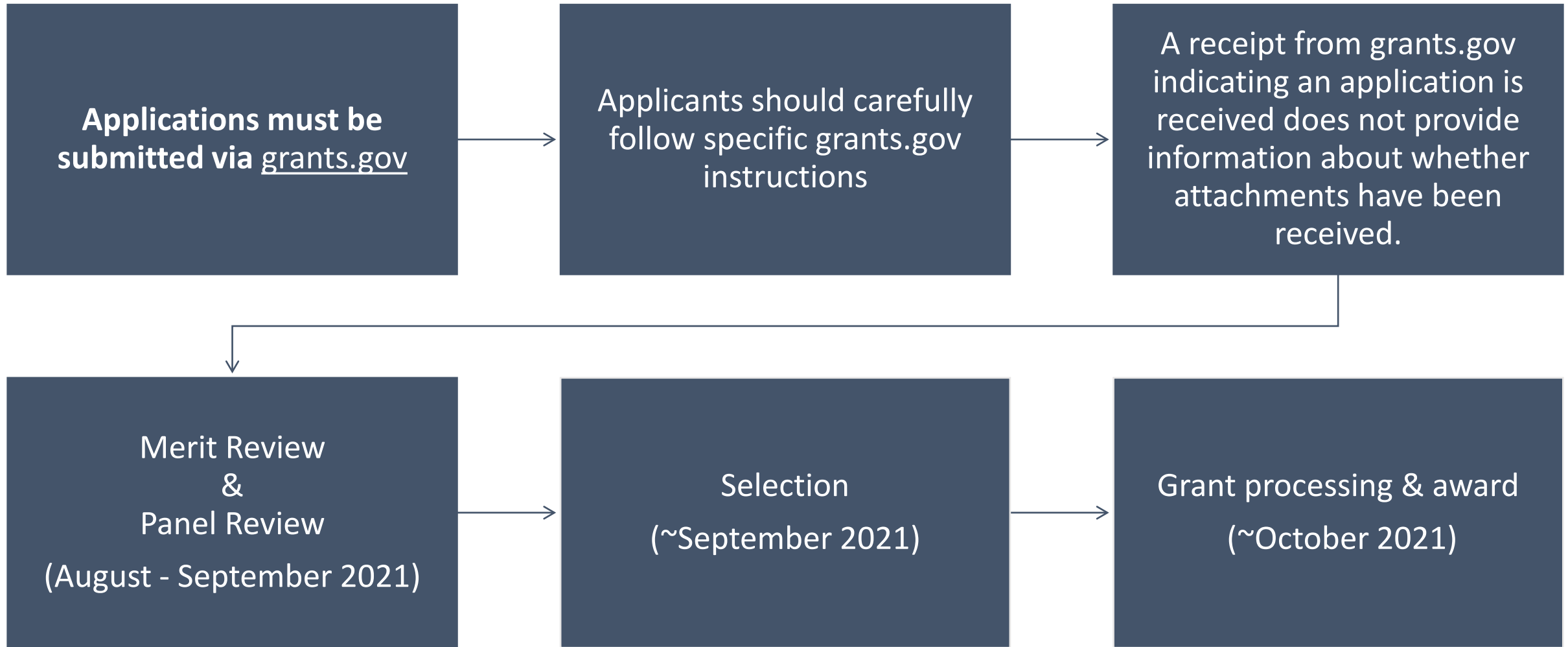


Geographic diversity (project participants), the distribution of project work among urban, suburban, and rural communities, and outcomes



The institutional diversity of project participants: SMEs, women, minorities, veterans, state/local/tribal governments, schools (CTE/community colleges/universities)

Disclaimer: NOFO has the exact language



**Factor in time to set up SAM and Grants.gov accounts!**

For further information or questions about the application process, contact [grants.gov](https://grants.gov) or 800-518-4726.

# Questions & Answers

