

NIST and Advanced Manufacturing

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Chicago, IL

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NIST Mission

To **promote U.S. innovation and industrial competitiveness** by advancing measurement science, standards, and technology in ways that enhance economic security and improve our quality of life



Advanced Manufacturing Benefits

**ECONOMIC
COMPETITIVENESS**

**NATIONAL
SECURITY**

ENERGY SECURITY

PUBLIC HEALTH



**INNOVATIVE
PRODUCTS
IN THE
MARKETPLACE**

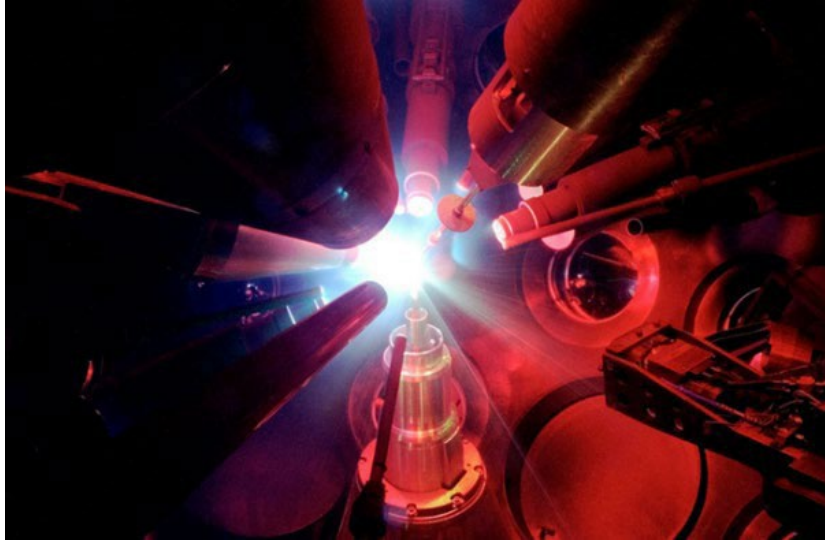


**AGILE,
COST-EFFECTIVE
MANUFACTURING
PROCESSES**



**HIGH-WAGE JOBS
FOR AMERICANS**

NIST Programs



Laboratory Programs

Deep expertise in
measurement science,
measurement services,
and standards



Innovation and Industry Services

National-scale U.S. industry
partnerships, networks, and
technology transfer

Manufacturing USA Network

ELECTRONICS



Integrated
Photonics
Albany, NY
Rochester, NY



Flexible Hybrid
Electronics
San Jose, CA



Wide Bandgap
Semiconductors
Raleigh, NC

MATERIALS



Advanced Fibers
and Textiles
Cambridge, MA



Advanced
Composites
Knoxville, TN



Materials
Detroit, MI



Sustainable
Manufacturing
Rochester, NY

DIGITAL/AUTOMATION



Additive Manufacturing
Youngstown, OH
El Paso, TX



Advanced Robotics
Pittsburgh, PA



Smart
Manufacturing
Los Angeles, CA



Cybersecurity in
Manufacturing
San Antonio, TX



Digital Manufacturing
Chicago, IL

BIOMANUFACTURING



Regenerative
Manufacturing
Manchester, NH



Bioindustrial
Manufacturing
St. Paul, MN



Biopharmaceutical
Manufacturing
Newark, DE

ENERGY/PROCESSES



Electrified Industrial
Processes
Tempe, AZ



Modular Chemical
Process Intensification
New York, NY

Manufacturing Extension Partnership

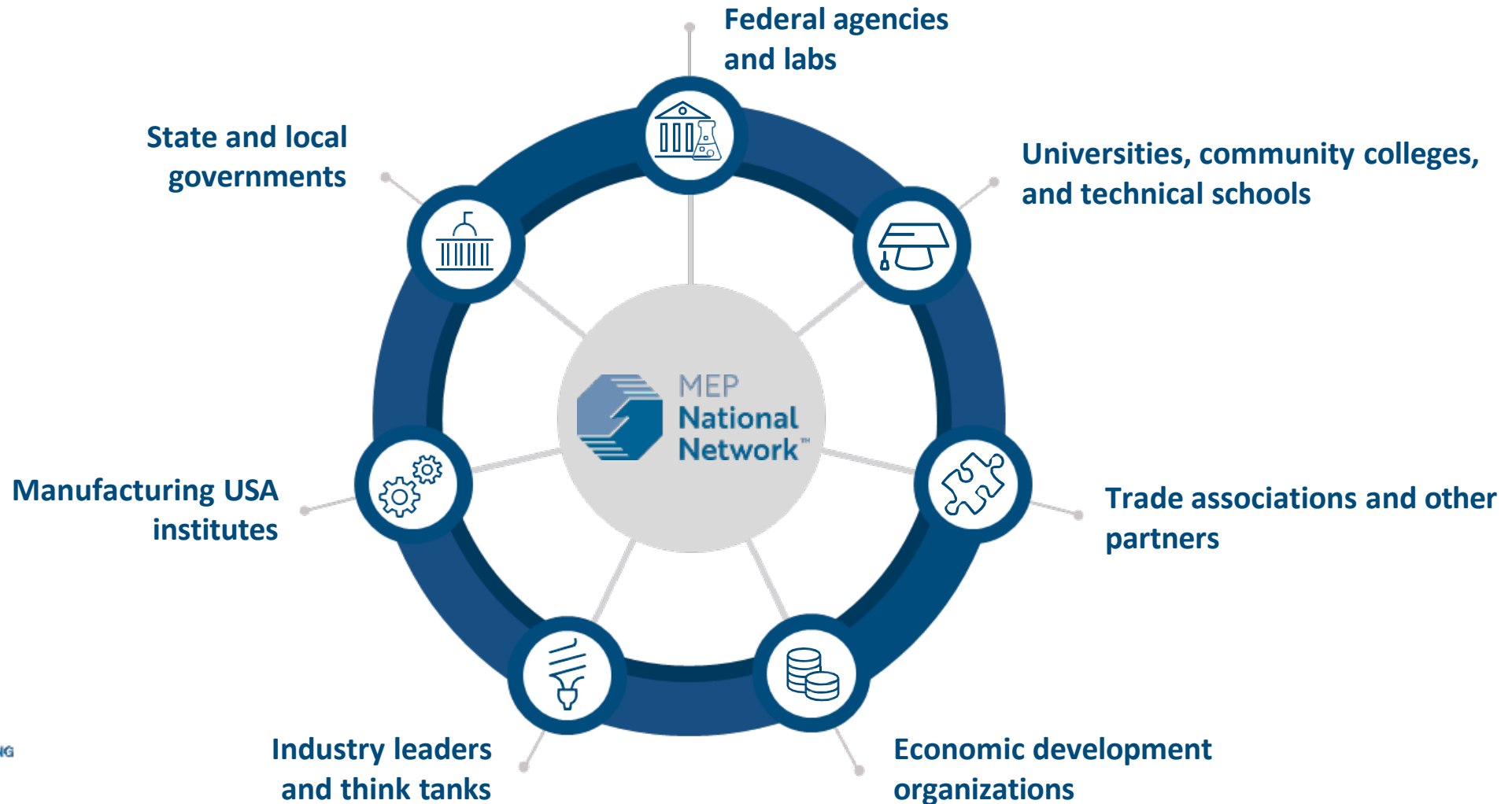
Advancing the Competitiveness of U.S. Manufacturers

Through the MEP National Network, the National Institute of Standards and Technology (NIST) Manufacturing Extension Partnership (MEP) Program supports and advances U.S. manufacturing. The MEP National Network helps small and medium-sized manufacturers:

- Advance technology adoption
- Make operational improvements
- Improve supply chain management
- Perform risk mitigation

NIST MEP's Strength - Partnerships

Partnerships leverage and amplify the impact of the U.S. Industrial Base



Service Example: Navigating Advanced Manufacturing Technology



Service Example:

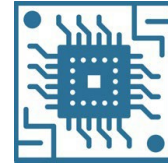
Supply chain management and supplier scouting



Defense
& Aerospace



Medical Equipment
& Pharma



Semiconductors



Transportation



Infrastructure



Construction



Energy



Buy American

Leverages MEP National Network knowledge of and connections to U.S. manufacturers' capabilities, capacities and business interests nationwide to increase domestic sourcing for manufacturing supply chains and fill critical supply chain needs.

Service Example: Implementing cybersecurity safeguards



Our desire for advanced technology quickly outpaces our capacity to safeguard it. The NIST Cybersecurity Risk Management Framework can help manufacturers identify, assess, and manage cybersecurity risks to systems, data, and assets.

Computational Materials For Qualification and Certification (CM4QC)

CM4QC strategy document released March 4, 2026

[Computational Materials For Qualification And Certification \(CM4QC\) | NIST](#)

- U.S. aviation-focused companies, research government agencies, and universities collaborated to develop a comprehensive strategic framework
- Framework to accelerate the use of computational materials (CM) approaches in the aviation qualification (Q&C) domains, initial for additive manufacturing (AM)
- Members are organized into three working groups (WG) by technology readiness level (TRL):
 - WG 1 (high TRL, industry vision and regulatory implications)
 - WG 2 (medium TRL, transitioning fundamental research to engineering applications)
 - WG 3 (low TRL, fundamental research)

Thank you.

Stay Connected



 [Manufacturing Innovation Blog](#)

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