NIST MANUFACTURING EXTENSION PARTNERSHIP

MEP ANNUAL REPORT

2022

Letter from the MEP Director

The work of manufacturing is life changing and life sustaining. The backbone of manufacturing in America is the thousands of small and medium-sized manufacturers (SMMs) spread across the country. These small firms make up the largest part of American manufacturing and play a vital role in our nation's economic and social well-being.

The unique relationship and work of the MEP National Network™ with smaller manufacturers has had enormous impacts. Through our partnerships with SMMs, we have created jobs, saved businesses, secured financial stability, bolstered communities, been a supply chain lifeline to large manufacturers, and sustained a way of life in America. We have set food on tables, put kids in college, provided health care for families. We have made a difference. We are poised to make an even greater difference in the future.

Since 2017, the strategic plan that guided the MEP National Network served its purpose well. The MEP that exists today is significantly different and stronger than the one that existed in 2017. One of the pillars of the 2017 plan was to complete the transformation of the MEP from a system of 51 individual Centers to a thriving Network of collaborating Centers and partners capable of addressing national issues in addition to serving manufacturers in each state and Puerto Rico. That transformation work has advanced greatly and the MEP National Network is now a reality.

This year, with the successful completion of the 2017 strategic plan, our focus has turned toward envisioning the next five years. Through extensive research, we identified three critical challenges that manufacturing must address, which will be the primary focus of our efforts over the next five years. Those challenges are: the manufacturing workforce crisis, supply chain vulnerabilities, and technology-related deficiencies. In late 2022, with great excitement about our path forward, we unveiled the new MEP National Network 2023-2027 Strategic Plan [PDF]. The new strategic plan focuses on helping manufacturers overcome these three complex and interrelated challenges.

I'm excited to work with the MEP National Network to make the vision of the new five-year strategic plan a reality. I'm confident that the Network will play an important role strengthening the U.S. economy, creating and retaining a diverse and skilled workforce with real wages, and revitalizing U.S. supply chains. I am proud to lead this critical program into the future.

Sincerely,

Pravina Raghavan
MEP Director

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Manufacturing Extension Partnership Background

Mission and Vision

MISSION:

Strengthen and empower U.S. manufacturers.

VISION:

We are the go-to resource for America's manufacturers ensuring U.S. manufacturing is resilient and leads the world in manufacturing innovation.

DRIVING FORCE:

We are driven to attain and uphold U.S. manufacturing preeminence which is essential to our nation's long-term economic strength and to protect our national security interests.

ROLE:

The MEP National Network focuses its expertise and knowledge as well as that of its partners (industry, educational institutions, state governments, NIST, and other federal research laboratories and agencies) on providing U.S. manufacturers with information and tools they need to improve productivity, assure consistent quality, accelerate the transfer of manufacturing technology, and infuse innovation into production processes and new products.

> *"The MEP National Network Mission:*
>
> *To strengthen and empower U.S. manufacturers.*

Structure

The Omnibus Trade and Competitiveness Act of 1988 created the National Institute of Standards and Technology (NIST) Hollings Manufacturing Extension Partnership (MEP) program to improve the competitiveness of U.S. based manufacturing by making manufacturing technologies, processes and services more accessible to small and medium-sized manufacturers (SMMs). For over thirty years, the MEP program has focused on bridging the manufacturing productivity gap, identifying opportunities for growth and encouraging technology deployment.

Growing from a pilot project of just three Centers to a network of organizations in every state and Puerto Rico, the 51 MEP Centers are now an integral part of the MEP National Network (MEPNN). The Centers provide their manufacturing customers with a wide array of fundamental services in manufacturing, business and process improvements. Today, the MEP National Network has over 1,450 trusted advisors and experts at approximately 430 MEP Center service locations across the nation. The MEP Centers and their partners, including state governments, educational institutions, nonprofit entities, associations and private consultants exist to provide manufacturers with the services needed to reduce bottom-line expenses and grow top-line profits, both of which are needed to thrive in the global marketplace.

51

Centers in every state & Puerto Rico

1,450

Trusted advisors and experts

430

MEP Center service locations

NIST MEP Budget

The fiscal year (FY) 2022 appropriation for the NIST MEP program was $158 million, which represented an increase of $8 million over NIST MEP's FY 2021 funding. Nonfederal cost share requirements were waived for FY 2022 federal funding for MEP Centers, as they have been for the past two years.

Approximately $134 million of MEP's funding went directly to the MEP Center base awards. Additional funds were awarded competitively to Centers for direct support of the MEP National Network's engagements with manufacturing firms, as well as for enhancing the Network's ability to deliver a greater range of services and to deliver services more efficiently.

RESULTS FOR U.S. MANUFACTURERS

According to clients surveyed in FY 2022, the MEP National Network helped these manufacturers achieve:

Over 116,700 jobs created or retained

$2.5 billion
cost savings

$18.8 billion
new and retained sales

$6.4 billion
new client investments

Impacts of the MEP Program

MEP Centers assist with product development, new investments, and improved products and processes as well as provide tools and resources for business expansion and business continuity planning that contribute to improved sales and cost savings. These improvements increase the productivity, profitability, and competitiveness of client establishments, which in turn improves the economy by creating jobs, increasing earnings, and expanding the tax base.

According to a third-party survey[1], in FY 2022, the MEP National Network interacted with more than 33,500 U.S. manufacturers, leading to $18.8 billion in sales, $2.5 billion in cost savings, $6.4 billion in new client investments, and helped create or retain more than 116,700 jobs. These represent increases over FY 2021 in total sales, cost savings and new client investments.

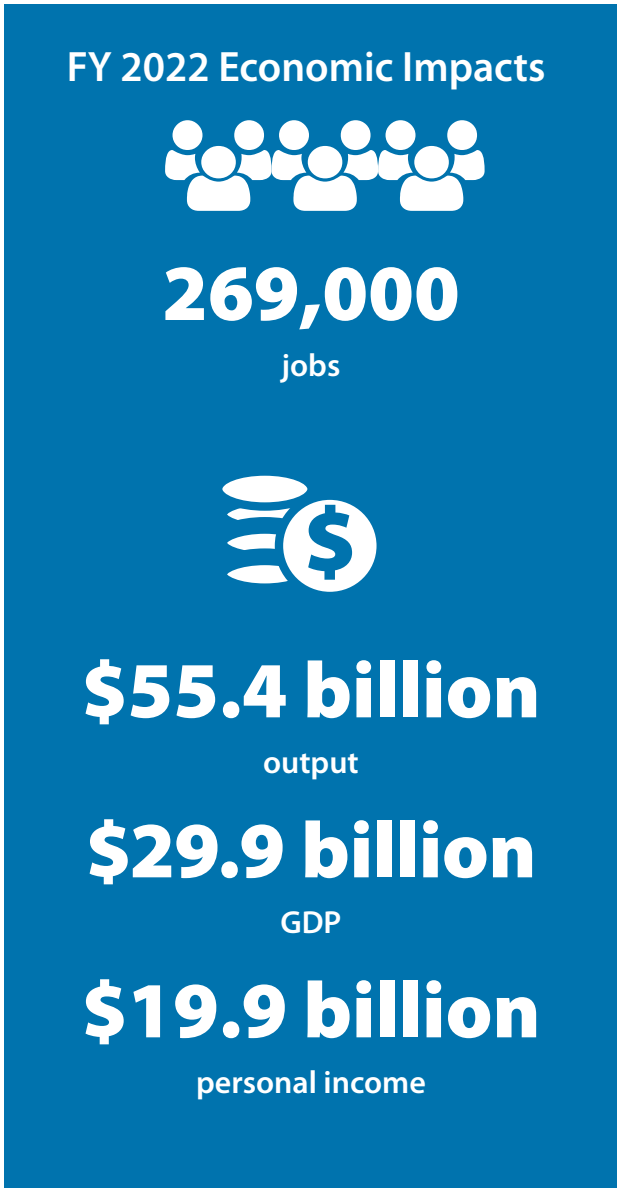
Since 1988, MEP has worked with 142,678 manufacturers, leading to $144.4 billion in new sales and $28.7 billion in cost savings, and helping to create and retain over 1.5 million jobs.

[1] There is an Office of Inspector General inquiry into MEP economic metrics.

Economic Impacts

A study by Optimal Solutions Group, LLC and Robey Analytics, LLC found the MEP program generated a substantial economic and financial return of nearly 13.5:1 for the $150 million invested by the federal government in the program in FY 2021. The study also found that total employment in the U.S. was nearly 190,024 higher because of MEP Center projects. The study examined additional areas of economic impact – personal income was $14.15 billion higher and gross domestic product (GDP) was $26.49 billion larger than it would have been without the MEP program, translating into an increase of $2.03 billion in personal income tax revenue to the federal government.

A similar study of the FY 2022 MEP program impacts by Summit Consulting, LLC and the W.E. Upjohn Institute for Employment Research found that MEP generated a return on investment of 18.1:1 for the $158 million invested in the program in FY 2022 by the federal government. The study also found that the MEP program contributed to the addition of an estimated 269,373 jobs, added over $55.4 billion in output, an additional $29.9 billion in GDP, and more than $19.9 billion in personal income to the economy in FY 2022.



CARES Act Results

In 2020, NIST MEP issued $50 million in federal funds authorized by Congress under the Coronavirus Aid, Relief, and Economic Security (CARES) Act to each MEP Center. NIST MEP made the awards in record time so MEP Centers had the funds available quickly to implement critically needed COVID-19-related projects. The impacts of this funding were collected in FY 2022 and are summarized below.

MEP Centers used CARES Act funding to help manufacturers increase production of personal protective equipment, recover from workforce and supply chain interruptions, and achieve greater resilience. MEP Centers served nearly 5,400 companies with over 7,500 CARES Act-funded projects. CARES Act project clients surveyed report more than $3.6 billion in new and retained sales, over $1.7 billion in new investments and over $530 million in total cost savings. These projects resulted in over 36,000 jobs created or retained. Nearly half of the over 5,000 companies served were first-time MEP Center clients, expanding the reach of the program.

CARES Act Impacts

7,500
completed projects

5,400
companies served

$3.6 billion
new and retained sales

36,000 jobs
created or retained

CARES Act funding enabled MEP Centers in every state to assist companies in new and different ways that included helping protect their workforce during the pandemic, finding sources of capital, stabilizing their supply chains, and protecting manufacturers from cybersecurity threats. CARES Act funding has enabled MEP Centers to provide manufacturers with additional services such as:

- Assessing the extent and nature of the disruption caused by the pandemic
- Rethinking and retooling service delivery
- Forging new and strengthening existing state partnerships
- Helping manufacturers pivot operations to produce personal protective equipment, medical supplies and medical devices
- Implementing supplier databases for searching and matching
- Tailoring services for operating in the post-pandemic environment

CARES ACT STORIES

CARES Act Stories

MEP Centers nationwide used CARES Act funding to help their states' manufacturers recover from the economic downturn. NIST MEP published a report, Impacts of CARES Act Funding Across the MEP National Network [PDF] and the accompanying CARES Act Stories from Across the MEP National Network [PDF] which provides a state-by-state listing of selected projects and initiatives made possible by CARES Act funding.

The following examples illustrate a few of the thousands of ways that MEP Centers provided assistance to manufacturers with CARES Act funding.

Credit: Atlantic Sea Farms

Maine MEP helped a woman-owned firm expand efficiently into a new facility to prepare for future growth. Atlantic Sea Farms' woman-led team creates a variety of healthy food products sourced from Maine farmers and fishing families. The pandemic resulted in a sharp decline in restaurant and retail orders. However, the firm remained committed to its strategic growth goals and to fulfilling harvest contracts with local fish and lobster harvesters. As a result, the 2021 harvest was too large for their processing space. They turned to Maine MEP, which used CARES Act funds to develop a plan for a new facility with hugely expanded processing space. Using lean manufacturing principles, the new layout allows not just for current needs, but enables future growth.

The Texas MEP Center helped a firm expand and find domestic suppliers during the pandemic. Texas Manufacturing Assistance Center, TMAC, the Texas MEP Center, used CARES Act funds to help Southside Plants expand and find domestic suppliers. Before the pandemic, the home-based firm manufactured innovative technologies for houseplant propagation. Through aggressive e-commerce marketing, company sales increased tremendously. The firm needed to scale-up production quickly, just as pandemic-related supply chain disruptions hit. TMAC assisted with domestic supplier matching and quickly sketched out a solution to scale-up production. Tapping into the MEP National Network, TMAC connected with Arkansas Manufacturing Solutions, the Arkansas MEP Center, to identify a manufacturer that had the equipment and capacity to manufacture and package Southside's products and fuel its expansion.

Virginia's MEP Center provided marketing support to help launch biodegradable and sustainable products. The GO Virginia Reshoring Program, led by GENEDGE Alliance, the Virginia MEP Center, helps the state's manufacturers grow their capacity and capabilities. Through the program, Drake Extrusion, Inc., received assistance developing environmental, sustainable and green (ESG) solutions to meet their customers' emerging needs. After working with GENEDGE on developing and testing new products, Drake requested marketing support. With CARES Act funds, GENEDGE worked with a third-party contractor to develop creative concepts for integrating sustainability into Drake's website. GENEDGE and the contractor helped identify the top messages for Drake to communicate, define website navigation and marketing objectives, draft copy and develop custom page templates to help customers find the new ESG products and spur sales.

Credit: GENEDGE

Credit: GENEDGE

Key Legislation

Manufacturing in general and the MEP program in particular continued to receive a great deal of legislative attention during 2022. The President signed the bipartisan CHIPS and Science Act of 2022 into law on Aug. 9, 2022. The CHIPS and Science Act tripled the MEP program's authorized funding levels – up to $550 million for FY 2025-27. The law also created an expansion award pilot program – another vehicle for the program to issue federal funding to the MEP Centers. It established a voluntary national supply chain database, and contained language that does not require MEP Centers to enroll their manufacturing clients in the GSA Advantage Program, an online shopping and ordering system.

> *"[The CHIPS and Science Act] will strengthen American manufacturing, supply chains, and national security, and invest in research and development, science and technology, and the workforce of the future to keep the United States the leader in the industries of tomorrow, including nanotechnology, clean energy, quantum computing, and artificial intelligence. The CHIPS and Science Act makes the smart investments so that Americans can compete in and win the future."*
>
> *— White House Fact Sheet, Aug. 9, 2022*

MEP Advisory Board

About the MEP Advisory Board

The statutory purpose of the Board is to provide advice and recommendations to the NIST Director on the following items:

- The activities, plans and policies of the MEP program
- The soundness of the program's plans and strategies
- Current performance in relation to MEP program plans

The MEP Advisory Board consists of members broadly representing the interests and needs of the manufacturing sector appointed by the NIST Director. By statute, at least two members must be on an MEP Center board and at least five other members must represent small U.S. businesses from the manufacturing sector. In addition, at least one Board member must represent a community college. The law requires the Board to meet at least twice per year. In FY 2022, the Board met three times to perform its chartered functions.

The current Board members represent the diversity of the U.S. manufacturing industry, from CEOs and executives at various-sized manufacturing companies to academic leaders at both state and community colleges. The important and varied perspectives of these volunteers have and will continue to positively impact the MEP program into the future.

Members

MATTHEW B. NEWMAN, CHAIR

Principal Managing Partner
New Era Advisors
Tulsa, Oklahoma

BERNADINE HAWES, VICE CHAIR

Senior Advisor
Econsult Solutions, Inc.
Philadelphia, Pennsylvania

RAY AGUERREVERE

Vice President/General Manager
Custom Metal Designs
Oakland, Florida

JOSE ANAYA

Second term expired: July 2022
Dean, Community Advancement
El Camino Community College
Hawthorne, California

DONALD BOCKOVEN

Chief Executive Officer
Fiber Industries LLC
Darlington, South Carolina

E. LADON BYARS

President and Chief Executive Officer
Colonial Diversified Polymer Products, LLC
Dyersburg, Tennessee

PETER CONNOLLY

Resigned from the Board: September 2022
Owner
Connolly Consulting
Cedar Knolls, New Jersey

MARY ISBISTER

President
GenMet Corporation
Mequon, Wisconsin

MIRIAM KMETZO

Executive Vice President
Welding Technology Corp.
Farmington Hills, Michigan

MITCH MAGEE

Manufacturing Industry Consultant
Hamilton, Ohio

CHRIS MATHEWS

Joined the Board: May 2022
Chairman
National Custom Hollow Metal Doors and Maple Leaf Awning and Canvas
Little Rock, Arkansas

PATRICIA MOULTON

Executive Director, Workforce Development Division
Vermont State Colleges
Lyndonville, Vermont

DR. ANNETTE PARKER

Joined the Board: May 2022
President
South Central College
North Mankato, Minnesota

KATHAY RENNELS

Second term expired: February 2022
Special Advisor to the Chancellor for Rural-Urban Initiatives
Colorado State University System
Denver, Colorado

GEORGE SPOTTSWOOD

Owner and Chief Executive Officer
Quality Filters, Inc.
Robertsdale, Alabama

LESLIE TAITO

Executive Vice President for Business Operations
Taco Comfort Solutions
Cranston, Rhode Island

JIM WRIGHT

Vice President of Operations
Proof Research
Columbia Falls, Montana

Meetings

The MEP Advisory Board gathered for three meetings in 2022. Board members along with NIST leadership, NIST MEP staff, MEP Center leadership and staff, and MEP program stakeholders met on March 9 (held virtually, due to the pandemic), June 8 in Tulsa, Oklahoma (with some virtual participation), and Sept. 20 in Chicago, Illinois. At each meeting, the Board received detailed updates from NIST MEP leadership on programmatic operations and performance regarding the MEP National Network 2017-2022 Strategic Plan, including progress toward meeting its goals. Each meeting included high level discussions of various topics integral to the program and to manufacturing. These included developing partnerships, succession planning, current manufacturing trends, and potential MEP expansion awards. The March meeting included report outs from the Board's three working groups: the MEP National Network Strategic Plan 2023-2027 Working Group, the Supply Chain Development Working Group and the Executive Committee Working Group.

The September Board meeting was co-located with and held before the Foundation for Manufacturing Excellence's Center Best Practices Conference in Chicago, Illinois. Many MEP Advisory Board members also participated in the MEP National Network Update Meeting held just before the Board meeting in Chicago. This Board meeting featured an overview of the draft MEP National Network 2023-2027 Strategic Plan. In addition, the Board discussed potential focus areas for future working groups.

These three Board meetings provided opportunities for Board members to discuss the constantly changing issues facing manufacturers, stay current on the latest trends in manufacturing, advise the NIST Director about the MEP program, and to actively engage with MEP Center Directors and other stakeholders

Detailed MEP Advisory Board meeting minutes are available on the NIST MEP website.

Advisory Board Working Group Focus Areas

At the September 2022 meeting, the Board discussed focus areas for future working groups. Two existing working groups will continue:

- Advisory Board Executive Committee Working Group
- Strategic Goal: Mitigate Supply Chain Vulnerabilities Working Group (previously called Supply Chain Development Working Group)

In addition, three new working groups in 2023 will be:

- Strategic Goal: Narrow the Workforce Gap Working Group
- Strategic Goal: Leverage Technology Working Group
- MEP National Network Expansion Awards – Ad Hoc Working Group

Strategic Planning

MEP National Network 2017-2022 Strategic Plan

The Advisory Board continued to review and discuss the progress made on the MEP National Network 2017-2022 Strategic Plan, which concluded in September 2022. The 2017-2022 strategic plan's four principal goals included: Empower Manufacturers, Champion Manufacturing, Leverage Partnerships, and Transform the Network. The full plan is available [PDF] on the NIST MEP website.

At each meeting, the Board was provided with updates on progress toward goals for the MEP National Network 2017-2022 Strategic Plan's final 18-month period. These included strengthening the supply chain, serving the manufacturing workforce, increasing Network brand awareness, and leading in technology deployment. Steady progress toward these 18-month goals was seen across the Network, with nearly all the goals met or exceeded. This information is available in the Board meeting minutes posted on the NIST MEP website.

The MEP National Network 2017-2022 Strategic Plan successfully guided the development of an integrated network over the past five years. The MEP National Network is now a reality.

MEP National Network 2023-2027 Strategic Plan

The draft MEP National Network 2023-2027 Strategic Plan was presented to the Board at the September 2022 meeting. The central tenets of the new strategic plan continue to be: Empower Manufacturers, Champion Manufacturing, Leverage Partnerships, and Transform the Network.

The 2023-2027 strategic plan focuses on new program themes of supply chain, workforce, and technology and innovation. The full plan is available [PDF] on the NIST MEP website. The primary goals of the 2023-2027 strategic plan are:

- **Narrow the workforce gap:** Enable SMMs to navigate the current workforce shortage while improving productivity and profitability, build a pipeline of future employees for the manufacturing sector
- **Mitigate supply chain vulnerabilities:** Increase supply chain visibility, assess supply chain risk
- **Leverage technology:** Increase technology adoption, ensure wholistic, comprehensive application and use of technology, strengthen cybersecurity capabilities, partner with federal labs to accelerate the use of new technologies

The 2023-2027 strategic plan will guide the MEP National Network toward these goals through strategies to embrace future growth, broaden and deepen expertise, strengthen relationships and influence with state authorities and agencies, expand collaboration with other Centers and participation in the MEP National Network, and develop and exercise convening power to build strategic partnerships in each state and regionally.

This new strategic plan will provide strategic direction for MEP National Network members and partners, but the implementation of those strategies will reside with each of the individuals who make up the Network, enabling and empowering them to craft the most effective means of execution for their contexts.

Primary Goals of the MEP National Network 2023-2027 Strategic Plan

Narrow the Workforce Gap

Enable SMMs to navigate the current workforce shortage while improving productivity and profitability

Build a pipeline of future employees for the manufacturing sector

Mitigate Supply Chain Vulnerabilities

Increase supply chain visibility through initiatives such as the Supply Chain Optimization and Intelligence Network (SCOIN) and supplier scouting

Assess supply chain risk

Leverage Technology

Increase technology adoption

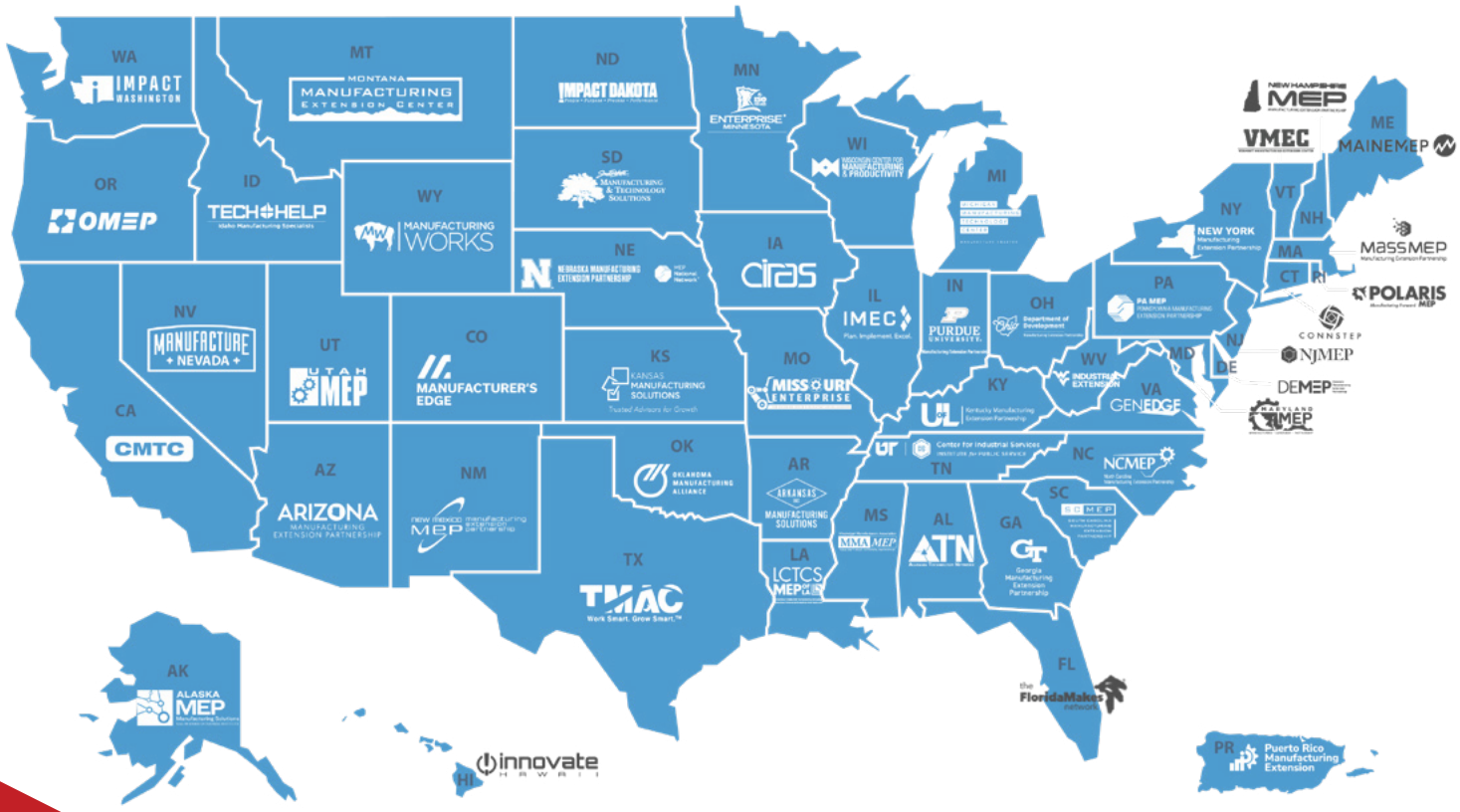
Ensure wholistic, comprehensive application and use of technology

Strengthen cybersecurity capabilities

Partner with federal labs to accelerate the use of new technologies

MEP National Network Update

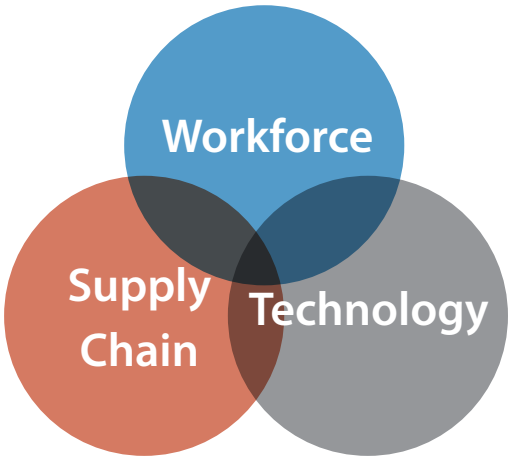
One of the pillars of the 2017 strategic plan was to complete the transformation of MEP into a thriving Network of collaborating Centers and partners capable of addressing national issues in addition to serving manufacturers in each state and Puerto Rico. This newly integrated MEP National Network rose to the challenges resulting from the COVID-19 pandemic, demonstrating its strength in assisting manufacturers through the most trying circumstances. The Network continued this work in 2022, increasing collaborations among Centers and stakeholders, and strengthening its reputation as the go-to resource for any U.S. manufacturer.



Program Themes

Over the past several years, three significant challenges for American manufacturing have emerged:

- A national manufacturing workforce crisis that deters economic prosperity
- Supply chain issues that leave the country, its economy, its security and its citizens vulnerable
- Technology-related deficiencies and constraints which threaten national security, and impact and escalate the other two challenges



Each of these challenges is complex in its own right, and they become more so as they impact and interact with one another. They are overlapping and connected issues.

While no single solution exists for these challenges, one thing is clear. A key link in American manufacturing is the thousands of SMMs that make up the majority of manufacturers in the U.S. They enable the rest of the system to work and thrive, and are integral to overcoming the three current challenges.

The MEP National Network, through its mission to strengthen and empower SMMs, is an essential contributor to the success of American manufacturing. Having served SMMs for over 30 years, the MEPNN understands what it takes to engage with the manufacturing ecosystem in a way that elevates the U.S.'s capability to respond to these national challenges. Its intimate knowledge of SMMs and its relationships with them make the MEPNN a unique and vital player in American manufacturing. Addressing these three critical challenges will be a focus of the MEPNN over the next five years.

In response to the three critical challenges and to reach its desired five-year destination, the MEP National Network 2023-2027 Strategic Plan has three primary goals:

- Narrow the workforce gap
- Mitigate supply chain vulnerabilities
- Leverage technology

In 2022, the MEP National Network began concentrating on these new program themes. Through these focused efforts, the Network will help manufacturers with some of the biggest challenges they currently face.

Narrow the Workforce Gap

The challenge of attracting and retaining a diverse, productive, and engaged workforce has grown significantly for manufacturers in recent years. The MEP National Network 2023-2027 Strategic Plan provides the following strategies for the Network to narrow the workforce gap.

Enable SMMs to navigate the current workforce shortage while improving productivity and profitability through:

- Upskilling
- Use of technology and productivity enhancements
- Partnerships (e.g., connect educational entities to manufacturing needs and jobs/careers)
- Improving work conditions, job quality, career paths, etc.
- Assessing underserved populations and integrating them into the manufacturing industry
- Making the case for integration of underserved populations with SMMs

Build a pipeline of future employees for the manufacturing sector through:

- Rebranding and marketing the public image of manufacturing nationally and in the states
- Broadening partnerships and connections with educational and other entities working in this space

In 2022, the MEP National Network engaged in a number of efforts to help narrow the workforce gap.

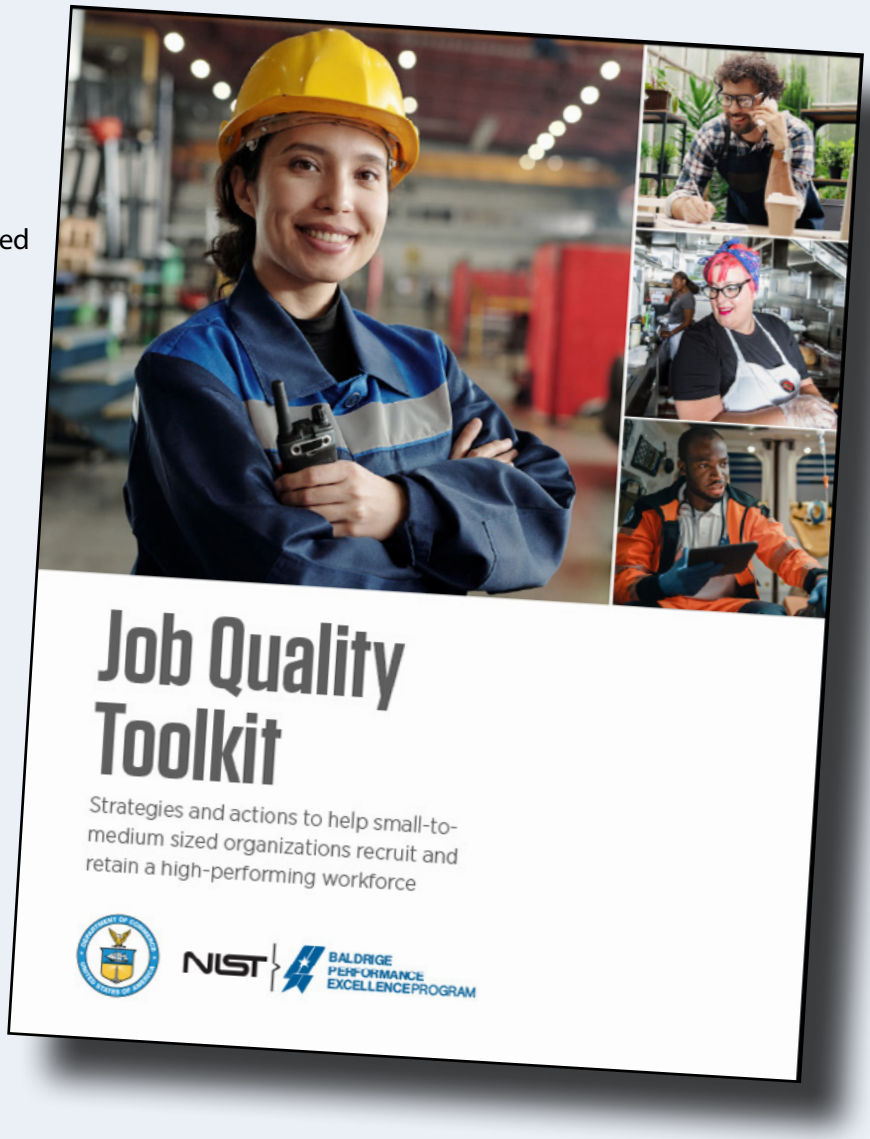
Job Quality Toolkit – Baldrige

In a partnership between the Department of Commerce and the Department of Labor, the Baldrige Performance Excellence Program led efforts to develop a Job Quality Toolkit, formally launched by the Secretaries of both agencies in August 2022.

The Job Quality Toolkit is an easy-to-use, employer-focused tool rooted in the Baldrige Performance Excellence Program. It was created by national experts, nonprofits and role model businesses of all sizes. The toolkit provides strategies and actions for employers to improve the quality of jobs they offer through eight drivers: recruitment and hiring; benefits; diversity, equity, inclusion and accessibility; empowerment and representation; job security and working conditions; organizational culture; pay; and skills and career advancement.

After its launch, NIST MEP actively promoted the toolkit to MEP Centers, presenting webinars to introduce it to MEP Center practitioners and creating an infographic. In addition, MEP Competitive Awards Program-funded America Works hosted an online Job Quality Employer Assessment with questions based on the Job Quality Toolkit's eight drivers of job quality. This tool enables employers to pinpoint strengths and opportunities for improvement within their organization.

The Job Quality Toolkit's practical guidance aims at turning routine occupations into high-quality jobs – where employees feel respected, valued, and vital to the company's success. This can increase worker satisfaction and engagement, improve the organization's ability to compete for talent, and ultimately help their bottom line.



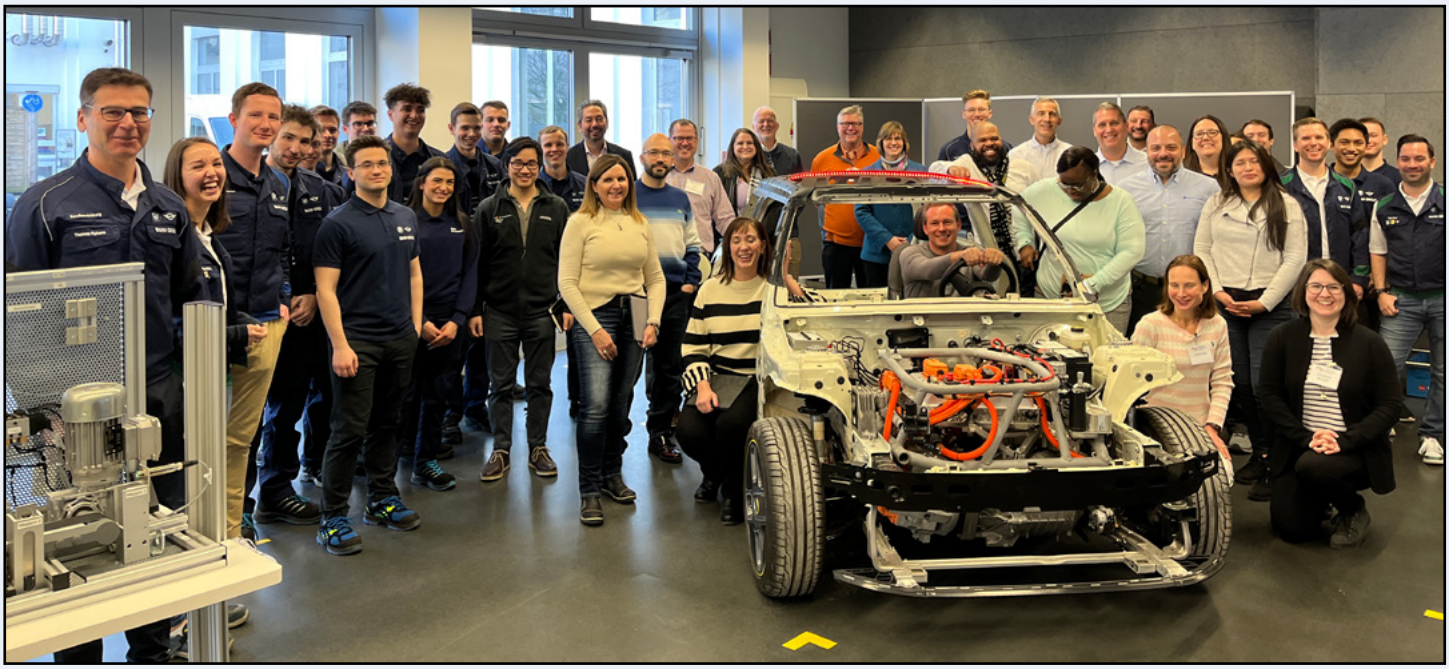
America Works

In 2022, America Works continued its mission to help narrow the workforce gap for America's manufacturers. Since 2020, the MEP Competitive Awards Program-funded initiative has aimed to coordinate training efforts across the MEP National Network – resulting in a more capable, skilled and diverse manufacturing workforce.

America Works' four primary goals are to:

- Accelerate individual and national MEP Center innovation, effectiveness and efficiency through offering a national database, resources, informal and formal connections, as well as hands-on consulting
- Identify and scale up effective solutions beyond local MEP Centers to catalyze national workforce development improvement
- Solidify MEP Centers as the go-to place for small U.S. manufacturers struggling with workforce issues
- Create a model for future inventories, centralization and coordination of MEP Centers, which could be expanded to other areas in the future

Program Theme: Workforce



America Works engaged in numerous workforce efforts in 2022 including webinars and frequent blogs on workforce topics. Highlights included:

Fireworks conference: America Works presented the June 2022 conference in Cleveland, Ohio, attended by 70 people from across the MEP National Network. Fireworks offered guest experts, best practices around the Network, lots of networking time and connecting MEP Centers around shared interests. The agenda covered topics including employer of choice consulting and diversity, equity, inclusion, and accessibility.

Workforce mission to Germany: America Works partnered with the American Council on Germany to learn more about the German apprenticeship system and other German workforce efforts. Participants included 16 workforce professionals from MEP Centers and partner organizations. Learnings from the October 2022 mission were shared across the MEP National Network and beyond through webinars and blogs. The trip was the first of its kind, with two additional trips planned for 2023 to enable additional MEP Center representatives to learn firsthand about the German apprenticeship program and workforce development opportunities.

Manufacturing Day 2022

Manufacturing Day (MFG Day) was celebrated around the country on Oct. 7, 2022. MFG Day is manufacturing's biggest annual opportunity to inspire the next generation to start careers in modern manufacturing through a series of focused events to promote manufacturing to students, parents and educators on the first Friday of October and continuing throughout the rest of the month.

The MEP National Network participates in MFG Day each year, helping hundreds of small and medium-sized manufacturers across the country plan, orchestrate and promote their MFG Day events. Events range from workforce summits to manufacturing facility tours. This national outreach effort enables manufacturers to take an active part finding resources to address the skilled labor shortage many face, take charge of the public image of manufacturing and help ensure a prosperous future for manufacturing throughout the U.S.

Credit: David Bohrer/National Association of Manufacturers

Spotlight

Credit: IMEC

Manufacturing Month Bus Tours

The Illinois Manufacturers' Association and the Illinois Manufacturing Excellence Center (the Illinois MEP Center) celebrated Manufacturing Month throughout October, including the launch of Makers on the Move on Friday, Oct. 7. This 2,100-mile statewide bus tour, sponsored by Comcast Business, Novelis and Walmart, visited manufacturing facilities, colleges and high schools after beginning at the College of Lake County's new Advanced Technology Center in Gurnee, Illinois.

Impact Washington (the Washington MEP Center) also joined a MFG Week bus tour. Hosted by the Association of Washington Business, the bus made 30 stops in 13 counties across the state from October 6-13, visiting manufacturing facilities, colleges and high schools. The journey began at Chinook Industries and Goodwinds Composites and continued on through eastern and central Washington. In 2022, the tour included students for the first time, allowing them to visit some of Washington's most innovative manufacturers and learn about manufacturing careers.

MEP National Network Update Meeting

The MEP National Network Update Meeting was held as two half-day meetings in Chicago, Illinois on Sept. 19-20. Over 200 attendees included MEP Center Directors and partners, NIST MEP staff, and others from the MEP National Network, many of whom also attended the co-located Center Best Practices Conference hosted by the Foundation for Manufacturing Excellence following the Update Meeting. The Update Meeting included MEP Director Pravina Raghavan explaining her vision for the future of the MEP program and the new MEP National Network 2023-2027 Strategic Plan. Other presentation topics included the U.S. Department of the Treasury's State Small Business Credit Initiative, supply chain, diversity, equity, inclusion and accessibility (DEIA), the Baldrige Performance Excellence Program, and MEP National Network metrics.

Mitigate Supply Chain Vulnerabilities

The pandemic made it clear that supply chain vulnerabilities for critical medical supplies put U.S. citizens at risk. Relying on overseas suppliers for products like semiconductors puts our national security at risk. The MEP National Network 2023-2027 Strategic Plan provides the following strategies for the Network to mitigate supply chain vulnerabilities.

Increase supply chain visibility

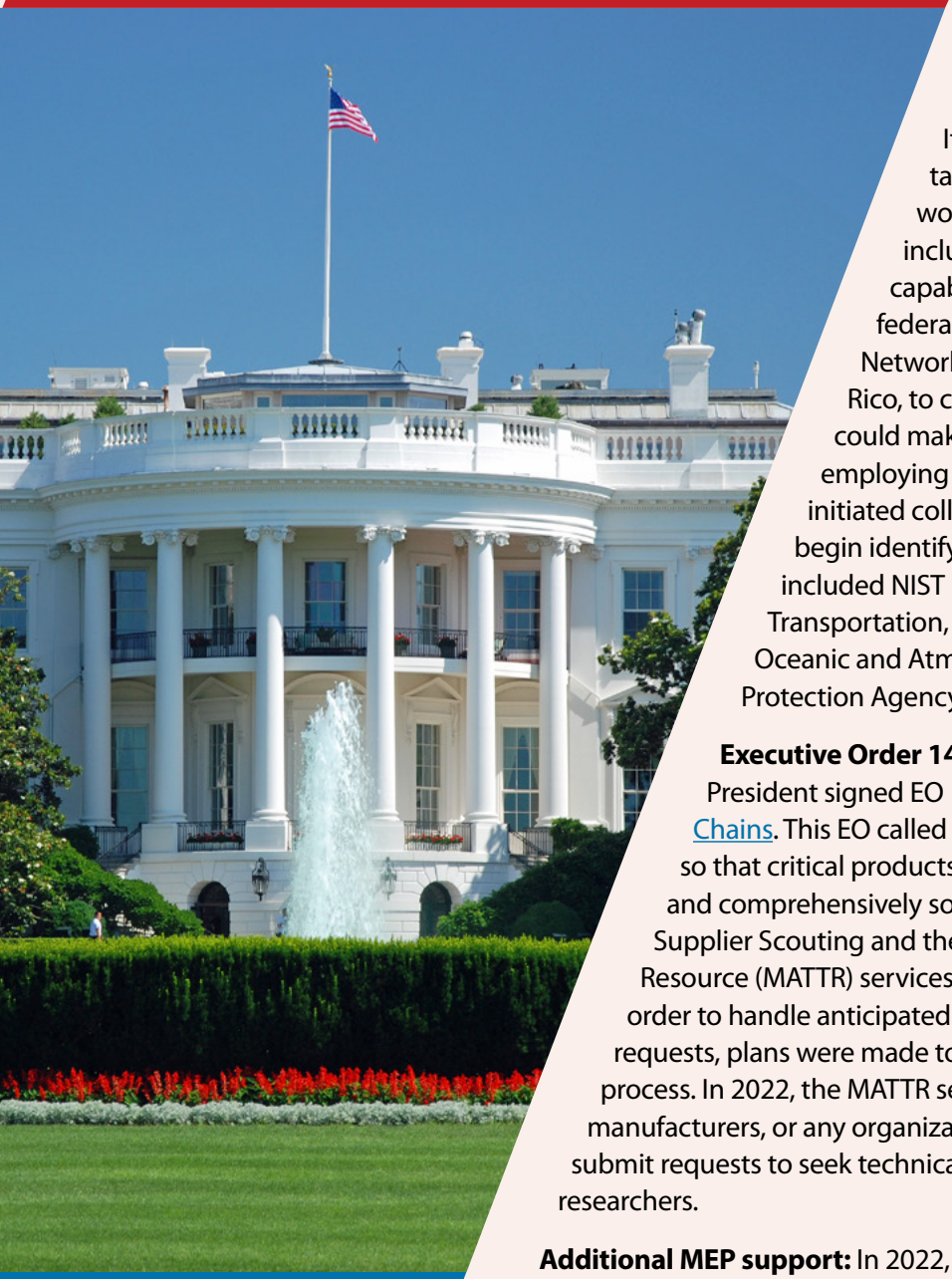
- End-to-end awareness (supplier's supplier and customer's customer)
- Mapping supply chains (key industries, in individual states)
- Working with original equipment manufacturers to map out how SMMs fit into their supply chains

Assess supply chain risk

- Able to identify vulnerabilities
- Able to rapidly detect risk as they emerge
- Strengthen supplier development
- Increase supplier scouting capacity

In 2022, the MEP National Network engaged in a number of efforts to help mitigate supply chain vulnerabilities.

Program Theme: Supply Chains



MEP Role in Executive Orders

Executive Order 14005: On Jan. 25, 2021 President Biden signed Executive Order (EO) 14005, Ensuring the Future is Made in All of America by All of America's Workers. This EO was part of the administration's broader commitment to increase investments in U.S. manufacturing. It called for the federal government to spend taxpayer dollars on goods made by American workers with American-made parts. EO 14005 included a citation of the MEP program and its capabilities by name. EO 14005 specifically directed federal agencies to work with NIST MEP and its Network of MEP Centers in all 50 states and Puerto Rico, to connect with new domestic suppliers who could make the products federal agencies needed while employing America's workers. In response, NIST MEP initiated collaborations with several federal agencies to begin identifying supply chain gaps. In 2022, these efforts included NIST MEP collaborations with the Department of Transportation, International Trade Administration, National Oceanic and Atmospheric Administration, Environmental Protection Agency, and Department of Energy.

Executive Order 14017: In addition, on Feb. 24, 2021 the President signed EO 14017, the Executive Order on America's Supply Chains. This EO called for shoring up America's key supply chains so that critical products and technologies were more effectively and comprehensively sourced domestically. MEP National Network Supplier Scouting and the MEP-Assisted Technology and Technical Resource (MATTR) services expanded in support of this EO. In 2022, in order to handle anticipated increases in numbers of supplier scouting requests, plans were made to begin automating the supplier scouting process. In 2022, the MATTR service expanded, with MATTR+ enabling U.S. manufacturers, or any organization supporting U.S. manufacturers, to directly submit requests to seek technical assistance from world-renowned NIST researchers.

Additional MEP support: In 2022, the MEP National Network contributed to the success of additional executive orders and national goals supporting U.S. manufacturing and supply chains. These included efforts relating to the American Jobs Plan, EO 14057 Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability, the National Defense Authorization Act for Fiscal Year 2022, the United States Innovation and Competition Act of 2021, and the CHIPS and Science Act. MEP is also part of the interagency council for execution of the National Strategy for Advanced Manufacturing, Subcommittee on Advanced Manufacturing for supply chain and workforce.

MEP National Network Supplier Scouting

The MEP National Network Supplier Scouting service expanded in 2022 to help build more resilient supply chains across the country. Relaunched in March 2020, MEP Centers have participated in this effort, using a variety of approaches and tools for scouting. As a result of EO 14005, NIST MEP noted increased visibility and potential use of the MEPNN Supplier Scouting service for federal agencies' procurements. In addition, NIST MEP leveraged the service nationally to analyze and map critical supply chain needs, gaps and help to address them. In 2022, in order to handle expected increases in numbers of scouting requests, efforts began to automate the supplier scouting process.

In 2022, MEPNN Supplier Scouting scouted 155 opportunities, representing 33 manufacturing processes in 19 industries. Eight federal agencies participated. MEP Centers submitted 98 matches, creating $33.9 million in business opportunities.

MEP National Network Supplier Scouting

155
opportunities

98
matches

19
industries

$33.9 million
business opportunities

Leverage Technology

Many small and medium-sized manufacturers hesitate to invest in technology due to costs or lack of time. Technology-related deficiencies and constraints threaten national security, and impact and escalate the workforce crisis and supply chain vulnerabilities. The MEP National Network 2023-2027 Strategic Plan provides the following strategies for the Network to help manufacturers leverage technology.

Increasing technology adoption

- Identifying early adopters and leverage their success to motivate the next wave of manufacturers
- Defining tech capabilities and business cases for adoption for customers to increase impact (information technology and operational technology)
- Educating Center staff on the different kinds of technology to increase impact with customers

Ensuring wholistic, comprehensive application and use of technology (not just in production but in business operations, etc.)

- Creation of road maps for customers and aligning them to customer's strategic goals

Strengthening cybersecurity capabilities

- Communicating the importance of mitigating cybersecurity risks
- Ensuring that MEP Centers are adhering to the cybersecurity guidance provided by NIST MEP

Partner with federal labs to accelerate the use of new technologies

- Co-develop tech capabilities and business cases for adoption to bring new insights to industry

In 2022, the MEP National Network engaged in a number of efforts to help manufacturers leverage technology.

Advanced Manufacturing TechnologyServices/Industry 4.0

The MEP National Network provides manufacturers with the resources and services to reach end-to-end digitization of all physical assets and integration into digital ecosystems. In 2022, SMMs increased adoption of Industry 4.0 technologies to combat challenges they faced throughout the pandemic, including supply chain and workforce shortages, as well as for capacity building and new market growth. Based on client surveys, MEPNN Industry 4.0 services yielded significant impacts in 2022, including over $125 million in sales and over 1,000 new or retained jobs.

NIST MEP has supported advanced manufacturing projects through its Advanced Manufacturing Technology Services (AMTS) and Competitive Awards Program (CAP) awards. In 2022, NIST MEP awarded approximately $8 million for advanced manufacturing projects. Active projects in 2022 included:

- **Purdue MEP (Indiana MEP Center) I-SMART AMTS.** The team comprised of MEP Centers in Indiana, Iowa, and Illinois conducted educational events and automation assessments, and completed 28 automation deployments. They exceeded most of their goals and actively contributed to the MEPNN Advanced Manufacturing Technology Services/Industry 4.0 Working Group.
- **Michigan Manufacturing Technology Center (Michigan MEP Center) AMTS.** The team of MEP Centers from Michigan, Ohio and Illinois delivered projects in areas including Internet of Things, automation, big data, robotics, augmented reality/virtual reality, additive manufacturing, cybersecurity and cloud services. They also demonstrated these technologies' capabilities and impacts to SMMs through a road show.
- **Texas Manufacturing Assistance Center (Texas MEP Center) AMTS.** The collaboration between the Texas, New Mexico and Oklahoma MEP Centers exceeded project goals, serving over 400 clients and delivering assessments and workshops while completing 41 deployments.
- **Oregon MEP's CAP-funded Industry 4.0 Regional Development Project.** Oregon MEP led the team including MEP Centers in Nevada, Minnesota, Hawaii and Idaho. In 2022, each Center made progress toward increased use of Industry 4.0 technologies in their state. Activities included automation projects, cybersecurity training, educational events, and partnering with local resources to create awareness of Industry 4.0 technologies.

MEP-Assisted Technology and Technical Resource (MATTR and MATTR+)

For the past several years, the MATTR service has provided MEP Center manufacturing clients with access to the expertise of NIST scientists and engineers, and the technology of the NIST laboratories. MATTR efforts vary in scope to meet manufacturer needs. A newer service, MATTR+ expands access to NIST researchers even further. Both MATTR and MATTR+ have resulted in well-received technical assistance provided to small and medium-sized manufacturers.

MATTR

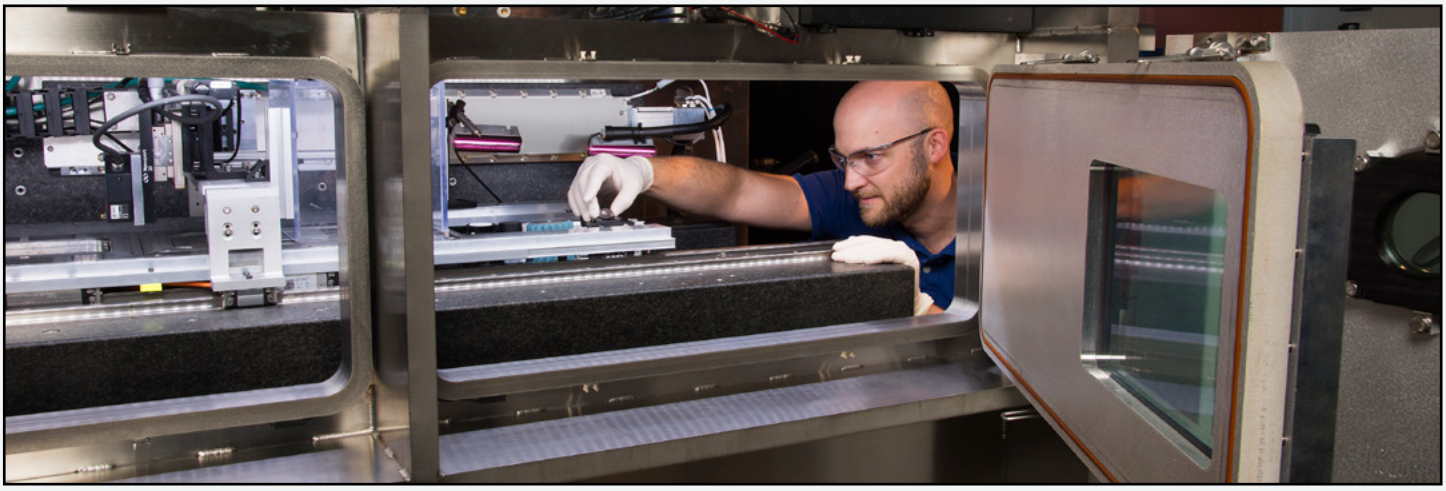
MATTR serves as the connection point for MEP Center manufacturing clients to receive assistance with technical problems from NIST researchers. These interactions are often mutually beneficial – in addition to helping manufacturers, MATTR provides NIST researchers with opportunities to inform their research efforts by learning about the problems facing U.S. small and medium-sized manufacturers.

With enough interest from both the MEP Center manufacturing client and NIST researcher involved, a number of these engagements resulted in more formal relationships through Cooperative Research and Development Agreements (CRADAs) and Research Collaboration Agreements (RCAs). In 2022, there were three CRADAs and one RCA, focusing on analytical testing of polymeric materials and electronic devices.

Additional MATTR inquiries resulted in less extensive discussions between the inquiring companies, and NIST researchers or MEP Centers. These came from across a wide variety of fields, including solar energy, and additive, chemical, and food manufacturing.

MATTR+

In support of EO 14017 efforts to shore up supply chains for key products and critical technologies, NIST MEP planned to increase the number of clients engaged with technology services projects and MATTR requests. As a result, NIST MEP created the MATTR+ service. Through MATTR+, any domestic manufacturer or manufacturing stakeholder can request technical assistance from NIST researchers, with NIST MEP facilitating the interaction. In 2022, MATTR+ requests covered topics including ultrasonic machining, polyester fibers, metal treatments, and quantum manufacturing. More information about MATTR+ and an application form are available on the NIST MEP website.



Credit: © Earl Zubkoff

Cybersecurity for Manufacturing

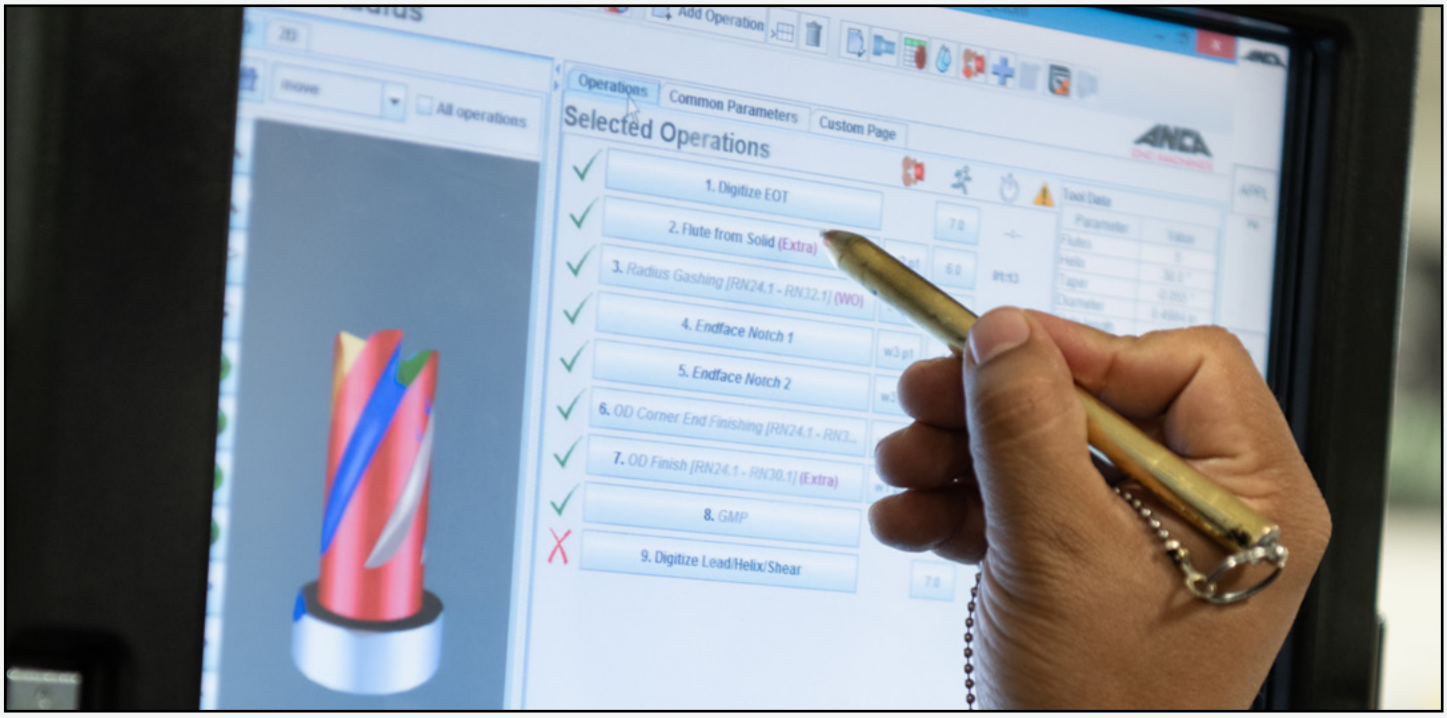
Manufacturers increasingly rely on network connections to run their operations. These systems are often highly interconnected and mutually dependent. It is critical for manufacturers to defend their systems against service disruptions and cyberattacks. However, many small manufacturers have limited resources and lack the staff and tools to adequately address cybersecurity needs – leaving them particularly vulnerable to cyberattacks.

Cybersecurity risks for most small and medium-sized manufacturers remained elevated in 2022 and increasingly impacted operations. Manufacturers can mitigate these risks with proper cybersecurity practices. MEP Centers have developed substantial expertise to help manufacturers throughout the country.

All MEP Centers have the capacity to provide cybersecurity services to manufacturers, either with in-house staff or trusted third parties. In 2022, over 70% of MEP Centers provided cybersecurity assessments or implementation projects, with a total of 430 projects reported across the Network. About half of the cybersecurity projects were for Department of Defense (DOD) suppliers. During 2022, MEP Centers also hosted over 100 cybersecurity events, including webinars to educate manufacturers about cybersecurity.

The MEP National Network Cybersecurity Working Group provided a forum for the Network to share both challenges and best practices. NIST MEP involved cybersecurity subject matter experts from NIST laboratories in this working group, providing the Network with information about the most current cybersecurity practices for manufacturing.

In addition, in 2022, MEP Centers in California, Michigan and Virginia completed MEP Competitive Awards Program-funded projects to develop the "go-to" cybersecurity Center model. These three MEP Centers developed cybersecurity best practices, trained MEP Center personnel and identified tools. They also set up a framework for Centers to increase cybersecurity awareness for manufacturers and meet their future cybersecurity needs.



Food Industry Services and Food Safety

The food and beverage industry is the third largest contributor to the overall U.S. manufacturing gross domestic product. In 2022, over three-quarters of the 27,000 U.S. food manufacturers had fewer than 100 employees and the food manufacturing market continued to present a tremendous growth opportunity for the MEP National Network.

During 2022, the Network continued to leverage its national expertise and partnerships, providing local and regional assistance to small and medium-sized food manufacturers. This included assistance with implementing new technology and training to support a culture of food safety. In 2022, MEP Centers provided more than 400 food industry-related projects and hosted over 700 workshops and training sessions for food manufacturers. Client projects covered diverse topics and industry standard certifications including Food Safety Preventive Controls Alliance (FSPCA) and Global Food Safety Initiative implementation of Safe Quality Food.

The Network continued collaborating with the Food and Drug Administration, NIST laboratories and the FSPCA under existing memorandums of understanding. In addition, representatives from MEP Centers, along with various partners involved with food and beverage manufacturing, continued to meet monthly to share best practices, challenges and solutions.

The MEPNN continued to collaborate with the Food Safety and Inspection Service (FSIS) of the U.S. Department of Agriculture. The FSIS is responsible for ensuring that meat, poultry, and egg products are safe, and properly labeled and packaged. They provide technical support through agency subject matter experts and various tools for food manufacturers.

The MEPNN also collaborated with the Association of Food and Drug Officials, which works at state and local levels, and with food and medical product professionals representing a host of disciplines, including industry, government, academia and consumer groups.

Semiconductors

In response to the CHIPS and Science Act and the national focus on reinvigorating semiconductor manufacturing in the U.S., in 2022, NIST MEP began strategizing ways the MEP National Network could support the expanding sector. NIST MEP convened a steering committee involving MEP Centers with high potential to develop services for the growing semiconductor industry and adjacent industries. In 2022, NIST MEP performed a preliminary market analysis, mapping existing MEP Center manufacturing clients with semiconductor and adjacent sector manufacturers. Over the course of the year, the steering committee grew into a semiconductor focus group, with efforts focused on identifying challenges and opportunities for the MEP National Network in this growing sector.

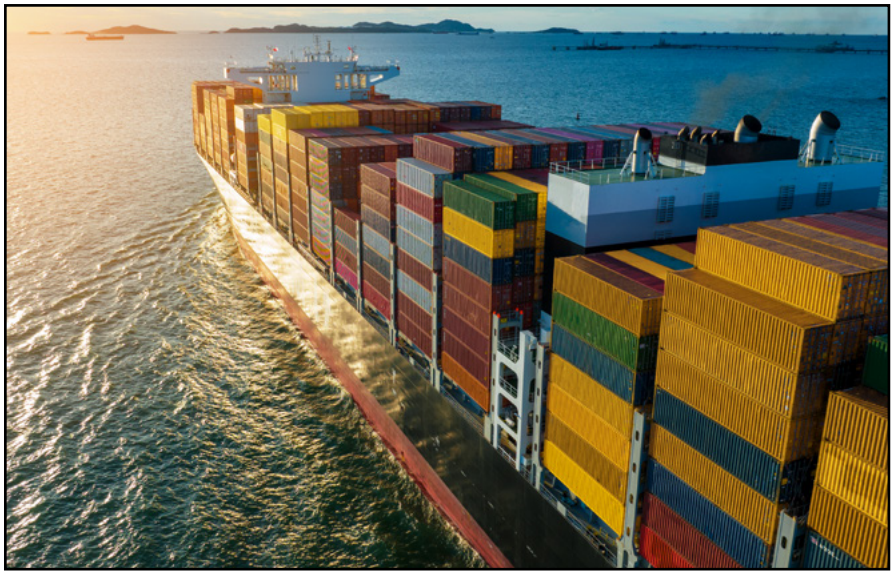
Interagency Partnerships and Collaborations

In 2022, NIST MEP started an aggressive initiative to develop collaborative relationships with a wide variety of potential partners aligned with the MEP National Network's new strategic program themes: narrowing the workforce gap, minimizing supply chain vulnerabilities, and leveraging technology. Targeted organizations included federal laboratories, federal agencies, Manufacturing USA institutes, trade and professional organizations, nonprofit stakeholders, and original equipment manufacturers. Over 50 potential stakeholders were identified, with follow-up interactions planned, including site visits, joint webinars, and presentations to MEP National Network working groups.

2022 NIST MEP collaborations included:

- **Department of Energy (DOE) Office of Manufacturing and Energy Supply Chains.** Roundtable meetings with MEP Center Directors helped the DOE better understand SMM needs. In addition, NIST MEP collaborated with the DOE's Industry Assessment Center office to expand combined services in the clean energy manufacturing sector.
- **Department of Defense Joint Defense Manufacturing Council.** NIST MEP continued collaborations with the DOD.
- **Interagency council to help execute the National Strategy for Advanced Manufacturing.** NIST MEP participated in the National Science and Technology Council's subcommittees on supply chain implementation and workforce.
- **Interagency committee led by the Made in America Office.** NIST MEP contributed to the Made in America Office's Market Research working group to help build stronger supply chain interconnections among agencies.
- **NASA-led interagency space council.** NIST MEP provided recommendations on supply chain, space technologies innovation, and workforce to enable U.S. space infrastructure.
- **MedAccred.** NIST MEP and the Virginia MEP worked with the FDA and MedAccred, an industry-managed approach to ensuring quality throughout the medical device supply chain, on a supply chain resiliency and quality working group. The group's efforts focused on ensuring quality and identifying ways to mitigate supply chain risks.

ExporTech



Nearly 95% of global consumers and 84% of spending power is found outside the U.S., making exporting extremely appealing for business growth. ExporTech™ is a national program that helps companies enter or expand in global markets. Jointly offered by NIST MEP and the U.S. Commercial Service of the U.S. Department of Commerce, ExporTech guides companies through a structured export strategy development process, connects them with world-class experts, and helps them rapidly expand sales, saving countless hours of effort.

The 2022 MEP Competitive Awards Program-funded ExporTech 2.0 project expanded and enhanced the export capabilities of the MEP National Network while increasing the volume of participants and impact of the ExporTech program. Significant program and workforce improvements, including the addition of online and hybrid training, made it more time efficient and effective for MEP Center staff, partners and participating companies to expand into global markets and increase sales. In 2022, 10 ExporTech sessions were completed with 44 manufacturing clients.

Toyota Kata

Toyota Kata is a structured and focused approach to creating a continuous learning and improvement culture at all levels. It provides the framework for a sustainable problem-solving culture incorporating targeted experimentation and personal learning. There are two main elements to Toyota Kata – the improvement kata and the coaching kata. Toyota Kata provides the tools to improve how to lead, manage and help people develop the skills to thrive in today's constantly changing marketplaces.

MEP Centers serve as the kata coach and trusted advisor, helping manufacturers develop a culture of continuous learning and improvement at all levels through deliberate practice. MEP Centers and manufacturers use Toyota Kata to develop creative, scientific-thinking skills with employees using these skills to keep improving, adapting and generating competitive advantage in a strategically aligned way.

The MEP Competitive Awards Program-funded project MEP Kata in a Box 1.0 finished up in April 2022. Over its three-year funding period, the project delivered training, coaching and mentoring to 20 MEP Centers. This strengthened MEP Toyota Kata coaches, which helped expand, strengthen and maximize the impact of the kata methodology with local MEP Center manufacturing clients across the country.

In 2022, Toyota Kata services delivered by MEP Centers to clients resulted in nearly $150 million in new or retained sales, and more than $66 million in cost savings, $16 million in new investments, and 600 new or retained jobs.

NIST MEP Competitive Awards Program

In 2017, NIST MEP launched the performance-based Competitive Awards Program (CAP) as part of ongoing efforts to build the MEP National Network and to make the program more effective and efficient. The statutory authority for the NIST MEP competitive awards defined the competition's priorities:

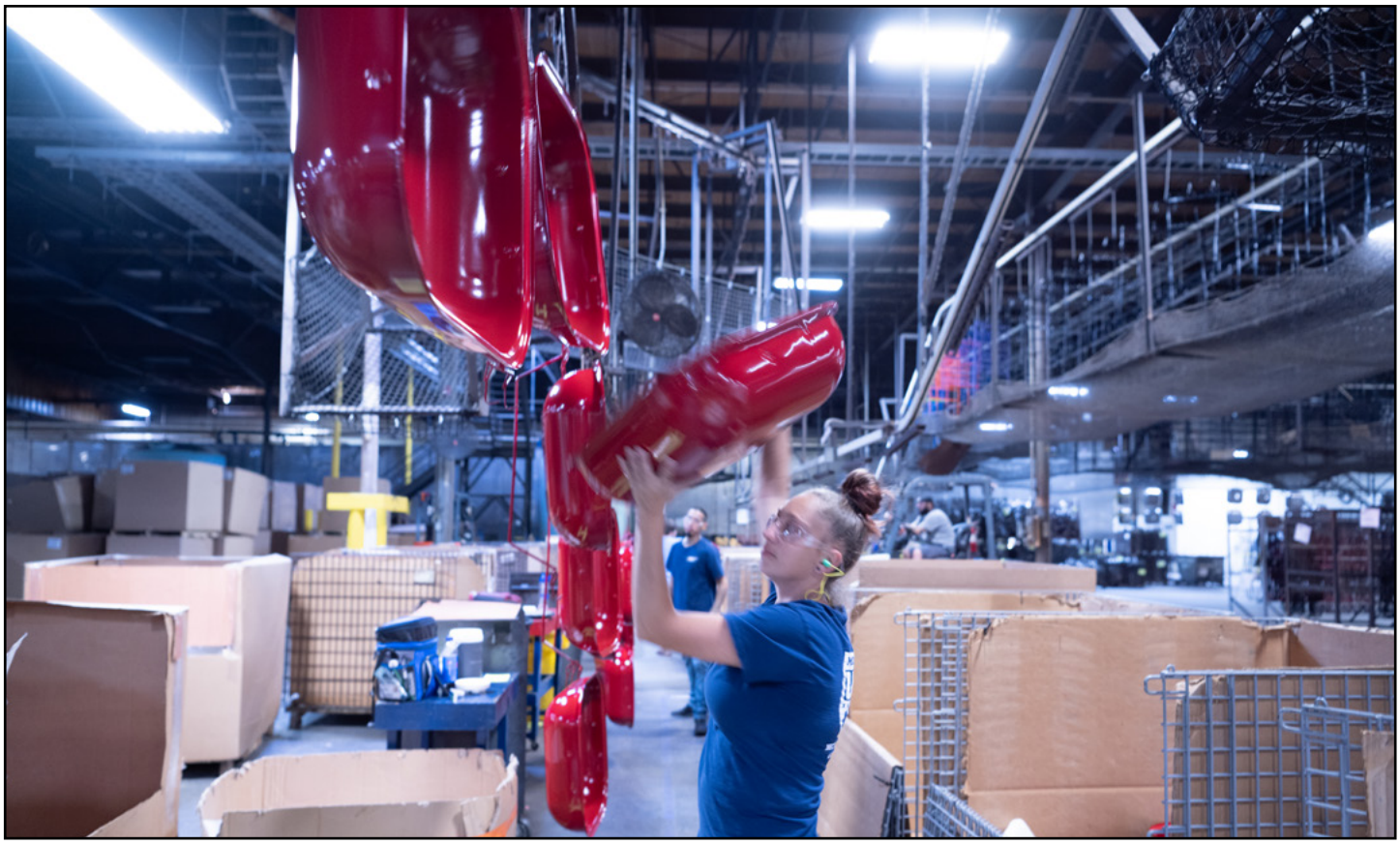
- Improve the competitiveness of industries in the region in which the Center or Centers are located
- Create jobs or train newly hired employees
- Promote the transfer and commercialization of research and technology from institutions of higher education, national laboratories, or other federally funded research programs and nonprofit research institutes
- Recruit a diverse manufacturing workforce, including through outreach to underrepresented populations

In 2020, MEP Advisory Board members contributed ideas for possible future CAP themes. As a result, CAP themes now include Industry/Manufacturing 4.0; manufacturing workforce services including employee recruitment, retention and development; supply chain management and resiliency; and artificial intelligence application.

In 2022, NIST MEP awarded a $500,000 CAP award to the following MEP Center:

- Empire State Development Division of Science, Technology and Innovation (New York MEP Center)

Since 2017, NIST MEP has funded dozens of CAP awards with project durations of 2-3 years. The projects are engaging and providing manufacturing practice development funding to MEP Center partners around the country.



State Center Competition

MEP Center awards must be recompeted every 10 years for an award of up to 10 years, based on availability of the appropriation of federal funds and the good standing of the applicant. In 2022, NIST MEP recompeted the cooperative agreement awards for MEP Centers in Kentucky, Nebraska, Rhode Island and South Dakota. NIST MEP issued a notice of funding opportunity (NOFO) for these awards on Jan. 26, 2022. On Oct. 17, 2022, NIST announced cooperative agreement awards totaling nearly $19.8 million to four organizations. The MEP Centers will be operated by:

- University of Louisville Research Foundation (Kentucky)
- University of Nebraska-Lincoln
- University of Rhode Island Research Foundation
- Lake Area Technical College (South Dakota)

NIST MEP issued a second NOFO on Aug. 1, 2022 for MEP Center awards for Arizona and Maryland (including the District of Columbia). The cooperative agreement awards were expected to be made in early 2023.

MEP Program Performance Evaluations

Panel Reviews

One of the most important changes to the MEP program resulting from passage of the American Innovation and Competitiveness Act (AICA) in 2017 was the requirement that NIST MEP conduct third- and eighth-year performance evaluations – known as panel reviews – of the MEP Centers. Panel reviews are expected to:

- Provide an opportunity to assess the Center's overall performance as it relates to market penetration, economic impact, and financial sustainability to improve the productivity and performance of U.S. manufacturing
- Focus on trends and patterns to provide analysis, diagnosis, and feedback to Centers regarding their strengths and opportunities for improvement, and identify any deficiency areas
- Include an evaluation of a Center's own performance and evaluation management system's effectiveness and self-assessment
- Promote information sharing across the MEP National Network
- Emphasize the linkage between best practices and demonstrated Center and client performance
- Identify common performance gaps so Centers can leverage internal and external resources to develop performance improvement practices

Under NIST MEP guidelines, each panel is composed of three peer MEP Center Directors and a member of NIST MEP who serves as the Panel Chair. A Center performance and profile report is prepared by the Center in advance of the panel review. This report provides a summary of the Center's organizational framework, performance against the NIST MEP Improving Manufacturing Productivity and Competitiveness Tracker (IMPACT) metrics, and a self-study overview of the Center's unique characteristics. Regular reviews and Center documents provide the panel with more information. As part of the panel review, the Center makes a presentation, and the panel asks questions to assess the Center's overall performance. A panel summary report is then issued highlighting the Center's strengths and opportunities for performance improvement. The MEP Director makes final recommendations, with the Center receiving either a positive evaluation or an other-than-positive evaluation resulting in probation. The panel summary report is one of many inputs into the MEP Center's fifth-year secretarial review and the issuance of another five-year cooperative agreement.

Since 2016, NIST MEP has conducted performance evaluations for all 51 MEP Centers. Of the 51 MEP Centers, the following seven Centers have gone through both their third- and eighth-year evaluations:

- Arizona, Florida, Kentucky, Maryland, Nebraska, Rhode Island and South Dakota

In FY 2022, one third-year evaluation was conducted for Alaska. During FY 2023-2024, the remaining 43 MEP Centers will go through their eighth-year evaluations.

Secretarial Reviews

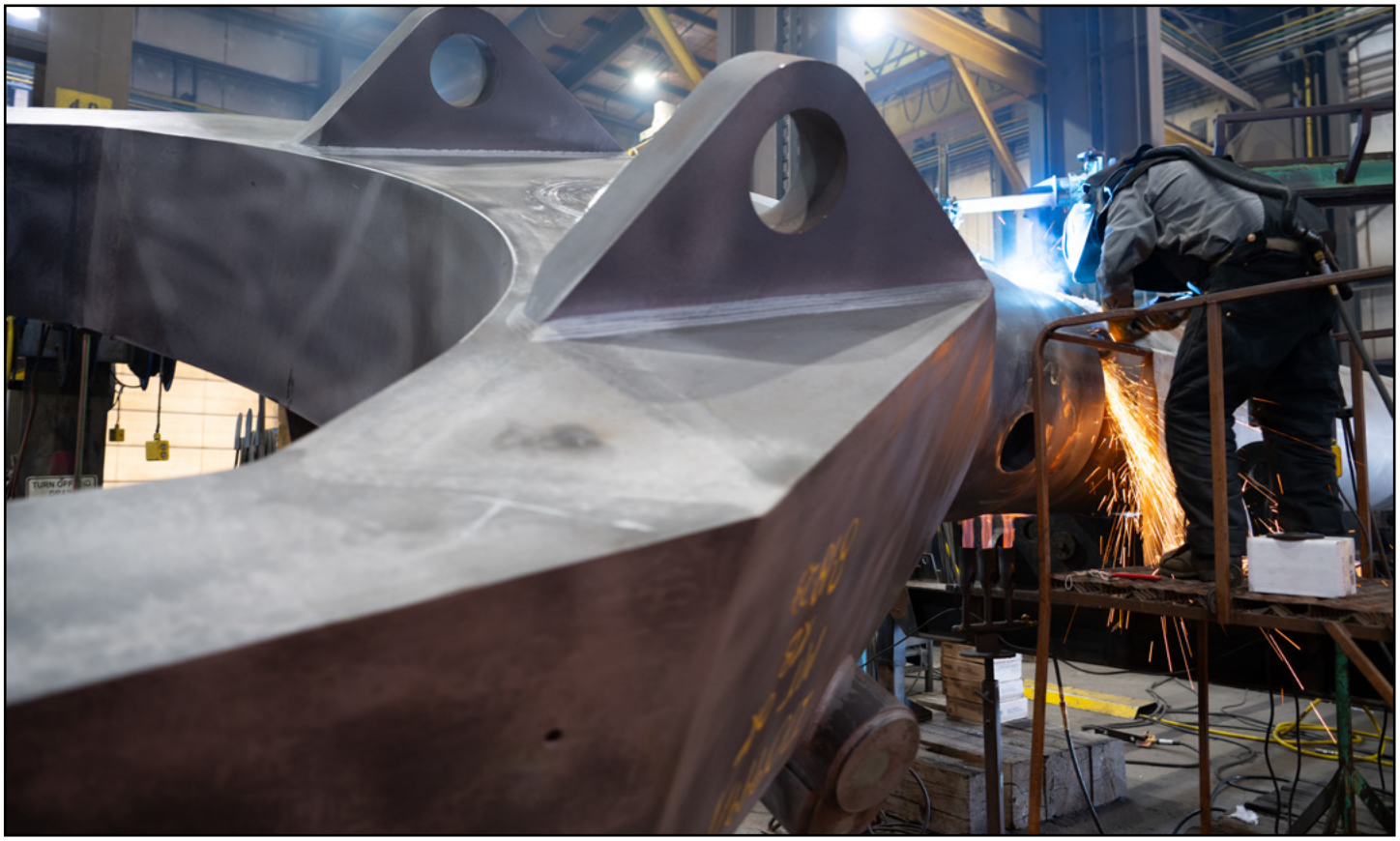
The AICA also requires an evaluation of each Center as it approaches the halfway mark of its 10-year cooperative agreement. Referred to as secretarial reviews, these fifth-year performance assessments are delegated to the MEP Director and involve a thorough review of a set of performance-related documents similar to those used for third- and eighth-year panel reviews. A positive outcome affirms the Center's eligibility to continue receiving federal financial assistance from NIST for the remaining five years of the cooperative agreement. Centers that are determined to have unacceptable performance are placed on a 12-month probation.

As of 2021, NIST MEP completed the secretarial reviews of all 51 MEP Centers. Each Center received a positive evaluation and recommendation to continue the final five-year cooperative agreement. In 2022, no MEP Centers were scheduled for secretarial reviews.

Annual Reviews

According to 15 C.F.R. § 290.8, NIST MEP is required to conduct a programmatic review of the MEP Centers annually. These programmatic evaluations, aligned with the performance-based evaluations, are conducted by each Center's NIST MEP Center Resource Management Team, including the Resource Manager, Federal Program Officer and Grants Specialist. NIST MEP has developed an annual review process that begins with the Center's progress toward objectives, performance on IMPACT metrics and prior NIST MEP recommendations.

Recommendations in 2022 focused on helping Centers strengthen their cybersecurity posture and begin assessing manufacturers' current and future Industry 4.0 needs to help address workforce issues.



Award-Winning NIST MEP Staff

Several NIST MEP staff members were honored at the 50th annual NIST Awards:

- Gold Medal Award: NIST MEP's Anita Balachandra, on detail to the CHIPS program, was part of a group award for developing the 100-day report on risks in the semiconductor manufacturing and advanced packaging supply chains.
- George A. Uriano Award: NIST MEP's Sheena Simmons, Diane Henderson, Kimberly Coffman and Michele Montgomery received a group award for developing and implementing the Merit Review Automation Program to streamline the state competition review process for MEP.

George A. Uriano Awardees, pictured left to right: Michele Montgomery, Diane Henderson, and Kimberly Coffman

Coming in 2023

Expansion Awards/Supply Chain Optimization and Intelligence Network

In addition to its FY 2023 appropriations increase, MEP received $13 million in supplemental disaster funding to help implement the CHIPS and Science Act. With the additional funding, MEP will launch the Expansion Awards Program with an initial focus on strengthening supply chains in the U.S., as this is also a main priority of the CHIPS and Science Act implementation effort.

Interagency Partnerships and Collaborations

In 2023, NIST MEP will expand its outreach efforts to original equipment manufacturers (OEMs) to help integrate small manufacturers into OEM supply chains. Efforts will also focus on informing MEP National Network experts and small manufacturers about new OEM developments in manufacturing. NIST MEP plans to target OEM engagements in the clean energy, semiconductor, space, medical device, defense, biomanufacturing and food industries.

Network Learning and Knowledge Management System

NIST MEP is committed to providing the MEP National Network with speedy access to available resources, expertise and other information. NIST MEP will conduct a project in 2023 to capture and share knowledge with the entire Network more effectively. The Network Learning and Knowledge Sharing System Roadmap will develop clear implementation methodologies to guide development of future MEP knowledge systems that support the MEP National Network's growth over the next decade.

Manufacturing Day 2023

Manufacturing Day (MFG Day) events promote manufacturing to students, parents and educators on the first Friday of October – and throughout the month! On Oct. 6, 2023, MFG Day 2023, NIST MEP and MEP Centers will draw public attention to manufacturing's present day reality and encourage careers in this secure and growing sector of the economy. MEP Centers will work with local manufacturers to plan events and spread the word about MFG Day 2023 to ensure its success.

MFG Day empowers manufacturers to come together to address their collective challenges so they can help their communities and future generations thrive. Being an active part of this national outreach effort allows manufacturers to find additional resources to address the skilled labor shortage many face, take charge of the public image of manufacturing and help ensure a prosperous future for manufacturing throughout the U.S.

2023 MEP Events

Planned MEP Advisory Board Meetings

March 7-8, 2023: Washington, D.C.

June 2023: Virtual meeting

Sept. 13, 2023: Buffalo, New York

Planned MEP National Network Forum

Sept. 11-14, 2023: Buffalo, New York

List of Current MEP Centers/Contacts

MEP Centers serve as the foundation of the MEP program. 51 MEP Centers are located in all 50 states and Puerto Rico. Over 1,450 trusted advisors and experts at approximately 430 MEP service locations provide any U.S. manufacturer with access to resources they need to succeed.

Alabama
Alabama Technology Network (ATN)
135 S. Union St., Suite 441
Montgomery, AL 36104
Phone: 334-293-4671
www.atn.org

Alaska
Alaska Manufacturing Extension Partnership Center
1901 Bragaw St., Suite 199
Anchorage, AK 99508
Phone: 907-786-0412
www.Alaska-MEP.com

Arizona
Arizona Manufacturing Extension Partnership
(Arizona MEP)
100 N. Seventh Ave., Suite 400
Phoenix, AZ 85007
Phone: 602-845-1200
www.azcommerce.com/programs/arizona-mep

Arkansas
Arkansas Manufacturing Solutions
1 Commerce Way, Suite 601
Little Rock, AR 72202
Phone: 501-682-7386
www.mfgsolutions.org

California
California Manufacturing Technology Consulting (CMTC)
3760 Kilroy Airport Way, Suite 450
Long Beach, CA 90806
Phone: 310-263-3060
www.cmtc.com

Colorado
Manufacturer's Edge
1667 Cole Blvd., Suite 400
Lakewood, CO 80401
Phone: 888-312-8997
www.manufacturersedge.com

Connecticut
CONNSTEP, Inc.
350 Church St., Tenth Floor
Hartford, CT 06103
Phone: 860-513-3200
www.connstep.org

Delaware
Delaware Manufacturing Extension Partnership (DEMEP)
400 Stanton-Christiana Road, Suite A-158
Newark, DE 19713
Phone: 302-283-3131
www.demep.org

Florida
FloridaMakes
201 E. Pine St., Suite 735
Orlando, FL 32801
Phone: 407-450-7206
www.floridamakes.com

Georgia
Georgia Manufacturing Extension Partnership (GaMEP)
Georgia Tech
75 Fifth St., NW, Suite 3000
Atlanta, GA 30308
Phone: 404-894-5968
www.gamep.org

Hawaii
INNOVATE Hawaii
521 Ala Moana Blvd., Suite 255
Honolulu, HI 96813
Phone: 808-539-3806
www.htdc.org

Idaho
TechHelp
Boise State University
1910 University Dr.
Boise, ID 83725
Phone: 208-426-3767
www.techhelp.org

Illinois
Illinois Manufacturing Excellence Center (IMEC)
1501 W. Bradley Ave.
Bradley University
Peoria, IL 61625
Phone: 888-806-4632
www.imec.org

Indiana
Purdue Manufacturing Extension Partnership
550 Congressional Blvd., Suite 140
Carmel, IN 46032
Phone: 317-275-6810
www.mep.purdue.edu

Iowa
Center for Industrial Research and Service (CIRAS)
Iowa State University
1805 Collaboration Place, Suite 2300
Ames, IA 50010
Phone: 515-294-3420
www.ciras.iastate.edu

Kansas
Kansas Manufacturing Solutions
14425 College Blvd., Suite 120
Lenexa, KS 66215
Phone: 913-649-4333
www.wearekms.com

Kentucky
Kentucky Manufacturing Extension Partnership (KY-MEP)
University of Louisville
Office of Research and Innovation
300 E. Market St.
Louisville, KY 40202
Phone: 502-852-9621
www.louisville.edu/kymep

Louisiana
Manufacturing Extension Partnership of Louisiana (MEPOL)
265 S. Foster Dr.
Baton Rouge, LA 70806
Phone: 800-433-6965
www.mepol.org

Maine
Maine Manufacturing Extension Partnership (Maine MEP)
87 Winthrop St.
Augusta, ME 04330
Phone: 207-623-0680
www.mainemep.org

Maryland
Maryland Manufacturing Extension Partnership (MD MEP)
8894 Stanford Blvd., Suite 304
Columbia, MD 21045
Phone: 443-343-0085
www.mdmep.org

Massachusetts
Massachusetts Manufacturing Extension Partnership (MassMEP)
27A Midstate Dr., Suite 200
Auburn, MA 01501
Phone: 508-831-7020
www.massmep.org

Michigan
Michigan Manufacturing Technology Center (MMTC)
45501 Helm St.
Plymouth, MI 48170
Phone: 888-414-6682
www.the-center.org

Minnesota
Enterprise Minnesota
2100 Summer St., Suite 150
Minneapolis, MN 55413
Phone: 612-373-2900
www.enterpriseminnesota.org

Mississippi
Mississippi Manufacturers Association-Manufacturing Extension Partnership (MMA-MEP)
720 N. President St.
Jackson, MS 39202
Phone: 601-709-2923
www.mma-web.org/MMA-MEP

Missouri
Missouri Enterprise
1426 East State Route 72
Rolla, MO 65401
Phone: 800-956-2682
www.missourienterprise.org

Montana
Montana Manufacturing Extension Center (MMEC)
P.O. Box 174255
Montana State University
2310 University Way Building 2, Suite 1
Bozeman, MT 59717
Phone: 800-637-4634
www.montana.edu/mmec

Nebraska
Nebraska Manufacturing Extension Partnership (Nebraska MEP)
University of Nebraska-Lincoln
6200 South 58th St., Suite A
Lincoln, NE 68516
Phone: 402-472-5993
www.nemep.unl.edu

Nevada
Manufacture Nevada
450 Sinclair St.
Reno, NV 89501
Phone: 775-784-1935
www.manufacturenevada.com

New Hampshire
New Hampshire Manufacturing Extension Partnership (NH MEP)
172 Pembroke Road
Concord, NH 03301
Phone: 603-226-3200
www.nhmep.org

New Jersey
New Jersey Manufacturing Extension Program (NJMEP)
2 Ridgedale Ave., Suite 305
Cedar Knolls, NJ 07927
Phone: 973-998-9801
www.njmep.org

New Mexico
New Mexico Manufacturing Extension Partnership (New Mexico MEP)
8600 San Mateo Blvd. NE, Suite 100
Albuquerque, NM 87113
Phone: 505-262-0921
www.newmexicomep.org

New York
New York Manufacturing Extension Partnership (NY MEP)
625 Broadway
ESD, Division of Science, Technology & Innovation (NYSTAR)
Albany, NY 12245
Phone: 518-292-5347
www.esd.ny.gov/new-york-manufacturing-extension-partnership

North Carolina
North Carolina Manufacturing Extension Partnership (NCMEP)
1005 Capability Dr.
Research III Building, Suite 200
Raleigh, NC 27606
Phone: 919-513-6119
www.ncmep.org

North Dakota
Impact Dakota
1929 N. Washington St., Suite M
Bismarck, ND 58501
Phone: 866-297-8250
www.impactdakota.com

Ohio
Ohio Manufacturing Extension Partnership (Ohio MEP)
77 S. High St., 28th Floor
Columbus, OH 43215
Phone: 614-582-7395
www.development.ohio.gov/business/manufacturing/ohio-manufacturing-extension-partnership

Oklahoma
Oklahoma Manufacturing Alliance
525 S. Main St., Suite 210
Tulsa, OK 74103
Phone: 918-592-0722
www.okalliance.com

Oregon
Oregon Manufacturing Extension Partnership (OMEP)
7650 SW Beveland St., Suite 170
Portland, OR 97223
Phone: 503-406-3770
www.omep.org

Pennsylvania
Pennsylvania Manufacturing Extension Partnership (PA MEP)
One College Ave., Dept. 32
Williamsport, PA 17701
Phone: 570-308-3312
www.pamep.org

Puerto Rico
Puerto Rico Manufacturing Extension Inc. (PRiMEX)
#268 Muñoz Rivera Ave.
World Plaza Building, Suite 1002
Hato Rey, PR 00918
Phone: 787-756-0505
www.primexpr.org

Rhode Island
Polaris MEP
315 Iron Horse Way
Providence, RI 02908
Phone: 401-270-8896
www.polarismep.org

South Carolina

South Carolina Manufacturing Extension Partnership (SCMEP)
250 Executive Center Dr., Suite 200
Greenville, SC 29615
Phone: 864-288-5687
www.scmep.org

South Dakota

South Dakota Manufacturing and Technology Solutions
5116 South Solberg Ave.
Sioux Falls, SD 57108
Phone: 605-274-9755
www.sdmanufacturing.com

Tennessee

University of Tennessee Center for Industrial Services (UT CIS)
193 Polk Ave., Suite C
Nashville, TN 37210
Phone: 888-763-7439
www.cis.tennessee.edu

Texas

Texas Manufacturing Assistance Center (TMAC)
7300 Jack Newell Blvd. South
Fort Worth, TX 76118
Phone: 800-625-4876
www.tmac.org

Utah

University of Utah Manufacturing Extension Partnership (UUMEP) Center
1495 East 100 South
MEK 1121
Salt Lake City, UT 84112
Phone: 801-587-0713
www.utah-mep.org/

Vermont

Vermont Manufacturing Extension Center (VMEC)
124 Admin Dr., Suite 126
Randolph Center, VT 05061
Phone: 802-728-1432
www.vmec.org

Virginia

GENEDGE
32 Bridge St. South, Suite 200
Martinsville, VA 24112
Phone: 276-666-8890 x221
www.genedge.org

Washington

Impact Washington
11812 North Creek Parkway, Suite 205
Bothell, WA 98011
Phone: 425-287-6808
www.impactwashington.org

West Virginia

West Virginia Manufacturing Extension Partnership (WVMEP)
1374 Evansdale Dr.
P.O. Box 6070
Morgantown, WV 26506
Phone: 724-610-3845
www.wvmep.com

Wisconsin

Wisconsin Center for Manufacturing and Productivity (WCMP)
2601 Crossroads Dr., Suite 145
Madison, WI 53718
Phone: 608-729-4160
www.wicmp.org

Wyoming

Manufacturing Works
1938 Harney Street
Laramie, WY 82072
Phone: 307-766-4811
www.manufacturing-works.com

100 Bureau Drive M/S 4800
Gaithersburg, MD 20899

Phone: (301) 975-5020
Email: mfg@nist.gov
Web: www.nist.gov/mep

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