MEP • MANUFACTURING
EXTENSION PARTNERSHIP®

2021 MEP ANNUAL REPORT

Letter from the Director

I join the MEP program with a deep appreciation of the importance of small manufacturers to the U.S. economy, national security and to communities across the country. These firms help form America's economic backbone and provide well-paying, stable jobs. I am incredibly impressed with the work that MEP Centers do every day to find solutions to the challenges that manufacturers face. Experts across the MEP National Network™ are providing to manufacturers workforce training services, finding domestic suppliers to reshore their supply chains, and giving assistance in adopting advanced technologies that will make them more resilient and competitive. The variety of services MEP Centers offer to manufacturers is impressive. In the coming year, I am looking forward to working with our partners to find even more ways that the MEP program can effectively serve manufacturers and have a positive impact on the U.S. economy.

In the earliest days of the pandemic, NIST MEP was awarded $50 million by Congress under the Coronavirus Aid, Relief, and Economic Security (CARES) Act to help the MEP Centers in all 50 states and Puerto Rico address the sustainability of small and medium-sized manufacturing. NIST MEP issued the awards in record time so MEP Centers had the funds available quickly to implement critically needed COVID-19-related projects. The success stories and impacts resulting from this emergency funding are inspiring. With CARES Act funding, MEP Centers developed relationships with thousands of new manufacturing clients and continued to expand the reach of the program. By the end of 2021, more than 7,000 CARES Act-funded projects were completed and helped over 5,000 companies recover from the effects of the pandemic, and in some cases, find new ways to thrive. It is a remarkable accomplishment.

This past year, while the experts at MEP Centers worked directly with manufacturers, their success was supported by the dedicated public servants that make up the NIST MEP staff. The entire NIST MEP team received the Department of Commerce Gold Medal Award for exceptional speed, efficiency and transparency in executing CARES Act provisions. In addition, NIST MEP's Marlon Walker received NIST's George A. Uriano Award for leadership of the MEP-Assisted Technology and Technical Resource (MATTR) service that connects NIST laboratory technical capabilities and resources with the needs of small U.S. manufacturers through MEP Centers. Dileep Thatte was honored with the 2021 NIST Distinguished Mentoring Award.

I'm proud to lead the NIST MEP team and honored to lead this remarkable program. My heartfelt thanks go to former MEP Director Carroll Thomas, whose leadership ensured the MEP National Network was uniquely positioned to work with manufacturers and ready to meet the pandemic's challenges. My sincere thanks also go to MEP Deputy Director Rob Ivester, for his work as Acting Director for most of 2021.

The continuing COVID-19 pandemic has created new challenges for U.S. manufacturers on a daily basis over the past two years. Nearly every manufacturer in the country has suffered pandemic-related supply chain and workforce issues. Although manufacturers continue to face significant challenges, I am confident that the MEP National Network will work collaboratively to create solutions. I am excited to guide the Network forward with a new vision, beginning with a new strategic plan coming out in 2022. I am also honored to be a part of the important efforts to support U.S. manufacturers and U.S. manufacturing, and looking forward to what we can accomplish together.

Sincerely,

Pravina Raghavan, MEP Director

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About the Manufacturing Extension Partnership

Since 1988, the Hollings Manufacturing Extension Partnership (MEP) has worked to strengthen and empower U.S. manufacturing. The MEP program was created in 1988 by the Omnibus Trade and Competitiveness Act 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) through MEP Centers in every state and Puerto Rico. The MEP Centers provide expertise to help manufacturers reduce costs, create new products, develop the next generation workforce, find new markets and achieve business success.

For over thirty years, the MEP program has focused on bridging the manufacturing productivity gap, identifying opportunities for growth and encouraging technology deployment. The 51 MEP Centers are an integral part of the MEP National Network, providing manufacturing clients with a wide array of fundamental services in manufacturing, business and process improvements. The MEP National Network also includes the MEP Advisory Board, MEP Center boards, and the Foundation for Manufacturing Excellence, as well as over 1,400 trusted advisors and experts at approximately 450 MEP service locations, providing any U.S. manufacturer with access to resources they need to succeed. The MEP Centers and their partners, including state governments, universities, community colleges, nonprofit entities, associations, and private consultants, provide manufacturers with the services needed to reduce bottom-line expenses and grow top-line profits, both of which are necessary to thrive in the global marketplace.

MEP Director
Pravina Raghavan

Former MEP Director
Carroll Thomas

MEP Deputy Director
Rob Ivester

New Leadership

2021 brought leadership change to the MEP program. After MEP Director Carroll Thomas retired at the beginning of 2021, MEP Deputy Director Rob Ivester, who joined NIST MEP in March 2020, stepped in as Acting Director leading the program through most of 2021 until Pravina Raghavan was named the new permanent MEP Director in December 2021. Pravina, with more than 20 years of experience connecting companies with the resources they need to succeed, continues the MEP program's line of strong leadership.

MEP National Network 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

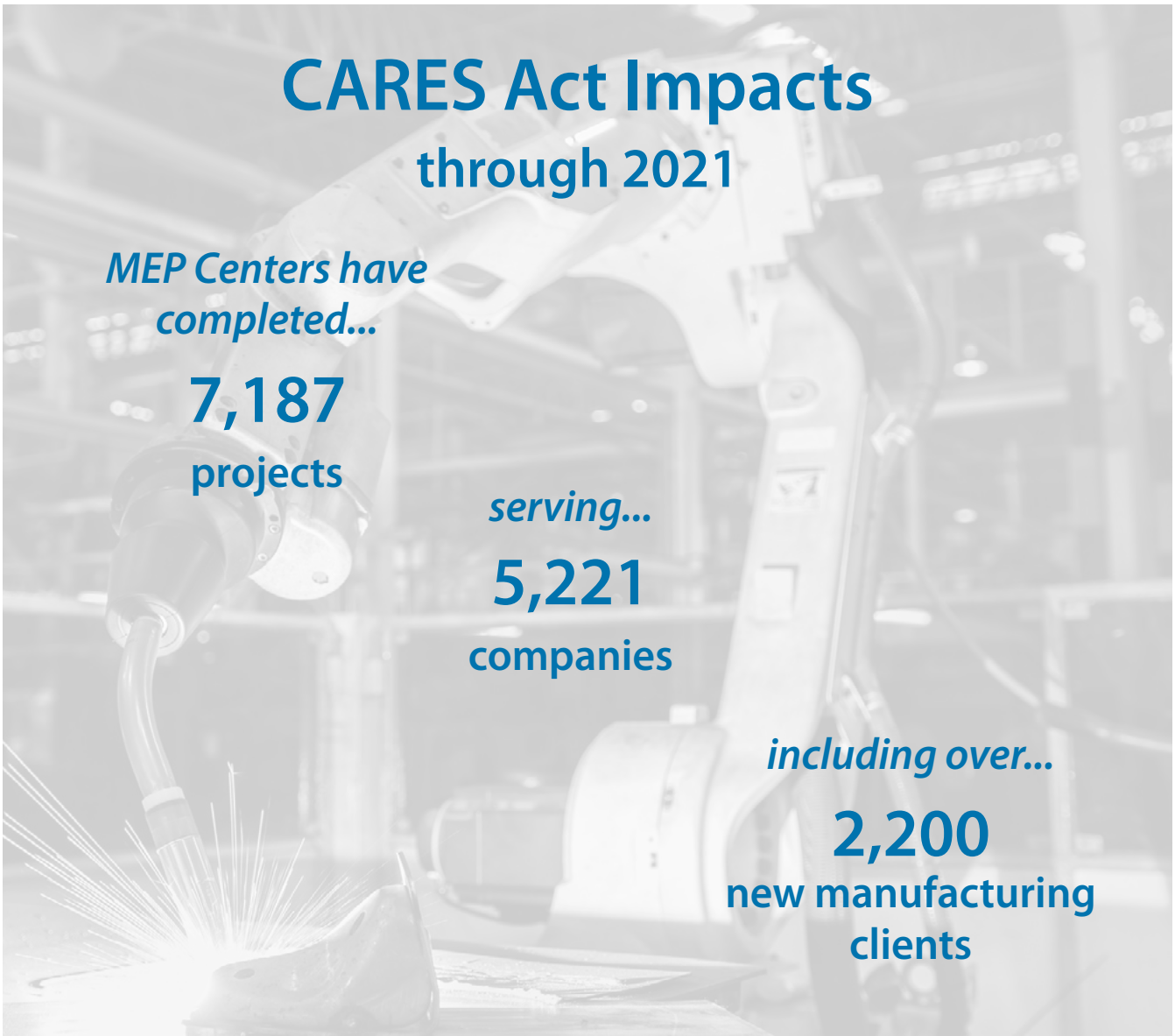
Program Impacts

According to a third-party survey, in this fiscal year (FY) of 2021, the MEP National Network interacted with 34,307 U.S. manufacturers from nearly all manufacturing industries. MEP Center clients from across the country reported that the assistance they received helped to create or retain 125,746 manufacturing jobs in FY 2021. MEP Center clients had $14.4 billion in new and retained sales (including $3.9 billion in new sales) and realized $1.5 billion in cost savings as manufacturers navigated numerous challenges due to the COVID-19 pandemic. For every dollar of federal investment in FY 2021, the MEP National Network generated $26.20 in new sales growth and $34.50 in new client investment. During this same time, for every $1,193 of federal investment, the Network created or retained one manufacturing job. Since 1988, MEP has worked with 132,431 manufacturers, leading to $138.8 billion in new sales and $26.2 billion in cost savings, and it has helped create and retain over 1.45 million jobs.

CARES Act Funding Impacts

In 2020, NIST MEP was awarded $50 million by Congress under the Coronavirus Aid, Relief, and Economic Security (CARES) Act to help the MEP Centers in all 50 states and Puerto Rico address the sustainability of small and medium-sized manufacturing. NIST MEP issued the awards in record time so MEP Centers had the funds available quickly to implement critically needed COVID-19-related projects. In 2021, MEP Centers continued the important work of using CARES Act funding to help manufacturers increase production of personal protective equipment, recover from workforce and supply chain interruptions, and achieve greater resilience.

Through 2021, MEP Centers served 5,221 companies with 7,187 CARES Act-funded projects. CARES Act funding expanded the reach of the MEP Centers, enabling them to serve more than 2,200 new manufacturing clients.



Key Legislation

Manufacturing in general and the MEP program in particular received a great deal of legislative attention and executive action during 2021. In the new administration's first week, Executive Order 14005, Ensuring the Future is Made in All of America by All of America's Workers, highlighted the president's emphasis on manufacturing. This executive order specifically directed agencies to partner with NIST MEP to conduct supplier scouting. It is rare for executive orders to mention specific federal programs, and a first for MEP – demonstrating a new heightened visibility for the MEP program.

In addition to executive branch actions, Congress put numerous bills forward regarding U.S. manufacturing. For example, the U.S. Senate considered the Endless Frontier Act which contained provisions for NIST MEP. These included piloting a new grant authority for expansion awards – another vehicle for the program to issue federal funding to the MEP Centers. The bill also contained an authorization for quadrupling the MEP program's budget. This legislation became part of the United States Innovation and Competition Act of 2021 (USICA) which passed the Senate in June 2021. A companion bill would need to pass the U.S. House in order for it to move to the president's desk and be signed into law. Congress also passed the massive $1.2 trillion Infrastructure Investment and Jobs Act of 2021 (Public Law 117-58) which was signed into law by the president on Nov. 15, 2021. This contained many requirements which will impact manufacturing.

The National Defense Authorization Act for FY 2021 mentioned the MEP program in several sections, including relating to the provision of cybersecurity assistance for small defense manufacturers, a national supply chain database, and coordination with Manufacturing USA institutes. Section 9413, "National Institute of Standards and Technology Manufacturing Extension Partnership Program Supply Chain Database," called for a study to evaluate the feasibility, advisability and costs of establishing a national supply chain database within the MEP program. NIST MEP conducted this study and prepared a report for the NIST Director that was delivered to Congress in early 2021.

MEP Program Budget

The FY 2021 appropriation for the NIST MEP program was $150 million, which represented an increase of $4 million over NIST MEP's FY 2020 funding amount of $146 million. Similar to NIST MEP's FY 2020 appropriated funds, nonfederal cost share requirements were waived for FY 2021 federal funding for MEP Centers.

Approximately $124 million of the MEP program's funding went directly to the MEP Center base awards. Nearly $1.5 million in 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.

Summit Consulting and W.E. Upjohn Institute Report

In January 2021, Summit Consulting and the W.E. Upjohn Institute released an updated study which found the MEP program generated a substantial economic and financial return of nearly 13.6:1 for the $146 million invested in the program in FY 2020 by the federal government.

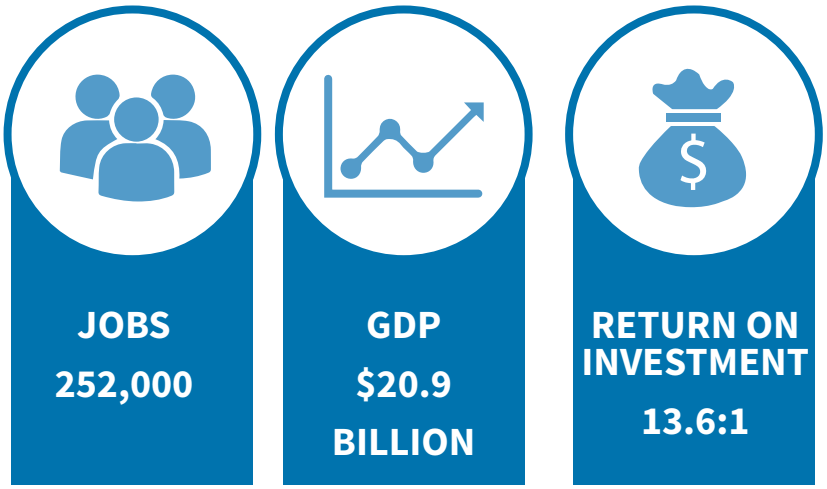
The entire country, and the thousands of SMMs, along with MEP Centers across the U.S., faced enormous challenges as a result of the COVID-19 pandemic and the resulting economic dislocation. Despite these obstacles, manufacturers proved to be resilient, and MEP Centers continued to deliver a consistent and significant return on investment to the nation.

The study also found that total employment in the U.S. was nearly 252,000 higher because of the direct economic impacts generated from MEP Center projects, which include new and retained sales, jobs created and retained, and new client investments. The Summit/Upjohn study examined additional areas of economic impact – personal income was $15.5 billion higher and gross domestic product was $20.9 billion larger than it would have been without the MEP program, translating into an increase of $1.99 billion in personal income tax revenue to the federal government.

The full report is available online.

About the Team

Summit Consulting is a quantitative and qualitative consulting firm that works with federal and private sector clients to turn data into actionable intelligence. The W.E. Upjohn Institute for Employment Research, a private, not-for-profit, nonpartisan, independent research organization, has studied policy-related issues of employment and unemployment since its founding in 1945.



MEP Advisory Board

About the MEP Advisory Board

The statutory purpose of the Board is to provide advice and assessments 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 2021, the Board met by videoconference 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

MARY ISBISTER, VICE CHAIR

President
GenMet Corporation
Mequon, Wisconsin

RAY AGUERREVERE

Vice President/General Manager
Custom Metal Designs
Oakland, Florida

JOSE ANAYA

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

BERNADINE HAWES

Joined the Board: July 2021
Senior Advisor
Econsult Solutions, Inc.
Philadelphia, Pennsylvania

KEVIN HELLER

Resigned from the Board: September 2021
Chief Operations Officer/Chief Financial Officer
The Ziegenfelder Company
Wheeling, West Virginia

MIRIAM KMETZO

Joined the Board: July 2021
Executive Vice President
Welding Technology Corp.
Farmington Hills, Michigan

MITCH MAGEE

Manufacturing Industry Consultant
Hamilton, Ohio

WILLIE E. MAY, PH.D.

Resigned from the Board: September 2021
Vice President for Research and Economic Development
Morgan State University
Baltimore, Maryland

PATRICIA MOULTON

President
Vermont Technical College
Randolph Center, Vermont

KATHAY RENNELS

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 via videoconference for three meetings in 2021. Board members along with NIST leadership, NIST MEP staff, MEP Center leadership and staff, and MEP program stakeholders met on Feb. 23, June 30 and Aug. 31. All three meetings were held virtually due to the pandemic. 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, such as legislative updates, and 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.

These meetings provided opportunities for Board members to discuss the dynamic and 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. Each meeting also featured robust and extended discussions from the Board about several interrelated topics critical to manufacturing, including workforce, supply chains, manufacturing resilience, reshoring and manufacturing technology. A focus on the future resonated throughout the three MEP Advisory Board meetings, and strategic planning received a great deal of attention. Detailed MEP Advisory Board meeting minutes are available on the NIST MEP website.

Focus on the Future

In 2021, efforts focused on how the MEP Centers could work creatively to address the pressing needs of manufacturing in the areas of workforce needs, national supply chain challenges and growing manufacturing technology. In addition, at the February 2021 Board meeting, a presentation and discussion outlined a strategic planning foundation for the Board's new MEP National Network 2023-2027 Strategic Plan Working Group, which undertook an initiative to envision the Network's future. At the June and August Board meetings, this working group presented and engaged Board members in discussions for feedback on the future of the program. This included extended focus groups discussing overarching resilience, reshoring, national supply chain, technology and workforce.

Advisory Board Working Group Updates

MEP National Network Strategic Plan 2023-2027 Working Group

Strategic planning played a central role for the MEP Advisory Board in 2021, and the MEP National Network Strategic Plan 2023-2027 Working Group led this complex process. This working group provided long-term guidance and perspectives for the MEP National Network 2023-2027 Strategic Plan and considered feedback from Centers, stakeholders, partners, NIST MEP management and staff as the plan was discussed. The working group sought to spur discussions and explore possibilities for the future of the program from a foundation of creative and inspirational thinking. In 2021, this working group included the following MEP Advisory Board members: Kathay Rennels, lead, Don Bockoven, Bernadine Hawes, Kevin Heller, Mary Isbister, Willie May, Matt Newman and Jim Wright, as well as NIST MEP staff support.

Advisory Board Executive Committee Working Group

In 2021, the Center Board Outreach Program continued as a focus of the group. Fostering strong connections between our Board and the MEP Center boards remained a priority. The goal was to create a mutual exchange of information and communication to strengthen the MEP National Network and help the Board achieve its statutory requirements to advise the NIST Director on the activities, plans and policies of the MEP program. This working group was also actively engaged in succession planning as many current Board members' terms expire in 2023. This was closely tied to Center outreach efforts – people across the Network have expressed interest in the MEP program. In 2021, this working group included the following MEP Advisory Board members: Mary Isbister, lead, Mitch Magee, Pat Moulton, Matt Newman and George Spottswood, as well as NIST MEP staff support.

Supply Chain Development Working Group

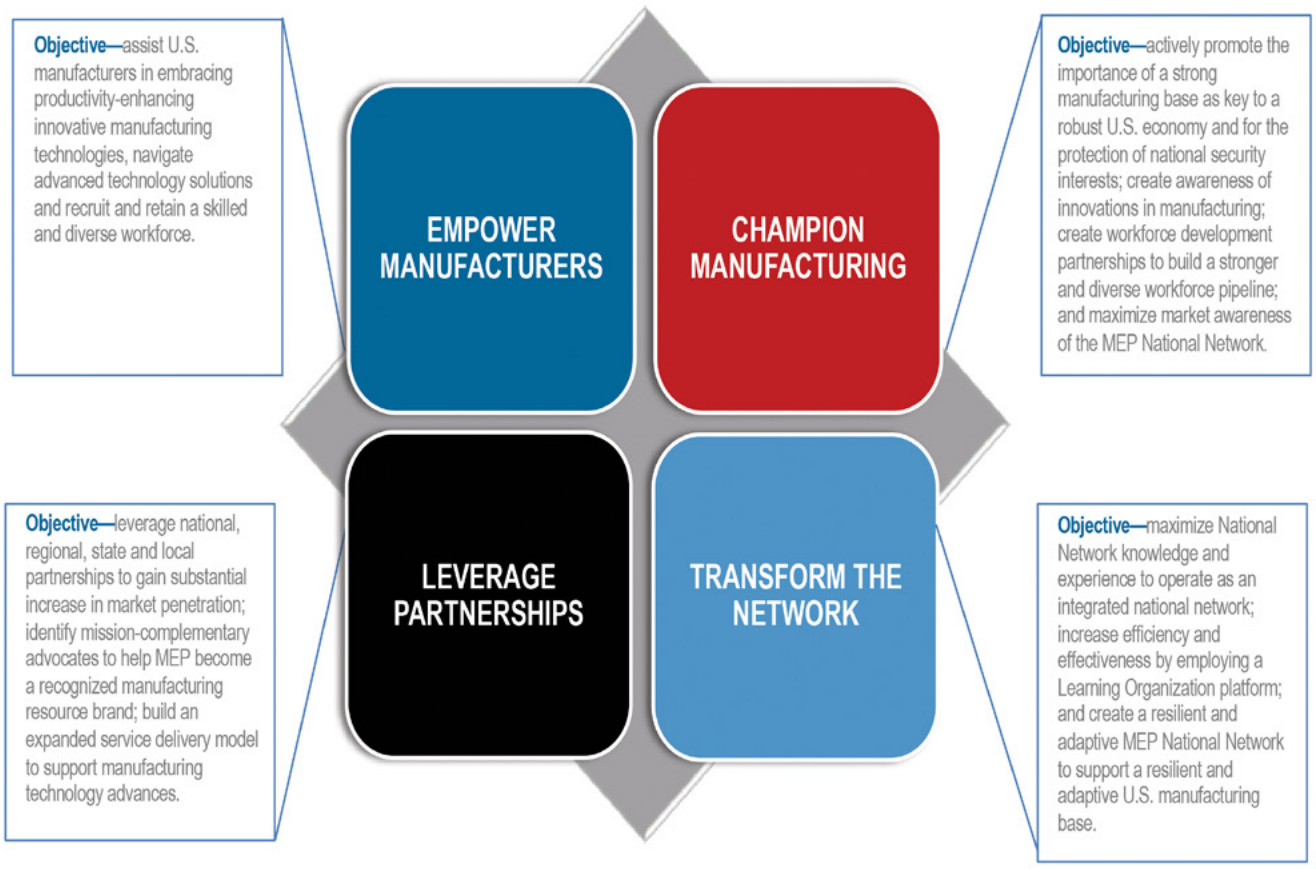
While largely focused in the past on Department of Defense (DOD) supply chains and cybersecurity awareness, a heightened awareness of the role the MEP program could play in the nation's greater supply chain resilience was a new emphasis for this working group in 2021. The working group's goal in 2021 was to increase resilience for U.S. supply chains overall and at the individual manufacturer level so that key products and critical technologies, as described in Executive Order 14017, could be more effectively sourced domestically. Building resilience would position manufacturers to be both responsive and proactive. In 2021, MEP Centers offered a wide range of resilience assistance to U.S. manufacturers, from business assessments and technology awareness to cybersecurity and risk management. In 2021, this working group included the following MEP Advisory Board members: Don Bockoven, lead, Ray Aguerrevere, LaDon Byars, Mary Isbister and Matt Newman, as well as NIST MEP staff support.

MEP National Network 2017-2022 Strategic Plan

The MEP Advisory Board continued to review and discuss the progress made on the MEP National Strategic Plan as it guides the Network forward from 2017-2022. Developed in conjunction with the Board, Center representatives, and NIST MEP staff, the plan creates a sharp focus for the Network with four expansive goals supporting the important mission and vision of the program. The full plan can be downloaded from the NIST MEP website. At each meeting, the Board was provided with updates, including detailed Network priorities along with measurable results outlining continuing progress. This information is available in the Board meeting minutes posted on the NIST MEP website.

Goals

The strategic plan's four principal goals include:



Success Defined in Short, Mid and Long-Term Goals

18-MONTH MEASURES OF SUCCESS:

- Strengthening the national supply chain by increasing supplier scouting requests by 10%
- Serving the manufacturing workforce by increasing clients engaged with workforce projects by 10%
- Increasing visibility by amplifying Network brand awareness by at least an additional 10%
- Leading in technology deployment by increasing clients engaged with technology services projects by 10% and MATTR requests by 10%

FIVE-YEAR VIVID DESCRIPTION:

As the go-to resource for U.S. manufacturers, the MEP program should …

- Be recognized by SMMs as a valuable and essential resource for delivering advanced technology solutions and cited by key manufacturing stakeholders (local, state, federal) as integral to growing U.S. manufacturing ecosystems
- Increase our market penetration as an integrated National Network by 20%
- Deliver integrated digitalization and cybersecurity assistance to dispersed supply chains and embrace Industry 4.0 in our own operational excellence

SIGNIFICANT LONG-TERM GOAL:

The MEP National Network is known and recognized by U.S. manufacturers and stakeholders as an indispensable resource whose trusted experts help them grow and embrace manufacturing technology advances.

- To be known and recognized by U.S. manufacturers as the go-to resource for manufacturing
- Triple the number of manufacturers served annually
- Increase the MEP National Network impact numbers four-fold

Accomplishments and New Goals

At the February and June meetings, the Board received detailed updates from the MEP Acting Director on progress toward goals for the MEP National Network 2017-2022 Strategic Plan's second 18-month period which ran through March 2021. These included reaching consensus across the Network on the definition of project and client manufacturing establishment interaction, operationally improving reporting, increasing reported projects and reported new clients, and amplifying and measuring MEP National Network brand awareness. Steady progress toward these 18-month goals was seen across the Network, with nearly all the goals met or exceeded. New 18-month goals through the end of the current strategic plan were introduced at the August Board meeting. They included:

- Strengthening the national supply chain by increasing supplier scouting requests by 10%
- Serving the manufacturing workforce by increasing clients engaged with workforce projects by 10%
- Increasing visibility by amplifying Network brand awareness by at least an additional 10%
- Leading in technology deployment by increasing clients engaged with technology services projects by 10% and MATTR requests by 10%

MEP National Network Update

Continuing challenges due to the ongoing COVID-19 pandemic revealed incredible strength and resourcefulness across the MEP National Network. Increased recognition of the MEP program by Congress and the administration heightened attention and visibility to our program and its importance to U.S. manufacturing and the overall economy. In 2021, the 51 MEP Centers in every state and Puerto Rico continued supporting manufacturers and helping them build resilience in innovative ways to meet constantly changing challenges.

IN REMEMBRANCE

Mark Sessumes
Center Director of TMAC (Texas MEP Center)

Chuck Spangler
CEO/President of South Carolina MEP

We lost valued colleagues and friends across the MEP National Network this year, including Mark Sessumes and Chuck Spangler, Center Directors for the Texas and South Carolina MEP Centers, respectively. They are deeply missed.

Success Stories: CARES Act in Action

Headframe Spirits and Custom Contract Furnishings were two of the thousands of U.S manufacturers that benefited from CARES Act funding and, as a result, successfully responded to the pandemic's challenges.

Like many small distilleries, Headframe quickly pivoted to manufacturing much-needed hand sanitizer. Montana Manufacturing Extension Center (the Montana MEP Center) helped them source hard-to-find packaging materials and Headframe ultimately donated thousands of gallons of hand sanitizer to over 20 organizations.

Supply chain disruptions hit Custom Contract Furnishings (CCF) early in the pandemic. The company quickly pivoted operations to produce personal protective equipment – preserving CCF's workforce and business. With North Carolina Manufacturing Extension Partnership's help, CCF implemented a quality management system and achieved its Food and Drug Administration (FDA) registration, revitalizing the company as its business moves in unexpected directions.

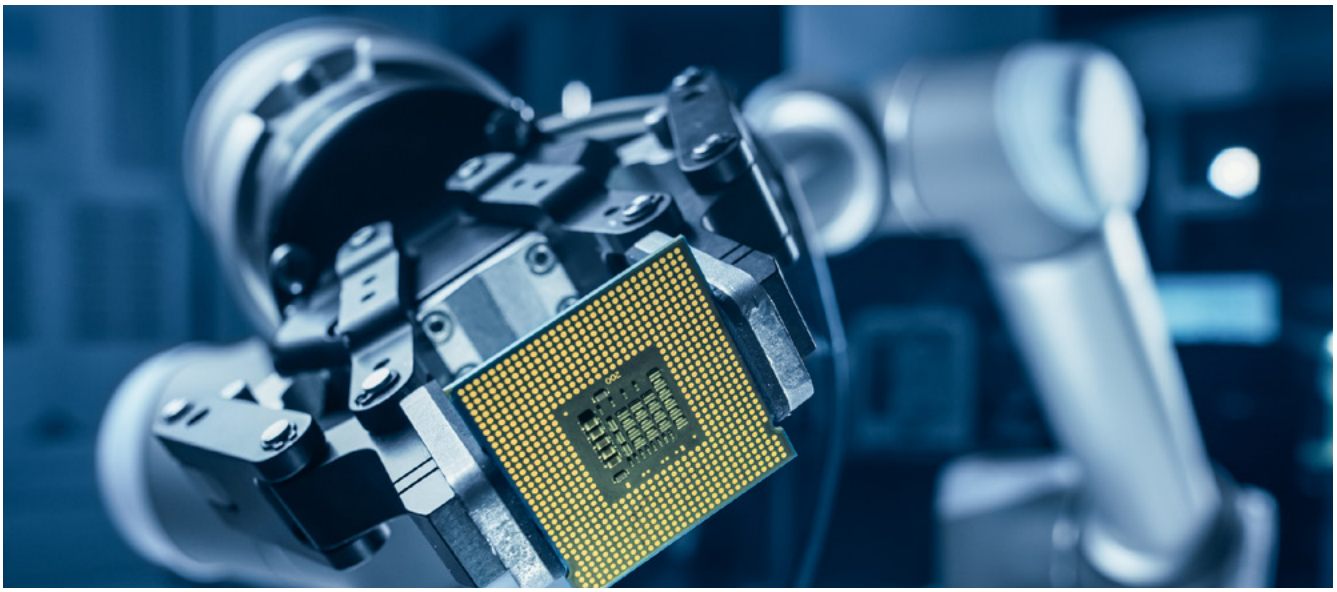
CARES Act funding made these and many other success stories possible for manufacturers across the U.S. Click the links above or search the company names on the Department of Commerce blog (https://www.commerce.gov/news/blog) to read more about how these two companies partnered with their local MEP Centers.

MEP Role in Executive Orders

On Jan. 25, 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. An unusual occurrence for a specific federal government program, EO 14005 included a citation of the MEP program and its capabilities by name. The EO specifically directed federal agencies to work with NIST MEP and its Network of 51 MEP Centers to connect with new domestic suppliers who could make the products federal agencies needed while employing America's workers. In support of EO 14005, NIST MEP partnered with federal agencies and private top-of-supply chain entities to identify supply chain gaps.

On Feb. 24, 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 Supplier Scouting and the MEP-Assisted Technology and Technical Resource (MATTR) services expanded in support of this EO, and MEP Centers across the country assisted individual U.S. manufacturers to become more resilient.

On April 26, Sen. Jeanne Shaheen hosted Secretary of Commerce Gina Raimondo to highlight how the American Rescue Plan is helping New Hampshire recover from the economic impact of the COVID-19 crisis. This was Secretary Raimondo's first trip as head of the U.S. Department of Commerce. They toured a New Hampshire MEP Center client, AeroDynamics in Seabrook, New Hampshire, where they discussed the important role the MEP program plays in providing SMMs with the resources these firms need to grow and expand. They were joined by leadership from AeroDynamics and the New Hampshire MEP, local officials, and representatives from the New Hampshire Aerospace and Defense Export Consortium. Secretary Raimondo said she was proud of the Commerce Department's MEP program in supporting local manufacturing businesses like AeroDynamics, which she said are essential to growing local economies, creating jobs and strengthening our supply chains.



MEP National Network Supplier Scouting

The MEP Supplier Scouting service expanded to help build more resilient supply chains across the country. Relaunched in March 2020, all 51 MEP Centers have participated in this effort, using a variety of approaches and tools to do scouting. NIST MEP noted increased visibility and potential use of the MEP Supplier Scouting service for federal agencies/procurements in support of EO 14005. In addition, NIST MEP leveraged the service nationally to analyze and map critical supply chain needs, gaps and help to address them.

Center Leadership Team

Established in 2017, the MEP National Network Center Leadership Team (CLT) includes leaders from MEP Centers who interact with the NIST MEP leadership team. They provide input on MEP Center strategies, identify funding opportunities, support the MEP National Network brand, validate multistate project processes, provide Center guidance and promote efforts for the Network to successfully serve more manufacturers. In 2021, the CLT continued using regional communication node calls for connecting MEP Centers to build relationships and increase support. These regional nodes have proven to be an efficient and effective way to improve communications, and increase engagement and participation in the MEP National Network.

Advanced Manufacturing Technology Services/Industry 4.0

The MEP National Network is providing manufacturers with the resources and services needed to reach end-to-end digitization of all physical assets and integration into digital ecosystems. In 2021, SMMs increased adoption of Industry 4.0 technology to combat challenges they faced in supply chain and workforce shortages, as well as for capacity building and new market growth.

In 2020, NIST MEP awarded approximately $8 million for advanced manufacturing projects, including five Advanced Manufacturing Technology Services awards and three Competitive Awards Program awards. In 2021, these projects continued to assist SMMs to build back smarter in an uncertain economic environment. In addition, a 2019 Competitive Awards Program-funded project, Oregon MEP's Industry 4.0 Technology Acceleration Program, resulted in a 2021 follow-up project that emphasized cloud computing, collaborative robots and Department of Defense cybersecurity compliance.

The following NIST MEP Competitive Awards Program projects provided Industry 4.0 solutions during 2021:

- **FloridaMakes** (the Florida MEP Center) integrating Industry 4.0 into the Baldrige Framework, a leadership and performance management framework that empowers organizations to accomplish their mission, improve results and become more competitive
- **Ohio MEP** helping manufacturers navigate their digital transformation
- **University of Tennessee Center for Industrial Services** (the Tennessee MEP Center) Advanced Technical Team developing capabilities for technology transfer based on SMM needs, partnering with MEP Centers across the U.S., successfully providing vendor options, project scopes and creating relationships when technical needs have surpassed field staff expertise

Workforce: Developing Talent for Tomorrow's Workplace

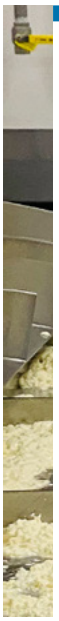
The U.S. manufacturing industry faces growing competition from abroad while struggling to develop a skilled, dedicated workforce here at home. Before the pandemic, 600,000 manufacturing jobs were reported as unfilled nationwide. To respond to this challenge, the MEP National Network innovated across the nation to grow and diversify the workforce. New programs were piloted to reach many population sectors that could and should consider manufacturing careers, such as:

- Underrepresented populations (people of color and women)
- Youth from kindergarten through high school
- Returning citizens
- "Opportunity youth" (people ages 18-26, neither in college nor working)
- Recent immigrants

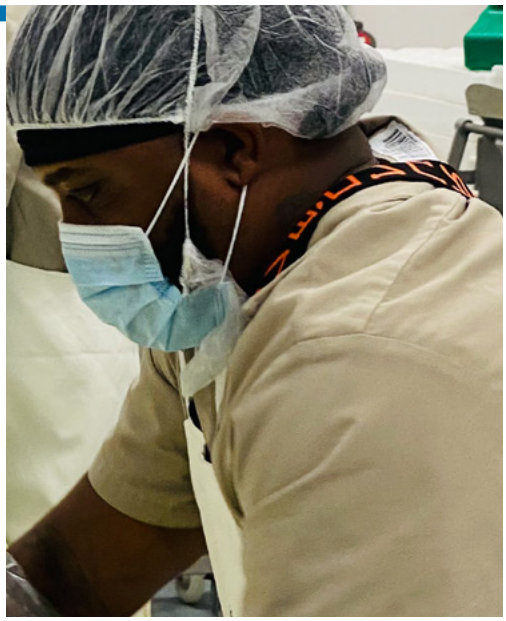
In 2021, MEP Centers engaged in a wide variety of activities to help SMMs connect to resources and develop skilled workers. Essential components of these efforts included:

- Identifying training opportunities and skill certifications
- Talent planning for growth and development of the future talent pipeline
- Assisting companies with work-based learning, mentorships, internships and apprenticeships
- Leadership coaching and development, organizational culture and employee engagement

Apprenticeships were a valuable initiative to develop existing and new employees, and MEP Centers were instrumental in connecting manufacturers to the local and state resources that provide apprenticeship programming. Many Centers helped small groups of companies implement new and customized registered apprenticeships. As part of their state manufacturing ecosystems, MEP Centers partnered with local and state education systems, including career and technical education programs, community colleges and universities. These partnerships provided access to career pathways, training opportunities, mentorships, internships and apprenticeships.



Manufacturing Day 2021 was a mix of in-person and virtual events across the country. President Biden mentioned the MEP program in the Proclamation on National Manufacturing Day, 2021: "My Administration has also invested in our Nation's communities and the manufacturing base that builds them. Through programs like the Manufacturing Extension Partnership, Manufacturing USA, and opportunities sponsored by the Economic Development Administration of the Department of Commerce, we are providing resources to support and strengthen STEM education, infrastructure, technology hubs, and economic opportunities for all people in every region of our country."



Network Learning

Board Development Support Services

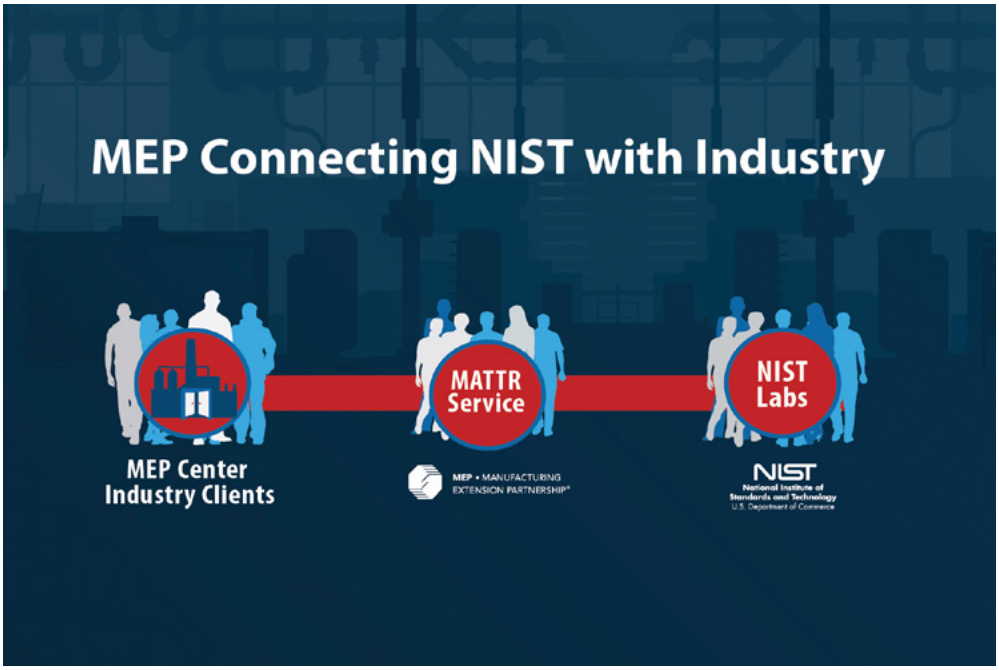
The Board Development Support Services program provided Centers with leadership and skill-building resources aimed at strengthening their local boards' performance. As of 2021, 37 states have used board services and 82 total services have been provided, including board self-assessments and action planning. Training workshops prepared local boards to fully embrace their roles, enhance understanding of requirements, and discuss best practices in board governance.

Center Director Executive Support Program

In September 2021, NIST MEP launched the Center Director Executive Support Program to help Center Directors more effectively manage their Centers and lead the MEP National Network into the future. Center Directors were engaged in the program's design and delivery, which provided a wide range of resources to meet the varied needs of individual Center Directors. The intention was to help everyone up their game at this critical time. The program included individual development action planning, one-on-one coaching and facilitated workshops which will continue in 2022.

Tab Wilkins Emerging Leaders Program

In 2021, the Tab Wilkins Emerging MEP Leaders program engaged with 14 members of cohort 1.13 who represented 13 MEP Centers and participated in the program despite the challenges of the pandemic. This yearlong program focused on Network resources, processes and networking while teaching participants to effectively manage a Center.



MEP-Assisted Technology and Technical Resource (MATTR)

The MATTR service facilitated the connection of the technical needs of MEP Center manufacturing clients with the technology and expertise of the NIST laboratories. Small and medium-sized manufacturers needed help deploying state-of-the-art technologies. MATTR helped them bridge this gap. The types of interactions depended on the needs and interests of both the manufacturer and the NIST researchers. The MATTR service could facilitate informal interactions between manufacturers and NIST researchers for advice and resources. More extensive MATTR interactions could result in a Cooperative Research and Development Agreement (CRADA) between an MEP Center's manufacturing client, NIST and NIST MEP. Those activities might include more extensive NIST staff consultation with a company, and NIST services such as special measurements, special tests and NIST user-facility access. In 2021, there were three CRADAs with MATTR, and one pending Research Collaboration Agreement, another type of collaboration that MATTR could facilitate. In support of EO 14017 efforts to shore up supply chains for key products and critical technologies, NIST MEP planned to increase the amount of clients engaged with technology services projects and MATTR requests.

MEP Manufacturer Resilience Steering Team

NIST MEP established the MEP Manufacturer Resilience Steering Team in 2021, working with partners throughout the MEP National Network to develop MEP extension service approaches relating to manufacturer and supply chain resilience. Resilient manufacturers proactively manage risk and opportunities while operating based on data-driven business decision-making. Improving manufacturer resilience at the individual company level would improve overall supply chain resilience – representing a unique opportunity for the MEP program.

MEP National Network Update Meeting

The MEP National Network Update Meeting was held Aug. 30-31. Over 200 onsite attendees in Phoenix, Arizona included MEP Center leadership, staff and partners. There were an additional 145 virtual attendees including NIST leadership, NIST MEP staff and a number of MEP Advisory Board members.

The Update Meeting featured small group discussions with a focus on workforce, supply chains and manufacturing technology. In addition, the third virtual MEP Advisory Board meeting, held immediately after the Update Meeting, was broadcast live to the MEP National Network Update Meeting hotel in Phoenix for MEP Center staff and stakeholders onsite to listen and offer public comments.

Deputy Secretary of Commerce Don Graves provided a video welcome during the MEP National Network Update Meeting's opening session in Phoenix, Arizona.

NIST MEP Special Awards Programs

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 2021, NIST MEP awarded nearly $1.5 million in CAP awards to the following MEP Centers:

- **Arizona Commerce Authority, Phoenix, Arizona**
- **Iowa State University Center for Industrial Research and Service (CIRAS), Ames, Iowa**

To date, NIST MEP has funded 41 awards totaling over $36 million in federal funding with project durations of 2-3 years. In addition, the projects are engaging and providing manufacturing practice development funding to MEP Center partners around the country.

NIST Manufacturing Disaster Assessment Program

The NIST Manufacturing Disaster Assessment Program invites applications from MEP Centers to perform assessments of SMMs in areas subject to a Federal Emergency Management Agency disaster declaration. In 2021, NIST MEP provided nearly $475,000 to TMAC, the MEP Center in Texas, for their response to Hurricane Laura, which made landfall in Texas on Aug. 26, 2020. TMAC's on-site assessments for manufacturers in the 62 disaster-declared counties resulted in assisting as many manufacturers as possible to restore their operations, reemploy their workforce, and return them to operation levels that again contribute to the economy of Texas and the nation.

Spotlight on CAP-funded America Works

American manufacturers are desperately searching for more employees in general, and more skilled workers specifically. America Works is a nationwide initiative to coordinate training efforts, generating a more capable, skilled and diverse manufacturing workforce. The project is funded for three years by a 2020 CAP award to Missouri Enterprise (the Missouri MEP Center), partnered with the MEP Centers in Indiana, Iowa, New Jersey, and Ohio, and the Foundation for Manufacturing Excellence.

America Works offers a shared, centralized space for MEP Center staff at all levels to congregate, discuss, innovate and create new solutions to workforce issues. The project has a strong communications and outreach component including frequent blogs and webinars on workforce topics.

America Works has big plans focused on four primary goals:

- 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

As America Works Director Matt Fieldman wrote:

> ***How will America Works impact local manufacturers from Connecticut to California? Manufacturers of all sizes will appreciate that when they call their local MEP Center for assistance, their consultant will have access to the most advanced, proven tools from across the National Network. If a manufacturing CEO wants to start a new program in their plant – perhaps to hire high school interns, introduce their supervisors to Industry 4.0 technologies or to test out a formal apprenticeship program – they will have the confidence that their local MEP Center, with the resources of the full MEP National Network, can and will support them every step of the way.***
>
> ***Over the course of the three year CAP-funded project, America Works will have a tangible impact on the American manufacturing industry by helping more people launch their own successful careers in manufacturing, helping more companies fill their critical open positions, and improving the industry's diversity and inclusion of people from all backgrounds.***

This is the bold, transformative vision of America Works.

Spotlight

Cybersecurity for Manufacturing

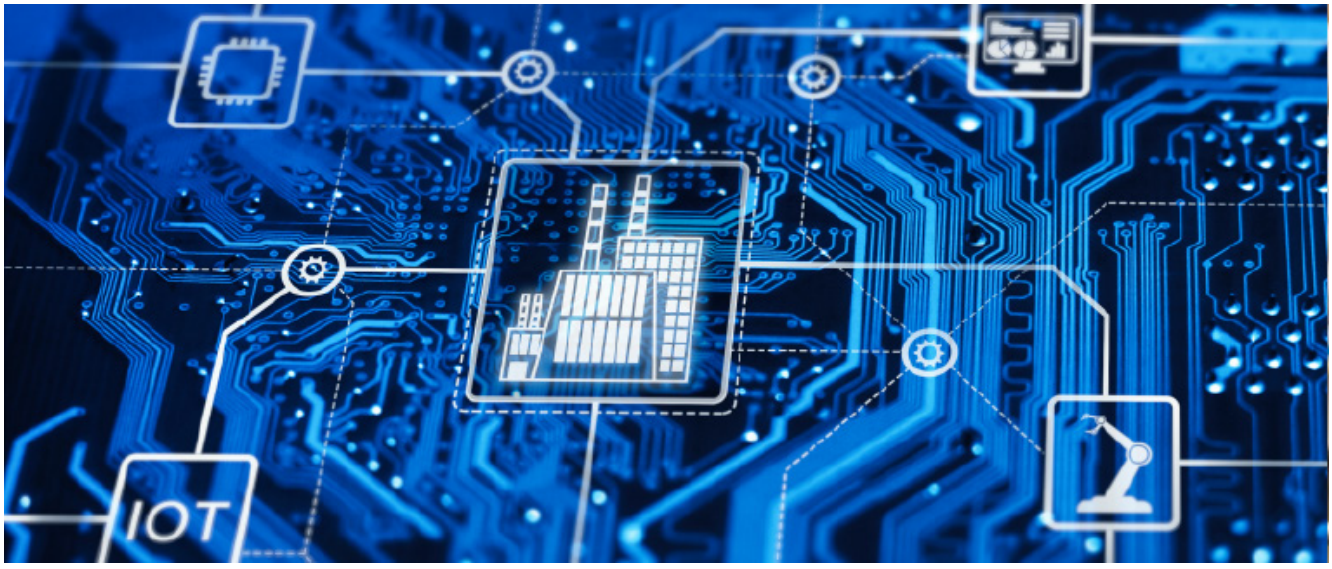
Manufacturing recently overtook financial services as the industry most-targeted for cybersecurity attacks. Attacks primarily used software vulnerabilities or phishing scams to disrupt business operations, demand ransomware payments, sell personal information, steal proprietary information, or alter a product during development.

All MEP Centers can provide cybersecurity services to manufacturers, either with in-house staff or trusted third parties. In 2021, 87% of MEP Centers reported conducting at least one cybersecurity assessment or implementation project, and half of MEP Centers reported conducting at least one cybersecurity training event.

In 2021, an interagency agreement between the DOD and NIST MEP (with a grant to Michigan Manufacturing Technology Center, the Michigan MEP Center) was completed. This agreement provided cybersecurity awareness and implementation services across the U.S., as well as developed case studies for improving the guidance NIST develops for operational technology cybersecurity.

In addition, three 2020 NIST MEP Competitive Awards Program (CAP) projects at MEP Centers in California, Michigan and Virginia developed "go-to" cybersecurity centers. The projects ran throughout 2021 and helped every MEP Center develop a cybersecurity practice, train MEP Center personnel, identify tools, and set up a framework for Centers to help each other with cybersecurity needs in the future. Another CAP awarded to Georgia MEP provided education and training to MEP Centers on DOD cybersecurity requirements.

Most cyberattacks can be prevented with proper cybersecurity practices and MEP Centers have developed substantial expertise to help manufacturers throughout the country.



Food Industry Services and Food Safety

During 2021, the MEP National Network continued to leverage its national expertise and partnerships to provide local and regional assistance to small food manufacturers. This included help implementing new technology and training to support a culture of food safety. The Network continued collaborating with the FDA and the Food Safety Preventive Controls Alliance under existing memorandums of understanding. In 2021, MEP Centers delivered a variety of food safety projects including:

- Comprehensive safe food manufacturing plans
- Training to achieve FDA-recognized Preventive Controls Qualified Individual certifications
- Introducing technology and innovative practices that allow for better traceability through the supply chain

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. Through this working group, MEP Center staff learned about other MEP program services that could help food manufacturing clients – including cybersecurity and the MATTR service. Subject matter experts from FDA, NIST and other organizations shared food industry-related technical information at special working group meetings.

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

MEP National Network Brand Awareness Campaign

The MEP National Network's national awareness campaign expanded the program's reach by educating and engaging manufacturers across the U.S. In 2021, thought leadership content, including educational webinars, white papers and articles, was published and promoted in trade publications like IndustryWeek, Food Processing Magazine, Modern Machine Shop, Supply Chain Management Review and The Fabricator. These webinars, white papers and articles provided practical takeaways and solutions to some of manufacturers' greatest challenges. New infographics provided up-to-date information on various topics, including one that examined misconceptions about the industry and provided insight into what manufacturing careers really look like. Metrics used to measure brand awareness have steadily risen, due in part to the success of the campaign, and more importantly, the work MEP Centers continued to deliver even through challenging times.

In September 2021, NIST MEP collaborated with South Carolina MEP to present a webinar, Artificial Intelligence In Manufacturing: Real World Success Stories and Lessons Learned, through Modern Machine Shop. The webinar aimed to help SMMs think about using artificial intelligence and machine learning in their manufacturing processes. The summarized content from the well-attended webinar appeared later in an article that reached even more manufacturers.

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 the 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 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 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 potential 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.

Over the past five years, NIST MEP has conducted performance evaluations for 45 of the 51 MEP Centers during the third year of their cooperative agreement. These include: Alabama, Alaska, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Louisiana, Maine, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Puerto Rico, South Carolina, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin and Wyoming. During FY 2020-2021, eighth-year performance evaluations were conducted for six MEP Centers: Arizona, Kentucky, Maryland, Nebraska, Rhode Island and South Dakota.

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.

Twenty-four MEP Centers underwent secretarial reviews in 2021, and each of these Centers received positive evaluations: Alabama, Arkansas, California, Delaware, Georgia, Hawaii, Iowa, Kansas, Louisiana, Maine, Massachusetts, Mississippi, Missouri, Montana, Nevada, New Mexico, North Dakota, Ohio, Pennsylvania, Puerto Rico, South Carolina, Utah, Vermont and Wyoming.

MEP Programmatic Evaluations

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 review of the Center's progress toward objectives and prior NIST MEP recommendations. It then identifies required documentation for the renewal of the Center's cooperative agreement. Annual review reports are developed by the Center Resource Management Team and shared with the Center and their Board chair. Recommendations over the past year have been focused on helping the Centers look at future growth.

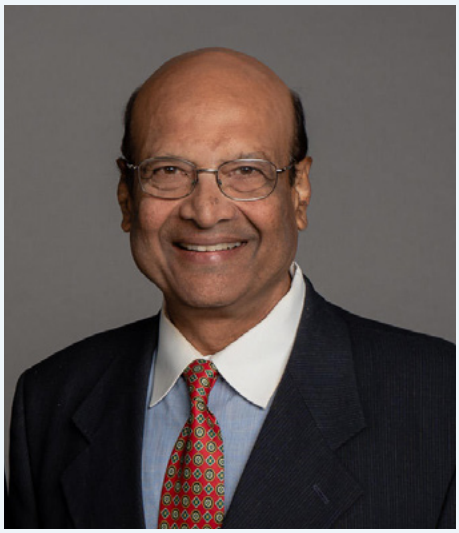
In 2021, NIST MEP developed and piloted an automated process to manage the annual review. This allows the Centers to track the annual review process from scheduling to the final report. This process has been well received by the MEP Centers and they have provided feedback to incorporate into future iterations.

NIST MEP State Partnership Support Program

In 2021, NIST MEP awarded nearly $5 million over five years to the State Science and Technology Institute (SSTI), located in Westerville, Ohio. This NIST MEP State Partnership Support Program will generate strategies, market intelligence and analytical resources to support the efforts of NIST MEP, MEP Centers, and the nation's manufacturers to leverage resources available at regional, state and local levels. In 2021, SSTI prepared more than 2,500 news summaries on issues affecting the MEP National Network, weekly reports on state budgets, and monthly summaries of key economic development and budget news. In addition, SSTI provided individualized advice to MEP Centers on topics including the Treasury Department's State Small Business Credit Initiative and on specific issues within their states. Through this program, SSTI, and its subcontractor the Center for Regional Economic Competitiveness, worked with NIST MEP on additional projects including a workforce strategy paper and helped identifying topics and speakers for the National Conference of State Legislatures' 2021 Jobs Summit. They also facilitated early planning for a NIST MEP-led manufacturing summit for state economic development leaders, tentatively scheduled for March 2023.

Award-Winning NIST MEP Staff

NIST MEP staff received well-deserved accolades for their work in 2021. The entire NIST MEP team received the Department of Commerce Gold Medal Award for quickly executing the CARES Act provisions to provide critical support for U.S. manufacturers through the MEP National Network at a time when the global pandemic posed a formidable economic threat. Their actions enabled MEP Centers to implement appropriate safeguards to prevent the transmission of COVID-19 among employees, and to pivot to new markets when major drivers such as tourism disappeared. The NIST MEP team got CARES Act funding out to MEP Centers in record time without compromising transparency or accountability. In addition, Marlon Walker received NIST's George A. Uriano Award for leadership in the development and implementation of the MEP-Assisted Technology and Technical Resource (MATTR) service to connect NIST laboratory technical capabilities and resources with the needs of small U.S. manufacturers through MEP Centers. Well done!



We are deeply saddened by the sudden death of NIST MEP's Dileep Thatte, only months after his retirement. His work in food safety won a 2019 NIST George A. Uriano award. Many other NIST MEP initiatives also benefited from his technical expertise. And each year, he enjoyed sharing his culture with NIST MEP staff through a very popular Diwali celebration. His generous spirit extended far beyond NIST MEP. Dileep earned his certification as a leadership coach from Georgetown University in 2020 and was honored with the 2021 NIST Distinguished Mentoring Award. His thoughtful, noninvasive approach had an indelible impact on many NIST mentees.

Coming in 2022

New MEP Program Themes

New MEP program themes will focus MEP's efforts to meet the needs of U.S. manufacturers and U.S. manufacturing in the areas of supply chain, workforce, and technology and innovation.

Supply Chain

The supply chain theme will connect the MEP program's on-the-ground knowledge with macro-level monitoring and analysis in order to enable broad visibility across supply chains, identify trends and vulnerabilities, and respond accordingly. The MEP program will position itself at all levels of the supply chain, from original equipment manufacturers to SMMs, as well as the relevant state and federal stakeholders. Building upon the MEP National Network's reputation as a known and trusted partner will allow for connecting top-down data and needs requirements with bottom-up capabilities, to optimize the resilience of the nation's manufacturing sector. There will be an increased emphasis on supplier scouting in response to EO 14005 and EO 14017.

The desired outcomes of this strategy are to increase supplier scouting matches, increase sales and costs savings. This is expected to lead to increased domestic production of strategic products and critical industries, and the creation of new measures for supply chain strength, vulnerability and mitigations.

Workforce

With a continued shortage of skilled workers inhibiting manufacturing growth, MEP Centers will continue to strengthen their position to address the workforce shortages with new approaches to recruitment, retraining and retention. As the knowledge base of their respective regions, MEP Centers will be connectors and convenors to organize groups of manufacturing companies, identify their workforce needs, and work with partner workforce organizations to coordinate and tailor services to meet the identified needs of U.S. manufacturers.

To win the battle for talent now and in the future, MEP Centers will continue being innovative. They will guide U.S. manufacturers to build winning workplace cultures by recruiting the next generation of workers from a diverse workforce, and assisting new workers to understand the rapid technological changes in manufacturing environments.

Technology and Innovation

The technology and innovation theme is central to developing and adopting effective, efficient and secure advanced manufacturing capabilities in domestic industries. The strategy is to establish advanced manufacturing technology ecosystems that align and connect resources for manufacturers, especially small and medium-sized manufacturers. Such ecosystems may allow manufacturers the ability to become aware of and implement advanced manufacturing technology solutions using, for example, R&D resources from government organizations and academic institutions.

Technology and Innovation (continued)

MEP Center efforts focus on scaling up the number of SMMs that are modernizing their production processes while ensuring they simultaneously adopt cybersecurity and privacy best practices.

The end goal is that MEP Centers will continue to be the primary trusted advisor for advanced manufacturing awareness and implementation assistance in their region. MEP Centers accomplish this by pursuing partnerships with demonstration facilities for technology development and cybersecurity deployment, ensuring the MEP program's role in connecting and coordinating the different aspects of the manufacturing ecosystem for SMMs. Employing innovative technologies can and will support businesses' survival and growth, workforce recruitment, upskilling and retention, and success in the global marketplace.

Legislation: A Look Ahead

Watch for the U.S. House's draft of the America COMPETES legislation to match with the Senate's USICA bill. Both the draft and the USICA language currently contain provisions for piloting expansion awards – a new grant authority for the MEP program. These awards would be another vehicle for the program to issue federal funding to the MEP Centers. The USICA bill also contains an authorization for quadrupling the MEP program budget, among other items. While not an appropriation, if the final bill contains this increased authorization for the program, then the funding may follow. With an emphasis set by the Congress and the administration, many additional pieces of legislation are expected to continue the nation's important focus on manufacturing.

FY 2022 Operation Allies Welcome

At the end of 2021, NIST MEP launched an effort to make connections and help Afghan evacuees find training and jobs in the U.S. With the workforce shortage, the MEP program created the right partnerships to learn about the possibilities of connecting people with manufacturing jobs. In coordination with the Department of Homeland Security and the Department of State, the MEP program developed relationships with nine regional refugee resettlement organizations. These organizations helped the MEP program meet the local groups on the ground that work one-on-one to find the Afghani evacuees the resources they need. The local organizations indicated interest in training and workforce development services offered by MEP Centers, as well as potential jobs with MEP Center manufacturing clients.

FY 2022 Center State Competition

NIST MEP will issue two notices of funding opportunities (NOFOs) for eligible entities in Arizona, Kentucky, Maryland, Nebraska, Rhode Island and South Dakota to apply for more than $31 million in federal funds to operate MEP Centers that provide manufacturing extension services to SMMs. Eligible applicants are limited to U.S.-based nonprofit institutions or consortia, institutions of higher education, or state, territory, local, or tribal governments. They will have 90 days from each NOFO's issuance date to submit applications. Awardees will sign a cooperative agreement for an initial performance period of up to five years and must meet a cost-share requirement. 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.

Workcred

As a result of a 2018 project funded by NIST, Workcred, Inc., an affiliate of American National Standards Institute, released a first-of-its kind national manufacturing research report, "Examining Quality, Market Value, and Effectiveness of Credentials in the United States." The study revealed that credentials have uneven use in the manufacturing industry and are not routinely required or used as a major factor in hiring or promotion decisions. Based on the findings of the initial study, Workcred assessed that more data is needed to demonstrate the value and effectiveness of a credential. In September 2019, Workcred received an award from NIST MEP totaling $498,845 for research examining the return on investment (ROI) of manufacturing credentials. This research will give manufacturers a better understanding of how credentials can serve as an important resource in identifying skilled workers. The study will evaluate the ROI of existing manufacturing-related credentials, with a focus on credentials used in the operations/production aspects of manufacturing. MEP Center client manufacturers representing a range of manufacturing sectors, facility sizes and geographic regions will be selected for the study. Research was delayed during the pandemic, and the final report is expected in 2022.

Manufacturing Day 2022

Manufacturing Day (MFG Day) events promote manufacturing to students, parents and educators on the first Friday of October – and throughout the month! On Oct. 7, 2022, MFG Day 2022, 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 2022 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.

2022 MEP Events

Note that face-to-face meetings may become virtual events.

Planned MEP Advisory Board Meetings

March 9, 2022: Virtual meeting via videoconference

June 8, 2022: Tulsa, Oklahoma

Sept. 20, 2022: Chicago, Illinois

Planned MEP National Network Update Meeting

Sept. 19-20, 2022: Chicago, Illinois

MEP Centers

MEP Centers serve as the foundation of the MEP program. 51 MEP Centers are located in all 50 states and Puerto Rico. Over 1,400 trusted advisors and experts at approximately 450 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
Alaska-MEP.com

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

Arkansas
Arkansas Economic Development Commission Manufacturing Solutions (AEDC-MS)
1 Commerce Way, Suite 601
Little Rock, AR 72202
Phone: 501-682-7499
www.mfgsolutions.org

California
California Manufacturing Technology Consulting (CMTC)
690 Knox St., Suite 200
Torrance, CA 90502
Phone: 310-263-3060
www.cmtc.com

Colorado
Manufacturer's Edge
1667 Cole Blvd. Suite 400
Lakewood, CO 80401
Phone: 303-592-4087
www.manufacturersedge.com

Connecticut
CONNSTEP, Inc.
350 Church St., Third Floor
Hartford, CT 06103
Phone: 800-266-6672
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:404-385-0630
www.gamep.org

Hawaii
INNOVATE Hawaii
521 Ala Moana Blvd., Suite 255
Honolulu, HI 96813
Phone: 808-539-3603
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: 800-877-5182
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
Advantage Kentucky Alliance (AKA)
2413 Nashville Road, Suite 310
Bowling Green, KY 42101
Phone: 270-745-3370
www.advantageky.org

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Manufacturing Extension Partnership of Louisiana (MEPOL)
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Maine
Maine Manufacturing Extension Partnership (Maine MEP)
87 Winthrop St.
Augusta, ME 04330
Phone: 207-623-0680
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Maryland Manufacturing Extension Partnership (MD MEP)
8894 Stanford Blvd., Suite 304
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www.mdmep.org

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Massachusetts Manufacturing Extension Partnership (MassMEP)
27A Midstate Dr., Suite 200
Auburn, MA 01501
Phone: 508-831-7020
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Michigan Manufacturing Technology Center (MMTC)
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Phone: 888-414-6682
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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
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Nevada Industry Excellence (NVIE)
450 Sinclair St.
Reno, NV 89501
Phone: 775-784-1935
www.nevadaie.com

New Hampshire
New Hampshire Manufacturing Extension
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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
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ESD, Division of Science, Technology & Innovation
(NYSTAR)
Albany, NY 12245
Phone: 518-292-5700
https://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., 29th Floor
Columbus, OH 43215
Phone: 800-848-1300
https://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
pamep.org

Puerto Rico
Puerto Rico Manufacturing Extension Inc. (PRiMEX)
#268 Muñoz Rivera Ave.
World Plaza Building, Suite 1002
San Juan, 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
2329 N. Career Ave., Suite 243
Sioux Falls, SD 57107
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)
202 East Border St., Suite 323
Arlington, TX 76010
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
mep.utah.edu

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

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32 Bridge St. South, Suite 200
Martinsville, VA 24112
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www.genedge.org

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

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West Virginia Manufacturing Extension Partnership (WVMEP)
311 Mineral Resource
1374 Evansdale Dr.
Morgantown, WV 26506
Phone: 304-479-3681
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

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Manufacturing Works
1938 E. Harney St.
Laramie, WY 82072
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