MEP • MANUFACTURING
EXTENSION PARTNERSHIP®

MEP ADVISORY BOARD
Annual Report 2021

2021 MEP Advisory Board Report

After rising to the challenges of helping manufacturers through the ongoing pandemic, the MEP program continued its important work throughout 2021, with a focus on the future and building resilience.

Resilience resonated throughout the three MEP Advisory Board meetings in 2021. Due to the pandemic, all three Board meetings were held virtually. Board members and stakeholders demonstrated their resilience through robust discussions on vital topics at each meeting. A focus on the future was evident, as strategic planning received a great deal of the Board's attention in 2021.

While the MEP National Network™ Update Meeting was originally planned as an in-person event just before the August Board meeting, the Network demonstrated resilience yet again, moving to a hybrid format for the Update meeting and a virtual format for the Board meeting. During the Update Meeting, Board members actively engaged with attendees from across the Network in conversations about the MEP program's future role in supporting U.S. manufacturers and making U.S. manufacturing better.

The Network and the Board are embracing change, including changes in the MEP program leadership. In 2021, MEP Deputy Director Rob Ivester served as Acting Director after Carroll Thomas' retirement. His dedication and vision focused the Network and the Board's work this year. We look forward to working with new MEP Director Pravina Raghavan who joined NIST in December 2021.

We extend our congratulations and deep appreciation to NIST MEP staff who received well-deserved accolades for their work in 2021. The entire NIST MEP team received the Department of Commerce Gold Medal Award for exceptional speed, efficiency and transparency in executing Coronavirus Aid, Relief, and Economic Security (CARES) Act provisions to support the nation's manufacturers during the global pandemic. 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. We're privileged to work with such dedicated public servants.

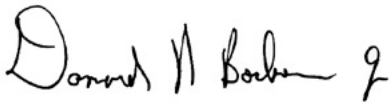
The Board is proud of its role in the MEP National Network. The work we all do to support U.S. manufacturing has never been more crucial to the nation's economic health, and to our national security. We look forward to continuing this work as we move strategically into the future.

Matthew B. Newman, Chair
Principal Managing Partner
New Era Advisors
Tulsa, Oklahoma

Mary Isbister, Vice Chair
President
GenMet Corporation
Mequon, Wisconsin

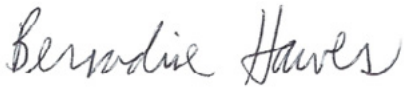
Ray Aguerrevere
Vice President/General Manager
Custom Metal Designs
Oakland, Florida

Jose Anaya
Dean, Community Advancement
El Camino Community College
Hawthorne, California



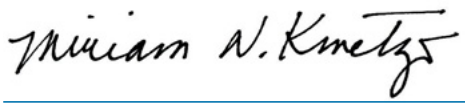
Donald Bockoven
Chief Executive Officer
Fiber Industries LLC
Darlington, South Carolina

E. LaDon Byars
President and Chief Executive Officer
Colonial Diversified Polymer Products, LLC
Dyersburg, Tennessee



Bernadine Hawes
Senior Advisor
Econsult Solutions, Inc.
Philadelphia, Pennsylvania

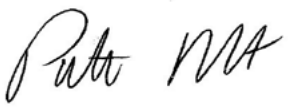
Kevin Heller
Chief Operations Officer/Chief Financial Officer
The Ziegenfelder Company
Wheeling, West Virginia



Miriam Kmetzo
Executive Vice President
Welding Technology Corp.
Farmington Hills, Michigan

Mitch Magee
Manufacturing Industry Consultant
Hamilton, Ohio

Willie E. May
Vice President for Research and Economic Development
Morgan State University
Baltimore, Maryland

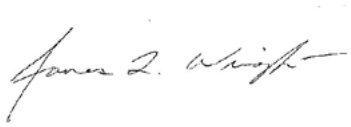


Patricia Moulton
President
Vermont Technical College
Randolph Center, Vermont

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

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About the Manufacturing Extension Partnership

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 system of organizations in every state and Puerto Rico, the 51 MEP Centers are now an integral part of the MEP National Network. 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 1,400 trusted advisors and experts at approximately 450 MEP Center service locations across the nation. The MEP Centers and their partners, including state governments, universities, community colleges, 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.

According to a third-party survey, in fiscal year (FY) 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.

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.

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. Board members are limited to two consecutive, full three-year terms and are ineligible for reappointment for a year following the expiration of their second term. In addition, 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.

Several changes occurred to Board membership in 2021. Kevin Heller and Willie May left the Board this year. Their leadership and advice over their years of service, and their time and commitment to the MEP Advisory Board are appreciated. Miriam Kmetzo joined the Board in 2021. She is the Executive Vice President for Welding Technology Corp. in Farmington Hills, Michigan. Ms. Kmetzo served a three-year term on the Malcolm Baldrige National Quality Award judging panel and continues to be actively involved in both the national and state Baldrige programs. In addition, the Board welcomed back past Chair Bernadine Hawes. Ms. Hawes is a Senior Advisor at Econsult Solutions, Inc. in Philadelphia, Pennsylvania. This brings the Board roster to 14 members going into FY 2022.

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.

2021 MEP Advisory Board Members

MATTHEW NEWMAN, CHAIR

Second Term Expires: March 2023

Matthew Newman is the Principal Managing Partner of New Era Advisors. He has diverse and extensive expertise in business development, management and advocacy for sustainability. Mr. Newman is an entrepreneur and intrapreneur whose career has focused on innovation, business development, business management, modernization initiatives, environmental, social and governance facilitation, and leveraging and improving core assets and mission-critical initiatives. He specializes in renewable energy, low carbon solutions, novel technologies, logistics and optimization, electricity generation, natural gas, financial derivatives and risk management, identifying profit opportunities in the sustainability spectrum, and building collaborative relationships at the local, state and federal levels. Mr. Newman has a Bachelor of Business Administration from the University of Oklahoma. He is an active volunteer serving on boards and task forces on state and local levels. He has been a guest lecturer at several colleges and universities.

MARY ISBISTER, VICE CHAIR

Second Term Expires: March 2023

Mary Isbister is President of GenMet Corporation, a custom metal fabricating company located in Mequon, Wisconsin. After graduating with a Bachelor of Science in chemistry, she worked at Pfizer in Groton, Connecticut for 11 years. During her tenure at Pfizer she held positions in medicinal chemistry, clinical research and senior organizational development. In 1997, she moved to Wisconsin and founded Synergy Solutions, an organizational development and strategic planning consulting business, which she ran until 2001. In 1999 Ms. Isbister and her husband purchased GenMet Corporation, a custom manufacturer specializing in high value-added metal fabrications and enclosures. From 2010-2014 Ms. Isbister also served on the U.S. Manufacturing Council, reporting to the Secretary of Commerce.

RAY AGUERREVERE

First Term Expires: October 2023

Ray Aguerrevere is the Vice President/General Manager for Custom Metal Designs, located in Oakland, Florida. Custom Metal Designs is an industry leader that designs and manufactures turnkey industrial automation solutions that include collaborative and industrial robotics, autonomous vehicles and complex conveyor systems for clients worldwide. Mr. Aguerrevere has led the company through a technological transformation resulting in a tripling of revenues since 2005. Mr. Aguerrevere has a Bachelor of Business Administration in finance from the University of Central Florida and a Master of Business Administration from the University of Florida. He serves as president on the board of the Manufacturers Association of Central Florida and is board chair of the FloridaMakes (the Florida MEP Center) board of directors.

JOSE ANAYA

Second Term Expires: July 2022

Jose Anaya oversees the El Camino Community College District's Community Advancement Division and Business Training Center as the Dean. Prior to joining the staff at El Camino College, he directed economic development programs at Cerritos College. Under Mr. Anaya's guidance, Cerritos College received numerous honors and recognition related to workforce development. These included a best practices award for its partnership with Lockheed Martin and selection by the Corporation for a Skilled Workforce and its partners as one of five national exemplary models for expanding postsecondary education and training opportunities for Hispanic workers. Mr. Anaya's earlier experiences include work in the private sector with corporations such as Honeywell, ITT Industries and DataCard. He has broad experience and expertise in the areas of product design, manufacturing and management, as well as economic and workforce development. Mr. Anaya has a Bachelor of Science in mechanical engineering from California State Polytechnic University, Pomona and a Master of Business Administration with an emphasis in entrepreneurship from the University of Southern California.

DONALD BOCKOVEN

First Term Expires: October 2022

Donald Bockoven is the CEO for Fiber Industries LLC, a textile production operation based in Darlington, South Carolina. He has extensive experience over a nearly forty year career as a senior leader within both large and small companies across many industries. He specializes in transformational company growth through performance improvement. He has extensive knowledge in organizational redesign through Lean Six Sigma manufacturing practices, adaptive and advanced work systems and quality management. Mr. Bockoven has extensive board experience. He currently sits on the South Carolina Manufacturing Extension Partnership Board and previously served on the South Carolina Manufacturers Association Board. At the national level, he was the vice chair of the National Council of Textile Organization's board until April 2019 and in 2018 was appointed to the President's Advisory Committee for Trade Policy and Negotiations for a four-year term. He has also served on technical advisory boards at the community college level as well as startup companies.

LADON BYARS

Second Term Expires: February 2023

LaDon Byars is the President and CEO of Colonial Diversified Polymer Products, LLC of Dyersburg, Tennessee. Colonial Diversified produces high-quality rubber products for a wide variety of industries including automotive, defense, commercial building, construction, farm equipment, aerospace, computers, medical, telecommunications, recreation, health, entertainment, plumbing, refrigeration and many more. She started out as a financial analyst and rose to become president of the company. Ms. Byars is very active in the manufacturing community, has received many awards and is on the advisory board of the University of Tennessee Center for Industrial Services which houses the Tennessee MEP Center.

BERNADINE HAWES

First Term Expires: July 2024

Bernadine Hawes is an executive level, nonprofit professional and economic development specialist working in the areas of manufacturing strategy, small business growth, and project management workforce development. She is a Senior Advisor at Econsult Solutions, Inc. which provides robust quantitative analysis with trusted expert insights and impactful implementation to businesses and the public sector in urban economics, real estate economics, public infrastructure, public policy, and community and neighborhood development and planning. Her long career includes her work as Technology Specialist for the Pennsylvania House of Representatives in crafting the state's "Blueprint for Technology" and leadership roles on regional and national manufacturing industry boards, including past chair of the MEP Advisory Board. Born and raised in Washington, D.C., Ms. Hawes has a Master of Science from the University of Pennsylvania and is a summa cum laude graduate of Lincoln University in Pennsylvania. She has been the national co-chair of Penn's Black Alumni Society and is a former member of the University of Pennsylvania's James Brister Society for Diversity Inclusion.

KEVIN HELLER

Resigned from the Board: September 2021

Kevin Heller is the Chief Operations Officer/Chief Financial Officer of Ziegenfelder Company, located in Wheeling, West Virginia. The Ziegenfelder Company is over one hundred years old and Mr. Heller joined the company in 2004. He is responsible for all accounting, finance, business and operating activities of the company and oversight of the business policies and practices. He has been integral in scaling and facilitating the business growth from $16 million to $75 million and has successfully managed more than $25 million in expansion projects over the past four years. Mr. Heller graduated from Bethany College and is a certified public accountant in Ohio and West Virginia.

MIRIAM KMETZO

First Term Expires: July 2024

Miriam Kmetzo is the Executive Vice President for Welding Technology Corp., a global leader in resistance welding and industrial automation based in Farmington Hills, Michigan. She has a bachelor's degree in chemistry and a Master of Science in management from Rensselaer Polytechnic Institute. Ms. Kmetzo began her career in process and quality management and has held various positions in manufacturing for over 30 years. She joined Welding Technology Corp. in 1996 as a Quality Manager and rose to become Executive Vice President with responsibilities for human resources, operations and quality. In addition to her passion for manufacturing, Ms. Kmetzo is equally passionate about performance excellence. Ms. Kmetzo is honored to have served a three-year term on the Malcolm Baldrige National Quality Award judging panel and continues to be actively involved in both the national and state Baldrige programs.

MITCH MAGEE

Second Term Expires: March 2023

Mitch Magee is the retired Director of Global Advanced Manufacturing Technology for PPG's aerospace business unit. He has over 40 years of manufacturing experience, having served in capacities from front-line plant operations to global quality and environment, health and safety roles in PPG's automotive, industrial, and food and beverage package coatings business units. Mr. Magee is also actively engaged in workforce development as the past chair of the Delaware Manufacturing Association and led the development of Delaware's first Pathways to Prosperity high school manufacturing technology program. This program was developed in conjunction with Gov. Jack Markell's administration, Delaware Technical and Community College and local high schools. Mr. Magee has also served on the Delaware Workforce Development Board, boards of Western Pennsylvania Air and Waste Management Association, Delaware Technical Community College-Terry Campus, Central Delaware Chamber of Commerce and as a Pickaway County, Ohio trustee. He has a Bachelor of Science in liberal arts from Allegheny College, a Master of Science in chemical engineering from the University of Pittsburgh and is a licensed professional engineer.

WILLIE E. MAY

Resigned from the Board: September 2021

Willie E. May is Vice President for Research and Economic Development at Morgan State University. He previously served as Under Secretary of Commerce for Standards and Technology and Director of NIST. As NIST Director, Dr. May provided high-level oversight and direction for NIST, the agency that promotes U.S. innovation and industrial competitiveness by advancing measurement science, standards and technology. Dr. May began as a bench chemist and went on to work at every management level within the organization. In addition to the MEP Advisory Board, Dr. May serves on science and technology advisory boards for the United Kingdom's National Physical Laboratory and China's National Institute of Metrology and on the board of directors for Consumer Reports. He earned his Bachelor of Science in chemistry from Knoxville College and his doctorate in analytical chemistry from the University of Maryland, College Park.

PAT MOULTON

Second Term Expires: June 2024

Patricia Moulton was appointed President of Vermont Technical College by the Vermont State Colleges Board of Trustees in March 2017. Ms. Moulton served as Interim President from September 2016-March 2017. Vermont Technical College is part of the Vermont State College System and the only technical college in the state. Prior to joining the college, Ms. Moulton served as secretary of the Vermont Agency of Commerce and Community Development. Ms. Moulton has served in a variety of appointed positions in Vermont state government, having been appointed by four different governors. She has served as commissioner of labor in addition to several economic development-related appointments. She has also served as appointed chair of an environmental regulatory board for the state of Vermont. Ms. Moulton spent 35 years in the practice of economic development on the local, regional and state levels. She has worked as executive director of four different regional economic development corporations in Vermont. She also ran her own economic development consulting company for several years. Ms. Moulton is a graduate of the University of Vermont with a degree in political science.

KATHAY RENNELS

Second Term Expires: March 2022

Kathay Rennels is the Special Advisor to the Chancellor for Rural-Urban Initiatives at Colorado State University (CSU) and works to advance collaborative networks across the state and create economic development opportunities. She has significant experience fostering public and private partnerships in regional and rural workforce development, with particular attention to Larimer and Weld Counties. Ms. Rennels previously served three terms as a Larimer County commissioner and is now leading the Food and Agriculture Key Industry Network for the state of Colorado. Ms. Rennels helped initiate the "Value Chain of Colorado Agriculture" study released in February 2013 and coauthored the November 2014 follow-up study, "The Emergence of an Innovation Cluster in the Agricultural Value Chain Along Colorado's Front Range." She also initiated the Advancing the Agricultural Economy Through Innovation summit held at CSU in March 2015. Ms. Rennels was the president of Colorado Counties Inc. and named commissioner of the year. She currently serves on the Community Foundation of Northern Colorado, El Pomar Foundation and Manufacturer's Edge, the Colorado MEP Center, as a board member.

GEORGE SPOTTSWOOD

Second Term Expires: May 2023

George Spottswood is Owner and CEO of Quality Filters, Inc. (QFI) in Robertsdale, Alabama. QFI was incorporated in 1981 in Gulf Shores, Alabama. Mr. Spottswood and his father, Horace Spottswood, purchased the business in 1983. At the time of purchase, QFI employed eight associates and operated out of a 10,000-square foot rented facility, manufacturing a single HVAC air filter product. Today, QFI employs 150 associates and operates out of a 70,000-square foot corporate-owned facility. He has served two terms as associate council president of the National Air Filtration Association (NAFA) as well as served on several NAFA committees in varying roles. Mr. Spottswood has been involved with the Alabama Technology Network (ATN, Alabama's MEP Center) since 2005. He was named 2005 ATN Business Innovator of the Year for the state of Alabama. Other corporate awards include the 2011 Innovator of the Year Award for Alabama by the Southern Growth Policy Board.

LESLIE TAITO

Second Term Expires: July 2023

Leslie Taito is the Executive Vice President for Business Operations at Taco Comfort Solutions. Taco is a 100-year-old, third generation family-owned global company based in Cranston, Rhode Island that engineers and manufactures high-efficiency indoor heating, cooling and plumbing comfort systems. Using her over 25 years of management and manufacturing experience, she is responsible for Taco's global supply chain, logistics and quality. Previously, she served as Chief of Staff at Neighborhood Health Plan of Rhode Island, and she was CEO of Hope Global, a manufacturer of textile products and engineering solutions. She was also the Director of Regulatory Reform for the Rhode Island Office of Management and Budget. She has held leadership positions as the CEO for the Rhode Island Manufacturing Extension Services, Inc., Executive Director of the Rhode Island Manufacturers Association, and Acting Executive Director and Chief Operating Officer of the Rhode Island Regional Employment and Training Board. In addition to serving on the MEP Advisory Board, Ms. Taito is a member of the Polaris MEP (the Rhode Island MEP Center) Advisory Board. She also has served by appointment of the governor on the Rhode Island Manufacturing Advisory Council and the Lean Government Initiative. Actively involved in her community, Ms. Taito has served in executive board leadership positions and as chair of the Northern Rhode Island and North Kingstown Chambers of Commerce.

JIM WRIGHT

Second Term Expires: March 2023

Jim Wright is the Vice President of Operations for Proof Research, located in Columbia Falls, Montana. Proof Research is an industry leader that designs and manufactures state-of-the-art carbon fiber composite firearms for both military and commercial applications. Mr. Wright has over 25 years of experience in manufacturing engineering and production management across the aerospace, automotive, semiconductor and firearms industries. Throughout his professional career, he has spent a significant amount of time abroad working with European and Asian companies and brings a passion to apply best-in-class concepts and lean manufacturing principles to help improve manufacturing within the U.S. He holds a Bachelor of Science and Master of Business Administration from Southern Illinois University and was a member of the Montana Manufacturing Extension Center (Montana's MEP Center) advisory board for six years, serving in both the vice president and president roles. He is active in the local community and serves on the board of directors for the Kalispell City Chamber of Commerce.

2021 MEP Advisory Board Activities

Advisory Board Meetings

The MEP Advisory Board gathered via videoconference for three meetings in 2021. Board members along with NIST leadership, NIST MEP and 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. NIST Associate Director for Innovation and Industry Services Mojdeh Bahar provided opening remarks and attended the Board meetings. James Olthoff, who was performing the nonexclusive functions and duties of the Under Secretary of Commerce for Standards and Technology and Director of NIST, also offered welcoming remarks at the February meeting.

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 2023-2028 Working Group, the Supply Chain Development Working Group and the Executive Committee Working Group.

The third Board meeting of this year was planned to be co-located with and held after the Foundation for Manufacturing Excellence's Center Best Practices Conference in Phoenix, Arizona. However, considering the changing health and safety conditions during 2021, the Board meeting was moved to a virtual-only format. Many MEP Advisory Board members also participated via videoconference in the MEP National Network Update Meeting held just before the Board meeting.

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 Board meeting, there was a presentation and discussion outlining a strategic planning foundation for the Board's new MEP National Network 2023-2028 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, including extended focus groups discussing overarching resilience, reshoring, national supply chain, technology and workforce.

These three Board 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.

Working Group Updates

MEP National Network Strategic Plan 2023-2028 Working Group

Strategic planning played a central role for the MEP Advisory Board in 2021, and the MEP National Network Strategic Plan 2023-2028 Working Group led this complex and ambiguous process.

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.

This working group provided long-term program direction, guidance and perspectives for the MEP National Network 2023-2028 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.

The working group initiated focus groups that delved deeply into four strategic planning areas: overarching resilience, reshoring, national supply chain and workforce. The topics are interrelated, with overarching resilience essential to the others. Discussions centered on aligning and identifying tangible measures for these four areas.

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.

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.

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.

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 MEP program was recognized as contributing to national and economic security, explicitly mentioned in the 2021 National Defense Authorization Act, and had a role in executive orders. In 2021, the working group's goal 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 (EO) 14017, could be more effectively sourced domestically.

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.

The MEP National Network continued to support DOD supply chains and to develop strong nationwide capabilities that provided cybersecurity assistance for small manufacturers. MEP has a continued role with Defense Federal Acquisition Regulation Supplement (DFARS) and Cybersecurity Maturity Model Certification (CMMC) program requirements for defense suppliers.

The sharp focus having been on U.S. dependence on global supply chains and how the lack of supply chain resilience undermined U.S. economic and national security led to an expansion of the MEP Supplier Scouting service and plans for implementing a national supply chain database. NIST MEP and MEP Centers collaboratively began developing the Manufacturer Resilience Framework, a suite of tools, assessments, and services for Centers to offer that would increase national capabilities and capacities. 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.

MEP National Network Update: Building Resilience

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 White House 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.

MEP National Network™

IN REMEMBRANCE

Mark Sessumes
Center Director of TMAC (Texas MEP Center)

Chuck Spangler
CEO/President of South Carolina MEP

The ongoing pandemic has caused vast distress nationwide and taken a heavy toll. 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.


WA
IMPACT WASHINGTON
OR
OMEP
ID
TECHHELP
MT
MANUFACTURING EXTENSION CENTER
WY
MANUFACTURING WORKS
ND
IMPACT DAKOTA
SD
MANUFACTURING & TECHNOLOGY SOLUTIONS
NE
NEBRASKA MANUFACTURING EXTENSION PARTNERSHIP
MN
ENTERPRISE MINNESOTA
WI
MANUFACTURING & PRODUCTIVITY
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IMEC
IN
PURDUE UNIVERSITY
OH
Ohio
NV
NEVADA Industry Excellence
UT
CO
Manufacturer's EDGE
KS
KANSAS MANUFACTURING SOLUTIONS
MO
MISSOURI ENTERPRISE
CA
CMTC
AZ
ARIZONA MANUFACTURING EXTENSION PARTNERSHIP
NM
new mexico manufacturing MEP
OK
OKLAHOMA MANUFACTURING ALLIANCE
TX
TMAC
AR
ARKANSAS
LCTCS MEP
LA
MS
MMA MEP
AL
ATN
GA
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PA
PA MEP
NY
NEW YORK Manufacturing Extension Partnership
VA
GENEDGE
MD
DE
NJ
NJMEP
DEMEP
MARYLAND MEP
CONNSTEP
POLARIS MEP
MASSMEP
VT
NH
ME
MAINEMEP
VMEC
NEW HAMPSHIRE MEP
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FloridaMakes
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ALASKA MEP
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innovate HAWAII
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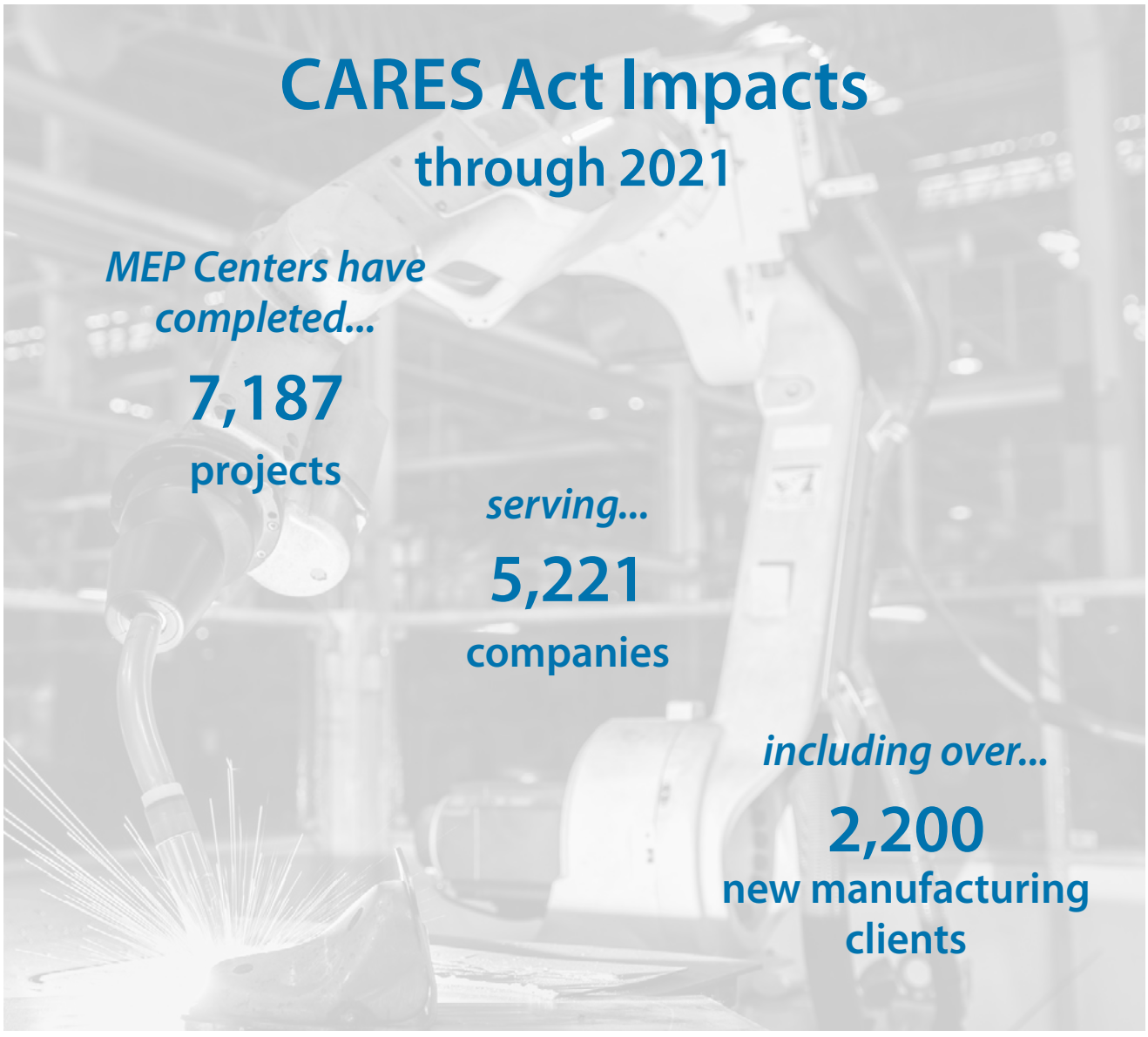
CARES Act Funding Impacts

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. 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.



Success Stories: CARES Act in Action

Headframe Spirits and Woofables 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.

Woofables, a women-led gourmet dog treat bakery, used their pandemic-driven down time to reboot their business. The Iowa State University Center for Industrial Research and Service (CIRAS, the Iowa MEP Center) helped them with an industry analysis and new strategic plan. In late 2020, CIRAS business consultants helped the company begin to expand and they've already seen $3 million in increased sales.

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.

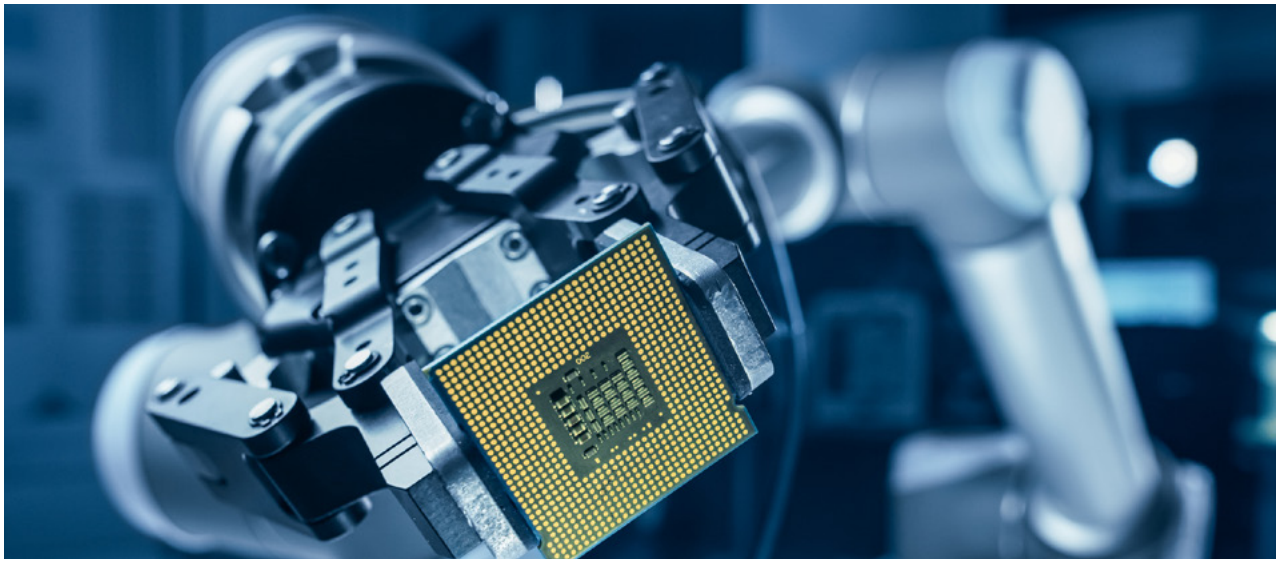
MEP Role in Executive Orders

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.

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.



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. An additional 145 virtual attendees, including NIST leadership and NIST MEP staff, registered for the Update Meeting. A number of MEP Advisory Board members participated in the meeting.

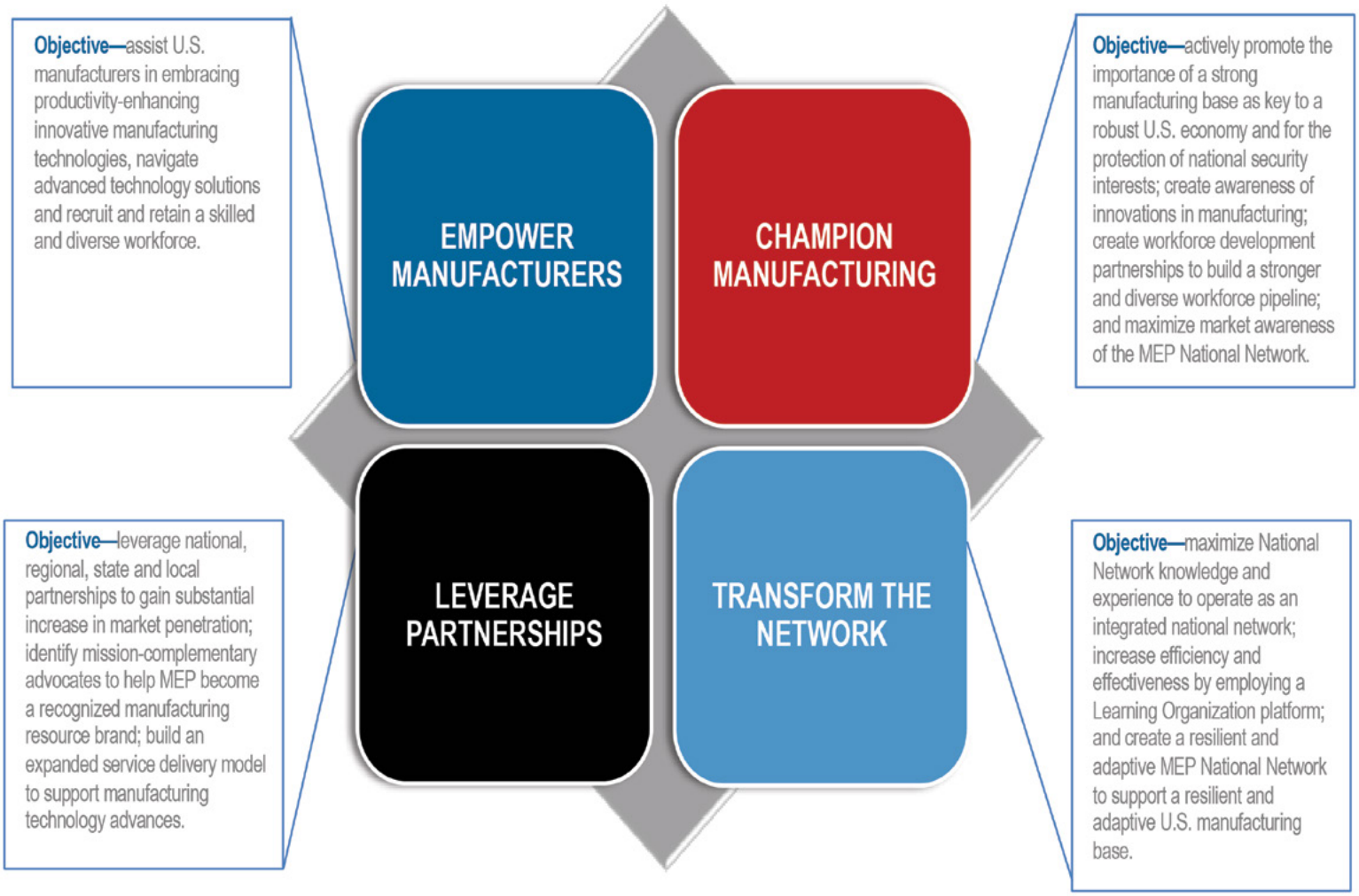
The Update Meeting featured small group discussions with a focus on workforce, supply chains and manufacturing technology. In addition, the third virtual MEP Advisory Board meeting, held immediately after the Update Meeting, was broadcast live to the MEP National Network Update Meeting hotel in Phoenix 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. Credit: MEP

MEP National Network 2017-2022 Strategic Plan

The 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.

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:

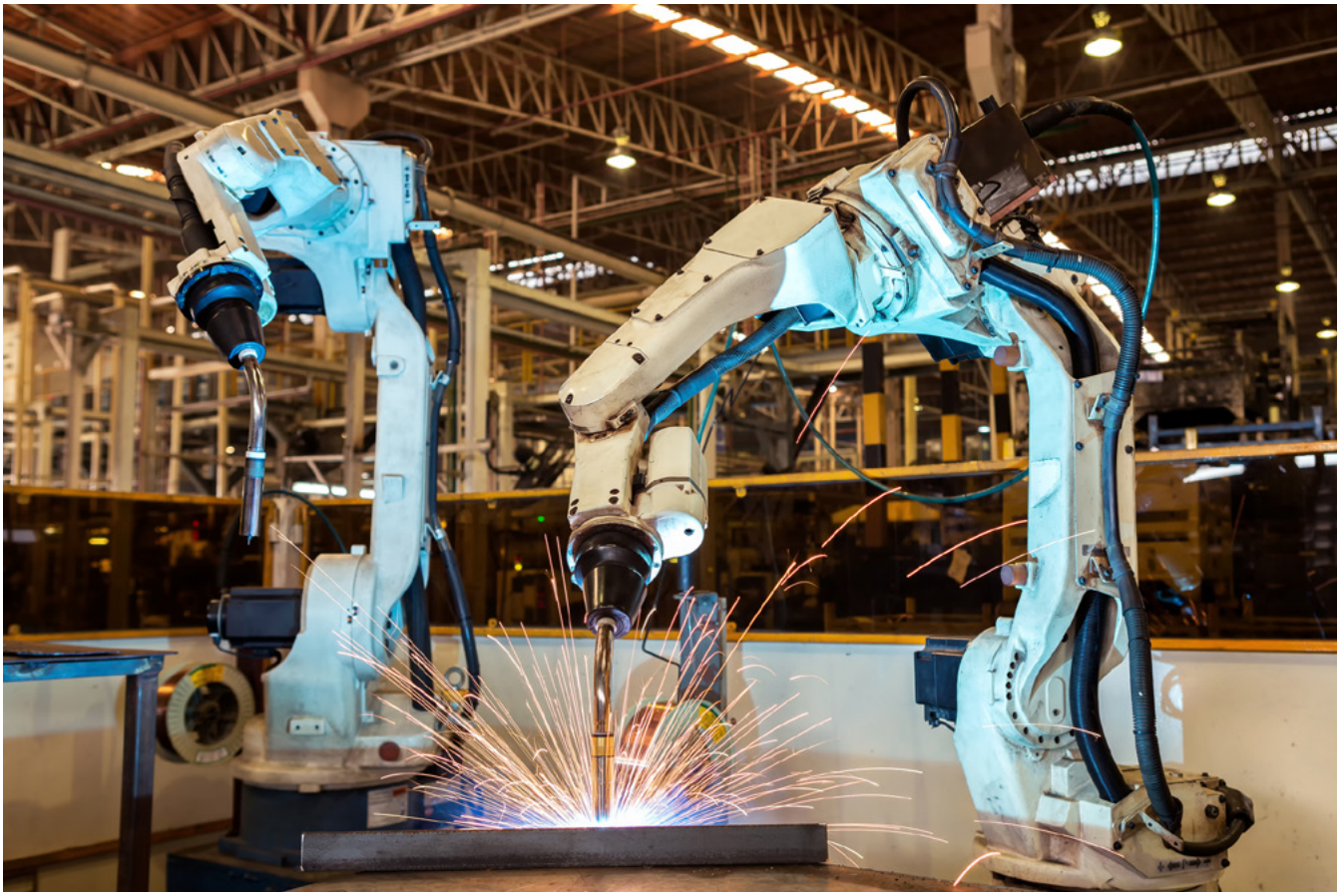
The MEP National Network is known and recognized by U.S. manufacturers and stakeholders as an indispensable resource whose trusted experts help them grow and embrace manufacturing technology advances.

- 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 Deputy 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%



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 MEP Centers to add capabilities across the MEP National Network.

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 the American manufacturing industry's training efforts, generating a more capable, skilled and diverse 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

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.

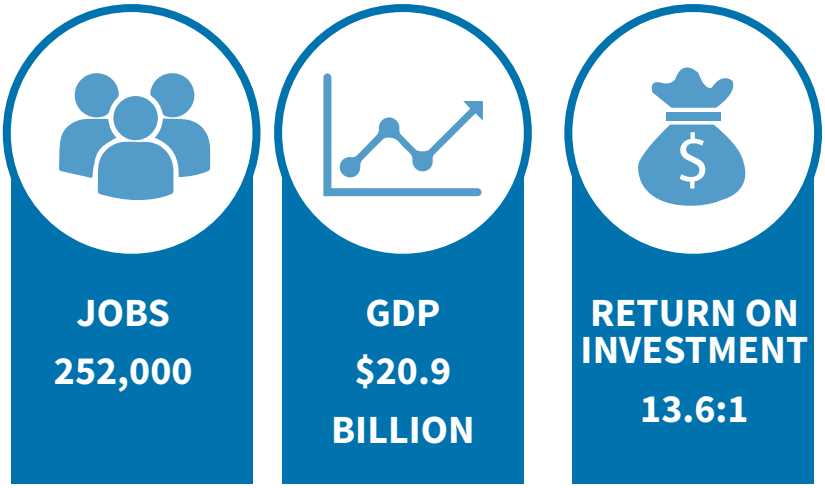
The entire country, and the thousands of small and medium-sized manufacturers, along with MEP Centers across the U.S., faced enormous challenges as a result of the COVID-19 pandemic and the resulting economic dislocation. Despite these obstacles, manufacturers proved to be resilient, and MEP Centers 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 MEP Center projects. 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.



NIST MEP 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 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.

The Go-To Experts for Advancing U.S. Manufacturing.

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