

**National Institute of Standards and Technology
Manufacturing Extension Partnership
Advisory Board
Minutes of the Feb. 23, 2021 Meeting**

Background

The Department of Commerce (DOC), National Institute of Standards and Technology (NIST), Manufacturing Extension Partnership (MEP) Advisory Board (Board) met in an open session from 1-5 p.m. on Feb. 23, 2021, via video teleconference. The meeting had 100 attendees including Board members, NIST and NIST MEP staff, participants from MEP Centers, guest speakers and observers. Cheryl Gendron is the Designated Federal Officer for the MEP Advisory Board.

Attendees

Board Members

Ray Aguerrevere, Vice President and General Manager, Custom Metal Designs
Jose Anaya, Dean of Community Advancement, El Camino College
Donald Bockoven, CEO, Fiber Industries LLC
E. LaDon Byars, President and CEO, Colonial Diversified Polymer Products, LLC
Mary Isbister, Vice Chair, MEP Advisory Board and President, GenMet Corporation
Mitch Magee, Director, Global Advanced Manufacturing Team, PPG Aerospace Business Unit
Patricia Moulton, President, Vermont Technical College
Matthew Newman, Chair, MEP Advisory Board and Director of Business Development - Renewables, ONEOK, Inc.
Kathay Rennels, Special Advisor to the Chancellor for Rural-Urban Initiatives, Colorado State University System
George Spottswood, Owner and CEO, Quality Filters, Inc.
Leslie Taito, Chief of Staff, Neighborhood Health Plan of Rhode Island
Jim Wright, Vice President of Operations, Proof Research

NIST MEP Participants

Cheryl Gendron, NIST MEP Advisory Board Liaison and Designated Federal Officer, MEP Advisory Board
Rob Ivester, MEP Deputy Director and Acting MEP Director
Chancy Lyford, NIST MEP Division Chief for External Affairs, Performance and Support
David Stieren, NIST MEP Division Chief for Extension Services

Guest Speakers

Mojdeh Bahar, NIST Associate Director for Innovation and Industry Services
James Olthoff, Performing the non-exclusive functions and duties of the Under Secretary of Commerce for Standards and Technology and NIST Director
Lisè Stewart, EisnerAmpner

Observers

Nicole Ausherman, NIST MEP
Mellissa Ayala, NIST MEP

Robert Barnes, NIST MEP
Leah Barton, Center for Industrial Research and Service, Iowa State University
Fiona Baxter, North Carolina State University
Dan Berglund, SSTI
Steve Black, Utah MEP
Pete Bracco, Supreme Gear
Buckley Brinkman, Wisconsin Center for Manufacturing and Productivity
Tom Bugnitz, Manufacturer's Edge
Amber Cassady, Lewis-Burke Associates, LLC
Monica Claussen, NIST MEP
Michael Coast, Michigan Manufacturing Technology Center (MMTC)
Dusty Cruise, Missouri Enterprise
Nadine DeJesus, NIST MEP
Doug Devereaux, NIST MEP
Andrew Duda, New Jersey MEP
Emily Durham, Lewis-Burke Associates, LLC
Leah Epstein, Manufacturing Advocacy and Growth Network
Barbara Fernandez, CONNSTEP
Susan Foltz, Ohio Development Services Agency
Tamiko Ford, NIST
Kristen Greene, NIST
Beatriz Gutierrez, CONNSTEP
Mereb Hagos, Center for Regional Economic Competitiveness (CREC)
William Healy, NIST
Diane Henderson, NIST MEP
Autumn Hernandez, NIST MEP
Carrie Hines, American Small Manufacturers Coalition/Foundation for Manufacturing Excellence
Kimberly Ingalls, MassMEP
John Kennedy, New Jersey MEP
Sarah Kerper, Fors Marsh Group
Sean Killam, MassMEP
Tina Kurian, Fors Marsh Group
Brian Lagas, NIST MEP
Paul Lefief, Supreme Gear
Wiza Lequin, NIST MEP
Kathie Mahoney, Polaris MEP
Anthony Mastalski, NIST MEP
Chris Mathews, National Custom Hollow Metal Doors and Frames
Heather Mayton, NIST MEP
Kevin McIntyre, NIST MEP
Dimitrios Meritis, NIST MEP
Phil Mintz, North Carolina MEP
Justin Mocca, NIST MEP
Andrew Nobleman, NIST MEP
Mary Ann Pacelli, NIST MEP
Celia Paulsen, NIST MEP
Andrew Peterson, NIST MEP
Kim Pinckney, NIST MEP
Ken Poole, CREC
Ellen Purpus, University of Nevada, Reno
Katie Rapp, NIST MEP

Kari Reidy, NIST
Rikki Riegner, Pennsylvania MEP
Catherine Rimmer, NIST
Marty Romitti, CREC
Jennifer Rosa, NIST MEP
Mark Schmit, NIST MEP
Jeff Schultz, MMTTC
Mark Sessumes, Texas Manufacturing Assistance Center
Carol Shibley, NIST MEP
Julia Shriner, NIST MEP
Sheena Simmons, NIST MEP
Michael Simpson, NIST MEP
Rebecca Singer, Center for Innovative Food Technology
Gloria Solomon, NIST MEP
Chuck Spangler, South Carolina MEP
Megan Spangler, NIST MEP
Tiffany Stovall, Kansas Manufacturing Solutions
Michael Taylor, NIST MEP
Dileep Thatte, NIST MEP
Nico Thomas, NIST MEP
Mark Troppe, CREC
Ben Vickery, NIST MEP
Ken Voytek, NIST MEP
Phill Wadsworth, NIST MEP
Marlon Walker, NIST MEP
Samm Webb, NIST MEP
Michael Wilson, NIST MEP
Bob Zider, Vermont MEP

Welcome and Introductions

Speakers:

Matthew Newman, Chair, MEP Advisory Board

James Olthoff, Performing the non-exclusive functions and duties of the Under Secretary of Commerce for Standards and Technology and NIST Director

Mojdeh Bahar, NIST Associate Director for Innovation and Industry Services

Rob Ivester, MEP Deputy Director and Acting MEP Director

M. Newman reviewed the agenda and made introductory remarks. He thanked Center executives, staff, supporting collaborators and manufacturers in the field for their work during the past year. R. Ivester welcomed everyone to the meeting and introduced J. Olthoff. J. Olthoff thanked the MEP Advisory Board members for their service and discussed his former role as the Associate Director for Laboratory Programs. Several areas of partnership exist between MEP and the NIST labs, including the MEP-Assisted Technology and Technical Resource (MATTR) program, which provides MEP Center clients with direct access to the resources and capabilities of the labs. The laboratories' mission is fully aligned with the MEP National Network's (MEPNN's) mission. R. Ivester introduced M. Bahar, who highlighted several ways that the MEPNN is strengthening and empowering U.S. manufacturers in response to the COVID-19 pandemic. These include the award of the CARES Act funding to every MEP Center, recent legislative developments which recognize MEP as a resource, the roundtable conversations with manufacturers, development of a new MEPNN manufacturer/supply chain resilience focus area, and a

recent study by Summit Consulting and the W.E. Upjohn Institute for Employment Research which examined areas where the MEP program had a significant economic impact in 2020. Board members and attendees were introduced.

NIST MEP Senior Management Update

Speaker: Rob Ivester

MEP program budget outlook, as of Feb. 23, 2021

- Fiscal year (FY) 2021 appropriation status:
 - Base funding: \$150 million
 - \$4 million increase over FY 2020
 - No cost share requirement
- FY 2022 appropriation status:
 - President's budget request and congressional appropriation bills are forthcoming

NIST MEP FY 2021 projected spend plan

- Available funding:
 - Full year appropriation: \$150 million
 - Carryover from FY 2020: \$7.3 million
 - Funding from other agencies: \$0
 - Total available funding: \$157.3 million
- Planned expenditures:
 - Center renewals: \$126.6 million
 - Strategic competitions: \$4.3 million
 - Contracts: \$4.7 million
 - NIST MEP labor: \$11.5 million
 - NIST and program overhead: \$10.2 million
 - Total planned expenditures: \$157.3 million

Legislative update

- Omnibus funding bill for FY 2021 signed into law on Dec. 27, 2020
 - Funds NIST MEP through FY 2021 with \$150 million
 - The bill is over 2,000 pages and contains the first major update to energy policy authorizations in over a decade. Energy availability and cost is a crucial component of manufacturing competitiveness and NIST is working with interagency partners to help implement policy adjustments.
- The National Defense Authorization Act (NDAA) signed into law on Jan. 1, 2021
 - The NIST Director will present Congress with a feasibility study on the supply chain database within six months of enactment (July 1, 2021).
 - The Department of Defense (DOD) Office of Economic Adjustment is now the DOD Office of Local Defense Community Cooperation.
 - The NDAA directs Manufacturing USA institutes to contract with MEP Centers to provide technical and workforce assistance for small and medium-sized manufacturers (SMMs) as appropriate.

CARES Act update

- Centers reporting progress quarterly
 - Reporting for 2020 quarter 4 (through Dec. 30):
 - Manufacturers contacted: 202,874

- Client projects completed: 12,886
 - Supplier searches: 8,799
 - Supplier matches: 824
 - Multi-Center engagements: 661
- CARES Act funding in review:
 - CARES Act 60-day report – March (GAO-104526)
 - Initial review complete, reviews will be ongoing
- Office of Inspector General audit on CARES Act funding:
 - DOC initial review was in June 2020; reviews will be ongoing.

Competitive award funding update

- (Rolling) Competitive Awards Program (CAP) – 12 awards issued to date for mix of cybersecurity, workforce and advanced manufacturing projects.
 - CAP awards issued to MEP Centers in California, Connecticut, Florida, Georgia, Michigan, Missouri, New York, Ohio, Oregon, Tennessee, and two CAP awards to the Virginia MEP Center.
 - Awards to New York and Ohio were pending as of the September 2020 MEP Advisory Board meeting, but have since been completed.
- Released new CAP Notice of Funding Opportunity (NOFO) on Dec. 28, 2020
 - Replaced initial CAP NOFO
 - Funding limits:
 - Up to \$500,000 for single state
 - Up to \$2 million for multi-state
- Revised themes:
 - Industry/Manufacturing 4.0
 - Manufacturing workforce services to include employee recruitment, retention and employee development
 - Supply chain management and resiliency
 - Artificial intelligence (AI) application

State Partnership Support Program – NOFO released

- The purpose of the MEP State Partnership Support Program is to generate strategies, market intelligence and analytical resources to support the efforts of MEP Centers, NIST MEP and the nation’s manufacturers to leverage all applicable resources available at the regional, state and local levels.
 - Alignment of policy goals – state and national.
 - Brings to manufacturers capabilities that they cannot access alone, offering a wide range of options to address challenges and offer practical solutions.
 - Develop and enhance effective collaborative relationships with states and other stakeholders.

MEP National Network Center Leadership Team (CLT)

- Rob Ivester has rotated onto the CLT.
- Several additions to the team are being made in 2021; up to four new Center Directors are in the process of being added.
- Regional communications nodes continue, with ongoing meetings.
 - Nodes address the need to create more efficient and effective ways of connecting Centers around the country to build relationships, provide support, exchange ideas and information, catalyze learning and improve communications. Better connections form the basis for a faster and more flexible National Network.

- Objectives:
 - Establish one-to-one connections between Center Directors and a Center Director on the National Network CLT.
 - CLT members host six regional nodes to facilitate regular group conversations and create learning opportunities.
 - Build closer and deeper relationships between and among Centers.
- Information about CLT priorities, business issues and strategy is quickly disseminated throughout the MEPNN.
- Recent discussions at CLT regional nodes calls include Centers' business updates, expansion of MEP, diversity and inclusion and President Biden's Executive Order 14005.
- The structure improves access directly to CLT members and ensures that everyone in the National Network has a voice.
- Regional nodes are meeting on a regular schedule, one or two times per month.

NIST MEP: National Network support – notable Center service areas

- Cybersecurity
 - Continued development of Center roles
 - Assisting defense contractors with Defense Federal Acquisition Regulation Supplement (DFARS) and Cybersecurity Maturity Model Certification (CMMC).
 - Cyber integration into Industry 4.0 projects and manufacturer resilience.
 - All 51 Centers participating in cybersecurity working group.
- Advanced Manufacturing Technology/Industry 4.0
 - Increased small manufacturer interest in Industry 4.0 resulting from pandemic and remote/virtual ops, workplace safety.
 - Center service development assisted by NIST MEP special project awards and Industry 4.0 working group participation from most MEP Centers.
- MATTR
 - Continuing to operationalize at Centers (mainly via working group) and increase awareness, participation of NIST labs – focus on MATTR value for manufacturers, Centers, NIST.
 - Two Cooperative Research and Development Agreements operating involving NIST labs, MEP Center clients and NIST MEP.
- Food Industry Services/Food Safety
 - Continued strong national Food and Drug Administration partnership focused on food safety.
 - All 51 Centers participating in food working group.
- Supplier Scouting
 - Significant national, state activity relating to pandemic and general supply chain needs.
 - Connected to Made in America Executive Order 14005 increasing national interest and participation.
 - New working group formed in February 2021.
- Manufacturer/Supply Chain Resilience
 - Working group objectives include helping to structure and define what is meant by resilience, how to achieve it, what is the ideal impact and what success will look like. Progress to date including the following areas:
 - Working definition: Resilient = responsive and proactive.
 - Focus on MEP manufacturer resilience assistance is growing.
 - NIST MEP, MEP Centers collaboratively developing Manufacturer Resilience Framework (suite of tools, assessments, services) for Centers to offer SMMs.
 - Includes systems perspective applying to:

- Supply chain inputs, in-factory processes, customer and market outputs.
- MEP resilience assistance to U.S. manufacturers includes:
 - Pandemic response, including pivoting to new production, new customers/markets.
 - Supplier scouting – identify new suppliers, customers, markets.
 - Disaster recovery and continuity of operations.
 - Business assessments/situational awareness.
 - Supply chain visibility and sourcing strategies.
 - Advanced Manufacturing Technology awareness and integration.
 - Production processes and strategies.
 - Cybersecurity and risk management.

NIST MEP: National Network support – Center reviews: 2021

- Panel reviews, third and eighth-year
 - Currently conducting two eighth-year reviews (Arizona/Maryland).
 - August 2021 – one eight-year review (Nebraska).
- Secretarial reviews
 - During fifth-year, determination for second five-year cooperative agreement.
 - Round three and four Centers, a total of 24 Centers, will have year five annual/secretarial reviews in spring/fall 2021.
- Annual reviews
 - 48 Centers, including 24 going through the year five secretarial review.

NIST MEP and MEP Centers: National Network collaboration through roundtable sessions

- NIST MEP held 11 roundtable sessions with manufacturing leaders from late July to early October 2020.
 - 50 manufacturers, 27 states and diverse industries represented.
 - Common themes:
 - Opportunities: Adapting new leadership styles, increasing communication with staff and building networks of C-suite colleagues, adopting more flexible production cycles (evenings, fewer days, etc.) and working with local MEP Centers.
 - Challenges: Recruiting, retaining and training staff, increased cost and energy of keeping staff safe, lack of childcare, and importance of innovation and thinking beyond the pandemic.
 - Overall message: Manufacturers faced the greatest challenges in the beginning of the pandemic and quickly adapted to keep their employees safe, continue operations, and build better relationships with suppliers and networks.
 - Preliminary recommendations from panelists include continue traditional MEP services, serve as a clearinghouse for best practices, provide connections for growth, anticipate future needs, and assist in deploying new technologies.
 - Deliverables from the roundtables:
 - Blogs detailing themes and highlights from each session:
 - NIST MEP website: <https://www.nist.gov/blogs/manufacturing-innovation-blog>
 - Recordings of each event available to the Network.
 - Report with an implementation plan for recommendations, slated for March 2021.

MEP Center Client Survey results: MEP FY 2020 impacts

- 105,748 jobs created or retained
- \$13 billion in new and retained sales
- \$4.9 billion in total investment in U.S. manufacturing
- \$2.7 billion in cost savings

Survey results: MEP impacts over time

- Strong positive upward trends in most measures over time, from 2012 to 2020.

External analysis: Broader MEP economic impacts

- In February 2021, Summit Consulting and the W.E. Upjohn Institute for Employment Research published a study that found the MEP program generated a substantial return on investment of nearly 13.6:1 for the \$146 million invested in FY 2020 by the federal government.
 - Jobs: 252,000
 - Gross domestic product: \$20.9 billion

Progress Update: MEPNN Strategic Plan 2017-2022

- 18 month measures of success (September 2019-March 2021) progress to date:
 - Measure 1: Consensus within integrated National Network on definition of project and client manufacturing establishment interaction.
 - Status of Measure 1: In progress
 - Define client and project
 - Define client manufacturing establishment interaction
 - Working group of Center Directors established
 - Historic program definitions of terms have been identified and catalogued. Center Director working group is identified and will reconvene in the summer of 2021.
 - Measure 2: Center and program office operational excellence reporting via measurement of on-time and accurate reporting.
 - Status of Measure 2: Goals met
 - Four elements measured:
 - Progress plan
 - Progress data
 - Success story
 - Survey confirmation
 - Baseline (quarter 2 2019):
 - 40 Centers reported on time with the first three elements.
 - 24 Centers reported on time across all four elements.
 - Progress to date (quarter 4 2020):
 - 43 Centers reported on time with first three elements — positive increase of 8%.
 - 31 Centers reported on time across all four elements — positive increase of 29%.
 - Measure 3: Increased visibility by amplifying and measuring Network brand awareness by at least 10%, progress to date for Oct. 1-Dec. 31, 2020:
 - Status of Measure 3: Four out of five goals exceeded
 - #MEPNationalNetwork hashtag occurrences
 - Baseline: 334
 - Goal: 367
 - Progress to date: 524
 - Change: +57% (goal exceeded)

- Brand mentions
 - Baseline: 125
 - Goal: 138
 - Progress to date: 188
 - Change: +50% (goal exceeded)
- Manufacturing Innovation blog subscribers
 - Baseline: 24,920
 - Goal: 27,412
 - Progress to date: 36,480
 - Change: +46% (goal exceeded)
- Backlinks
 - Baseline: 104
 - Goal: 114
 - Progress to date: 141
 - Change: +36% (goal exceeded)
- Social media followers
 - Baseline: 16,240
 - Goal: 17,864
 - Progress to date: 17,702
 - Change: +9% (in progress to goal)
- Measure 4: Increase reported projects by 10% and reported new clients by 5%.
 - Status of Measure 4: Goals exceeded
 - Goal: Increase projects by 10%
 - Outcome: Increase of 21%
 - Goal: Increase new clients by 5%
 - Outcome: Increase of 37%

NIST MEP operational update

- NIST campus status
 - All NIST staff, including NIST MEP staff, were on mandatory telework from mid-March until early July and now on maximum telework.
 - NIST phased reopening emphasizes employee safety and focuses on laboratory staff having access to labs.
 - NIST staff remain on maximum telework — 90% of all staff for an extended period returning in later phases.
 - NIST MEP's Move Back In Committee has met monthly and Building 301 office construction has nearly concluded.
- NIST MEP organizational update
 - Carroll Thomas retired.
 - Dimitrios Meritis on detail assignment to the NIST Program Coordination Office.
 - Ken Voytek, the manager of the Program Evaluation and Economic Research Group, transitioned to part-time retirement.
 - Pat Toth retired from the Extension Services Division.
 - Celia Paulsen joined the Extension Services Division.
 - Mellissa Ayala on detail assignment to the Regional and State Partnerships Division.
 - Sheena Simmons joined the Network Learning and Strategic Competitions Division.

Discussion

- P. Moulton asked whether assessing the supplier base could include opportunities to reshore companies to enhance the domestic supply chain. R. Ivester said that that was implicit in the process, but the target was the production activity rather than the companies.

MEP: 1988 to Now — Three Meaningful Legislative Reforms

Speaker: Chancy Lyford, NIST MEP Division Chief for External Affairs, Performance and Support

There have been three major revisions to the MEP’s authorizing legislation. In 1988, the 100th Congress passed the Omnibus Trade and Competitiveness Act. This act created regional centers for transfer of manufacturing technology, which later became the MEP program. The three initial Centers were intended to be self-supporting, with a sunset period of six years. Twenty-two years later, the America Competes Reauthorization Act of 2010 eliminated the sunset provision and codified the name Hollings both for the MEP program and for the Centers. The act also arranged for the official national MEP Advisory Board. In the intervening years between the first two acts, manufacturing changed dramatically, with the advent of AI and smart technology. In 2019 the American Innovation and Competitiveness Act was passed, due in large part to the Board’s work. It called for the recompetition of all Centers every 10 years, created guidance for peer panel reviews and Center outcomes, and changed the makeup of the Board, increasing its ability to assist the NIST Director on program matters. Despite various changes in congressional procedures over the past decade, the MEP program remains very popular on Capitol Hill, with increased visibility and prominence in recent years.

Discussion

- M. Magee asked what role MEP could or should play to direct the CARES Act and other legislative actions so that they have the biggest impact on manufacturing. D. Stieren said that much of the work that the program has already done with supply chains in response to the pandemic is indicative of what can be done in the future. The program is learning from Centers, which have been engaging thousands of companies through the CARES Act and positioning manufacturers to adapt to changing conditions.
- P. Moulton noted that food chain suppliers are just as stressed as other manufacturers, with much more demand for regional supply. It will be a huge undertaking for the Network to get into that arena. She asked whether Congress allows time for major agencies like NIST to familiarize new members with their activities. C. Lyford said that individual Board members may conduct education on the Hill, but the NIST Office of Congressional and Legislative Affairs also briefs new members of Congress on all of the NIST programs, including NIST MEP. R. Ivester added that there are two sides to the relationship and incoming members have to be receptive to allocating their time to hearing about NIST. L. Byars said that as Board members they have an important opportunity to educate members of Congress and share his/her companies’ experiences with the MEP program.

Strategic Planning Foundation

Speakers:

Rob Ivester

Lisè Stewart, EisnerAmpner

Strategic Planning Starts Here – baseline information

- Funding in the federal system
 - Amends: MEP program authorization

- American Innovation and Competitiveness Act, 2017
- The MEP program within this system
 - Total appropriated funds for FY 2021: \$1.4 trillion
 - Commerce, Justice and Science: \$71.12 billion (5%)
 - Department of Commerce: \$14.5 billion (20%)
 - NIST: \$1.034 billion (7%)
 - NIST MEP: \$150 million (14%)
- Expanding the MEP program's sphere of influence
- Strategic Plan: the steps toward this expansion to achieve overall vision
- The overall objective of the MEP program is to help manufacturing
 - Eight sub-elements to the overall objective, half of which have specific targets to SMMs

MEP priorities

- Improve security/resiliency of domestic supply chain for critical products.
- Actualize/realize vision of the MEPNN.
- MEP is recognized as the go-to program for manufacturing.

Mapping MEP priorities to the four pillars of the strategic plan

- Improve security/resiliency of domestic supply chain for critical products.
 - Empower manufacturers, champion manufacturers, leverage partnerships, transform the Network.
- Actualize/realize vision of the MEPNN.
 - Leverage partnerships, transform the Network.
- MEP is recognized as the go-to program for manufacturing.
 - Leverage partnerships, transform the network.

Strategic planning, the roadmap to the future

- Current state:
 - CLT, regional nodes
 - MEPNN
 - 2017-2022 strategic plan
- Future state matches MEP priorities:
 - Supply chain resiliency for domestic critical parts
 - Realize vision of the MEPNN
 - MEP is the go-to program for manufacturing
- Strategic planning needs to lay out what MEP needs to achieve, how it will be achieved, what role individual parts of the program will play both individually and collectively.
- The MEPNN strategic plan should include a clear basis for individual Centers' strategic plans to connect into the broader MEPNN strategic plan.

MEP Advisory Board: nexus

- MEP Advisory Board sits at the center of multiple stakeholders:
 - MEPNN
 - Federal, state and local government ecosystems
 - Manufacturing ecosystems
- The strategic plan should be independent of the size of the MEP program.

The MEP Advisory Board – leadership governance

- Three key elements of leadership governance:
 - Fiduciary roles and financial aspects of the program
 - Asking strategic questions
 - Framing the conversation

Creating a foundation to frame truly inspirational thinking

- Things that are known:
 - This is complex and ambiguous.

- Current assumptions inform the strategic planning exercise.
- There is a level of risk involved in maintaining the status quo and in breaking out of well-worn paths.
- Defining and unpacking the current paradigm.
- Things to explore:
 - What frame are you using to see the organization?
 - Structural: policies, procedures, rules and regulations
 - Human capital: people, fit, fulfillment, skills, professional development
 - Political: partners, constituents, bargaining, advocacy, allocation of resources
 - Symbolic: values, culture, beliefs, stories, history, rituals
- A question posed to the working group: What additional frames should be considered?

Changing our approach to strategy development

- Boards need to pay attention to the big picture – the complete panorama of possibilities. This includes understanding target markets, the value proposition, desired impacts and operating structures.
- Questions might include:
 - Do we have the right business model?
 - Do we provide the right services?
 - Are we serving the right people?
 - What is the future of manufacturing?
 - Who is our competition?
 - Why should we be funded?
 - Who should be our partners?

Things to think about

- How will we know we are successful?
- How will we know when to pivot?
- What are the global/national cues to monitor?
- Who/what are our greatest leverage points?
- How can we hold ourselves accountable?

Discussion

- K. Rennels said that the federal government’s legislative recognition of NIST provided an opportunity to look at the MEPNN’s strategic plan and how it is supportive all the way down to the Centers, as well as how NIST MEP and the Network is poised to continue that recognition in the future.
- R. Aguerrevere said that his involvement with MEP started when he realized that there was no talent pool of younger workers to replace an aging workforce. While MEP has made great strides to change education and engage young people in manufacturing careers, the workforce that is needed today is different from the workforce that will be needed ten years from now.
- M. Magee noted that there was skepticism from some Center advisory boards around growing MEP to a much larger program, as per the current administration’s priorities, but that an important consideration would be that the model for that growth could be different than the current MEP model. Strategic planning will be important for that effort.

MEP Advisory Board Working Group Updates

MEP National Network Strategic Plan 2023-2028 Working Group

Speakers:

Kathay Rennels, MEP Advisory Board
Rob Ivester

Committee Members

- Board leader:
 - Kathay Rennels
- Board members:
 - Don Bockoven, Kevin Heller, Mary Isbister, Willie May, Matt Newman, Jim Wright
- Ex officio support:
 - Bernadine Hawes
- NIST MEP Support:
 - Cheryl Gendron, Rob Ivester, Wiza Lequin

Working group deliverable

- To provide long-term program direction, guidance and perspectives for the MEPNN Strategic Plan 2023-2028. The working group will consider feedback from Centers, stakeholders, partners, management and staff as the plan is developed.

Discussion: Strategic planning the discovery phase

- Identifying holes and challenges
 - How and what?
 - i.e. new paradigms arise (pandemic, etc.)
- Building a new future
 - Economic productivity/workforce
 - Globally competitive/manufacturing
- Creating a foundation to frame truly inspirational thinking
 - Exploring an expansion of services
 - Environmental, social and governance; what other frames?
- Sharing with the Network
 - Cohesive vision
 - Defined roles and responsibilities
 - MEPNN plan is the foundation the Centers will be building on
- NIST MEP seeks ongoing MEP Advisory Board perspectives on these MEPNN focus areas, approaches, challenges, and the notion of an expanded MEP. This might consist of a combination of an expansion of the current base program as well as a new component. The MEP program has broad authorities and there are potential new roles for MEP Centers, MEP and the National Network to work together to achieve broader objectives.

Discussion

- M. Isbister said that the MEP core mission is making sure that U.S. manufacturing is resilient and competitive. She suggested that once the vision is fully vetted internally, it should be summarized and used as a platform to help cement the strategic plan rollout.
- P. Moulton said that many areas of the country struggle with the notion of what manufacturing is and its outdated characterization. The program needs to figure out how to update the perception of manufacturing and its increased focus on innovation to attract more young people to STEM education and a path into manufacturing. She also suggested that MEP's matchmaking role could be expanded to connect manufacturers and new talent with colleges, universities, training programs, etc.

- R. Ivester said that one of the internal discussion points revolved around the right metric of success, such as cutting the trade deficit in manufactured goods in half in the next decade, which can contribute to a longer term vision or goal.
- K. Rennels noted that it is important for the program to highlight the successful alignment between Centers and state workforce during discussions with the federal government about workforce incentives and programs. This will demonstrate an existing pathway by which funding and training can be deployed through community colleges, technical colleges and universities. M. Isbister added that in her experience both on the MEP side and the workforce side that this kind of alignment is difficult to achieve, though it is a goal that MEP should continue to pursue.

Supply Chain Development Working Group

Speakers:

Don Bockoven, MEP Advisory Board

Dave Stieren, NIST MEP Division Chief for Extension Services

Committee members

- Board leadership:
 - Don Bockoven
- Board members:
 - Ray Aguerrevere, LaDon Byars, Mary Isbister, Matt Newman
- NIST MEP support:
 - Rob Ivester, Mark Schmit, Dave Stieren

Working group deliverable

- Guidance and perspectives on the MEPNN support and development of manufacturing supply chains with an emphasis on defense suppliers regarding defense industrial base gaps, and expertise on who should be brought into the discussion to provide insight on defense supplier gaps.

Discussion topics for the Board

- The MEPNN supports DOD supply chains in many areas, highlighted by:
 - Cybersecurity awareness and assistance
 - Many diverse aspects of supply chain development
- NIST MEP seeks ongoing Board perspectives on these MEPNN focus areas, approaches and challenges – and their alignment with the MEPNN strategic plan.

2021 is different than 2020: Some national-level influences on MEP program

- U.S. manufacturing and supply chains are prominent in ongoing policy discussions and planning.
- MEP is being recognized as an important program that contributes to national and economic security and national health.
 - “Supply chain” and “resilience” are frequently mentioned; each term has many meanings.
- 2021 NDAA – MEP explicitly mentioned multiple times.
- President Biden executive orders and new/developing initiatives – MEP mention and intersections.

MEP and Manufacturer/Supply Chain Resilience

- MEPNN’s focus on and activities in manufacturer/supply chain resilience assistance is growing.

- NIST MEP and MEP Centers are collaboratively developing the Manufacturer Resilience Framework (suite of tools, assessments, services) for Centers to offer to SMMs to increase national capabilities and capacities.
- Includes systems perspective applying to:
 - Supply chain inputs, in-factory processes, customer and market outputs
- MEP Resilience assistance to U.S. manufacturers includes:
 - Pandemic response, including pivot to new production, new customers/markets
 - Supplier scouting – identify new suppliers, customers, markets
 - Disaster recovery and continuity of operation
 - Business assessments/situational awareness
 - Supply chain visibility and sourcing strategies
 - Advanced manufacturing technology awareness and integration
 - Production processes and strategies
 - Cybersecurity and risk management
- Resilience is about positioning manufacturers to be both responsive and proactive.

MEPNN Cybersecurity as of February 2021

- MEPNN Cybersecurity progress summary
 - MEP Centers nationwide providing cybersecurity services
 - All 51 Centers participating in MEPNN Cybersecurity Working Group
- MEPNN continues to develop strong nationwide capabilities to provide cybersecurity assistance for small manufacturers.
- Continues to be spurred by strong DOD partnerships.
- MEP role continuing with DFARS requirements for defense sector and evolving for DOD CMMC program.
- Continued emphasis on risk management for all manufacturing industries served by MEP Centers.
- Importance of cybersecurity also being highlighted by opportunities relating to Industry 4.0 and manufacturer/supply chain resilience.

2021 National Defense Authorization Act

- Passed Jan. 1, 2021; specifies DOD budget, expenditures, policies for FY 2021
 - NDAA is an authorization, not an appropriation.
- NIST MEP working with MEP Centers to ensure awareness, understanding of MEP-relevant sections.
- MEP communicating with and stands ready to assist DOD as appropriate.
- References to MEP program:
 - Section 1738 Assistance for Small Manufacturers in the Defense Industrial Supply Chain on Matters Relating to Cybersecurity.
 - First reporting requirement does not occur for two years.
 - Section 9413 National Institute of Standards and Technology Manufacturing Extension Partnership Program Supply Chain Database.
 - 180-day reporting requirement; NIST MEP is in the process of preparing a report on behalf of the NIST Director which will be sent to Congress on July 1, 2021.
 - Section 9415 Coordination [by Manufacturing USA Institutes] with Hollings MEP Centers.

Executive Order 14005 – Made in America

- Executive Order on Ensuring the Future is Made in All of America by All of America’s Workers, signed Jan. 25, 2021

- Section 1. Policy. "...The United States Government should, whenever possible, procure goods, products, materials and services from sources that will help American businesses compete in strategic industries and help America's workers thrive."
- Section 7. Supplier Scouting. "To the extent appropriate and consistent with applicable law, agencies shall partner with the Hollings Manufacturing Extension Partnership (MEP)...to conduct supplier scouting in order to identify American companies, including small- and medium-sized companies, that are able to produce goods, products and materials in the United States that meet Federal procurement needs."
- "We will use a national network of manufacturers – called a Manufacturing Extension Partnership – that's in all 50 states and Puerto Rico, to help government agencies connect with new domestic suppliers across the country." – President Biden's Executive Order signing remarks

MEP Supplier Scouting

- In 2009 MEP began national-scale supplier scouting in response to Buy America(n) provisions connected to American Reinvestment and Recovery Act-funded federal procurements.
- Evolution to state-by-state conduct of supplier scouting since 2009 to meet diverse supply chain sourcing needs, including pandemic response at national and state levels, mobilized in 2020 for critical-need medical supplies/equipment.
- Drivers for MEP supplier scouting:
 - Identify domestic supply sources for government and commercial supply chains across multiple markets: transportation, defense and aerospace, energy, consumer goods, medical supplies/equipment (including PPE).
 - New business opportunities for domestic suppliers totaling more than \$350 million combined (2009-2021).
 - Domestic sourcing analyses for federal agencies in response to Buy America(n) waiver requests (2009-2016).
 - Creation of competitive federal procurement opportunities to replace those that were previously sole sourced (2011-2015).
- Key to MEP supplier scouting success: MEPNN direct connections to U.S. manufacturers.

Discussion topics:

- This MEP Advisory Board Supply Chain Working Group is now more broadly focused on MEPNN efforts extending beyond DOD support to reflect broadened focus for the program.
- NIST MEP seeks ongoing MEP Advisory Board perspectives on these MEPNN focus areas, approaches and challenges.

Discussion

- P. Moulton asked if the supplier scouting program looks for supplier capability, or if they are looking for whoever can supply the product. D. Stieren said that the program provides information to the Centers on the technical aspects of the opportunity as well as the business implications. More often than not, the program identifies companies that have the capabilities and capacities as well as the business interest to respond to an opportunity.
- L. Taito said that oftentimes companies have the capabilities to respond to an opportunity but they may need help with the business side, and this may be an area where MEP could provide assistance. D. Stieren agreed and said that simply matching supply with demand through a database does not necessarily holistically address what a company needs to succeed. The MEP program can use its direct connection to stay with that company and help them determine where else they can grow.
- J. Wright asked about the progression of the DFARS requirement and its evolution into CMMC, as well as the opportunities for MEP within that requirement. D. Stieren said that the DOD is

planning to fully implement CMMC by 2025, but current procurements are beginning to reference the CMMC. The Centers are becoming trained on how to deliver services to SMMs to ensure that they have CMMC certification when it becomes available. The MEP program has ongoing relationships with the CMMC accreditation body and the Office of the Under Secretary of Defense for Acquisition & Sustainment. The opportunities with CMMC will be the same for MEP as they were with DFARS, and they may even expand as companies will need assistance in getting CMMC certification. J. Wright asked what more MEP could do to communicate the CMMC requirements and MEP's related services before 2025. D. Stieren said that Centers have already begun to spread awareness to their manufacturing clients and position themselves as registered providers to deliver CMMC-related services.

- M. Newman mentioned two projects that MEP could potentially assist with: DOD has an initiative to reshore semiconductor manufacturing, and the Department of Energy (DOE) also has several novel technologies that they would like to commercialize, with a strong desire to maintain intellectual property. For the latter, MEP could assist DOE with supplier scouting to manufacture these novel technologies and bring them to market for the new energy economy. M. Newman also expressed interest in obtaining summaries of the NDAA and other significant legislation that mentions NIST MEP so that Board members can better educate themselves and advocate for MEP. He asked Board members to think about reimagining what NIST MEP is in order to address the country's needs on another level, and mentioned the concept of MEP housing AI to develop leading indicators to help U.S. supply chain resiliency. M. Isbister said that this meeting has introduced more new content to think about than most meetings in the past, and the next Board meeting should include extra time for this discussion. R. Aguerrevere agreed that more time for discussions would help. In addition, he said at the national level, predictive analytics and AI can help manufacturers prepare for demand and avoid painful spikes in commodities.

Executive Committee Working Group

Speakers:

Mary Isbister, MEP Advisory Board Vice Chair

Cheryl Gendron, NIST MEP Advisory Board Liaison and Designated Federal Officer, MEP Advisory Board

Committee members

- Board leadership:
 - Mary Isbister
- Board members:
 - Mitch Magee, Pat Moulton, Matt Newman, George Spottswood
- NIST MEP support:
 - Cheryl Gendron, Rob Ivester, Wiza Lequin, Phillip Wadsworth

Working group deliverable

- Provide guidance on future MEP Advisory Board leadership and membership recruitment, provide insights into cultivating strong Board governance as well as explore ways to expand the MEP Advisory Board's role in regard to the local MEP Center boards.

MEP Advisory Board local Center board outreach

- Goal: Enhance strength of relationships between national and local boards.
- Slow and steady opportunities to create connection with volunteers across the Network.
 - 51 Center board directors divided between the MEP Advisory Board membership.

- Connections made over the last year include informal conversations and attendance at Center board meetings; continuing into 2021.
- Discussions around:
 - How has the current pandemic impacted your Center operations?
 - How has the Center adapted/responded to the changes? What are your immediate priorities as a result?
 - What are the key problems and issues that you think will be important to small manufacturers and their competitiveness and opportunities for growth in the near-term (one to two years) and mid-term (three to five years)?
 - What advanced manufacturing technologies are and/or will be needed by small U.S. manufacturers for the companies to be competitive and grow in the global marketplace in the near-term and mid-term?
 - What technologies or business models are important to you for the supply chain you currently participate in or those supply chains you choose to participate in in the future?

MEP Advisory Board — other discussion topics

- Succession planning into the future
 - Additional Board members being added each year.
 - Goals – diverse membership while matching the statutory requirements.
 - Appointed by the NIST Director with support of NIST MEP staff and the Executive Committee Working Group.
- 2020 MEP Advisory Board Report coming soon
 - Will be submitted to the DOC in the coming weeks.
 - DOC will approve and distribute to Congress.
 - Once with congressional representatives the report will be published on the NIST MEP website and can be shared with interested parties.
- Support for our MEP Advisory Board
 - Historic reports and current documents on MEP Connect.
 - NIST MEP is here to support our national Board; let us know how we can help.

Wrap-Up/Public Comments

Public comments

- C. Spangler spoke about the American Small Manufacturers Coalition’s work to educate MEP Centers and advocate for MEP at the local, state and federal levels.

Concluding comments

- J. Wright said that these were exciting times, with huge opportunities for both the country and MEP. Workforce is a key element of growth, and it will be important to look at workforce development in a new, creative way.
- L. Taito noted that the MEP program consistently proves the value of the investment, and part of the Board members’ responsibility is to emphasize that return on investment when they educate stakeholders about MEP. MEP does many things very well, but now they have the resources to look bigger and broader than ever before.
- G. Spottswood commented that MEP is gaining a high level of deserved recognition and this can and should be MEP’s finest hour. He said that when he thought of MEP he thought of simplified complexity, which is the product of exceptional leadership at every level.

- K. Rennels said that without NIST MEP, the U.S. could not have functioned for the past 18 months. The nodes have been essential during the pandemic, and they have built networks of excited people with whom MEP can now build better connections.
- M. Magee thanked NIST MEP staff and Center Directors for their work. He said that manufacturing and MEP have shown how adaptable they are to changing circumstances while maintaining a sustained focus on a few key items.
- P. Moulton said that thinking about the opportunity and challenge of potentially growing the MEP to a much larger enterprise was both frightening and exciting. She said that the lack of people looking to get into manufacturing and the continual change of technology have been consistent challenges, but MEP's role in helping manufacturers is critical.
- L. Byars said that with all of the federal attention MEP has received and the potential for an increase in funding, the saying "to whom much is given, much is required" will become particularly relevant. We have so many opportunities, but we need so much help. Workforce is going to be a critical thing in future endeavors.
- R. Aguerrevere thanked the Board members for making him feel welcome at his first official meeting. He suggested that some of MEP's increased focus and resources could go toward market penetration to be proactive in reaching out to small manufacturers in the 20-50 employee range. They're the least likely to seek our help, but our help would have a significant impact on them.
- D. Bockoven said that resilience was a word that came to mind when he reflected on his almost 40 years in the manufacturing world, and he is proud to be a part of MEP as they continue to contribute and explore new opportunities.
- J. Anaya congratulated the Network on their impressive metrics. He challenged them to integrate the workforce component into the areas of supplier resiliency, Industry 4.0 and cybersecurity.
- M. Bahar thanked the Board members for their advice and counsel. She said that one of the action items she took down was to provide the Board with tools to enable them to educate stakeholders on MEP and its priorities. While delighted to see MEP get the recognition, we have to be very strategic. We have to help the Network pivot where needed and make sure they're agile and resilient and can meet the demands of the future.
- R. Ivester thanked C. Thomas, the recently retired NIST MEP Director, for recruiting him and giving him the opportunity to serve as Acting Director. He noted that manufacturing is a field that is often perceived as going in and out of fashion, and part of the answer to workforce recruitment may be to leave out the word manufacturing.
- M. Newman said that his word to wrap up the meeting was "reimagining," both in the sense of reimagining what NIST MEP can do in the next few years and what its potential is in the strategic plan for 2023-2028.
- M. Isbister expressed her gratitude to the MEP Centers, the NIST MEP staff, and the Board and said that the future of manufacturing is in good hands.

Next Meeting

The next Advisory Board Meeting is planned for June 30, 2021, either held virtually or in person in Tulsa, Oklahoma. The following meeting is planned for Aug. 31, 2021, either held virtually or in person in Phoenix, Arizona, in conjunction with the MEPNN Update Meeting at the Foundation for Manufacturing Excellence Best Practice Conference.

Adjournment

With no further business, M. Newman adjourned the meeting at 5:10 p.m.