National Institute of Standards and Technology
Manufacturing Extension Partnership
Advisory Board
Minutes of the Aug. 31, 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 4 p.m. to 8:22 p.m. on Aug. 31, 2021, via video teleconference. The meeting included nearly 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 Community College
Donald Bockoven, CEO, Fiber Industries, LLC
E. LaDon Byars, President and CEO, Colonial Diversified Polymer Products LLC
Bernadine Hawes, Senior Advisor, Econsult Solutions, Inc.
Mary Isbister, Vice Chair, MEP Advisory Board and President of Genmet Corporation
Miriam Kmetzo, Executive Vice President, Welding Technology Corp.
Mitch Magee, Manufacturing Industry Consultant
Patricia Moulton, President, Vermont Technical College
Matthew Newman, Chair, MEP Advisory Board and Managing Partner, New Era Advisors
Kathay Rennels, Special Advisor to the Chancellor for Rural-Urban Initiatives, Colorado State University
George Spottswood, Owner and CEO, Quality Filters, Inc.
Jim Wright, Vice President of Operations, Proof Research

NIST MEP Participants
Cheryl Gendron, Advisory Board Liaison, NIST MEP and Designated Federal Officer, MEP Advisory Board
Rob Ivester, MEP Acting Director
Mary Ann Pacelli, Division Chief for NIST MEP Network Learning and Strategic Competitions Division
Mark Schmit, Division Chief for NIST MEP Regional and State Partnerships Division
David Stieren, Division Chief for NIST MEP Extension Services Division

Guest Speaker
Mojdeh Bahar, Associate Director for Innovation and Industry Services, NIST

Observers
Nicole Ausherman, NIST MEP
Mellissa Ayala, NIST MEP
Anita Balachandra, NIST MEP
Robert Barnes, NIST MEP
Dean Bartles, Manufacturing Technology Deployment Group, Inc.

Dan Berglund, State Science and Technology Institute (SSTI)
Mark Bicknell, Technology Development Organization
Steve Black, Utah MEP
Megean Blum, NIST MEP
Dave Boulay, Illinois Manufacturing Excellence Center
Buckley Brinkman, Wisconsin Center for Manufacturing and Productivity (WCMP)
Tom Bugnitz, Manufacturer's Edge
Gregory Cala, NIST
Steve Campbell, NIST MEP
Brandon Cannaday, Maryland MEP
Bill Carlson, Manufacturer's Edge
Monica Claussen, NIST MEP
Mike Coast, Michigan Manufacturing Technology Center (MMTC)
Kim Coffman, NIST MEP
Marjie Cota, Maryland MEP
Melissa Davis, NIST MEP
Doug Devereaux, NIST MEP
Anthony Diaz, NIST MEP
Bill Donohue, GENEDGE
Heather Evans, NIST
Hal Frohreich, Impact Washington
Joylynn Gilles, WCMP
Laura Graham, SSTI
Jennifer Hagan-Dier, Manufacturer's Edge
Diane Henderson, NIST MEP
Carrie Hines, American Small Manufacturers Coalition (ASMC)
KeAnne Hoag, North Carolina MEP
Heidi Hostetter, Faustson Tool Corporation
Jennifer Huffman, Missouri Enterprise
Jeff Jaycox, Tabet Manufacturing Co.
Becky Kemp, Maryland MEP
Deborah Kerrigan, Manufacturer's Edge
Ik-Whan (Ike) Kwon, Chaifetz School of Business
Brian Lagas, NIST MEP
Janine Ledingham, Manufacturer's Edge
Wiza Lequin, NIST MEP
Chancy Lyford, NIST MEP
Anthony Mastalski, NIST MEP
Heather Mayton, NIST MEP
Kevin McIntyre, NIST MEP
Steve McManus, RTI International
Petra Mitchell, Catalyst Connection
Justin Mocca, NIST MEP
Andrew Nobleman, NIST MEP
Mike O'Donnell, Iowa State University
Ken Poole, Center for Regional Economic Competitiveness (CREC)
Katie Rapp, NIST MEP
Kari Reidy, NIST
Rikki Riegner, Pennsylvania MEP
Martin Romitti, CREC
David Rowland, Oklahoma Manufacturing Alliance

Carol Shibley, NIST MEP
Julia Shriner, NIST MEP
Sheena Simmons, NIST MEP
Michael Simpson, NIST MEP
David Snow, Purdue MEP
Megan Spangler, NIST MEP
Michael Stone, Stone & Associates
Tiffany Stovall, Kansas Manufacturing Solutions
Dylan Stroman, Neal R. Gross & Co., Inc.
Michael Taylor, NIST MEP
Dileep Thatte, NIST MEP
Nico Thomas, NIST MEP
Mark Troppe, CREC
Ben Vickery, NIST MEP
Phill Wadsworth, NIST MEP
Marlon Walker, NIST MEP
Jim Watson, California Manufacturing Technology Consulting
Tom Williams, NIST MEP
Michael Wilson, NIST MEP

Welcome and Introductions

Speakers
Matt Newman, Chair, MEP Advisory Board
Mojdeh Bahar, Associate Director for Innovation and Industry Services, NIST
Rob Ivester, MEP Acting Director

M. Newman made introductory remarks, reviewed the agenda, and introduced the two new Board members, Miriam Kmetzo and Bernadine Hawes. M. Kmetzo is an Executive Vice President at Welding Technology Corporation, in Farmington Hills, Michigan. B. Hawes, who previously served on the MEP Advisory Board and chaired it for two years, is a Senior Advisor at Econsult in Philadelphia, Pennsylvania. R. Ivester thanked the attendees for participating, and M. Bahar discussed how this meeting was intended to occur in person, but due to the COVID-19 Delta variant, the decision was made that it might not be safe to do so. Board members introduced themselves and their organizations, followed by C. Gendron reading the names of registered participants. R. Ivester spoke for a few moments about a recent loss to the MEP National Network™ (MEPNN). On Aug. 10, Mark Sessumes, Center Director of the Texas Manufacturing Assistance Center, passed away due to complications of COVID-19. He was a valued member of the MEPNN team for more than 25 years. The passing of M. Sessumes is a tremendous loss for the Network, and an acute reminder of the insidiousness of the virus.

NIST MEP Senior Management Update

Speaker: Rob Ivester, MEP Acting Director

MEP Program Budget Outlook (as of Aug. 31, 2021)

- Fiscal year (FY) 2021 appropriation status
    - Base funding: $150 million
        - $4 million increase over FY 2020

        - Center funding not subject to cost share requirements – elective for Centers receiving state funds conditioned on federal cost share requirement
- FY 2022 appropriation status
    - President's budget includes $275 million appropriation for MEP – increase of $125 million
    - House appropriations bill also set at $275 million for MEP
    - House bill includes same cost share provisions as FY 2021 appropriation

NIST MEP FY 2021 Projected Spend Plan

- Available funding
    - Full year appropriation: $150 million
    - Carryover from FY 2020: $7.3 million
    - Recoveries from deobligations (anticipated): $1 million
    - Funding from other agencies: $0
        - Total available funding: $158.3 million
- Planned expenditures
    - Center renewals: $130 million
    - Strategic competitions: $3.4 million
    - Contracts: $4.5 million
    - NIST MEP labor: $10.8 million
    - NIST and program overhead: $9.6 million
        - Total planned expenditures: $158.3 million
- MEP program potential increase in federal funding – how might such funding be distributed?
    - Increase to Center operations base funding
        - Cost share depends on appropriation
        - Percentage of increase will be applied to base, **not total increase**
    - Through the existing/modified strategic competitions structure
        - Exploring an increase to the maximum award amounts under the Competitive Awards Program (CAP) notice of funding opportunity (NOFO)
    - Additional potential funding around areas of strategic focus
        - Manufacturing technology/manufacturing technology demonstration facilities (MTDFs), workforce, supply chain

Congress in a Nutshell

- Both the Senate and House are reactive by design
    - Both bodies have:
        - Authorization committees (with subcommittees broken out by agency or topic)
            - This is where what we consider "laws" are drafted
        - Appropriation committees (with subcommittees broken out by agency or topic)
            - This is where the money is put to these laws
    - Authorization bills contain dollar amounts which are not real, they simply state what the boundaries are for appropriations
    - Appropriations bills contain amounts of real money to be spent by the federal government, normally on an annual FY basis starting Oct. 1
- How a bill is passed: parliamentary rules
    - Ideally, both the Senate and House subcommittees pass a bill which is marked up for the full committee to vote on
    - The full committee then votes for the bill and it goes to conference where both Senate and House members negotiate a compromise bill

    - That bill goes to the floor of both the House and Senate to be passed; then it is forwarded to the White House for presidential signature and the bill becomes law
    - This is the ideal scenario and the reality is often more complicated, with much negotiating
- Major legislative actions of the 117th Congress (currently on recess until after Labor Day)
    - The U.S. Innovation and Competition Act (USICA) Senate Bill S.1260 (as passed by the Senate, the House has not brought the same bill up)
        - Allows for a substantial increase in the NIST MEP budget authorization to $480 million
        - Contains a new Expansion Awards program that allows NIST MEP to issue additional funds
    - The House Science Committee marked up a bill to reauthorize the functions of NIST
    - Contains a pilot Expansion Awards program allowing NIST MEP to issue additional funds, including language about the amounts, duration and selection criteria for such awards
        - Includes language to allow NIST MEP to receive monies more easily from other sources
        - Clarifies throughout that NIST MEP helps U.S.-based manufacturers

Budget Outlook for FY 2022 and CARES Act

- The House mark: $275 million for NIST MEP in FY 2022
    - Appropriation is the same as the President's budget request, or $125 million more than FY 2021
    - Appropriations language states that the entire proposed mark is cost-share exempt
    - The Senate mark has not been released
- CARES Act inspector general (IG) exit conference briefing: "As I noted during our call in May, we do not have any reportable findings. The final Evaluation memo summarizes the results of our work and is very positive in nature. Accordingly, we will not require any written response from NIST management. As you know, our core focus was on the implementation of the CARES Act to include the pre-award and award phases of the grant lifecycle; overall, we were impressed with how quickly NIST advertised the CARES Act funding, provided training/outreach to prospective grantees, and awarded the funds (while adhering to the DOC Grants and Cooperative Agreements Manual and the Uniform Guidance requirements), all while dealing with the fallout of the pandemic. Well done!" (https://www.oig.doc.gov/Pages/NIST-Was-Effective-in-Implementing-the-Requirements-for-Awarding-Funds-Under-the-CARES-Act.aspx)
- Other important activities: Congress and the Administration
    - A national supply chain database remains a priority for Congress, the Administration and NIST MEP
    - The major infrastructure legislation, which just passed the Senate, contains provisions for NIST MEP
    - The Creating Helpful Incentives to Produce Semiconductors for America (CHIPS) Act remains front and center
    - NIST MEP is working on three additional fronts: supply chain, technology and workforce
    - NIST MEP anxiously awaits the final appropriation for NIST MEP, however knowing it could come much later than Oct. 1, 2021
    - We will continue to monitor these and other actions
    - The President recently issued a proclamation announcing Made in America Week, 2021

CARES Act Update: Highlights of Funding Initiatives

- Working directly with state governments

    - Linking state government policies and programs to manufacturers by participating in emergency task forces to address challenges and issues
    - Connecting the manufacturing industry and state procurement efforts
    - Managing state-level supply chain portals, linking manufacturers to demand and organizing them to deploy as needs change
- Addressing issues with manufacturing personal protective equipment (PPE), medical supplies and medical devices
    - Helping manufacturers meet the country's urgent needs for PPE and medical devices by guiding them to information and solutions about testing protocols, quality testing and required certifications
    - Helping address issues of potential legal liabilities arising from the production of PPE, medical supplies and devices
- Serving manufacturers
    - More than 414,000 manufacturing establishments contacted
    - Over 21,000 projects completed
    - Project end date is Sept. 30, 2021; over 80% of funds allocated by MEP Centers

Strategic Competition Update

- New CAP NOFO released Dec. 28, 2020
    - 14 eligible applications in review
- FY 2021 funding could provide significant funds for strategic competitions
    - Strategic competition NOFO format
        - Increased amount available
        - Potentially increased amount per award
        - Will communicate key topics that we will be expecting through NOFO(s)
            - Workforce
            - Supply chain
            - Technology adoption
- Strategic Competitions and Network Learning
    - Closeout meetings for concluding CAP projects will be open to the Network
        - Communicate programs and materials for the benefit and use of the National Network
    - Projects that will be highlighted in the coming months
        - New York MEP: Capital Region Innovation Resource Center
        - Georgia MEP: Food Safety Compliance and Management for Small Food and Beverage Processors
        - INNOVATE Hawaii: Smart Talent
        - University of South Dakota: Technology Adoption Center for Increased Competitiveness
        - Missouri Enterprise: Food Safety in the Heartland
        - Montana MEP: Northwest Food Safety Modernization Act
        - MMTC: Cybersecurity for Defense Manufacturing

Network Learning: Connect, Communicate and Collaborate

- Knowledge sharing is an essential component of the MEPNN: solving problems, introducing technologies, and reengineering processes require seeing the world through a new lens and taking the opportunity to act
- New Network Learning Corner in the Network News

    - To effectively share, transfer and discuss NIST MEP's vision, learnings, distinctive practices, meeting and webinar recordings, programs, success stories and special announcements
- New Network Learning section on the SharePoint site for the MEPNN, MEP Connect
    - Knowledge sharing from NIST MEP including working groups, extension services, competitive awards projects, distinctive practices, helpful resources and more
    - Competitive Awards Program highlights
    - Funding opportunities
    - Project outcomes and deliverables

Board Support

- NIST MEP Network Learning has been coordinating MEP Center board support since 2017
    - Offer Center board member assessments using an MEP-centric assessment tool; results are confidential
    - Offer action planning sessions as a result of the assessments and workshops targeted to specific needs of Center boards; sessions have covered topics such as strategic planning, advocacy and Center board recruitment
- 34 state MEP Centers and 37 subrecipients have used board development services
    - 25 assessments
    - 18 action planning consulting
    - 14 workshops
    - 9 individual consults
- MEP BoardSource subscription
    - A nationally recognized organization whose mission is to increase effectiveness in board governance, education and training; valuable for both Center Directors and Center board members
    - Subscription gives access to various best practices, blogs, studies and governance materials
    - MEP has a dedicated link to access the site in MEP Connect in the Board Governance tab

Center Leadership Team (CLT) Update

- CLT members
    - Buckley Brinkman (Wisconsin), Tom Bugnitz (Colorado), Mike Coast (Michigan), Bill Donohue (Virginia), Carrie Hines (ASMC), Rob Ivester (MEP Acting Director), Ethan Karp (Ohio), Kathie Mahoney (Rhode Island), Mark Schmit (NIST MEP), Jim Watson (California)
    - New members: Alyssa Rodrigues (Alaska), Jennifer Sinsabaugh (New Mexico), Tiffany Stovall (Kansas)
- With increased funding for the MEP program becoming more likely, the CLT is:
    - Reimagining the CLT's voice and role to influence and position the National Network as the obvious answer to manufacturing policies and advances
    - Building new frameworks and processes that position the MEPNN to impact American manufacturing while preserving the legacy operations that bring effective solutions to manufacturers
    - Creating a new learning space that will allow the MEPNN to learn about and harness leading-edge thinking and practices that will place MEP at the hub of the major issues facing American manufacturing

Proposed Expanded MEP Program: Extension Services

- Focusing on new MEP program initiatives

    - Supply chain development
    - Manufacturing technology demonstration facilities
    - Workforce services
- Current extension services provide solid foundation for program expansion
    - Expanding the base MEP program
        - Continue to provide traditional MEP Center services
        - Increase breadth and depth of MEP service offerings
    - Supply chain development
        - Starting point: increase domestic content in and resilience of supply chains determined to be critical to U.S. national/economic security and public health
            - Serve top-of-supply chain entities and individual manufacturers within those supply chains
            - Expand MEP Supplier Scouting
            - Help small and medium-sized manufacturers (SMMs) increase their resilience
        - Service manufacturers in other U.S. manufacturing supply chains as appropriate
    - MEP Manufacturer/Supply Chain Resilience
        - Resilient manufacturers are proactive, managing risk and opportunities while operating based on data-driven business decision-making
        - Improving manufacturer resilience at the individual company level is necessary to improve overall supply chain resilience – representing a unique opportunity for the MEP program
        - MEP Manufacturer Resilience Framework in development
    - Manufacturing technology demonstration facilities (MTDFs)
        - Build upon ongoing MEPNN work in advanced manufacturing technology, cybersecurity, MEP-Assisted Technology and Technical Resource (MATTR) service, Advanced Manufacturing Technology Services projects, CAP awards
        - Establish and operate MTDFs around the nation as part of state-based manufacturing ecosystems
            - Each MTDF focused on a specific key product/technology area determined to be critical to U.S. national and economic security or public health
    - Workforce services
        - Working with SMMs to help them identify new opportunities to grow their workforce and talent
        - Continue to build upon ongoing efforts to strengthen MEP program impacts on both manufacturers and manufacturing

New MEP Center Directors

- Steve Black (Utah), Dayna Blanchard (Louisiana), Don Cuperus (South Dakota), Patricia Giavara (Vermont), Beatriz Gutierrez (Connecticut), Kimberly Ingalls (Massachusetts), Tim Israel (Georgia), Paul Lucy (North Dakota), Kathie Mahoney (Rhode Island), Staci Miller (West Virginia), Aaron Patrick (Interim Director, Ohio), Tom Simpkins (Nevada), Ramon Vega (Puerto Rico)

Discussion

- M. Newman commented that the nation has faced some serious challenges, and with challenges come opportunities, as with supply chain resiliency. No one knows the hundreds of thousands of SMMs across the United States better than the folks at the MEP Centers who interact with them. Now is the Network's time to shine.

- B. Hawes said she is thinking about the path forward and expansion readiness on the part of NIST MEP staff. She asked R. Ivester if he sees a need for expansion or adding different positions to the organizational chart as NIST MEP looks at workforce development and supply chains.
- R. Ivester responded that there are going to be more names on the organizational chart. NIST MEP cannot operate a program that is nearly twice the size with the same number of people it employs currently because there is going to be a lot more work to accomplish. Specifically, a national supply chain database is going to require dedicated staff whose job it is to organize, orchestrate, oversee and operate it. As such, he indicated that the question is not whether more employees are needed, it's how many. There is currently no fixed staffing plan in place, but a conceptual staffing plan has been developed. He welcomes the Board's thoughts on it.
- K. Rennels added to B. Hawes' comment that it is important to look at how the connection is made from the Centers into NIST MEP. It is critical to be ready not only in terms of staff, but also the knowledge that is needed for their specialized skill sets.
- R. Ivester commented that three different members of the MEP leadership team agreed that multiple people were needed to support a national supply chain database effort, but when asked what those individuals were going to do, each member had a different answer. There was some overlap, but it is not a trivial task to build out the bullet lists of the types of expertise that are necessary.
- D. Bockoven mentioned that budgets come and go. How do we also build collaborative networks with other organizations around the country on things like workforce? How do we leverage other resources around the country to make it work?
- M. Isbister observed that it is kind of like creating three new businesses – you start with a plan, and then you've got to figure out the structure, identify the resources, and then determine the outcomes. The Centers and NIST MEP are two entities that have the same goals, but approach it with a different methodology, and they need to be integrated. Progress is happening and you can see it.
- M. Kmetzo noted in chat that just as the NIST MEP org chart is being reviewed, all Centers need to do the same. There needs to be analysis of skills and gaps to understand resources needed to support initiatives.
- P. Moulton picked up on D. Bockoven's point about partnering. There seems to be a lot of money for workforce development across the Department of Defense as well as the Department of Labor and in upcoming infrastructure bills. There is a lot of good data out there in terms of codifying the demand – for instance, how many jobs are available in which manufacturing sectors. She shares the concern about whether or not NIST MEP will be able to find the talent it needs, as they will be competing with the private sector.

MEP National Network Current Strategic Plan Update

Speaker: Rob Ivester, MEP Acting Director

MEP National Network Current Strategic Plan Update

- Strategic plan pillars
    - Empower manufacturers
    - Champion manufacturers
    - Leverage partnerships
    - Transform the Network
- New 18-month measures of success
    - Measure 1: Strengthening the national supply chain – increase supplier connections
        - Goal: Increase supplier scouting requests by 10%

        - Baseline: 124
        - Goal: 137
    - Goal: Increase successful supplier scouting matches by 10%
        - Baseline: 298
        - Goal: 328
- Measure 2: Serving the manufacturing workforce – increase client engagement in workforce services
    - Goal: Increase clients engaged with workforce projects by 10%
        - Baseline: 1,800
        - Goal: 1,980
- Measure 3: Increased visibility – amplify and measure Network brand awareness
    - Goal: Amplify Network brand awareness by at least 10%
        - #MEPNationalNetwork hashtag occurrences
            - Baseline: 567
            - Goal: 624
        - Brand mentions
            - Baseline: 194
            - Goal: 213
        - Manufacturing Innovation blog subscribers
            - Baseline: 40,130
            - Goal: 44,143
        - Backlinks
            - Baseline: 186
            - Goal: 205
        - Social media followers
            - Baseline: 18,419
            - Goal: 20,261
- Measure 4: Leading in technology deployment – increase client engagement in technology services
    - Goal: Increase clients engaged with technology services projects by 10%
        - Baseline: 983
        - Goal: 1,081
    - Goal: Increase MATTR requests by 10%
        - Baseline: 25
        - Goal: 28

Discussion

- R. Ivester said that he sees these measures of success as helping NIST MEP think about and work towards a bridge between the current strategic plan and the next one.
- M. Newman asked the Board directly for help with some of these key metrics, especially using social media connections. He asked members to share posts from MEP on social media in order to broaden the reach.
- R. Aguerrevere emphasized the importance of market penetration at the Center level. SMMs are underserviced, not because the Centers don't want to service them, but because Centers struggle to get SMMs to understand that they exist and want to help. He suggested focusing on developing a strategy at the national level on how to work with the Centers in a more robust way in order to increase market penetration.
- M. Isbister pointed to the success in Wisconsin with developing state partnerships where the state actually co-funds a productivity-related program and provides scholarships for companies to participate. It was a great opportunity for a lot of SMMs that otherwise felt they could not afford

to do anything with MEP. Afterward, the companies kept coming back. There also was a consortium of original equipment manufacturers (OEMs) in Wisconsin that helped SMMs in their supply chains up their game, get ISO certified, etc. The OEMs sponsored development activities through the MEP Center and shared the costs.

- B. Hawes indicated that she appreciated the comment that many of these measurements will move into the next five-year strategic plan baseline. She noted it is very difficult to get traction around the Network for the MATTR service and wondered if it is a stackable measurement of the level of tech readiness that manufacturers have. Whether or not we increase the number of Centers that push manufacturers through MATTR, we might look at their tech readiness and do a little more analysis.
- R. Ivester shared that NIST MEP has been looking internally at the MATTR program. While they are very happy with the MATTR program, there are certainly untapped opportunities. MATTR is carefully scoped and defined, and part of that effort was to ensure that they made the most effective use of taxpayer dollars. It goes back to the foundational NIST MEP statute and why MEP is part of NIST as an agency. It's not just to help tech transfer out of NIST, but out of federal laboratory programs.
- M. Bahar agreed that MATTR is a fantastic program, but it has not yet reached its potential. There are so many ways that it can be expanded with agency partners. In talking to the labs, they have realized that sometimes 10 minutes with an expert can make a world of difference for a small manufacturer. Bridging those kinds of connections could make the program even more powerful. She stated, "We're excited to incentivize participation for scientists. It's often not a collaboration, but more of a consult."
- R. Ivester mentioned that these interactions are difficult to implement. It's not just calling a scientist and paying for their time.
- G. Spottswood underscored that it is the duty and responsibility of MEP to get the word out to SMMs about the services that MEP offers. With the influx of anticipated taxpayer funds coming into the organization, it is all the more critical to get the word out, but it's a difficult package to deliver to SMMs.
- M. Magee followed up on the MATTR discussion. He cited the presentation by Whitney Tallarico of NavalX at the MEPNN Update Meeting, and thought there might be opportunities there to learn from and/or adopt some of those same practices to help grow some of the MATTR projects. W. Tallarico was facing several bureaucratic issues and resistance from vendors.
- J. Wright asked with the increase in funding, if there is a focus on spreading the funding out across all areas? Are there certain areas that can be focused on that are more applicable to the aforementioned NIST MEP hiring opportunities?
- R. Ivester responded that there are a number of different questions around principles of how we use resources effectively. Ultimately the biggest successes are not going to come from a portfolio of projects in workforce, technology and supply chain. It's going to come from a portfolio of projects that simultaneously address all of these. The more opportunities we have for that, the more impactful our investments will be.
- J. Anaya applauded R. Ivester's comments on partnering. In order to solve these problems, the Centers need to partner within their regional space with workforce boards and community colleges. In order to win, we need to partner.

MEP Advisory Board Working Group Updates

MEP National Network Strategic Plan 2023-2028 Working Group

Committee members

- Board leadership: Kathay Rennels
- Board members: Don Bockoven, Bernadine Hawes, Kevin Heller, Mary Isbister, Willie May, Matt Newman, Jim Wright
- 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 for 2023-2028. The working group will consider feedback from Centers, stakeholders, partners, management and staff as the plan is developed

MEP into the Future focus group members

- Overarching resilience
  - LaDon Byars, Bernadine Hawes, David Stieren
- Reshoring
  - Don Bockoven, Rob Ivester, George Spottswood
- National supply chain
  - Mary Isbister, Matthew Newman, Mark Schmit
- Workforce
  - Jose Anaya, Mitch Magee, Mary Ann Pacelli, Kathay Rennels

Strategic planning is the foundation to support the MEP program's planned expansion

- Technology demonstration measures
- Supply chain measures
- Network learning
- Workforce

Discussion

- K. Rennels noted that the strategic planning process began under a different administration and now we're in the pandemic. Overarching resilience takes in all of these things. The discussions are going to be exciting and will tell the tale of how we move forward.
- M. Magee said tangible measures are important for strategic planning. Manufacturers and manufacturing are two different categories for focus. Aligning the four areas needs more discussion and overarching resilience is bigger than the others.
- M. Isbister said there are so many moving pieces and she sees these as the levers we're going to pull to achieve the overall vision for manufacturing. The conversations about the Network at the Update Meeting are focused on manufacturers – similar levers, but separate activities.
- R. Ivester noted that the nuance is it's the MEPNN strategic plan, so it includes the Centers, who look to NIST MEP and the MEP Advisory Board to develop this strategic plan. Each Center has its own strategic plan and wants to map it to this one. So this is the MEPNN strategic plan and includes NIST MEP, Centers, the Foundation for Manufacturing Excellence, and the MEP Advisory Board.

MEP into the Future Focus Group – Overarching Resilience

Speakers

LaDon Byars, MEP Advisory Board
Bernadine Hawes, MEP Advisory Board
Dave Stieren**,** Division Chief for NIST MEP Extension Services Division

Focus group key points

- Resilience is a large part of what is being done in terms of program expansion.
- It is a critical aspect of the overall supply chain initiative – the tactical implementation of the services that Centers can and should provide to both companies and overall supply chains to increase their resilience.
- From a strategic planning standpoint, the importance of resilience is very real and represents an end state for both manufacturers and manufacturing.
- How do we recognize resilience? How do we measure resilience, and what all does that entail?
- Overarching resilience is not just a construct, it is implementable and tactical to strategic planning.
- Resilience is not sustainability. It drives sustainability, but it is not sustainability. The focus group tried to tease out the difference.
- Workforce is perhaps the most critical element of resiliency. If you don't have a manufacturer that leads in resilience, you are not going to have workers who do the same.
- The focus group came up with some need for further analysis on what resilience can actually look like. How often do companies pivot during a crisis, but then return back to their core business?
- Some companies actually went away, and perhaps the Centers can conduct an exit interview to find out why.
- There are 51 Centers that receive MEP funding, but they might also receive state funding. The hope is to have them in lockstep as part of a National Network with the MEP strategic planning that is underway.

Discussion

- M. Magee acknowledged that a lot of the issues at hand are in response to the COVID-19 crisis as being a black swan event. When we talk about supply chain or overarching resilience, the reality is that is not the norm. Resiliency means are you capable of handling emergencies that are now routine such as earthquakes or hurricanes.
- M. Isbister said that it helps to think of resilience as the ability to adapt to challenges and changes. It's also emerging stronger than before the crisis.
- D. Stieren added that a way they are thinking about resilience also includes having situational awareness of the entire spectrum of the business, from the supply chain inputs to the in-factory processes, as well as the customer and market outputs. Having that full spectrum of situational awareness can allow a company to be proactive and adaptable. The spotlight is on because of the pandemic, but as soon as we get past it, the next change is going to happen.
- P. Moulton wondered how leadership fits into the five points.
- J. Wright noted that with regard to SMMs, resilience applies even when there are no crises. Companies can have great concepts, products and ideas, yet stumble a little and don't make it.

MEP into the Future Focus Group – Reshoring

Speakers

Don Bockoven, MEP Advisory Board
Rob Ivester, MEP Acting Director
George Spottswood, MEP Advisory Board

Focus group key points

- Reshoring is a longer-term trend and accomplishment, and it depends on and encompasses many different things.
- One way of simplifying the conversation around reshoring is to get to a little bit more of a tactical or operational level. At that level, the thing that reshoring decisions depend on manufacturer by manufacturer is comparative competitiveness.
- Out of the 21 primary manufacturing NAICS codes, there are only two that we are net exporters on – paper products as well as petroleum and coal. We are net importers of everything else.
- Part of the challenge is understanding what caused some of that offshoring in the first place. How do we make sure that we have competitive incentive packages and formal partnerships with MEP and other organizations to help folks bring business back and be competitive?
- Workforce is critical to everything MEP is seeking to accomplish. The U.S. Chamber recently predicted that by 2030 we are going to be 2.1 million workers short in manufacturing.
- There are also foreign companies that are concerned about the security of their operations. The movement might be beyond their desire to be competitive in the industry, and they might not have to be. There could be a very strong movement up for domestic manufacturers producing in other countries that they might have a desire to move back stateside.

Discussion

- M. Newman cited a chat comment from S. McManus, who stated that OEMs may increasingly push sustainability requirements on suppliers, as Newman noted that Environmental Social Governance (ESG) is a sustainability-based global movement that could level the playing field from a competitive perspective.
- G. Spottswood clarified that reshore does not necessarily mean that existing companies operating in foreign countries need to come back themselves. This could be existing industry in the United States that adopts the manufacturing of that particular product. Those companies could then be rewarded for doing so.
- P. Moulton commented via chat that this reshoring discussion leads her to believe that the notion of "competitiveness" will change in terms of ability to produce and deliver on time, but perhaps in a less "just in time" manner. She also agreed with ESG comments in terms of competitiveness and that social justice in terms of competitive wages will help change some of the competitive issues.
- D. Bockoven shared that the focus group also discussed how to decide what should be prioritized strategically. Some of the executive orders that have been issued have helped focus that.
- M. Magee indicated that one of the things the MEP Centers can do is provide services in terms of looking at the total cost of supply of a particular good or product.
- R. Aguerrevere highlighted the need to be tactical when it comes to reshoring. Not everything can be or should be reshored. Certain chemicals, for instance, cannot be produced domestically. Productivity and innovation are critical to both the reshoring and resiliency processes.
- K. Rennels brought up the long term necessity to change minds about reshoring. This is a strong role that NIST MEP has an opportunity to play.

MEP into the Future Focus Group – National Supply Chain

Speakers

Mary Isbister, Vice Chair, MEP Advisory Board
Matthew Newman, Chair, MEP Advisory Board
Mark Schmit, Division Chief for NIST MEP Regional and State Partnerships Division

Focus group key points

- The group met a few times through the late spring and early summer and wants help from the Board to write a strategy looking forward over the next several years for MEP to play a role in U.S. supply chains at the overall manufacturing level, as well as the individual manufacturer level.
- What can MEP do to make more connections into different kinds of supply chains?
- What services can MEP offer not just at the top level, but also from the bottom up? What can MEP be doing more of in terms of developing services that make individual companies better suppliers?
- What can MEP do to make resilient supply chains that have resilient suppliers in them?
- Where the individual MEP Centers might play has to do with each manufacturer evaluating their own supply chain. Manufacturers know that everything from nuts and bolts to steel are caught up in a variety of supply chain challenges right now.
- One thing that would be very helpful to manufacturers would be a way to evaluate their own supply chains and gaps within their supply chains.
- Supply is not a linear chain; it is a very complex web that touches multiple states. To create resilience and remove the gaps in a national supply chain is a complicated issue that will require an approach that is collaborative across the Network.
- There is an initiative for each Center to create a supply chain portal or database. A handful of folks have already implemented it to date.
- For a manufacturer to be resilient, they need to know who their suppliers are.

Discussion

- K. Rennels commented that the conversation about databases at the national level and the portals were spot on. There's a scenario planning opportunity for Centers to look at how they operate. The Centers are busy doing the work, so at the national level to be able to help with the scenario planning, national issues. That would be a tool to help the Centers.
- R. Aguerrevere mentioned that the manufacturers on the Board have had many discussions on how difficult it is to run businesses in the current environment. A lot of it has to do with supply chain, both from an employee level but also in terms of materials. For instance, a month ago the price of stainless steel went up by 15%. How do you stay in business when your cost of materials doubles in a couple months? That has to do with resiliency and reshoring. We need a long term strategic plan to address resilience and onshoring and we need to understand that from a pricing standpoint.
- J. Wright provided a real world example of how the National Network could help. In his industry, he depends on a resin for carbon fiber. There was a strong supply base in the U.S., with no problems in the past. However, the proprietary resin could only come from a single source. When the cold snap happened in Texas, all of a sudden there was no resin available. Necessity is the mother of invention though, as they were ultimately forced to come up with an alternative. These are things we should have been doing in the first place. The Network can help with resins and composites and other solutions.
- B. Hawes asked for a specific definition of national supply chain, and clarified that not all supply chains are created equal. She wondered who decides which supply chains are critical for

manufacturing. For instance, there are supply chains utilizing rare earth elements, and there hasn't been much meeting discussion about energy-based supply chains.

- M. Newman noted that we don't have the ability to determine the highest priorities among supply chains ourselves, and that this is a role that the President and the Administration plays. He mentioned there are probably 400-500 national supply chains that are linked together that we need to think about.
- R. Ivester explained that the Department of Commerce mission is the private sector economy and determining the needs of the private sector. This differs from mission agencies like the Departments of Defense. The U.S. is an exporter for only two of 21 primary NAICS codes. Those are a target for us. Many rare earth elements are used in cell phones, for example. These are not as complicated as resins or other materials. When you look at broader materials supply chains, there are no clear answers. We need to look at areas where we see potential for a high return on investment – potential wins. Doing this is nontrivial. The President named four areas and asked for a reply to better understand these particular supply chains.
- D. Bockoven noted that our trade agreements have set the stage for prioritization.

MEP into the Future Focus Group – Workforce

Speakers

Jose Anaya, MEP Advisory Board
Mitch Magee**,** MEP Advisory Board
Mary Ann Pacelli, Division Chief for NIST MEP Network Learning and Strategic Competitions Division
Kathay Rennels, MEP Advisory Board

Focus group key points

- Two tactics were used to shape the discussion session for workforce:
  - Articulating the national workforce strategy for manufacturing
  - Positioning MEP Centers as regional state intermediaries to organize the systems within their states in order to develop a strong manufacturing workforce for their area
- All of the comments that came back about expanding the base related to workforce.
- The feedback focused on defining NIST MEP and Center roles for workforce, and the need for a playbook on how to partner and what to do regarding workforce.
- Can NIST MEP develop the how-to materials on partnering with other agencies and how to work with other national agencies?
- MEP needs to be at the table as part of workforce investment boards.
- There is a ton of money coming at workforce, and everybody has their mission. The mission is to deliver training and to deliver workforce. It is going to be a journey, not a sprint.
- There are not enough people going into manufacturing. It is a workforce supply chain problem. The raw talent exists and is ready and waiting to be developed to go into manufacturing. Through the various funding mechanisms, the MEPNN and partnerships, a major impact could be made.

Discussion

- P. Moulton emphasized the importance of reaching not only into high schools but also middle schools. We need to start building the pipeline beginning at a younger age. Manufacturing has changed so much over time, and it is unclear how much policymakers actually understand that. MEP Centers can be the matchmaker for SMMs.
- D. Bockoven indicated we need to get in at the grammar school level. There is a fundamental problem in the long term that not everybody should go to a four-year school. When we stopped

doing shop and other things in middle schools and high schools, we lost our way as a country in manufacturing.

Supply Chain Development Working Group

Speakers

Don Bockoven, MEP Advisory Board
Dave Stieren**,** Division Chief for NIST MEP Extension Services Division

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

- Offers guidance to the Board on relevant MEPNN efforts relating to supply chain development, emphasizing MEP program strategies and plans regarding supply chains.
    - The working group emphasis is shifting to reflect MEP program expansion plans for supply chains including and beyond previous working group focus on cybersecurity and the Department of Defense.

Supply chains – what, why and how

- Goal: Improve U.S. manufacturing supply chains so that:
    - U.S. supply chains will be more resilient at the overall manufacturing level and at the individual manufacturer level
    - Key products and critical technologies – Executive Order (EO) 14017 – will be more effectively and comprehensively sourced domestically
- Why?
    - Sharp focus now on U.S. dependence on global supply chains
    - U.S. domestic manufacturing base gaps highlight lack of supply chain resilience, undermining U.S. economic, national security and public health
- How?
    - Top-down/bottom-up approach
    - Expand MEP Supplier Scouting/implement national supply chain database
    - Deliver assistance services to SMMs to increase individual resilience and overall supply chain resilience

MEP Manufacturer Resilience Framework

- Centers provide many resilience-relevant services that will be leveraged and highlighted
- Business assessments, business planning, risk management are integral
- Timeliness is important
- The framework will include:
    - Repository (assessments, tools, expertise) that can be shared across the MEPNN
    - Approaches/playbooks for Centers to help companies implement integrated strategies and tactics to improve their resilience
- Approach can be delivered at bottom-up manufacturer level. Can it also apply at top-down supply chain/manufacturing level?

MEP Supplier Scouting

- EO 14005: MEP anticipates potential significant expansion of supplier scouting for federal agencies/procurements
- EO 14017: MEP anticipates supplier scouting to be leveraged nationally to analyze/map critical supply chain needs and gaps and help address them
- Centers use a variety of approaches and tools to do scouting
- National supply chain database (NSCDB)
    - Assist in effective identification of new U.S. manufacturers to enter supply chains at state and national levels
    - No specific platform to be prescribed – NSCDB implementation will need to be interoperable at the national level with databases used by Centers at state level
    - NSCDB security and data verification will be critical

Discussion

- M. Newman underscored that it up to the state Centers to determine their solution so long as whatever their solution is, the data can be used for the good of the nation. That will come into focus as folks start to implement and see the benefit of implementing the databases.
- B. Hawes asked if there is an issue that manufacturers might have with their information being out there in a database and possibly losing a competitive edge. The MEP Centers pride themselves on being the go-to trusted advisor. She asked if de-risking the database has been discussed.
- D. Stieren responded that they have talked about the notion of segmenting the database from publicly available versus nonpublicly available information. The publicly available part is supply-demand matching; the nonpublic part being supply chain mapping.
- K. Rennels emphasized the importance of keeping proprietary information secure in order to maintain trust in the system. Companies will not want to participate otherwise, as security is paramount to them.
- R. Aguerrevere said that as a manufacturer, the first question he asked was how to protect valuable company information, both from a security standpoint and from a tactical perspective.
- L. Byars indicated that it is critical that someone who is unbiased is in charge of managing the database, to ensure that the information gathered is dependable and handled with care. The database should be built on a platform that is accessible but leaves room for everyone to be competitive without compromising secrets.

Executive Committee Working Group

Speakers

Mary Isbister, Vice Chair, MEP Advisory Board
Cheryl Gendron, NIST MEP and Designated Federal Officer, MEP Advisory Board

Committee members

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

Center Board Outreach Program

- The goal is to create a board-to-board exchange of information and communication that will strengthen the MEPNN
    - Creation of subset of working group for outreach
    - Coaching and mentoring to assist with efforts
    - New questions developed into the summer/fall

Wrap-Up/Public Comments

Public comments

- B. Brinkman reported that there has been great energy in Phoenix, Arizona throughout the high-spirited discussions that took place over the past two days. It showed how much willingness there is for the Centers to engage around these topics. For the past 34 years, problems have been defined in terms of what the MEP can do. However, these problems are much bigger than the MEP alone can answer. We need definitions so we can chunk these off in ways that are useful for manufacturers.
- T. Bugnitz pointed out that over the years the Board has shifted and now refers to "we" when it talks about the MEP Centers or the MEPNN. Instead of saying "The MEP Centers do this," they're saying "we do this." The adoption of that type of language has made a big difference in how the Centers view their relationship to and support from the Board. Thank you for being part of this and helping us do the work.
- B. Cannaday extended his appreciation to the Board for listening to the comments and suggestions in the breakout room. He asked if Maryland MEP has the Board's support on its efforts to motivate and rebrand the idea of youth getting into manufacturing.
- M. Newman offered his full support and suggested the ideas be shared with the entire MEPNN.
- H. Frohreich said that he walks into companies facing the same challenges that have been discussed today, and they generally pull out a kata board to begin working on the challenges. He suggested that the Board should use the Toyota Kata study method in order to solve key managerial problems as a logical next step, and he volunteered to assist in that effort.

Concluding comments

- G. Spottswood said that he learned a lot over the past two days, and it will make him a better Board member. He acknowledged the enormity of the project, and with the additional $250 million in federal funding that will come into the manufacturing sector, it comes with a great deal of responsibility. Resilience is the ability of a business to withstand, adapt, thrive and face shocks that are internal and external, as well as known and unanticipated.
- R. Aguerrevere said that the Network needs to get bold ideas out there, and the Board supports all efforts to make manufacturing more attractive to up-and-coming generations.
- J. Anaya said he feels that the Board is addressing the right things in order to strengthen the manufacturing sector of the U.S.
- D. Bockoven said the notion of resilience resounds clearly between the MEP Centers and NIST MEP. There has been great resilience in getting through the past 12 months, and there is a lot on the plate going forward. It is an exciting time for manufacturing in the U.S., with more excitement to come. There are also other influences that impact the industry, such as trade agreements.
- B. Hawes ended with the word "forward," as in looking forward to being part of the group again. She feels like she is home again. The Board is on the cusp of putting some solid lines around the manufacturing ecosystem nationally.

- L. Byars expressed her gratitude for getting to participate on the Board. Manufacturing is a roller coaster ride that keeps you coming back to the line. She looks forward to meeting again in person soon.
- M. Kmetzo used the word "firehose" to describe the amount of information that was shared over the past two days. With so many daunting challenges at hand, it would be good if prioritization would take place so that everyone can share small successes to use as stepping stones to bigger achievements.
- M. Magee said the last two days of Board meetings have been very energizing. He commended C. Gendron and the NIST MEP team for conducting the remote meeting in an effective and efficient manner. He also wanted to share closing words: focus on alignment.
- J. Wright said he took a lot of notes that are applicable to his own organization that he would not have otherwise thought of. After these Board meetings, he returns to work refreshed and with an open mind on how the issues facing the Board apply at home.
- K. Rennels said that when she first joined the Board, it wasn't "we," and the overall attitude was very different than it is today. She is very appreciative to see such a change in the teamwork culture over the years. The Board's outlook is going to be critically important in the next phase.
- R. Ivester thanked everybody who came together to make the remote Board meeting a success. He agreed that H. Frohreich was right that kata is an approach that can help with the challenges at hand.
- M. Isbister said ditto to everything her fellow Board members have said, including the thanks to the NIST MEP staff. NIST MEP is an organization that really cares about making U.S. manufacturing truly what it can be, and what it can be is leading the world.
- M. Newman thanked everyone who participated online and in person in Phoenix, Arizona. He closed with one word: "opportunity." Right now the Board has a tremendous opportunity to address economic challenges in the U.S. supply chain, to participate with the various departments in D.C. and be their go-to specialists.

Next Meeting

The next MEP Advisory Board meeting is set for March 9, 2022 in Gaithersburg, Maryland.

Adjournment

With no further business, M. Newman adjourned the meeting at 8:22 p.m.