

**National Institute of Standards and Technology
Manufacturing Extension Partnership
Advisory Board
Minutes of the May 19, 2016 Meeting**

Background

The Department of Commerce (DOC), National Institute of Standards and Technology (NIST), Manufacturing Extension Partnership (MEP), Advisory Board met in an open session from 9:00 a.m. to 4:00 p.m. on May 19, 2016 at the Charleston Marriot in Charleston, SC. Approximately 41 attendees, composed of Advisory Board members, NIST, and MEP participants, guest speakers, and observers, attended the meeting. Carroll Thomas, Director of MEP, is the Designated Federal Officer for the MEP Advisory Board.

Attendees

Board Members

Carolyn Cason, Former Vice President of Research, University of Texas, Arlington
Eileen Guarino, President, Greno Industries
Bernadine Hawes, Senior Research Analyst, Community Marketing Concepts
Tommy Lee, President, Vulcan, Inc.
Vickie Wessel, Chair, NIST MEP Advisory Board, Founder and President, Spirit Electronics, Inc.

Guest Presenter

JJ Raynor, National Economic Council

NIST MEP Participants

Phillip Singerman, Associate Director of Innovation & Industry Services, NIST
Carroll Thomas, Director, NIST MEP
Dave Cranmer, Deputy Director and System Operations Acting Director, NIST MEP
Zara Brunner, Acting Manager of Communications
Mark Troppe, Director of Partnerships and Program Development, NIST MEP
Ben Vickery, Senior Technical Advisor, NIST MEP
Mary Ann Pacelli, Manager Workforce Development, NIST MEP

Observers

Samm Bowman, NIST MEP
Buckley Brinkman, WMEP
Larry Blackledge, UW-Stout MOC
Kelly Buchanan, Foundation for Manufacturing Excellence
Tom Bugnitz, Manufacturer's Edge
Monica Clausen, NIST MEP
Mike Coast, MMTC

Dusty Cruise, Missouri Enterprise
Misty DePriest, TMEP
Eric Esoda, NEPIRC
Heidi Francis, MEP Utah
Dave Garafano, RevAZ
Cheryl Gendron, NIST MEP
Joe Griffin, MassMEP
Sean Healy, MassMEP
Carrie Hines, ASMC
Mimi Hsu, Lockheed Martin
Wes Kelly, SDMTS
John Killam, MassMEP
Dan Manetta, IMC PA
Cindy Orellana, NIST MEP
Mary Ann Pacelli, NIST MEP
Keith Phillips, ATN
Dwayne Raper, TMEP
Gerry Schneggenburger, NWIRC
Kim Stebick, NWIRC
Dana Stone, ATN
Gary Thompson, NIST MEP
Ben Vickery, NIST MEP
Tab Wilkins, NIST MEP

Welcome, Introductions, and Opening Remarks

Speaker: Vickie Wessel, Chair, NIST MEP Advisory Board

Ms. Wessel called the meeting to order at approximately 9:00 a.m.; Ms. Wessel made introductory remarks and had the Advisory Board members and meeting participants introduce themselves.

Presentations

MEP Director's Updates

Speaker: Carroll Thomas, Director, NIST MEP

Ms. Thomas provided updates on NIST MEP that included an overview of the program's direction, budget, and other activities.

MEP Program Funding History

FY 2015 \$130.0M

FY 2016 130.0M

FY2017 (President's request) \$142.0M

NIST MEP FY 2016 Spend Plan

Appropriated Funds \$130.0M

Centers Renewals and Additional Competition Funds \$109.4M

MEP System Support/Staff/Overhead \$20.6M

Total Planned Expenditures \$130.0M

- MEP's overhead is lean, spending less internally this year and putting more into the system than last year.
- MEP spends approximately 11% of the budget to run the program; less than the 13% mandated by Congress.
- MEP currently has 58 centers and anticipates 51 after the recompetition with one in each state.

FY 17 President's Budget for NIST MEP

- The increase requested is to provide additional manufacturers with tools needed to respond to the rapid technology change and complete the recompetition of national MEP centers.
- The purpose of the recompetition is to enhance local flexibility and increase accountability in Centers.
- MEP centers need to be provided with greater capability to better serve very small, rural, and start-up companies.
- An increase would allow MEP to expand efforts to transfer federally funded technologies that better reach smaller manufacturers and connect them with business opportunities.

MEP Improvement Act Draft and Cost Share Updates

- Permanently adjust the federal MEP cost share to 1:1.
- Strengthen and clarify the MEP center review process and require recompetition of MEP center awards every 10 years.
- Authorize MEP centers to support the development of manufacturing-related apprenticeship, internship and industry-recognized certification programs.
- Increase the MEP program authorization level to \$260 million per year through 2020.
- Require the MEP program to develop open-access resources describing best practices for America's small manufacturers.

MEP and the Advisory Board have been working on changing the program's cost share since 2013. An extensive analysis of the program on the impact of cost share by NIST, as well as a report by the National Academy of Sciences on worldwide manufacturing programs, made the case that the current level of cost share was preventing the program from achieving its public purposes.

Concurrently NIST MEP staff has worked with Congressional staff to draft legislation on changing the cost share to 1:1. A bipartisan consensus reached in July 2014 led the House to pass the MEP Authorization Improvement Act which contained favorable provisions to the program.

In 2015 the House again passed legislation that was embedded in the America Competes Act. More recently, bipartisan legislation embedding the Improvement Act in the America Competes was drafted and NIST will be reviewing and commenting on it. The Office of Management and Budget is waiting for the next Administration before making a 2018 budget.

Q: Is the draft still in committee?

A: Yes, it is still in committee. It is a bipartisan staff draft, and members have to sign it.

Q: In reviewing the draft, is there anything negative about including an authorization level in it that would keep the rest of the provisions from moving forward?

A: No. We are assuming no increase. It is just for the authorization, not the appropriations.

Q: What are the chances of getting the draft through Congress this year?

A: There is not much time. Congress goes out on July 15 and will be back in September for a few days. Depending upon what happens, there is some possibility it could pass, as there is no real opposition. It is embedded in America Competes, which includes a more complex set of issues that need to be addressed and is outside of our control. This cost share issue was identified as a legislative priority of NIST last year.

Competition Status Update

- Round 1 Competition of 10 states: Complete. Start date July 1, 2015.
- Round 2 Competition in 12 states: Complete. Start date January 1, 2016.
- Round 3 Competition in 13 states: In process. Start date October 1, 2016 (reviewing proposals).
- Round 4 Competition in 11 states: In development. Planned start date April 1, 2017 (FFO release anticipated July 1, 2016).

Early observation from the Round 1 awards include:

- Increased focus on very small and rural manufacturers in strategy (60% increase)
- New resources in many centers aimed at workforce development (80%)
- Increased focus on a growth framework in working with companies (80%)
- New technology acceleration/ NNMI partnering activities (60%)

Proposed NIST MEP Re-Alignment

- A structure designed to better support the goals and strategic objectives of the program.
- A new reporting structure to optimize the flow of information for efficient decision making.
- Staff requested new management and leadership opportunities.
- Several NIST MEP staff members are currently on detail assignments to other agencies.

Board Updates

The Center Board Distinctive Practice Meeting was held in March in Washington, DC that included roundtable discussions on Board sharing and networking, challenges, recruitment,

assessment, and being a voice for manufacturing. The Advisory Board was asked to reach out to local center boards.

The NIST Director's Charge to the Board has asked for guidance on the following:

- MEP 2017-2022 Strategic Plan
- Connecting user facilities, research and technologies at NIST and other federal laboratories with small and mid-sized manufacturers
- Establishment of an MEP Learning Organization

Preparing a New Rolling Federal Funding Opportunity

MEP is working on developing two FFOs that have MEP centers as eligible applicants, and another that is open to other organizations. Key Points about the FFOs:

- Performance-based opportunity in key areas
- Open throughout the fiscal year to proposals from MEP centers
- Utilizing supplemental funding
- No cost share
- Intended to incentivize broader reach to more small and medium size manufacturers
- Anticipated release for October 2016
- The amount per project could be \$25K-1M per year

Discussion

Q: Where does the funding for this come from?

A: At the end of the year's annual closeout there are few thousand left from grants and opportunities from re-programming that are pooled. We would like to have a pot available to maximize funding opportunities for centers. This is to provide supplemental funding that can only be done through a competition. We cannot change a base award for a center after going through the recompetition.

Q: How will MEP get back to level funding for centers after supplemental funding opportunities? Do we continue to push money out to well performing centers?

A: The amount of money a center is given in an award cannot be changed. We did most of the rightsizing during the Round 1 recompetition. Until there is a new award we have to utilize the supplemental funding. This will be performance based. The underfunded centers will have an opportunity as long as they are drawing down all their current funding. We want money to be put back into the system. We do not want an underperforming center to be distracted by doing special projects. This FFO is to do things a center does not normally do.

Q: Two FFOs are for MEP centers, but what does that other FFO look like?

A: The other one is for research. MEP centers would be the primary targets for that but this allows us to work with research institutions as well.

- MEP reduced overhead funds and put \$20M toward centers to fund the recompetition.

- MEP put forth a plan for a \$160M appropriation level that bring centers up to \$135M from the current \$110M. This amount brings them all the same funding amount per manufacturer level.
- Assuming a 1:1 cost share, that will be the carrying capacity for the system as a whole.
- MEP has right sized 85% of the system in the amount of funding per manufacturer.

Data as a Service (DaaS)

NIST MEP is building out this service to include data and analytical support using both NIST MEP and external data sources to support both center and internal research and analysis.

Work to date includes:

- Industry Profiles (using NIST MEP data)
- Center Cohort Analysis Tool
- EMSI and other analysis tools

Future work is to include access to a library of Industry Studies from IBISWorld and work with Chief Data Scientist to develop profiles of manufacturers likely to become MEP clients.

Utilizing Technology: Going Mobile

An internal MEP team is exploring the opportunity to expand the organization's technical assistance offerings. In leveraging mobile technology, MEP is looking to efficiently serve more clients through:

- Improving the sharing of information across the MEP network
- Enhancing data collection and use to better assist field staff delivering services

MEP Financial Management Analysis Project

The pilot consists of nine centers that have contracted with a group of auditors to perform reviews that will document strengths and areas for improvement. The centers received a report and NIST received an aggregate of the report that will be delivered to Congress.

Q: If the exercise goes well will funds continue to be available for other centers that may want to participate going forward?

A: The auditors will also be looking at NIST MEP internal processes, and then we will find out how to improve. Funding was approximately \$300K for the pilot. It did go well, and we are looking at having it be a risk assessment. The auditors taught MEP how to determine which areas need review and it will be built into the practice of running the program.

Performance Management Policy

The MEP performance management policy is currently under review in order to better utilize the MEP network, strengthen the system, and formalize how to capture distinctive practices. MEP is analyzing quantitative and qualitative data from the:

- Peer review process
- Annual reviews
- Operating outcomes
- Performance metrics

MEP National Summit: 2017

The summit will likely be held in early-mid June in either Milwaukee, Minneapolis, Denver, or Dallas, and approximately 600 attendees are expected. The three tracks of the summit align with MEP branding efforts:

- **M:** Manufacturing Technology Services; Manufacturing Trends
- **E:** Extension Services/Consulting; Distinctive Practices
- **P:** Partnerships at all Levels; the ROI in Collaborating

Partnership Development - New MOU and State Relations Developments

The Department of Commerce (DOC) and Department of Energy (DOE) signed an MOU:

- Encouraging collaboration between the NIST MEP program and a variety of DOE Labs.
- Collaborations in progress: Cyclotron Road, Lab-Corps
- Small Business Vouchers, and Technologist-in-Residence are showing a trend towards doubling of economic impacts for the Lab Impact Initiative.

State Relations:

- New five-year cooperative agreement with the State Science & Technology Institute and Center for Regional Economic Competiveness.
- Increasing return on MEP outreach to state legislatures.
- Working with the National Conference of State Legislatures (NCL).
- Exploring subsidy partnerships.
- Seeing increases in local officials willing to invest in MEP.

How MEP is building its Value

- NNMI Embedding FFO provides NIST MEP funding for collaborations to enhance the scale of Institute impacts on small U.S. manufacturers by conducting new pilot projects involving NNMI Institutes and MEP Centers.
 - Funding between \$300,000 and \$600,000 per year, or total federal funding between \$600,000 and \$1,200,000 over two years.
 - Approximately \$7,000,000 in total federal funding available for awards.
- Food Safety Modernization Act projects on average have higher total fees and sales impact for centers.

Program Updates:

- M-TACs are MEP funded pilot projects to explore approaches to MEP technology acceleration assistance for small U.S. manufacturers within the context of specific supply chains.
 - Five awardees received \$500,000 for a two-year project in 2014-2015.
- B2B Pilots are MEP funded pilot projects to develop, deploy and maintain a Business-to-Business (B2B) Network to support active business opportunity, supplier, technology and/or market matching within regions.
 - Ten awardees received \$250,000 for a two-year project with a start date of 12/1/14.

- ExporTech Program - Since 2006 there have been 114 ExporTech sessions, and 29 states have completed an ExporTech program. 6 centers are self-sufficient in running the program. Average impacts include:
 - \$770,000 average sales increase / retention per company
 - \$50,000 average cost and investment savings per company
 - \$400 Million in total program sales (new / retained) to date
 - \$12,000 average follow-on sales for centers per client

Building the MEP National Network Brand

MEP will coordinate with center representatives and look at the entire value chain of the MEP National Network to understand the needs, restrictions and gaps in order to identify value opportunities for the entire system. Key points on the MEP branding effort:

- Need consistency of messaging and clear brand meaning
- 75% of Centers want national brand recognition
- Continuity of strategic alignment
- Reach more manufacturers and deliver on mission to increase national awareness and reach and customer success/focus
- Build stronger, more effective alliances, culture of value creation, and national brand curriculum

MEP Social Media Presence:

- Manufacturing Innovation Blog: 14,223 Subscribers
- Facebook: 8,390 Likes
- Twitter: 4,198 Followers
- LinkedIn: 1,023 Members
- Manufacturing Day will be on October 7, 2016

Industry 4.0: Unlocking Future Competitiveness

MEP must expand and strengthen system capabilities through the power of technology and partnerships to advance and transform U.S. manufacturing.

- NAICS codes will need to be updated to reflect current industries.
- MEP is working on a partnership with the Baldrige Program on cybersecurity.

Highlights from Deloitte/Council on Competitiveness 2016 Global Manufacturing Competitiveness Index Study found the top major determinants of global manufacturing competitiveness are:

1. Talent
2. Cost competitiveness
3. Workforce productivity
4. Supplier network

Recap and Review of Current MEP Strategic Plan 2014-2017

Speakers: Vickie Wessel, Chair, MEP Advisory Board, and Dave Cranmer, Deputy Director, NIST MEP

A history of MEP's strategic plan was provided that included prior strategic plans, the 2008-2014 Next Generation Strategies, and the 2014-2017 four strategic goals.

The MEP Program evolution included achieving national coverage, optimizing center and system performance, delivering higher value-added services, focusing on strategic management, and exploiting technology.

The Strategic Plan update from May 2014 included the following strategic goals:

- Enhance the Economic Competitiveness of U.S. Manufacturers (Enhance Competitiveness)
- Serve as a Voice to and a Voice for Manufacturing (Champion Manufacturing)
- Support National, State and Regional Manufacturing Eco-Systems and Partnerships (Support Partnerships)
- Develop MEP's capabilities as a learning organization and high performance system (Develop Capabilities)

MEP Strategic Plan 2014-2017

Programmatic Strengths:

- National Program with at least one center in every state.
- Federal/State, public-private partnership with local flexibility.
- Cost share policy that matches federal investments with state and private sector investments.
- Leverage partnering expertise as strategic advantage.
- Market driven program that responds to the needs of private sector manufacturers.
- Local knowledge of, focus on, and access to manufacturers.

Staff received feedback from center board chairs, center directors, and manufacturing associations and is now moving to Implementation Planning.

At the March 2016 MEP National Advisory Board meeting, the Board received a charge from NIST Director May regarding the strategic plan for reengaging senior management to provide guidance and advice to create the 2017-2022 Strategic Plan.

MEP began development of a strategic planning process in the fall of 2012, and has developed a Strategic Framework which now needs to support the vision that the Director has for the Program. Taking the next step of completing a 3-year strategic plan will aid in preparing the MEP Program for the next Administration, which will take office in January 2017.

The Board is requested to provide guidance to the MEP Program on the completion of a system-wide strategic planning process that would engage all stakeholders.

MEP enabling legislation [15 U.S.C. 278(k) and (l)]:

- Create and Support centers
- Competitions

- Panel Reviews
- National Advisory Board
- Competitive Grants Program FFO
- Innovative Services Initiative FFO
- Evaluate Obstacles Unique to SMEs FFO
- Provide assistance to States (STEP) to help implement technology programs

MEP centers must enhance productivity and technological performance of U.S. manufacturing.
Center Activities:

- Establishment of automated manufacturing systems and other advanced production technologies, based on research by the Institute, for the purpose of demonstrations and technology transfer.
- Active transfer and dissemination of research findings and center expertise to a wide range of companies and enterprises, particularly small and medium sized manufacturers.
- Loans, on a selective, short-term basis, of items of advanced manufacturing equipment to small manufacturing firms with less than 100 employees.

Discussion

- The Advisory Board should examine and modify the strategic plan every year to meet the changing needs of manufacturers.
- Authorizing legislation is foundational to what MEP needs to have in the strategic plan.
- Each pillar of the plan should be able to fall into a legislative bucket.
- NCL partnership will improve state outreach.
- Subcommittees must communicate with each other to ensure alignment.
- New Advisory Board members should be involved in strategic planning to ensure continuity.
- The next step is to develop actionable items in the strategic plan.
- Documentation from prior strategic planning sessions, the report to Congress, and instructions on accessing MEP Connect will be emailed to members of the Advisory Board.
- A teleconference will be scheduled in several weeks on strategic planning and the upcoming September Advisory Board meeting will provide updates.

Technology Acceleration Subcommittee: Jeff Wilcox and Bernadine Hawes

Learning Organization Subcommittee: Carolyn Cason and Tommy Lee

Strategic Planning Subcommittee: Vickie Wessel, Eileen Guarino, and Bernadine Hawes

Q: What is the target date in mind for completion of the strategic plan?

A: By the time MEP has its National Summit.

Q: What is the status of new Advisory Board members? What is their industry background?

A: We have two vacancies and are vetting two individuals. One is from manufacturing and the other is from manufacturing and community college.

Q: Have you begun the search for replacements of the three that will be rotating off next May?

A: We have a number of people we are looking at.

Manufacturing Policies to Support US Manufacturing

Speaker: J.J. Raynor, Special Assistant to the President for Economic Policy, National Economic Council

J.J. Raynor discussed topics and trends in manufacturing with regard to Administration policies.

Trends in Manufacturing

- The U.S. manufacturing base is globally competitive and experiencing the longest sustained period of jobs growth in decades.
- Since 2010 there have been 900,000 jobs created in the manufacturing sector.
- For the fourth year in a row the U.S. has been named the number one place to invest by global industrial CEOs in an A.T. Kearney survey.
- In 2014 the amount of foreign direct investment in U.S. manufacturing doubled year on year.
- Value is optimized at the intersection of manufacturing and services.
- Platform based products are increasing.
- To be competitive as an advanced economy the U.S. must grow its industrial base.

Administrative Actions

- The presidential choice to save the auto industry:
 - Much of the growth/recovery in manufacturing is led by the auto sector and the ancillary and connected industries – precision machining, metals, supplier parts and component parts that depend on the auto sector being strong.
- The Administration has made progress in a broad suite of policy priorities for building an ecosystem that can be supportive of long term and sustained manufacturing growth.
- An advanced workforce is key to success in moving into new technology spaces.
- Manufacturing line workers now have the same advanced skills as computer programmers.
- The Administration's largest workforce investments have gone to rebuilding the community college and technical training infrastructure to support manufacturing. Nearly \$1 Billion has been put into community college grants.
- Over half a million workers now have a manufacturing credential that will allow them to advertise their industry knowledge.
- Training the manufacturing workforce requires book learning and applied experience.
- American Apprenticeship grants were launched with an applied piece on manufacturing and last year's funding almost doubled in size. Manufacturers that utilize this training model are seeing downstream benefits.
- The Administration increased R&D by 40% in the last three years.
- Manufacturing R&D is approximately \$2 Billion a year, some occurring at NIST labs.
- The Advanced Manufacturing Partnership effort will identify promising areas and invite the private sector to share priorities and align goals.

- The Lab to Market initiative and Supply Chain initiative are working on making the capabilities of federal testbeds and products more accessible to manufacturers.
- Promising pilots are being implemented in Department of Energy labs – i.e. Small Business Innovation Vouchers.
- MEP brings a policy voice to the table that influences a broader range of policies.
- Passage of the Fixing America's Surface Transportation Act (FAST Act) enabled a long term sustained infrastructure funding plan. The Act created the first federal freight program with a strategic approach for getting freights and goods to market faster.

What MEP can do

- Facilitate interconnectivity of capabilities and knowledge about supply chains and how to better access them.
- Increase the awareness of MEP as a resource to large retailers with a desire to source domestically that lack knowledge on suppliers.
- MEP is a key partner in the Supply Chain effort that offers insight into working with manufacturers.
- Provide assistance in scaling up efforts that link new technologies to established manufacturers that are returning to the U.S.
- Address the lack of knowledge on finding suppliers for moving products from lab to market.
- Interviews with venture capitalists on domestic manufacturing revealed that, outside of the pharmaceutical industry, most of the electronic and digital companies do not have experience with manufacturing or know where to find resources for assistance.
- A weakness of the manufacturing industry is too little focus on supply chains.
- Encourage collaborative practices that preserve value across supply chains in order to reinvest it.
- Address the continual need to learn in cybersecurity while simultaneously running a business.
- Manufacturing is a top target for cyber-attacks in the last three years and many of the attacks originate from supply chains.
- MEP can inform policy makers in Washington as they lay the roadmap for the next Administration.

Discussion

- The validation of cybersecurity techniques are poorly suited to the cost structure of those needed to institute them.
- Create Lean cybersecurity.
- Vendors must be compliant in cybersecurity and flow regulations down through supply chains.
- Third party system support for SMMs without full time IT departments are expensive and may pose security risks.
- New labor and energy policies are driving up the costs to produce product.

- MEP should address the need for user-friendly tools that SMMs will use to learn about current cybersecurity practices.
- MEP should work to develop a network of expertise and continual learning around the changing cybersecurity and cloud-based solutions.
- The cost of compliance is rising in direct conflict with cost models, threatening manufacturers' sustainability and R&D capability.
- MEP can address the skills gap by bringing together advanced skills training, technology applications, supply chain efficiencies, and infrastructure improvements.
- Branding recognition could help MEP's visibility by becoming more widely known as a national program.

Q: What is your vision for the NNMI program?

A: Recognition that in order for U.S. manufacturing to stay competitive is to stay ahead of the technology curve. NNMI is thinking about technologies that need to solve specific manufacturing hurdles. What started as a pilot is scalable upon funding. Cultivating collaboration between institutes is crucial. MEP has a role as the front door for SMEs. Allowing members to benefit from expertise across the network.

Q: Is your group reaching out to other organizations that have manufacturers to discuss industry challenges?

A: We have an ongoing dialogue with the Chamber of Commerce, Business Roundtable, and the National Association of Manufacturers. They are strong partners on workforce. Policy decisions weigh the cost benefit across workers and industry and there is a calculus that does have an extensive input period.

Defining NIST Director's Charge: MEP Learning Organization

Speaker: *Carolyn Cason, MEP Advisory Board and Mary Ann Pacelli, NIST MEP*

An overview was provided on the MEP Learning Organization subcommittee's activities to date. The Learning Organization will be developed for center staff to develop skills and competencies to support their business models.

The Learning Organization is embedded in one of the MEP Strategic Goals: Develop MEP's capabilities as a learning organization and high performance system (Develop Capabilities). Strategic Objectives include promoting system learning and continuing Administrative reform.

The 2016 Charge to the MEP Advisory Board from Dr. Willie May calls for recommendations on the establishment of an MEP learning Organization which would be a continuance and further development that came out of the Board Governance charge.

MEP plans to have the first comprehensive gathering of the Network since 2012 in 2017 to strengthen connections and reacquaint MEP staff with sharing best practices. Working Groups and Communities of Practice will be reestablished and the MEP University will be reborn.

A national framework will enable centers to focus on and gain access to:

- Best practices
- Knowledge and education designed to enhance center performance
- Expand market penetration
- Encourage technology transfer
- Increase client top and bottom line performance
- Enabling center staff to develop skills and competencies to support their business models

History

- Programs were developed to support center delivery of services.
- Program materials included instructor guides, participant materials, simulation kits (where applicable), train the trainer programs.
- Service suite includes:
 - Lean suite
 - Growth Services
 - Performance Business Advisor
 - ExporTech
 - Technology Driven Market Intelligence (TDMI)
 - Technology Scouting (TS)
 - Innovation Engineering

In 2003 MEP recognized the need to manage the delivery of services and training leading to the MEPU portal; the contract ended in 2012. Training for some of the programming still continues hosted by centers as they need them. Many centers with new staff are not aware of what is available to them or how to access the information.

Currently working groups continue and some new services or potential services developed in recent projects are:

- Supplier Scouting
- Business 2 Business portals
- Additive Manufacturing Business model Train the Trainer
- Digital Manufacturing Train the Trainer

The American Small Manufacturers Coalition (ASMC) survey results from the fall of 2015 asked centers about MEPU and working groups.

- 88% responded working groups are important to their success
- 60% responded they or staff participated in MEPU in the past

Outcomes desired from conversations with center directors on the Learning Organization System:

- Help accomplish center goals
- Easy access, one place to start
- Networking and sharing with others
- Staff Development
- Working Groups

- Meetings/Summits
- Access to Experts
- Formalize the sharing of Best Practices

The Learning Organization draft charter expresses that it will provide Board guidance to shape the development of an integrated MEP Learning Organization.

Next Steps

- Advisory Board input on the charter
- Needs analysis of centers
- Asset mapping to identify and build upon current capabilities
- Identify existing distinctive practices
- Identify opportunities for scalability
- Draft plan with priority of action steps

Discussion

- Asset mapping can be used to replicate activities in MEP centers across the system that can be scaled up or down according to a center's needs.
- MEP should capitalize on the learning technology platform that clients can utilize as a resource.
- Centers want tools for C- level and succession planning activities.
- Formalize working groups to develop and accomplish actionable items.
- ASMC will be involved in gathering information and training efforts in alignment with MEP's Learning Organization.
- Build into the learning system a way to identify and incorporate new technology.
- MEP should examine collaborative opportunities with Dr. Craig Blue of the Institute for Advanced Composites Manufacturing Innovation and his strategy for recruiting partners by industry and location to work with students in manufacturing.

Defining NIST Director's Charge: Connecting User Facilities and Labs with SMMs

Speakers: Bernadine Hawes, MEP Advisory Board, and Ben Vickery, NIST MEP

The Technology Acceleration (TA) subcommittee provided a report out on activities in response to the NIST Director's Charge to connect Labs with SMMs.

The Charge:

- Provide guidance on the development of a protocol to connect user facilities, research and technologies at NIST and other federal laboratories with small and mid-sized manufacturers.

The development of a connection protocol would leverage the benefit that the MEP Program has in being part of NIST. The MEP program is becoming more engaged in larger OEM supply

chains that require smaller manufacturers to use advanced manufacturing production processes that are customizable and secure.

The Board is requested to provide advice concerning the MEP program methods to connect NIST resources to the MEP Network for the benefit of U.S. small and medium sized manufacturers.

The TA subcommittee noted similar drivers between Lockheed Martin's ENGAGE Customer Relationship Management (CRM) software and the MEP Technology Acceleration Connector protocol. Features include:

- A Web-based CRM/repository to track data dynamically
- Commercially available platform (Microsoft)
- Contacts
- Programs/Contracts
- Activities
- Queries (Views)
- Reports
- Dashboards

Technology Acceleration Connector Protocol Function is to provide a connection between NIST Labs, NIST MEP, MEP Centers, and SMMs.

- Responsive connections include inquiries from centers on behalf of SMM clients for NIST Lab support/consultation and inquiries from SMMs direct to NIST.
- NIST MEP staff & Lab Connector liaison work together to identify NIST Lab resource(s), ensure right fit, ensure follow-up on projects, and involve center staff for learning and complementary support.
- Proactive connections include outreach from NIST Labs through centers to SMMs and outreach from NIST Labs with SMMs to centers.
- The TA subcommittee is seeking to systemize a process for NIST MEP staff & Labs to identify NIST Lab research ready for transfer to SMEs, SMM input/testing, identify NIST Lab collaborations with SMMs that may benefit from MEP support, and define a set of connections projects to centers and SMMs.

The Connections Tracking Database is designed to capture projects from all scenarios in one system that will allow:

- Project management through satisfactory completion
- Analysis of outcomes from outreach to allow redesign of outreach and project management

Challenges:

- Connector program evaluation may not be sourced from impacts from MEP projects because of a difficulty in attribution to Lab vs other MEP services
- Some projects may be impeded by confidentiality of center-client relationship

About the Technology Acceleration Implementation Plan

MEP should give priority to developing and implementing TA opportunities with NIST Labs and National Network for Manufacturing Innovation (NNMI) Institutes over the next year, while also pursuing the emerging collaboration with DOE labs.

Listing of specific actions engaging MEP with NIST Labs, NNMI Institutes, and DOE Labs:

- Technology Acceleration Connector
- Embedding MEP center staff in NNMI Institutes FFO
- NIST MEP-DOD MOU including DMDII – MEP Pilot
- NIST MEP-DOE MOU to focus on DOE-funded NNMI Institutes
- DOC-DOE MOU to focus on collaboration with DOE Labs
- DOE Lab Small Business Voucher Pilot
- Penn State University Additive Manufacturing Challenge
- NIST Engineering Lab-MEP Collaborative Robotics & Flexible Automation Workshop
- Technology Collaboratives
- Additive Manufacturing Community of Practice – Training Workshop

Discussion

- The Advisory Board would like to see the Lockheed Martin CRM demonstration.
- The CRM pilot will help MEP identify gaps in moving NIST Lab research to market and make connections.
- CRM is a reporting mechanism that needs specific activities built into it for facilitating the inquiries.
- The database is critical to track information on SMM engagement in order to facilitate future interactions with available NIST resources.
- Currently more of the Center/Lab connections are responsive than proactive.
- Utilize asset mapping to deploy wealth and experience more effectively.
- Technology collaboratives are part of the Administration's Lab to Market initiative.
- MEP should invest in a federal funding opportunity around pairing entities that have developed technologies alongside the Labs with the goal of moving them to production.
- Explore TechLink process to connect intermediaries with SMMs.
- This year's Manufacturing Advantage Conference & Technology Showcase will be held September 28-29, 2016 at the University of Wisconsin-Stout.

Q: Is connector a database where we store results for interactions that have occurred or is it the mechanism by which you bring two parties together to make the interaction occur?

A: Both. Because we are at the beginning of the process we are talking more about the mechanism we have learned from and built. The process at its core is the system of responsive vs proactive connections.

Q: To what extent did the TA committee explore the experience that already exists from MEP centers and other organizations in connecting small companies to Labs?

A: We catalogued it through the process of developing the background report that informed the TA Implementation plan. For this specific task we are still at the beginning of the process. One of the next steps is to learn from the centers in a systemized way.

Concluding Comments

- MEP should move forward with efforts in branding/marketing.
- MEP should reexamine Advisory Board composition and direction in maintaining a majority of manufacturers.
- Potential new Advisory Board members and local center board members should be invited to observe meetings of the NIST MEP National Advisory Board.

Suggestions for MEP Center Board eNewsletter content:

- The board is working to ensure continuity in the strategic planning effort.
- Inform center directors on Advisory Board members and request nominations.
- Issue call to center directors and local board chairs for governance and connectivity observations.
- Summarize directives from Dr. May including status on how MEP and the Advisory Board are working to fulfill them.
- Newsletter will be sent directly to center directors for dissemination to local board chairs.
- Review how data will be collected and utilized in the new performance management system in alignment with the strategic planning process.

Next Meeting

The next Advisory Board Meeting is September 15, 2016 in Detroit, Michigan.

Adjournment

With no further business, Ms. Wessel adjourned the meeting.