MEP Advisory Board Meeting
September 15, 2016
Detroit, Michigan
### Agenda

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Lead</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 – 8:05am</td>
<td>Meeting Logistics</td>
<td>Cheryl Gendron, NIST MEP</td>
</tr>
<tr>
<td>8:05 – 8:20 am</td>
<td>Welcome, Introductions: Opening Remarks, Board and Audience Introductions, Introduce New Board Member</td>
<td>Vickie Wessel, Chair, MEP Advisory Board Carroll Thomas, NIST MEP Director</td>
</tr>
<tr>
<td>8:20 – 9:00 am</td>
<td>MEP Director’s Update</td>
<td>Carroll Thomas, NIST MEP Director</td>
</tr>
<tr>
<td>9:00 – 10:00 am</td>
<td>Trends in Economic Development Impacting the MEP System</td>
<td>Dan Berglund, SSTI</td>
</tr>
<tr>
<td>10:00 – 10:15 am</td>
<td>Break</td>
<td></td>
</tr>
<tr>
<td>10:15 – 11:00 am</td>
<td>MEP Strategic Plan 2017-2022; Update from board working committee</td>
<td>Vickie Wessel, Chair, MEP Advisory Board Dave Cranmer, Deputy Director, NIST MEP</td>
</tr>
<tr>
<td>11:00 – 12:15 pm</td>
<td>Connecting User Facilities and Labs with SMMs; Update from board working committee</td>
<td>Jeff Wilcox, Vice Chair, MEP Advisory Board Clara Asmail, NIST MEP</td>
</tr>
<tr>
<td>12:15 - 1:45 pm</td>
<td>Lunch Break</td>
<td></td>
</tr>
<tr>
<td>1:45 – 2:45 pm</td>
<td>MEP Learning Organization; Update from board working committee</td>
<td>Mary Ann Pacelli, NIST MEP Staff (Carolyn Cason Absent)</td>
</tr>
<tr>
<td>2:45 – 3:30 pm</td>
<td>Discussion: Board Governance, succession planning and Quorum Wrap-up/Public Comments</td>
<td>Vickie Wessel, Chair, MEP Advisory Board Carroll Thomas, Director, NIST MEP</td>
</tr>
<tr>
<td>3:30 – 4:00 pm</td>
<td>Optional for Board Members: Demo of Lockheed Martin’s Engage Platform</td>
<td>Jeff Wilcox, Vice Chair, MEP Advisory Board Clara Asmail, NIST MEP</td>
</tr>
</tbody>
</table>
Welcome and Introductions
MEP Advisory Board – New Member

Mr. José Anaya is the newest member of the MEP National Advisory Board.

José is the Dean of Community Advancement at El Camino College. He oversees the Centers for Applied Competitive Technologies as the Statewide Initiative Director, hosted at El Camino College.
NIST MEP Director’s Update

Carroll Thomas, NIST MEP Director
Program Administrative Update
Legislative Outlook

Budget Appropriations
- FY 17 Approps not signed yet
- Most likely will have one or two Continuing Resolutions (CR)

1:1 Cost Share Legislation
- H.R. 5639 – National Institute of Standards and Technology Improvement Act of 2016
- S. 3084 – American Innovation and Competitiveness Act
- S. 2779 – Manufacturing Extension Partnership Improvement Act of 2016
## NIST MEP FY 2017 Projected Spend Plan

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount ($ million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>President’s Request</td>
<td>$142.0</td>
</tr>
<tr>
<td>Prediction</td>
<td>$130.0</td>
</tr>
<tr>
<td>Funds in a Continuing Resolution</td>
<td>$130.0</td>
</tr>
<tr>
<td>Centers Renewals and Additional Competition Funds</td>
<td>$110.0</td>
</tr>
<tr>
<td><strong>Rolling FFO (Supplemental Funds)-Embedding FFO Part II ($ 2.0M from FY16)</strong></td>
<td><strong>$ 2.0</strong></td>
</tr>
<tr>
<td>MEP System Support/Staff/Overhead</td>
<td><strong>$ 18.0</strong></td>
</tr>
<tr>
<td><strong>Total Planned Expenditures</strong></td>
<td><strong>$130.0</strong></td>
</tr>
</tbody>
</table>
Status of Competition Rounds as of September 14, 2016

Round 1 Competition of 10 states: \textit{complete}!
- CO, CT, IN, MI, NC, NH, OR, TN, TX, VA
- Start date July 1, 2015

Round 2 Competition in 12 states: \textit{complete}!
- AK, ID, IL, MN, NJ, NY, (OH*), OK, (UT*), WA, WV, WI
- Start date January 1, 2016

Round 3 Competition in 12 states/PR: \textit{complete}!
- AL, AR, CA, GA, LA, MO, MT, OH, PA, PR, UT, VT
- (MA still in review)
- Start date October 1, 2016

Round 4 Competition in 11 states: \textit{in process}
- DE, HI, IA, KS, ME, MS, NM, NV, ND, SC, WY
- FFO released June 30, 2016; Proposal deadline Sept. 27, 2016; Planned start date early 2017
MEP/Institute Embedding Pilot awards announced yesterday

Demonstrating ways to leverage MEP assistance to small U.S. manufacturers in technology focus areas of the NNMI Institutes

- California Manufacturing Technology Consulting
  - Partnering with NextFlex, the Flexible Hybrid Electronics Manufacturing Innovation Institute

- Illinois Manufacturing Excellence Center
  - Partnering with The Digital Manufacturing and Design Innovation Institute (DMDII)

- New York State Department of Economic Development
  - Partnering with The American Institute for Manufacturing Integrated Photonics (AIM Photonics)

- North Carolina State University
  - Partnering with Power America

- The University of Tennessee
  - Partnering with The Institute for Advanced Composites Manufacturing Innovation (IACMI)
MEP Center Leadership Changes Since May

- Susan Foltz – Center Director, Ohio MEP
- Keith Phillips – Acting Center Director, ATN (AL)
- Jennifer Sinsabaugh – Center Director, New Mexico MEP
- Robert Zaruta – Center Director, NWIRC (PA)
NIST MEP Organizational News – Detail Assignments

• **Mark Troppe** — American Society of Mechanical Engineers Congressional Fellow chosen to do a detail assignment in Senator Coons (DE)

• **Margy Phillips** — joined NIST Advanced Manufacturing Program Office; on detail to MEP until we find a replacement

Coming to MEP from NIST!

• **Marlon Walker** — Research chemist in the Materials Measurement Science Division, Material Measurement Laboratory

• **Pat Toth** — Supervisory Computer Scientist in the Applied Computer Security Division
Partnerships Through Detail Assignments

- **Mike Simpson**—NIST/Advanced Manufacturing Program Office
  - Competition Manager for NIST Institutes
- **Kari Reidy**—NIST Legislative Affairs Office
  - Legislative Liaison
- **Sunni Massey**—OMB
  - Returned to NIST MEP in August
- **Heidi Sheppard**—National Endowment of the Arts
  - Project Manager
NIST MEP Organizational Change

- 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
Building National Outreach and System Knowledge

**State Relations Support Award**- SSTI and the Center for Regional Economic Competitiveness (CREC)
Advancing MEP’s network of relationships with state stakeholders to include those at the county, community and city levels

**Workforce Research Support Award**- WorkCred (ANSI)
Examining the Quality, Market Value, and Effectiveness of Manufacturing Credentials
Board Update
Advisory Board Newsletter

In This Issue:
- MEP Program and System Board Governance
- Highlights from May 2016 Meeting

Dear MEP Center Board Chairs and Center Directors,

On behalf of the Advisory Board, I am pleased to share our first triannual e-newsletter. Following each of our board meetings, a communication will be provided recapping some of the highlights and opportunities for any requested input to be provided from local boards and centers to our board.

There is one specific action I’d like you take support in of the Board. We need to identify prospective Board Members and would welcome any recommendations you have.

MEP Program and System Board Governance

MEP Program and System Board Governance

On April 1st we held a very successful one-day meeting in Washington, D.C. where the MEP Advisory Board and the local Center Boards had a chance to discuss how the two Boards could engage more to improve the national network. Over 30 members from 20 Center Boards were in attendance and also had a chance to discuss topics on Board recruitment, the Board’s role of being a voice of manufacturing and Board self-assessments.

As part of our on-going focus on the critical role that Center oversight Boards play, we tasked MEP staff to develop a communications plan which will continue building on the success of the April 1 meeting as well as provide for on-going development of Board tools, identification of distinctive practices in the system, webcast for new members, and one on one assistance to Center Boards. MEP Regional Managers are available to walk through these items in more detail.
NIST MEP Board Development Support Services Initiative

MEP Network access to BoardSource online content includes:

- **Board Self-Assessment (BSA) utilizing BoardSource BSA tool**
  - Gathers feedback from individual board members and measures the collective performance of the board
  - Comprehensively and confidentially assesses the board’s performance in key areas to strengthen the full board’s governance performance and practices.

- **Board Self-Assessment with Action Planning**
  - Pairs you with a select resource to facilitate a conversation in your boardroom about the results of your self-assessment and next steps for board development

- **Training workshops**
  - Prepares local boards to fully embrace their roles, enhance understanding of the requirements, implications and associated best practices in Board Governance
MEP Summit 2017

**M:** manufacturing technology and trends

Themes: Manufacturing Technology/Current and Future Trends

**E:** extension services and knowledge sharing

Themes: Service Delivery for Clients and Operational Excellence for Centers

**P:** partnerships and ecosystems

Themes: Partner Relationships/Value to Ecosystem/Leveraging and Convening Role
Updated Perspective on Strategic Goals

Supporting our Vision and Footprint as We Update Our Strategic Plan for 2017-2022
Balance

- Penetration
- Impact
- Center Viability
How information will be used

- To use as guiding information similar to a GPS rather than a report card rating
- Aligned with MEP Strengthen Capabilities and Enhance Competitiveness Strategic Goals
- To compare Center’s performance over time and not used as single determination for base funding
- Performance-based supplemental funding for Centers applying as lead starting April 2017
- To identify opportunities for practice sharing Center match ups
Utilized to Compare Past/Present Performance
Strategic Goals

Ten Metric Indicators:
1) Client Counts
2) New Clients
3) Net Promoter Score®
4) Survey Response Rate

Survey Impact Metrics
5) New Sales
6) Retained Sales
7) New Investment
8) Cost Savings
9) Jobs (new & retained)
10) “Share of clients improving competitiveness”: Yes to an impact question
Performance Levels

- Performing with Distinction 100
- Performing 70-90
- Conditionally Performing below 70
Comparative

- Information compared to previous year’s quarter
- Assists with annual review to capture trending position of Center
- Comparative to planned operating outcomes
Supplemental Funding

• Metrics count starting April 2017
• Centers above threshold must partner with complementary center below threshold
• Used as “carrot” for performance-based directed funding
MEP Center Generating Impact Investment

Averaged sized center- $2M

- Cost $1.75M to get a center to the point of generating impact ($3.75M with matching funding)

- Estimated loss of impact- $145M in sales loss, $290M cost savings loss, $58M in investment losses and 1,245 jobs lost created and retained on annual basis
Vision

“Changing the way the world defines manufacturing”
Vision

Changing the way the world defines manufacturing

By define we mean…
describing the nature, the state of things as they are and determining the boundaries to make clear…
Vision

Changing the way the world defines manufacturing

Why MEP?
And why now?
Why Now: The Future is Upon Us

“A full convergence of digital and physical manufacturing is underway…

The stakes for companies to successfully navigate this transition are high!”
Highlights from Deloitte/Council on Competitiveness 2016 Global Manufacturing Competitiveness Index (GMCI)

Study found top major determinants of global manufacturing competitiveness:

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

It’s Moving Faster Than We Can Imagine

The U.S. hearing aid industry converted to 100% additive manufacturing in less than 500 days, according to one industry CEO, and not one company that stuck to traditional manufacturing methods survived.

Richard D’Aveni, Harvard Business Review
May 2015
Evolution of NIST MEP’s Original Mandate

1988-1999
- Build a System
- Deliver Higher Value-Added Services
- Focus on Strategic Management
- Develop and Deploy Technology
- Increase Economic Impact

2000
- Optimize Performance and Accountability
- Deliver High Value
- Developing Leaders
- Foster Innovation
- Technology Based Economic Development

2006
- Deliver Higher Value-Added Services
- Focus on Strategic Management
- Develop and Deploy Technology
- Increase Economic Impact
- Enabling MFG 4.0

2008
- Build a System
- Deliver Higher Value-Added Services
- Focus on Strategic Management
- Develop and Deploy Technology
- Increase Economic Impact

2010
- Deliver Higher Value-Added Services
- Focus on Strategic Management
- Develop and Deploy Technology
- Increase Economic Impact
- Enabling MFG 4.0

2016
- Build a System
- Deliver Higher Value-Added Services
- Focus on Strategic Management
- Develop and Deploy Technology
- Increase Economic Impact
- Enabling MFG 4.0
What Became Clear to Me

Oregon- Metrics conversation
Tennessee- State Economic Development Meeting
Minnesota- State of Manufacturing
Alabama- Manufacturer of the Year
North Carolina- Manufacturing Summit
New Jersey- 2015 MFG Day
Next Generation of Manufacturers

NJ MEP MFG Day 2015

“I hope that like you, my example can also be used in the future to attract individuals to the manufacturing world. I hope that my presence on the panel was beneficial . . .”

Tarakshaya Bhatia
Rutgers University School of Engineering
B.S. Industrial Engineering
What is the Board’s role in the transformation of manufacturing?
What do we have to do differently?
We are...

“Trusted Advisor”

- Production- efficiency and excellence
- Business strategy- new products/find new markets
- Manufacturing infrastructure connections- workforce, banking, accounting and legal
We become...

“Trusted Advisor”

...infusing technology, interconnectedness and disrupted perspectives into

Production, Business Strategy and Manufacturing Infrastructure Connections
National MEP Network is...
Change the way we communicate

Become a critical ingredient
Change the way we feel about pushing the envelope
WHAT WE’RE DOING
Building a cohesive National Network brand identity and value proposition.

WHY WE’RE DOING IT
There is a lot of noise about manufacturing, and MEP gets lost in it. A unified National Network brand is critical for long-term survival.

OUR COMMITMENT
We will collectively build it together and choose to go in a direction that encompasses the diversity of the national network.

WE ARE ALL TIRED OF BEING THE BEST KEPT SECRET.
This is our catalyst moment for profound re-invention
Stay Connected
Search NIST MEP or NIST MEP

VISIT OUR BLOG!
http://nistmep.blogs.govdelivery.com

Get the latest NIST MEP news at:
www.nist.gov/mep
Trends in Economic Development Impacting the MEP System

Dan Berglund, SSTI
Trends in Economic Development: Their Impact on the MEP System

Presentation by:
Dan Berglund
September 14, 2016
Overview

- Economic Environment
  - Unstagnating wages?
  - Income inequality
  - Economic anxiety
  - Manufacturing’s importance in the economy

- Manufacturing’s hot– for now

- State environment

- What state leaders are saying

- Opportunities/challenges for manufacturing

- MEP position
Unstagnating wages?

- The median household income was $56,500 in 2015, up from $53,700 in 2014, but still down from $57,724 in 2000.
  - Marks the first increase in median income since 2007, the year before the Great Recession started.
- 30-year-olds today make around the same as 30-year-olds in 1984, according to Center for American Progress report.
  - Even though they are 50 percent more likely to have finished college and economy is 70 percent more productive.
Income inequality

Middle-income Americans are no longer in the majority...

Adult population by income tier (millions)

<table>
<thead>
<tr>
<th>Year</th>
<th>Middle</th>
<th>Upper</th>
<th>Lower</th>
</tr>
</thead>
<tbody>
<tr>
<td>1971</td>
<td>80.0</td>
<td>51.6</td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>120.8</td>
<td></td>
<td>121.3</td>
</tr>
</tbody>
</table>
Income inequality

... and share of aggregate income held by middle-income households has plunged

% of U.S. aggregate household income

- Upper: 49 to 10
- Middle: 43 to 29
- Lower: 9

1970 - 2014
US Econ Confidence Index

U.S. Economic Confidence Index -- Weekly Averages Since January 2015

Latest results for week ending Sept. 11, 2016

Gallup U.S. Daily tracking

GALLUP
Percentage of Americans losing sleep over their financial situation

- 32% in May 2016
- 28% in Sept 2015
Manufacturing’s importance

- Employs approximately 12.3 million people
- Helped lead the economic recovery and out of the Great Recession
- Average wages of nearly $65,000
  - 21% higher than the average for all industries
- 33% of manufacturing jobs held by minority workers
- Accounts for 18% of employment in rural areas vs. 8% of metro employment
- More than 75% of private sector R&D performed by manufacturers
Manufacturing employment slows

Monthly change in the manufacturing sector employment in the United States from August 2015 to August 2016 (in 1,000)

Source:
Bureau of Labor Statistics
© Statista 2016

Additional Information:
United States; Bureau of Labor Statistics; August 2015 to August 2016; 16 years and older
Mfg a popular policy prescription

- Above average wages that help support middle class
- Can be an economic pathway for those not going to college
- It’s creating jobs
- However…
  - State economic development policy goes in cycles
  - Down cycle for manufacturing likely to occur when/if:
    - Next big thing presents itself
    - Something else solves the first three bullet points
    - Major job losses occur in manufacturing
Focus group

- Innovation—65% positive; 3% negative
  - Necessary
  - Creative
  - Technology
  - Research
  - Creativity
  - Progress
  - New
  - Advancement
  - Growth
Focus group

- Entrepreneurship—49% positive; 20% negative
  - Money
  - Own boss
  - Risk takers
  - Brave
  - Owning own company
  - Freedom
  - Risky
  - New companies
Focus group

- Technology – 40% positive; 15% negative
  - Electronics
  - Internet
  - Computers
  - New ideas
  - Money
  - Software
  - Improving life
  - Progress
Focus group

- Manufacturing – 23% positive; 33% negative
  - China
  - Waning
  - Hard work
  - Lay-offs
  - Foreign
  - Overseas
  - Pollution
  - Blue collar
Perception problems

- Only 37% of parents would “encourage my child to pursue a career in manufacturing,” according to Deloitte and The Mfg Institute.

- 66% cited worries about job security and stability as concerns about mfg as career path.

- For 19-33 year olds, manufacturing came in seventh of seven industries they would prefer to enter if they were beginning their career today.
Preparing for transition/campaign

- Listen to what candidates are saying
  - What are their priorities?
  - How does your work fit those priorities?
- Clear articulation of work and the impact it is having (both data and anecdotally)
- Meet with candidates, policy advisors & their friends
- Allies meet with candidates, policy advisors & friends
- Recommendations for change/improvement
- Suggestions for people on transition teams & Admin
Preparing for transition/post-elect

- You or allies meet with policy advisors or transition teams set up for individual agencies
- Expect there will be new strategic plans/visions developed for economic development
  - Participate in the process
  - Provide information throughout the process
- Different people throughout the process
  - Campaign staff
  - Transition team
  - First year appointments
State budget problems

- State general revenue funds finally surpassed FY2008 levels, but...
- 29 states are still below the 2008 levels
- Could indicate that NASBO projection of 2.5% increase in spending for FY2017 overly optimistic
- States cutting spending midyear per NASBO:
  - 2014– 8
  - 2015– 14
  - 2016-- 18
State Funding for Econ Dev

State Funding Allocated to Economic Development

Billions

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Funding (Billions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY2007</td>
<td>$6.8</td>
</tr>
<tr>
<td>FY2008</td>
<td>$8.5</td>
</tr>
<tr>
<td>FY2009</td>
<td>$8.0</td>
</tr>
<tr>
<td>FY2010</td>
<td>$8.3</td>
</tr>
<tr>
<td>FY2011</td>
<td>$6.5</td>
</tr>
<tr>
<td>FY2012</td>
<td>$6.3</td>
</tr>
<tr>
<td>FY2013</td>
<td>$6.6</td>
</tr>
<tr>
<td>FY2014</td>
<td>$6.8</td>
</tr>
<tr>
<td>FY2015</td>
<td>$7.1</td>
</tr>
<tr>
<td>FY2016</td>
<td>$7.0</td>
</tr>
<tr>
<td>FY2017</td>
<td>$7.2</td>
</tr>
</tbody>
</table>
Total State Expenditures by Fiscal Year (2013-2017)

- FY2013: $6.63B (1.8% Δ)
- FY2014: $6.75B (5.4% Δ)
- FY2015: $7.12B (1.4% ▼)
- FY2016*: $7.02B (2.9% Δ)
- FY2017**: $7.22B

* Appropriated  ** Proposed
Top commercialization exec of Texas cancer institute indicted for unethical grant to pharma company—ABC News

Conflicts of interest pervasive on California stem cell board—LA Times

Texas Governor’s Startup Fund is Not All It Seems—Associated Press
Examination of tax incentives

- ME– legislature considering a regular six year evaluation program proposed for all tax-oriented economic development policies
- MA– Legislation to allow state auditor access to business tax returns for the purpose of auditing tax expenditures
- NJ– legislation introduced to require a regular review of corporate tax incentives’ effectiveness
- OK– Speaker of the House, ”It’s time to being making those decisions [tax credits, incentives and exemptions] based on reliable evidence and which incentives have the greatest immediate and long-term results.”
State line items for MEP centers

- Direct line items in:
  - AL, AR, CT, FL, ID, IL, MA, MT, NY, SC, VT, VA
  - Line items added in recent years in:
    - FL and IL
  - Line items eliminated in recent years in:
    - KS, PA and WV
  - Line item threatened this year but retained:
    - CT
Mfg as a target for states
**State Econ Dev Leaders**

- June 2016 – Nashville, TN
- Economic Development Leaders Roundtable from 18 states

<table>
<thead>
<tr>
<th>Challenges</th>
<th>Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Rapid changes in the manufacturing sector</td>
<td>• Partnering with MEP staff to conduct business visits and serve as an early warning system</td>
</tr>
<tr>
<td>• Limited resource to provide financial assistance to existing manufacturers</td>
<td>• Tapping into funds available for proactive training through the WIOA</td>
</tr>
<tr>
<td>• Rising workforce challenge as manufacturers use outsourced workers (through staffing agencies) and utilize temp-to-hire practices</td>
<td>• Advocating for adoption of more flexible definitions of “employee” and “new jobs”</td>
</tr>
<tr>
<td></td>
<td>• Providing capital expenditure grants to existing companies</td>
</tr>
<tr>
<td></td>
<td>• Educating legislatures on the multiplier effect of manufacturing</td>
</tr>
</tbody>
</table>
Challenges SSTI members cite

- Defining our narrative
- Measuring impacts
- Rural/urban divide
- Inclusion issues
Uncertainty on federal level

- Presidential race
- Movement on 1:1 matching
Opportunities/challenges for mfg

- Democratization of mfg w maker spaces
- Manufacturing USA
- Ongoing workforce challenges
- New technologies and translating their relevance to SMEs
Preparing for tech changes

- 14.3 percent of MEP clients in the MEP survey list technology needs as one of the top three challenges they face

- **2014 Georgia Manufacturer Survey**
  - 5.8 percent indicated they were using additive manufacturing
  - 3.8 percent reported that they planned to use it
Concerns about tech and jobs

- About 1 in 8 workers in April 2015 survey concerned that in the next five years their job could be replaced by technology.

- Among workers making less than $30,000 per year, 25 percent concerned their job could be replaced by technology in the next five years.

- One fifth of those with a high school degree or less are afraid of losing their job to a robot.
State reactions to MEP

- Manufacturing a way to address income inequality and education pay differentials
- Policymakers better understanding of manufacturing but influenced by voters
- Desire for MEP to play a broader role in addressing manufacturing issues
- Match issues identified as an obstacle for MEP centers playing a bigger role
- Recompetition has provided a means of opening new dialogues and encouraging alignment w’ state
MEP Position

- Opportunities to build on the foundation of MEP’s success: doing good work for individual companies
  - Leveraging outreach to state/local stakeholders that was made as part of the recompetition
  - Remaking MEP’s image as more than lean
  - Trusted credible results
  - Contact with small manufacturers
For more information, contact:

Dan Berglund
614.901.1690
berglund@ssti.org

To sign up for SSTI Weekly Digest go to:
http://www.ssti.org
Morning Break
MEP Strategic Plan 2017-2022

Vickie Wessel, NIST MEP Advisory Board Chair
Dave Cranmer, NIST MEP
Agenda

• Review of Current Strategic Objectives
• Environmental Changes and Major Challenges
• Review of Accomplishments from 2012-16
• Review of progress since May
• Identify critical questions and process going forward
ENHANCE COMPETITIVENESS

Enhance the Economic Competitiveness of U.S. Manufacturers

STRATEGIC OBJECTIVES

– Deliver services that create value for all manufacturers, particularly focusing on small and mid-sized (SMMs)
– Enable Centers to make new manufacturing technology usable by U.S.-based SMMs
– Develop “Data as a Service” for competitive advantage
CHAMPION MANUFACTURING

Serve as a Voice to and a Voice for Manufacturers

STRATEGIC OBJECTIVES

– Champion the importance of SMMs and ensure their inclusion in the economic competitiveness policies and programs of the U.S. government

– Increase role of National and Center Boards
SUPPORT PARTNERSHIPS

Support National, State and Regional Manufacturing Eco-systems

STRATEGIC OBJECTIVES

– Provide Centers with local flexibility and adaptability to operate based on regional priorities and client needs
– Support national policy goals
DEVELOP CAPABILITIES

Develop MEP’s Capabilities as a Learning Organization and High Performance System

STRATEGIC OBJECTIVES

– Promote System Learning
– Evolve MEP Performance System
– Continue administrative reforms
Environmental Changes

• New MEP senior management team
  – Director: Carroll Thomas (April 2015)
  – Deputy Director: Dave Cranmer (March 2016)
  – Executive Officer: Chancy Lyford (November 2016)
  – Center Operations Director: Margy Phillips
  – Chief Economist: Ken Voytek

• MEP senior management elsewhere
  – Systems Operations: Mike Simpson to AMNPO (Dave Cranmer, Acting)
  – Partnership and Program Development: Mark Troppe to Senator Coons’ office (Dave Stieren, Acting)
  – Communications: Kari Reidy to NIST OCLA (Zara Brunner, Acting)
Environmental Changes (2)

• Completion of re-competition
  – Three of four rounds complete
  – Fourth round under way

• Reallocation of funds to the centers with temporary cost share relief
  – Center funding formula
  – All Centers raised to a minimum level
  – Cost share re-set at 1:1 for the 1st 3 years of new awards
Environmental Changes (3)

- Very high level of engagement by this Board
  - Tech Acceleration
  - Board Governance
  - Learning Organization
Major Challenges Ahead

• Not in our control
  – New Administration
  – Legislation on cost share
  – Funding to provide consistent resizing of the Centers
  – Board turnover

• In our control
  – Branding – messaging about the network for manufacturers and funders
  – Implementation of new performance metrics system
Questions from the Board

• Review of strategic accomplishments
• What has been communicated to the Centers about the strategy?
• Is the strategy reflected in the re-competition proposals?
• What are common sense revisions to the strategy?
Responses to the Board’s Questions

- Strategic accomplishments
  - Review today

- Communication to Centers
  - Engage with the Foundation for Manufacturing Excellence to communicate status

- Strategy reflected in re-compete proposals
  - Have MEP staff re-examine strategic plans in the re-competition proposals

- Common sense revisions
  - Addressed later today
Other Questions that Have Arisen

• Engagement with Rural firms
• Engagement with Very Small firms
• Engagement with the States
Other Questions that Have Arisen

- Engagement with Rural firms
- Engagement with Very Small firms
- Engagement with the States
Responses to Other Questions

• Start-ups, Rural and Very Small
  – SURVS work group in place
  – Mining of survey data on rural and very small to look at history and trends

• State Engagement
  – Engage SSTI to look at the status of current engagement and recommend best practices
Selected NIST MEP Activities and Accomplishments 2012-16
# Enhance Competitiveness

<table>
<thead>
<tr>
<th>STRATEGIC OBJECTIVES</th>
<th>2012-16 ACTIVITIES</th>
</tr>
</thead>
</table>
| Deliver services that create value for all manufacturers, particularly focusing on SMEs | Small, rural, emergent, underserved clients are emphasized in the re-competition FFOs.  
System-wide deployment of ExporTech, Technology Scouting and Technology-driven Market Intelligence |
| Enable centers to make new manufacturing technology, techniques and processes usable by SMEs | Developed and are deploying seminar series/training that educates both manufacturers and MEP centers on various emerging technologies and industries  
- Additive (with CMTC/UC-Irvine)  
- Digital (with DMDII)  
Embedding MEP Centers in NNMI Institutes |
| Develop “Data as a Service” for competitive advantage | Cohort analysis  
Manufacturing App |
## Champion Manufacturing

<table>
<thead>
<tr>
<th>STRATEGIC OBJECTIVES</th>
<th>2012-16 ACTIVITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advocate for Importance and inclusion of SMEs into economic competitiveness policies and programs of the U.S. government</td>
<td>Manufacturing Day success!!</td>
</tr>
<tr>
<td></td>
<td>Branding project begun May 2016 with goal to launch co-created brand for network in conjunction with National Summit</td>
</tr>
<tr>
<td></td>
<td>Supply chain (e.g., M-TAC)</td>
</tr>
<tr>
<td>Increase role of national and center boards</td>
<td>With guidance and support from the Board</td>
</tr>
<tr>
<td></td>
<td>• Initiated quarterly communication from the Advisory Board to local Boards</td>
</tr>
<tr>
<td></td>
<td>• At least one Advisory Board meeting/year includes local boards</td>
</tr>
<tr>
<td></td>
<td>• NIST MEP developed and is implementing uniform processes and controls for ensuring composition, engagement and accountability of Centers’ Boards of Directors</td>
</tr>
<tr>
<td></td>
<td>Local Board sign-off on applications in re-compete</td>
</tr>
</tbody>
</table>
## Support Partnerships

<table>
<thead>
<tr>
<th>STRATEGIC OBJECTIVES</th>
<th>2012-16 ACTIVITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide centers with local flexibility and adaptability to operate based on regional priorities and client needs</td>
<td>Re-competition allowed awardees to increase the quality and number of partners participating in their regions</td>
</tr>
<tr>
<td>Multiple interagency activities and programs – i6, AMJIAC, MIIA, IMCP – encouraged the development of new and improved partnerships at the local and regional level</td>
<td></td>
</tr>
<tr>
<td>Support national policy goals</td>
<td>Participation in multiple White House initiatives re: Makers, Manufacturing Day, etc.</td>
</tr>
<tr>
<td>DOD and DOE see value via NNMI Institutes</td>
<td></td>
</tr>
<tr>
<td>• MOUs set the framework for collaborations</td>
<td></td>
</tr>
<tr>
<td>• Embedding MEP Center personnel in the Institutes will define the specifics of each Institute’s collaborations</td>
<td></td>
</tr>
<tr>
<td>• DMDII pilot demonstrating how Centers and an Institute can work together across regions</td>
<td></td>
</tr>
<tr>
<td>CNMI and similar eco-system building efforts leading to broad regional partnerships around technologies or industries</td>
<td></td>
</tr>
</tbody>
</table>
## Develop Capabilities

<table>
<thead>
<tr>
<th>STRATEGIC OBJECTIVES</th>
<th>2012-16 ACTIVITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Promote system learning</td>
<td>First National Summit since 2012 planned for 2017</td>
</tr>
<tr>
<td></td>
<td>Regular update meetings</td>
</tr>
<tr>
<td></td>
<td>Regular Board communications</td>
</tr>
<tr>
<td>Continue administrative reforms</td>
<td>New senior management team in place with internal reorganization to better support Centers to take effect 2 Oct</td>
</tr>
<tr>
<td></td>
<td>Three of four rounds of re-competition are complete. Fourth round underway with expected start dates of 1 Apr 2017.</td>
</tr>
<tr>
<td></td>
<td>Many administrative processes reviewed and simplified, e.g., five-year cooperative agreements, reduced reporting requirements</td>
</tr>
</tbody>
</table>
ENHANCE COMPETITIVENESS

Enhance the Economic Competitiveness of U.S. Manufacturers

STRATEGIC OBJECTIVES

– Deliver services that create value for all manufacturers, particularly focusing on small and mid-sized (SMMs)
– Enable Centers to make new manufacturing technology usable by U.S.-based SMMs
– Develop “Data as a Service” for competitive advantage
CHAMPION MANUFACTURING

Serve as a Voice to and a Voice for Manufacturers

STRATEGIC OBJECTIVES

– Champion the importance of SMMs and ensure their inclusion in the economic competitiveness policies and programs of the U.S. government

– Increase role of National and Center Boards
SUPPORT PARTNERSHIPS

Support National, State and Regional Manufacturing Eco-systems

STRATEGIC OBJECTIVES

– Provide Centers with local flexibility and adaptability to operate based on regional priorities and client needs

– Support national policy goals
DEVELOP CAPABILITIES

Develop MEP’s Capabilities as a Learning Organization and High Performance System

STRATEGIC OBJECTIVES

– Promote System Learning
– Evolve MEP Performance System
– Continue administrative reforms
Strategic Plan – Next Steps
Strategic Plan Activities through January

- Re-engagement with Centers

- Review and compare re-compete proposals for Center strategies with current strategic objectives

- Regional calls with local boards

- Re-engage with Center workgroup

- Re-engage with MEP Staff
MEP Overview

January
Draft Implementation Plan

February-March
Revise Implementation Plan

March-April
Final Implementation Plan

2017-2022
Execute Plan

January
Review by Center Workgroup

Review/Discussion of Implementation Plan with Advisory Board

April-May
Review/Discussion with Centers at System Meeting

May
Endorsement by Advisory Board
Implementation Plan - Structure

GOAL

Strategic Objective

Desired Future State

Strategic Activities

Indicators of Success

Action Plans
Strategic Objectives Questions

• Are these the right objectives, given the environment and challenges?
  – Have we included objectives that shouldn’t be here?
  – Have we missed anything that should be here?

• Is this process adequate?
  – For collecting the needed input?
  – For developing the implementation plan?

• What are common sense revisions, given the environment and challenges?
Board Discussion
Promoting, Managing and Tracking Connections between SMMs and NIST Labs through MEP Centers

Jeff Wilcox, NIST MEP Advisory Board Vice Chair
Clara Asmail, NIST MEP
MEP Advisory Board on Technology Acceleration Implementation Plan

Recommendation on Setting Priorities:

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.
Connections are underway with NNMI Institutes and DOE Labs

- NIST MEP is funding the embedding of MEP Center staff at 5 NNMI Institutes to facilitate the transition of their technological innovations and workforce tools to SMMs.

- Already collaborating with DOE Labs to raise awareness among MEP Centers in CO, OH, VA, GA and MI of their expertise, capabilities and importantly: “how” to work with them.

- Collaborating with National Security Campus to develop database of engineer retirees for matchmaking with MEP-SMM projects.

- Partnering with DOE Small Business Voucher Program to provide MEP assistance to SMMs during proposal preparation, and to voucher winners with commercialization support.
Manufacturing Extension Partnership (MEP) Strategic Pillars, 2014-2017

**ENHANCE COMPETITIVENESS**

Enhance the competitiveness of U.S. manufacturers, with particular focus on small and medium-sized companies.

**CHAMPION MANUFACTURING**

Serve as a voice to and a voice for manufacturers in engaging policy makers, stakeholders, and clients.

**SUPPORT PARTNERSHIPS**

Support national, state, and regional manufacturing eco-systems and partnerships.

**DEVELOP CAPABILITIES**

Develop MEP's capabilities as a learning organization and high performance system.
ENHANCE COMPETITIVENESS

Enhance the competitiveness of U.S. manufacturers, with particular focus on small and medium-sized companies.

Connect NIST Laboratory support in measurement science, standards and technology to SMMs when and where appropriate
→ in order to enhance their competitiveness
Connect MEP Centers with NIST Laboratories to bring their expertise to SMMs and the voice of SMMs to the NIST R&D programs → in order to build enduring partnerships.

Support national, state, and regional manufacturing eco-systems and partnerships.
DEVELOP CAPABILITIES

Develop MEP’s capabilities as a learning organization and high performance system.

Connect MEP Centers with NIST’s world-class measurement science, standards and technology solutions → in order to build a learning, high-performing organization
Responsive Connections

**SMM or Center originates connection to NIST Lab**

**Inquiries from Centers on behalf of SMM clients for NIST Lab support/consultation**

NIST MEP staff will:
1. identify right NIST Lab resource(s),
2. follow-up on project,
3. involve Center staff for learning and complementary support.

**Inquiries from SMMs direct to NIST/NIST MEP**

In responding to an SMM’s need, NIST Lab taps MEP complementary resources.
Proactive Connections
NIST Lab or NIST MEP originates connection to SMM or Center

**Outreach from NIST Labs through Centers to SMMs**

NIST Lab leverages MEP network to communicate its R&D to SMMs

**Outreach from NIST Labs with SMMs to Centers**

NIST Lab collaboration with an SMM extends to include the local MEP Center

NIST MEP staff will:

1. identify NIST Lab research “right and ready” for transfer to SMMs or in need of SMM input/testing,
   or
2. identify NIST Lab collaborations with SMMs that may benefit from MEP support,

and then work with willing Centers
NIST Lab – MEP Connector Protocol

Tracking:
Number of connections
Outcomes from connections/projects
Breadth across NIST Labs & Centers
Process effectiveness
NIST Lab – MEP Connector Protocol

Promotion
NIST MEP in-reach to Labs through Liaisons at each OU

NIST MEP communications to: Centers, partners, public

Project Management

Responsive: Identify & actively track inquiries from public, through Centers for NIST Lab support in metrology, etc. until completed and track outcomes

Proactive: Identify Lab programs, “MEP-ready NIST technologies” ~right/ready for SMM adoption, manage appropriate outreach through Centers to SMMs; track resulting projects for outcomes
Connections Tracking Database

Capture projects from all scenarios in one system that will allow:

- Project management from initiation to satisfactory completion
- Analysis of outcomes from outreach “campaigns” to allow:
  - Redesign of outreach and project management

Challenges

- Connector program evaluation may not be sourced from impacts from MEP projects because difficult to attribute to connection to Lab vs other MEP services
- PR for some successful projects may be impeded by Center-client confidentiality
- Collectively learn to identify opportunities with SMMs that could be addressed with NIST Lab resources, i.e., what is a “project?”
SMM Connector

**MEP-Lab-SME interaction**

<table>
<thead>
<tr>
<th>PROJECT TITLE</th>
<th>MEP Center contact</th>
<th>status</th>
<th>Connection Scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colorado metal additive project - Scheduling Request for March 3</td>
<td>Tom Bugnitz, Manufacturer’s Edge</td>
<td>confirmed connection, work progressing</td>
<td>Inquiry from Center (for SMM) thru MEP ... to Lab</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name/contact of caller (if externally initiated)</th>
<th>NIST Lab contact, phone and email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heidi Hostetter, Fauston Tool: Dr. Aaron Stebner, CO School of Mines</td>
<td>Alkan Dommez, phone and email</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SMM - company name</th>
<th>SMM POC name</th>
<th>SMM POC email</th>
<th>SMM POC phone number</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEP Center</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Called Party (non/NIST) POC (name, phone, email)</th>
</tr>
</thead>
</table>

**Description**

From: Tom Bugnitz <tombugnitz@manufacturersedge.com>

Sent: Thursday, January 07, 2016 11:41 PM

To: Dommez, Alkan

Cc: Thomas, Caroll A, Thompson, Gary, Heidi Hostetter

Subject: Colorado metal additive project

Dear Dr. Dommez,

By way of introduction, I run the Colorado NIST MEP center, and we met briefly during a tour of your lab in late July this year. At that time I was in the process of helping to pull together a consortium of companies and academia in Colorado to pursue a major effort in 3D metal additive manufacturing.

I am happy to report that we were successful in securing $2.5M in funds from the state of Colorado, and another $1.5M from industry to begin this effort. Below my signature is a very brief description of our project proposal. The equipment and general approach we are using is currently part of our project proposal. We will begin by making test parts with a Concept Laser M2G (using Dura Laser machine using Inconel 718, with metallurgical analysis being done using a Digital X-ray Diffraction Microscope and other tools at the Colorado School of Mines. In parallel Lockheed Martin will be using a beam technology to produce titanium parts given us a broader look in part characteristics and manufacturing methods.

We are already making test parts, and are on the way to getting results. As we continue to develop this project, I look forward to hearing how your company is doing and having you visit our lab to talk in more detail about our project. Of interest would be a discussion on how you can share our data, and investigate whether there are any avenues for collaborating in this effort. I believe that leveraging our efforts and those of NIST would help us create a world-leading knowledge base for American Manufacturers.

Thank you for your interest, and I look forward to hearing from you soon.

Tom Bugnitz

**Outcome**

**SAMPLE of Responsive Connection**
Sampling of pre-existing Connections made between NIST Labs and MEP, through Centers to SMMs

**SMM – NIST Lab & MEP – 3rd Party - Center**

**Topic:** Cyber-physical security: 3D Printing anti-counterfeiting
**Company:** Sharon Flank, InfraTec
**NIST Contact:** Celia Paulsen, ITL Computer Security Division

**Project Background:** Company and NIST Lab corresponded regarding vision for embedding chemical “fingerprint” layers for anti-counterfeiting additively manufactured parts. Company came to NIST Vendor Day and learned about MEP.

**Follow-up work:** NIST MEP introduced company to funding/technical support opportunity with Penn State and America Makes which resulted in award to further their concept. MEP Center is currently exploring ways to assist company in commercialization of outcomes from the research project.

**“vignettes”**

**Center - SMM – NIST MEP – NIST Lab**

**Topic:** Colorado Metal Additive Manufacturing project
**Company:** Heidi Hostetter, Fauston Tool
**NIST Contact:** Alkan Donmez, EL Intelligent Systems Division

The Colorado 3D Metal Additive Center, including the CO MEP Center and several other Colorado industry partners, will be focused on understanding the characteristics and performance of 3D-printed advanced metal alloys used in advanced manufacturing industries. The group will build specified test parts at Lockheed Martin and Fauston Tool, analyze the characteristics of those parts at a microscopic level at the Colorado School of Mines, and analyze the impact of the various manufacturing processes and conditions used to create the parts. They are collaborating with NIST ISD to harmonize on data structures and build parameter characterization.

**NIST Lab - NIST MEP – Center - SMMs**

**Topic:** Collaborative Robotics and Flexible Automation Workshop
**Company:** Various from the mid-atlantic region
**NIST Lab Contact:** Elena Messina, EL Intelligent Systems Division

**Project Background:** EL and NIST MEP partnered on October 7, 2015 to conduct the Collaborative Robotics Workshop 2015: Advantages and Challenges for Small Manufacturers. This workshop was attended by 12 representatives from 9 MEP Centers and 28 representatives of manufacturing companies and systems integrators located in seven states, including MD, NY, OH, PA, TX, VA, and WV. A final public report with key findings and recommendations is being finalized.

**SMM – Center - NIST MEP - Lab**

**Topic:** Calibration of UVC Sensors
**Company:** Jay Silverman, Solar Light Company, Inc.
**NIST Lab Contact:** Tom Lucatorto, PML Sensor Science Division

**Project Background:** MEP Center, DVIC, identified a client's need for calibration service and requested a referral from NIST MEP for an appropriate contact within the NIST Labs.
Connector Protocol Rollout Plan (1/4)

- Develop **draft** Connector Protocol processes
- Develop draft Connector Protocol Projects Database
  - Communicate vision and strategy internally within NIST MEP and refine as necessary (Roundtable, QIM) and among Lab Management
  - Stressing that success of this protocol depends on each NIST MEP “coach” of projects to actively check-in on connections for viability, reinforcements needed, outcomes, etc.
  - Samm Bowman to be Administrator of Connector Database
Connector Protocol Rollout Plan (2/4)
Infrastructure Building (near to mid-term)

• Communicate strategy to key stakeholders
  – NIST OU Directors
  – Center Directors

• Identify OU Liaisons and obtain commitments

• Collaborate with Comm Team to build out an MEP webpage, and place a link to this webpage from “How to Work with NIST” pages

• Develop ‘vignettes’ of pre-existing Connections for in-reach to OUs and out-reach to Centers

• Provide OU Liaisons with project vignettes and begin steps toward identifying early inventory of Lab projects that are right/ready: “MEP-ready NIST technologies”
Connector Protocol Rollout Plan (3/4)  
Ongoing:

• Work with NIST Labs to:
  – identify legacy/current Lab-SMM collaboration projects that could benefit from MEP Center support, and
  – identify potential technical program areas within NIST as: MEP-ready NIST technologies

• Develop and disseminate through Centers MEP-ready NIST technologies in appropriate format(s), i.e. Technology Sheets, workshops, web collaboration portals, or other outreach efforts

• Maintain ongoing effort to reach out to Centers to promote Connections and encourage field staff to identify client projects that might benefit from NIST Lab partnering
  – Develop mechanism(s) to inform/update Centers on MEP-ready NIST technologies in ongoing, as-needed fashion
  – Regularly update MEP network on outcomes of Connections (to spark additional Center activity)
Connector Protocol Rollout Plan (4/4)

Continuous Improvement:

- Assess Center:
  - Engagement with SMMs that are NIST Lab partners
  - Facilitating SMM engagement with NIST Labs (tech transfer through collaboration, consumption of NIST advice, data, products, etc.) and complementary MEP services
  - Awareness building within their client base of NIST Lab

- As activities build, continuously track the various projects to monitor outcomes as well as to identify opportunities for new program development

- As Connection projects are identified and managed, NIST MEP staff will refine data types required for collection and analysis beyond the current draft database to make available as new activities result from promotion.
Qs re Connector?
Lunch Break
MEP Learning Organization

Carolyn Cason, NIST MEP Advisory Board (Absent)
Mary Paceli, NIST MEP
Agenda

• Activity plan and progress to date:
  – Survey
  – Analysis

• Survey review
  – Questions asked, who responded
  – Summary of data
  – Comments?

• What’s next
  – Webinar-based Focus groups with Center Directors
  – Timeline
# Charter: Advisory Board Committee on MEP Learning Organization

## Purpose:
To provide Board guidance to shape the development of an integrated MEP Learning Organization.

## Objectives:
The Advisory Board Committee on Learning Organization will:
- Define the target audience
- Identify needs – needs analysis
- Develop the key components of a long term strategy to include:
  - MEPU-type system
  - Network Summits and Updates
  - Working Groups and Communities of Practice
  - Define Metrics
- Prioritize key activities
- Identify resource needs

## Schedule:
- Launch Committee initiate first meeting: May 5, 2016
- Confirm Charter and present draft to Advisory board: May 19, 2016
- Survey: July-Aug 2016
- Survey Analysis: August 2016
- Focus group sessions: Oct. 2016

## About Learning Organization
Establish a mind set in the network to contribute to the expansion of shared knowledge for the continuous improvement of centers in their service to clients.

Learning Organization: Culture, system, Sharing of knowledge across the network

## MEP Team Contacts:
- Mary Ann Pacelli  NIST MEP
- Jeff Lucas       NIST MEP
- Dileep Thatte    NIST MEP
- Megan Spangler  NIST MEP

## Board Committee Members:
- Carolyn Cason, Chair
- Kathay Rennals
- Tommy Lee

## Opportunities for Center Input:
- Survey
- Focus groups (via webinars)
- Center Leadership Team
- Action planning team -- TBD

## Critical Issues:
- Center input to shape update meetings and National summit is critical
- To re-launch MEPU type system—will require outside resources. Need to consider timeline for inviting consultants
Learning Organization

• Who is it for?
  – Center Staff to develop skills and competencies to support their business models
    • Internal operations
    • Business Services – new services, refreshing current services
    • Center Staff development: recruitment, retention, succession planning
# Advisory Board Committee MEP Learning Organization
## Proposed Activity Timeline
Updated August 26, 2016

### Plan

<table>
<thead>
<tr>
<th>Task/Activity</th>
<th>July</th>
<th>Aug</th>
<th>Sept</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Jan 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survey out</td>
<td>July 5-15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>July 18-Aug 8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Survey Analysis</td>
<td>July 18-22</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>August 10-19</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Committee mtg to review analysis</td>
<td>July 25 week</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>August 26</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Focus group meetings</td>
<td>Aug-1-19</td>
<td>Sept. 26-Oct 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RMs and Working Groups</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RMs to ask for CD rep from each region to center leadership team (CLT)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Focus group analysis</td>
<td>Aug-22-26</td>
<td></td>
<td>Oct. 11-18</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Committee meeting</td>
<td>Aug 29 week</td>
<td></td>
<td>Oct. 21</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Draft Plan start</td>
<td>Aug 22-26</td>
<td>Sept 6-9</td>
<td>Oct. 25</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Present update to Advisory board</td>
<td>Sept 15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Draft plan to Board Committee</td>
<td>Sept 19-week</td>
<td></td>
<td>Nov 7 week</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plan input from CLT</td>
<td></td>
<td></td>
<td></td>
<td>Mid Nov</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continue plan development</td>
<td></td>
<td></td>
<td>Oct</td>
<td>Nov</td>
<td>Early Dec</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Committee meeting—review plan draft</td>
<td></td>
<td></td>
<td></td>
<td>Mid-Oct</td>
<td>Late Nov</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CLT meeting for review</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Early Dec</td>
<td></td>
</tr>
<tr>
<td>Final plan with prioritization</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Dec</td>
<td>Early Jan</td>
</tr>
<tr>
<td>Present final plan to full Advisory Board</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Jan board meeting</td>
</tr>
</tbody>
</table>

### Actual
Survey Methodology:

- Survey was distributed by FME via their email distribution
  1335 individuals on the list
  emailed 3 times: July 15, 22, 27
  also included in MEP weekly email July 25
- Email distribution is to Center Directors and other Center Staff
  that are FME members
- Total number of respondents was 42
- Cannot determine number of discrete center responses
MEP Learning Organization Survey

Respondents by Position

- Center Director: 33% response!
- Growth Advisory/Sales
- Delivery Staff
- Combination; Sales/Delivery
- Center Operations

8
14
11
5
4
Question 2: What development content would be most helpful to you? Select all that apply.
## MEP Learning Organization Survey

### Development Needs: Client Operational Excellence

<table>
<thead>
<tr>
<th>Category</th>
<th>Center Director (N = 14)</th>
<th>Growth Advisor/Sales (N = 5)</th>
<th>Combo: Growth/Delivery (N = 11)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tech Scout</td>
<td>5</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Workforce</td>
<td>7</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>ISO</td>
<td>6</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Six Sigma</td>
<td>5</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Growth</td>
<td>10</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Lean</td>
<td>10</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

**Other**
- Culture Change
- Leadership/Supervisory
- Finance
- Organizational Development
- Supply Chain
- Lean Six Sigma
- Commercialization Services
- Sustainability
- Project Management
# MEP Learning Organization Survey

## Development Needs: Client Top Line Growth

<table>
<thead>
<tr>
<th>Category</th>
<th>Center Director (N = 14)</th>
<th>Growth Advisor/Sales (N = 5)</th>
<th>Delivery (N = 4)</th>
<th>Combo: Growth/Delivery (N = 11)</th>
<th>Center Ops (N = 8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply Chain</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>TDMI</td>
<td>5</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Sales/Marketing</td>
<td>6</td>
<td>1</td>
<td>2</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>CEO Consulting</td>
<td>8</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Export</td>
<td>6</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Market Diversification</td>
<td>6</td>
<td>2</td>
<td>3</td>
<td>7</td>
<td>3</td>
</tr>
</tbody>
</table>

**Other**
- New Product Development
- Product Design
- Prototyping
- Strategic Planning
- Capital Markets
- CoreValue
- Evolving Mfg. Trends
- Strategy
- Innovation
- Leadership Development
MEP Learning Organization Survey

Development Needs: Center Operations

<table>
<thead>
<tr>
<th>Category</th>
<th>Center Director (N = 14)</th>
<th>Growth Advisor/Sales (N = 5)</th>
<th>Delivery (N = 4)</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Succession Planning</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>CRM</td>
</tr>
<tr>
<td>Center Service Expansion</td>
<td>8</td>
<td>3</td>
<td>3</td>
<td>Content Mgmt Software</td>
</tr>
<tr>
<td>Small/Rural Services</td>
<td>7</td>
<td>1</td>
<td>3</td>
<td>Project Mgt. Software</td>
</tr>
<tr>
<td>Business Development</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>Financial systems</td>
</tr>
<tr>
<td>MEP Operations</td>
<td>5</td>
<td>1</td>
<td>5</td>
<td>Inbound Marketing</td>
</tr>
<tr>
<td>Market Penetration</td>
<td>6</td>
<td>1</td>
<td>2</td>
<td>Impact maximization</td>
</tr>
<tr>
<td>Marketing</td>
<td>8</td>
<td>1</td>
<td>2</td>
<td>Contract management</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Financial management and</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>budgeting</td>
</tr>
</tbody>
</table>

Other:
- CRM
- Content Mgmt Software
- Project Mgt. Software
- Financial systems
- Inbound Marketing
- Impact maximization
- Contract management
- Financial management and budgeting
MEP Learning Organization Survey

Development Needs: Personal/Professional Development

Center Director (N = 14) | Growth Advisor/Sales (N = 5) | Delivery (N = 4) | Combo: Growth/Delivery (N = 11) | Center Ops (N = 8)

<table>
<thead>
<tr>
<th>Skill</th>
<th>Center Director</th>
<th>Growth Advisor/Sales</th>
<th>Delivery</th>
<th>Combo: Growth/Delivery</th>
<th>Center Ops</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finance</td>
<td>1 1 1 1 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project Management</td>
<td>7 2 4 2 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;Front of the Room&quot;</td>
<td>5 1 2 1 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technical Writing</td>
<td>1 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sales Skills</td>
<td>5 3 5 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consulting Skills</td>
<td>7 2 3 6 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Question 3: If you could improve your performance in two of the above areas, what would those be?

Note: Many respondents did not answer this item (only 36 choices out of a possible 84). Those choosing “Other” were largely one-off answers that were choices not presented in the previous questions, or were comments not responsive to the item.
Question 4: How do you prefer to participate in training/learning? Please rank order the following list.

Numbers represent the sum of respondents selecting the modality as either their 1st, 2nd, or 3rd choice.

- In-Person Classroom: 2
- Conference: 6
- On-line/Web-based: 15
- Self-Directed: 18
- On-line Discussion: 19
- In-Person Discussion: 10
Question 5: Do you believe that course/content final exams add to the credibility of training provided by Learning Organizations?

YES = 20

NO = 9
Question 6: How do you prefer course content/training be provided?

- By internal NIST MEP staff: 1
- By Center staff: 3
- By recognized third party provider: 5
- All of the above: 13
- Other: 5

4 of 5 respondents selecting “Other” mentioned “recognized experts”
Question 7: What resources do you currently use to improve your personal performance?
Question 8: What would make MEP a better Learning Organization?

- Standardized programs and methods: 5
- Workshops: 3
- More of what we have: 3
- Share best practices: 3
- Center staff development: 2
- Use of simulations: 1
- National conference: 2
- Certifications: 1
### Initial inventory of assets – internal at MEP

<table>
<thead>
<tr>
<th>Support Client Operation Excellence</th>
<th>What is Available from NIST MEP</th>
<th>Support Client Top Line Growth</th>
<th>What is Available from NIST MEP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lean</td>
<td>Lean Suite, Toyota Kata</td>
<td>Market Diversification</td>
<td>TDMI</td>
</tr>
<tr>
<td>Growth</td>
<td>TDMI</td>
<td>Export</td>
<td>ExporTech</td>
</tr>
<tr>
<td>Six Sigma</td>
<td>Six Sigma/Lean</td>
<td>CEO Consulting</td>
<td>None</td>
</tr>
<tr>
<td>ISO</td>
<td>ISO and other Certifications of various types of industries such as aerospace, food, etc.</td>
<td>Sales &amp; Marketing</td>
<td>A few centers have home-growth programs. Example: DVIRC, CMTC</td>
</tr>
<tr>
<td>Workforce</td>
<td>No specific workforce program available at MEP at this time.</td>
<td>TDMI</td>
<td>TDMI</td>
</tr>
<tr>
<td>Tech Scouting</td>
<td>Tech Scouting (TS)</td>
<td>SCO</td>
<td>SCO- Supply Chain Optimization</td>
</tr>
</tbody>
</table>
# Initial inventory of assets – internal at MEP

<table>
<thead>
<tr>
<th>Center Operations</th>
<th>What is Available from NIST MEP</th>
<th>Professional/Personal Development</th>
<th>What is Available from NIST MEP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marketing</td>
<td>None. A few centers have home-grown programs.</td>
<td>Consulting Skills</td>
<td>None</td>
</tr>
<tr>
<td>Market Penetration</td>
<td>None.</td>
<td>Sales Skills</td>
<td>Centers use commercially available program</td>
</tr>
<tr>
<td>MEP Operations</td>
<td>None</td>
<td>Technical Writing</td>
<td></td>
</tr>
<tr>
<td>Business Development</td>
<td>There is an informal program Dileep has developed and delivers.</td>
<td>“Front of the Room”</td>
<td>Program by Lise Stewart</td>
</tr>
<tr>
<td>Small/Rural Services</td>
<td>None</td>
<td>Project Management</td>
<td>Commercially Available programs and NIST has a program</td>
</tr>
<tr>
<td>Center Service Expansion</td>
<td>None</td>
<td>Finance</td>
<td>No formal program. As per, Maine MEP's request, Dileep has developed one which was delivered to them last year.</td>
</tr>
<tr>
<td>Succession Planning</td>
<td>Family Business advisor Program - Lise Stewart</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Discussion

Our first ‘thoughts’

• Some respondents identified needs for program that exist (lean…)
  – MEP may not be ‘promoting’ these to centers especially if there are new staff
  – Not sure if the request/need is to be sure it is still available (use it, want to continue)

• Interesting:
  – Q4—How do you prefer to participate in Training/Learning
    • High preference in Self-directed, On-line
  – Q7 – What resources do you currently use to improve your personal performance?
    • High preference in networking, workshops, with on line research
  – Need to get clarification on what is preferred. Need to get input on content aligned with various delivery options.
Next Steps

• Focus group discussions
  – With Center Directors
  – With Center Staff

• Goal
  – Gain clarification on responses
  – Begin to gather ‘inventory’ of what programs are at centers
Center Director Focus Groups

• Will schedule 3 or 4 1-hour webinars, Center Directors will be asked to join 1 (all will be the same)

• Suggested questions:
  – Clarification of needs for client services:
    • Operation excellence
    • Top Line Growth
  – Clarification of needs for Center Operations
  – Prioritization
    • What will give you biggest return in next 12 months
  – Are you interested in participating on an advisory team?
Looking ahead

What our planning will include (objectives from the Charter)

• MEP-U type System
  – What should the content be
  – How to make it available
  – How to sustain it
    • Resources – staff, contractors, partners (FME?), technology
    • Ongoing for new content

• Networking
  – Summits/conferences
    • Resources, content, follow-up
    • Evaluation of outcomes

• Continuous Learning: Communities of Practice, Working Groups
  – Guidelines for startup and maintenance
  – Resources
  – Evaluation of outcomes
• Discussion
• Questions
Wrap-up/Public Comments

- Reappointment of Board Officers
  - Chair
  - Vice Chair
- Discussion: Board Governance, Succession planning & Quorum
Thank You!

- Date of next board meeting:
  - February 2017 (proposed)

Stay Tuned: Optional for Board Members - Demo of Lockheed Martin’s Engage Platform