MAKING AN IMPACT ON U.S. MANUFACTURING

MEP Advisory Board Meeting

Dallas, TX

September 24, 2015

Meeting logistics

- Agenda
  - State of MEP
  - Trends, New Developments and the Road Ahead
  - Update On Board Subcommittee Work
  - MEP Competition
  - Discussion about MEP Strategic Plan
- All materials will be emailed next week
- Logistics

Welcome and Introductions

Vickie Wessel, MEP Advisory Board Chair

MAKING AN IMPACT ON U.S. MANUFACTURING

NIST MEP Update

Carroll Thomas, NIST MEP

Advisory Board Meeting Agenda

- Welcome
- Legislative Climate
- Important Points of Interest
- Message Clarification
- Updates in Center Director Leadership
- NIST MEP Deputy Director
- Vision for MEP

Legislative Climate

- New Federal Fiscal Year starts next Wednesday (?)

- House and Senate mark for MEP FY16 budget looks to stand at $130M for FY16

NIST MEP Appropriations History

	($ million)
FY 2010	$124.7
FY 2011	$128.4
FY 2012	$128.4
FY 2013	$120.0
FY 2014	$128.0
FY 2015	$130.0
FY 2016 (President's Request)	$141.0
(House & Senate Mark)	$130.0

NIST MEP FY 2016 Spend Plan

($ million)

Total Available Funds	$135.9[A]
Existing MEP Center Renewals	$103.8[B]
Additional MEP Center Funding	11.0
Centralized MEP System Support (Programmatic and Non-programmatic Contracts/Cooperative Agreements)	5.1
NIST MEP (Staff Labor, Benefits, Supplies, Travel, etc.)	10.7[C]
<u>NIST Overhead</u>	<u>5.3</u>
Total Planned Expenditures	$135.9

A. Assumes FY2016 House & Senate mark of $130M plus estimated FY2015 carryover and estimated prior year recoveries
B. Fully fund existing center cooperative agreements for a period of 12 months and extension funding due to re-competition
C. Assumes full NIST MEP Staffing

Legislative Climate cont'd

- Shutdown impact

  - 75% probability

  - Working with DOC to secure MFG Day

Legislative Climate cont'd

- ## MEP continues to be named in legislation

  - ### H.R. 8, North American Energy Security and Infrastructure Act of 2015
    MEP is mentioned on Page 83 – COORDINATION.—To increase the value and capabilities of the industrial research and assessment centers, the centers shall—
    "(A) coordinate with Manufacturing Extension Partnership Centers of the National Institute of Standards and Technology;

  - ### S. 2012, Energy Policy Modernization Act of 2015 in coordination with the private sector and appropriate agencies, including the National Institute of Standards and Technology, to accelerate adoption of new and existing technologies and processes that improve energy efficiency; coordinate with MEP Centers

Important Points of Interest

- Competition brief- Congratulations to Round II Winners!

- MFG Day! More than 1,600 signed up so far

- MEP National Conference- Spring 2017
  - o MEP Center Planning / Advisory Committee

- Board Training/New Board Orientation- late February 2016 for Discussion

Message Clarification

- Technology Acceleration and NIST Labs for the purpose of:
  o Establishing a system-wide capability to offer it intuitively- makes sense
  o Ensuring awareness of what's available in the NIST Labs and how to connect
  o Not just at NIST
- Re-engaging in the Strategic Plan
  o Three-Five year plan
  o Including branding and establishing system standards
  o Looking to engage "Intuitive" Leaders across the system

Updates in Center Director Leadership

- ## Wyoming
  - o   Ode to Larry Ray Stewart
  - o   Dave Walrath Interim Center Director

Thinker of many, many thoughts☺

- ## Alabama
  - o Doug Jensen new Center Director (Chester Vrocher in a new capacity)
- ## New Mexico
  - o Ron Burke retired and Jennifer Sinsabaugh is the interim Center Director
- ## Arizona
  - o Change in the Center Director; currently recruiting for a new leader

MEP • MANUFACTURING EXTENSION PARTNERSHIP

NIST MEP Deputy Director

- Currently being selected
  - o DOC and OPM approval will follow
- Additional management positions to be filled
  - Executive officer
  - Manufacturing Policy & Research Manager
  - Panel Review Manager

Our Mission
To enhance the productivity and technological performance of U.S. Manufacturing

Vision
Changing the way the world defines manufacturing

Strategic Goals
To Enhance Competitiveness
Champion Manufacturing
Develop Capabilities
Support Partnerships

Program Vision

Enabling the next great revolution in manufacturing

Changing the way the world defines manufacturing

Advancing and transforming U.S. manufacturing through the power of technology and partnerships

We're building on what we do best…
…expanding, developing and strengthening our system capabilities and reach

We are the go-to experts for small manufacturers…
…intuitively guiding them through the maze of new technologies, helping them build their capabilities, making invaluable connections and being their beacon to the future of manufacturing.

MEP • MANUFACTURING EXTENSION PARTNERSHIP

NIST Hollings Manufacturing Extension Partnership

Making an Impact on U.S. Manufacturing

Enabling the Next Great Revolution in Manufacturing!

Building on the Strength of the MEP Network

Create. Build. Grow.

IMPACT SUCCESS STORIES: WE MEASURE OUR SUCCESS THROUGH YOUR SUCCESS

Since 2001, Impact Dakota has worked with companies on more than 675 improvement projects helping them become more profitable and globally competitive.

OUR MISSION: TO PROVIDE INDUSTRY AND BUSINESS THE TOOLS, TRAINING AND RESOURCES TO EXCEL.

Mission- Deliver Solutions that help businesses succeed, grow and create high quality jobs.

Mission

Enhance the performance of industry through applied research, education, and technical assistance.

To serve manufacturing as a trusted advisor providing solutions that impact and grow the California economy.

Mission-To help make manufactures more productive and help them improve their performance by adopting new technologies.

...On a mission to serve manufacturers

Mission – To advance economic prosperity, health, and quality of life in Indiana and beyond.

We aspire to be the premier solution provider to strengthen and grow New Mexico's manufacturing.

MISSION

Maximize enterprise value for manufacturers through Innovation, Operational Excellence, Sustainability and Leadership Development.

Making a world of difference.
Local experts backed by a national network.
Events, workshops & in-depth training.
Partners in your success.

Benchmarking   Future Mining

Tech Mining

Stimulus Mining

Insight Mining

Market Mining   Open Innovation

motivation
communication   planning
Leadership   management
contribution
solution
responsibility

RESHORING
Bringing Manufacturing Back

SUPPLY CHAINS: POWERING U.S. MANUFACTURI

A lot of manufacturers participate in the creation of your favorite products. Various U.S. companies supply the parts:

MAKE IT IN AMERICA
An initiative to increase American manufacturing and create new jobs

CoreValue
SOFTWARE

TDMI
technolgy-driven market intelligence

We Deliver World Class Products and Services

EXPORTECH™ An Export Acceleration System for Achieving Profitable Growth

All Access Bus Tours

Manufacturing Consortia

Acceleration Seminars

Launch Pad Pricing

LEAN MANUFACTURING
PRODUCTION
WASTE   WORK
IMPROVEMENT

PROBE
FOR MANUFACTURING EXCELLENCE
ACTION SPEAKS LOUDER.

Continuous improvement.
Increase capacity, decrease costs.
Training to sustain gains.
Guided implementation.
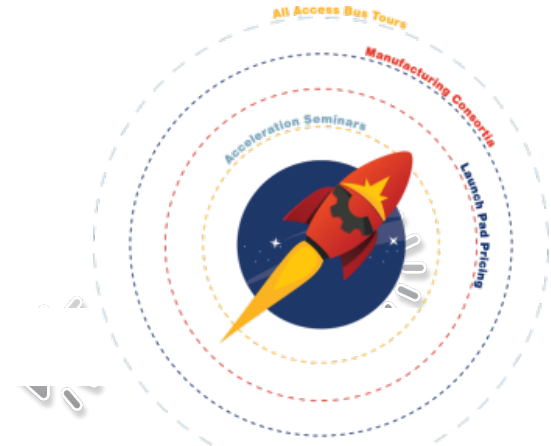
Implementation of Lean Manufacturing results in
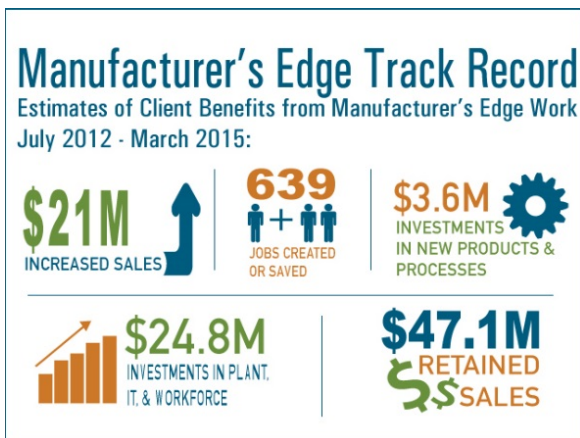**$1.2 million**
in cost savings.

READ CASE STUDY >>

MEP BY THE NUMBERS

$6.7 BILLION IN SALES

$2.7 BILLION in total investment in U.S. manufacturing

$1.1 BILLION in savings

63,952 Jobs Created & Retained

30,056 Manufacturers Served

[NYSTAR](#) has fostered the growth of New York's high-tech and biotech industries by supporting the investment of more than $1 billion in its technology business sector and its world-class research laboratories and academic centers.

...with impressive results

69% improvement in production time in 3 months

IMEC
2014 Impacts — 448 companies assisted
834 value added services and projects
$308,000 new and retained sales per project
$35k cost savings per project — 1,581 jobs created and retained
$216k investment spending per project — $10,300 average project cost
$178,000,000 aggregate impact

Manufacturer's Edge Track Record
Estimates of Client Benefits from Manufacturer's Edge Work
July 2012 - March 2015:

$21M INCREASED SALES

639 JOBS CREATED OR SAVED

$3.6M INVESTMENTS IN NEW PRODUCTS & PROCESSES

$24.8M INVESTMENTS IN PLANT, IT, & WORKFORCE

$47.1M RETAINED SALES

"IN ONE YEAR, OMEP IMPROVED OUR PRODUCTIVITY BY 33% AND SAVED US OVER $5.5 MILLION."

Working with partners locally....

...and nationally

We grow clients we can brag about
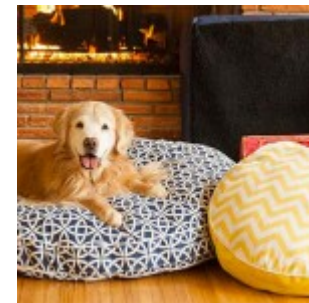
...and encourage them to brag about us
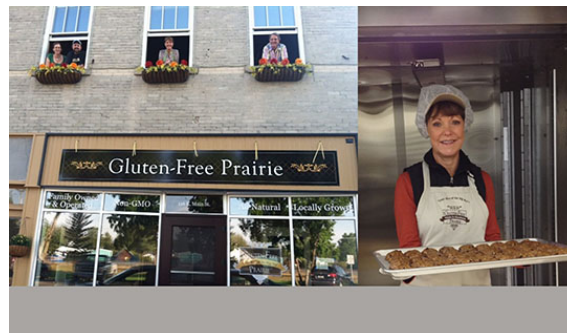
But the world is changing rapidly…we must anticipate the needs of our clients

We're gonna need to hit the speed button

No worries, technology can help…

Definition of technology:

The aggregation of capabilities, facilities, skills, knowledge and organization required to successfully create a useful service or product
*– Lewis Branscomb, 1995*

*The **good news** is that American manufacturing is on the verge of dramatic change…**major revolutions are underway** in energy, robotics, materials, and applied information technology…*

*innovative uses of the Internet and other information technologies (Big Data, 3-D printing, and growing communication between devices, also known as the "Internet of things") are poised to **transform the manufacturing industry**.*

Small manufacturers will need to know we exist now more than ever…
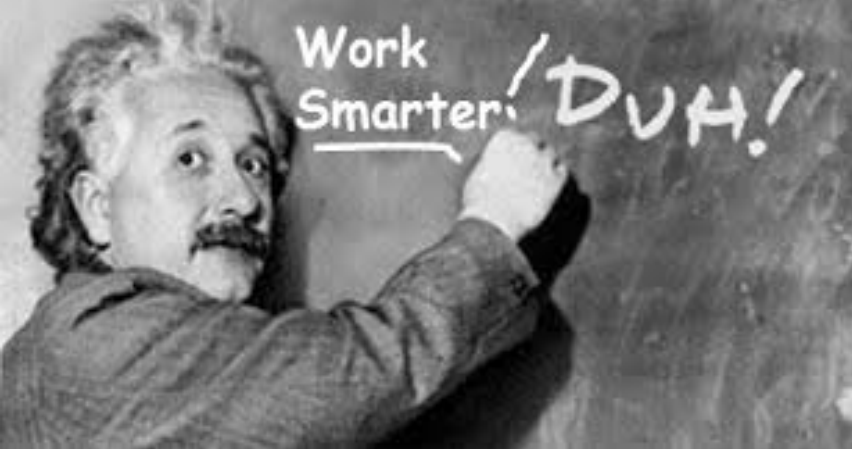
Yes indeed, we'll need to work smarter!

And we'll also need to work together now more than ever…

We the people...

Yes, we the people…

...will change the way the world defines manufacturing

You have an important role!

- Thought leader
- True North
- Futurist
- ?

Trends, New Developments and the Road Ahead in TBED: MEP Advisory Board

Presentation by:

Dan Berglund

September 24, 2015

Overview

- Environment
  - Wages stagnant
  - Income inequality
  - Budget/policy stalemate at federal level
  - Economic anxiety/direction of country
  - Public attitudes tested in focus group (words/future)
- State environment
- Key issues/challenges faced by SSTI members
- State reactions to MEP
- Opportunities for MEP

Wages stagnant

- New jobs paid an average of 23% less, according to US Conf of Mayors in Aug 2014

- Median wage of people aged 25-34 fell from 2007 to 2013 in every industry but health care

- Average hourly earnings rose 2% year-on-year in February, 2015: about the same as in February, 2010

Growing income inequality

- In 2012, the top 5 percent of earners were responsible for 38 percent of domestic consumption, up from 28 percent in 1995

	Inflation-adjusted spending since 2009
Top 5% earners	17%
Remaining 95%	1%

Income Heading to the Educated

Percentage Distribution of U.S. Aggregate Household Income, by Education of Householder, 1991-2012
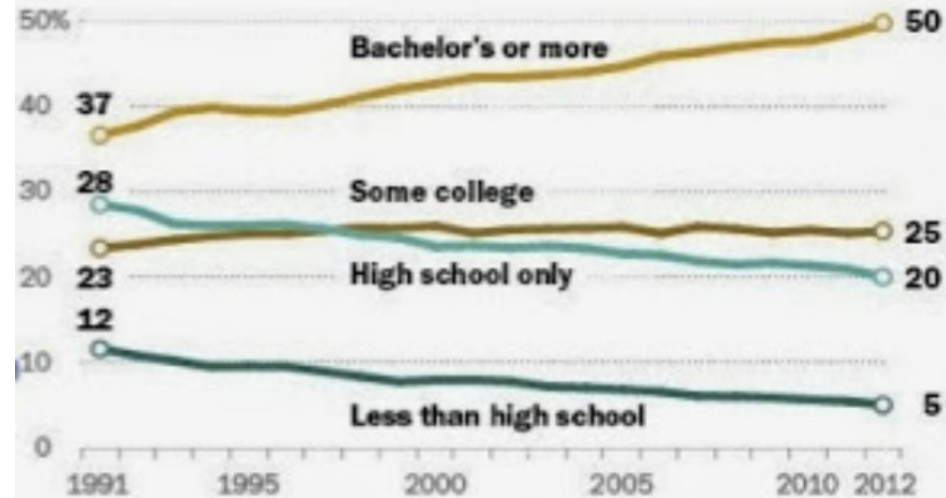
Notes: Household income figures by education are published for households with heads age 25 and older. Thus U.S. aggregate household income refers to the aggregate income of households age 25 and older. "Some college" includes households headed by those with associate's degrees, as well as some college but no degree. The Census Bureau revised the educational attainment classification in 1991, so pre 1991 figures are not strictly comparable to 1991 and thereafter.

Source: Pew Research Center tabulations of U.S. Census Bureau historical income tables

PEW RESEARCH CENTER

Reflected in where we live

	1980	2010
Share of neighborhoods predominantly middle class or mixed income	85%	76%
Share majority lower income	12%	18%
Share majority upper income	3%	6%

Income and college completion

- Born in the 1980s and completed college

  - Nearly half of the children in top-income quartile

  - A tenth of the children in lowest-income quartile

- That gap has grown compared to children born in the 1960s

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

Stalemate

- Budget and policy stalemate at federal level leaves level of uncertainty about the future

Voters' views

- Right track– 29%; Wrong track– 63%

- Gallup Economic Confidence Index in negative territory

U.S. Economic Confidence Index Components -- Weekly Averages Since September 2014

Latest results for week ending Sept. 20, 2015

■ Current conditions   ■ Economic outlook
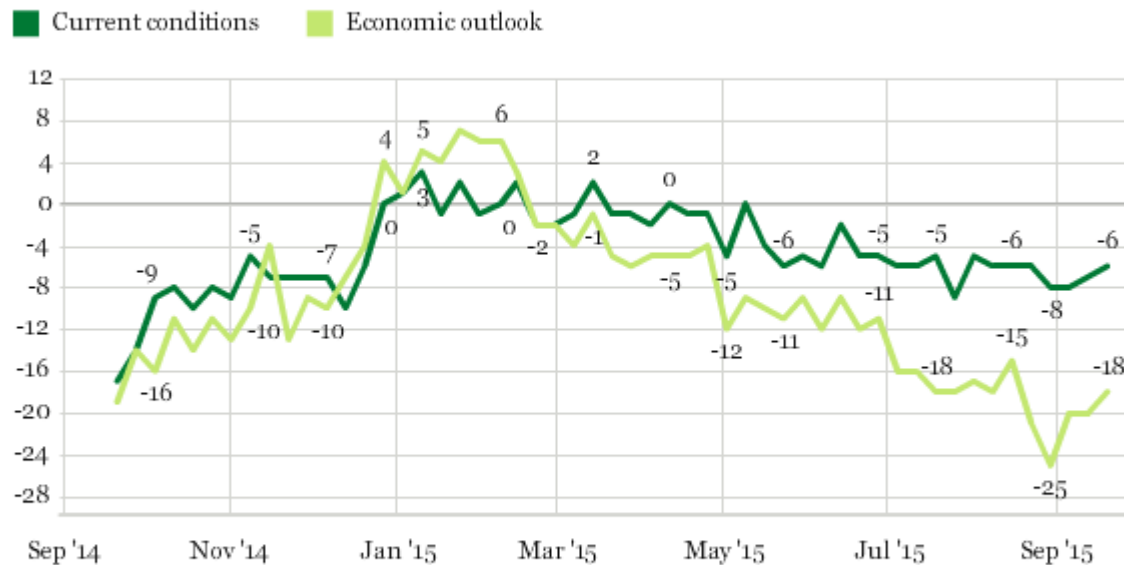
Gallup U.S. Daily tracking

GALLUP

Initiative

Key highlights:

- Convert research into businesses and jobs

- Increase investment in research

- Access to financing for start-ups

- Investments in STEM education

- If this initiative is advanced in a significant way, it can open up opportunities for me or people like me.– 65% agree

- If this initiative is advanced in a significant way, it can change the American economy for the better.–   84% agree

- If this initiative is advanced in a significant way, it can open up opportunities for my children, grandchildren and the next generation.— 90% agree

- 57% more likely to support presidential candidate

Strongest item gaining support

- Ensure that the U.S. has a workforce that is trained for the jobs of the future.– 93% favor

Our Resources Are Limited

State Funding Allocated to Economic Development

Total by Year (billions)

- FY2007: $9.1
- FY2008: $11.0
- FY2009: $11.6
- FY2010: $11.3
- FY2011: $6.9
- FY2012: $7.3
- FY2013: $7.3
- FY2014: $8.0
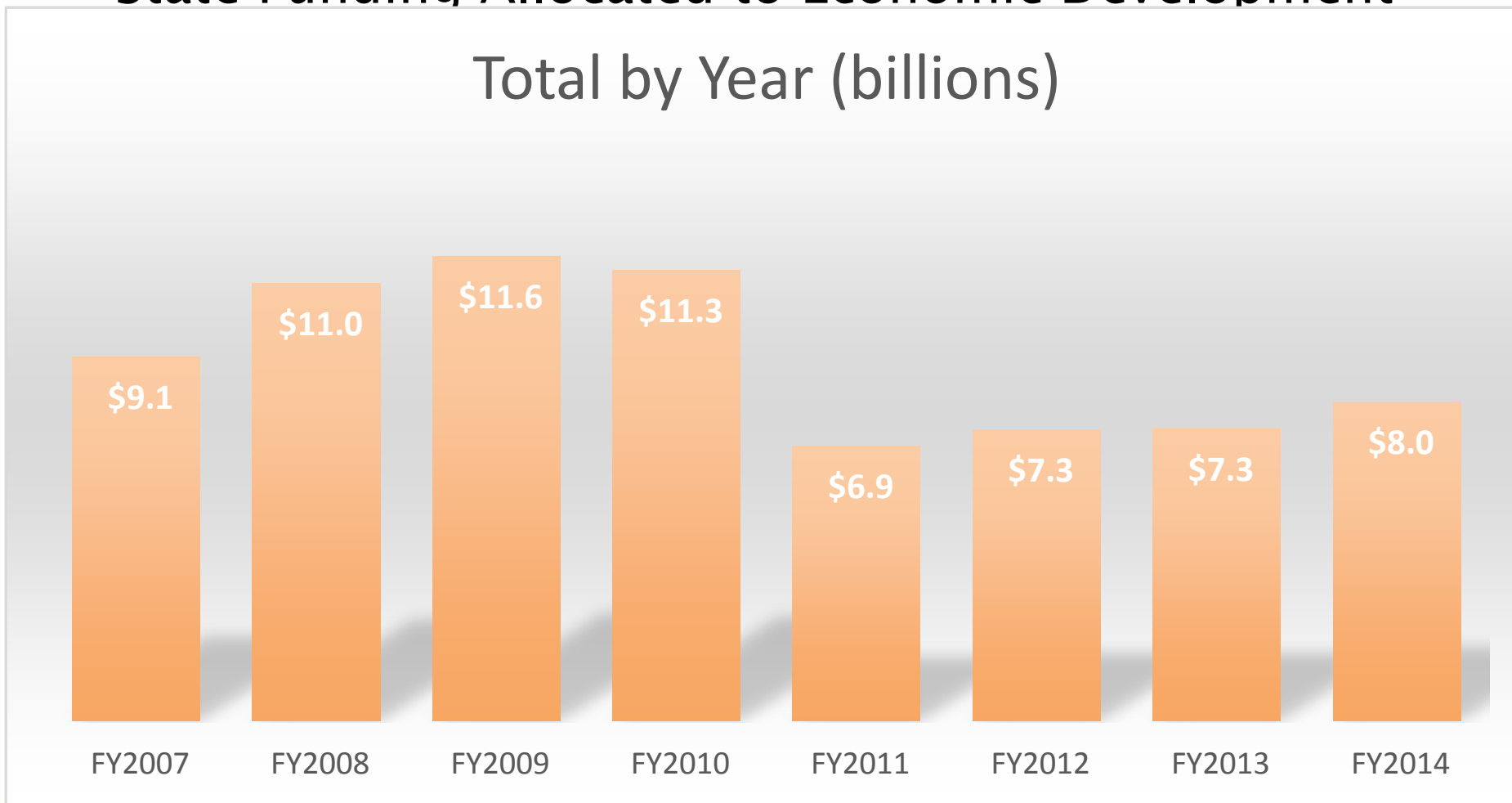
Note: Data do not include tax expenditures
Source: Council for Community and Economic Research
State Economic Development Expenditure Database

State Economic Development Program Expenditure Trends

$6.65 Billion States have actually spent on economic development investments in FY2014

$7.05 Billion States have appropriated economic development investments in FY2015

$6.97 Billion States have collectively proposed on economic development investments in FY2016
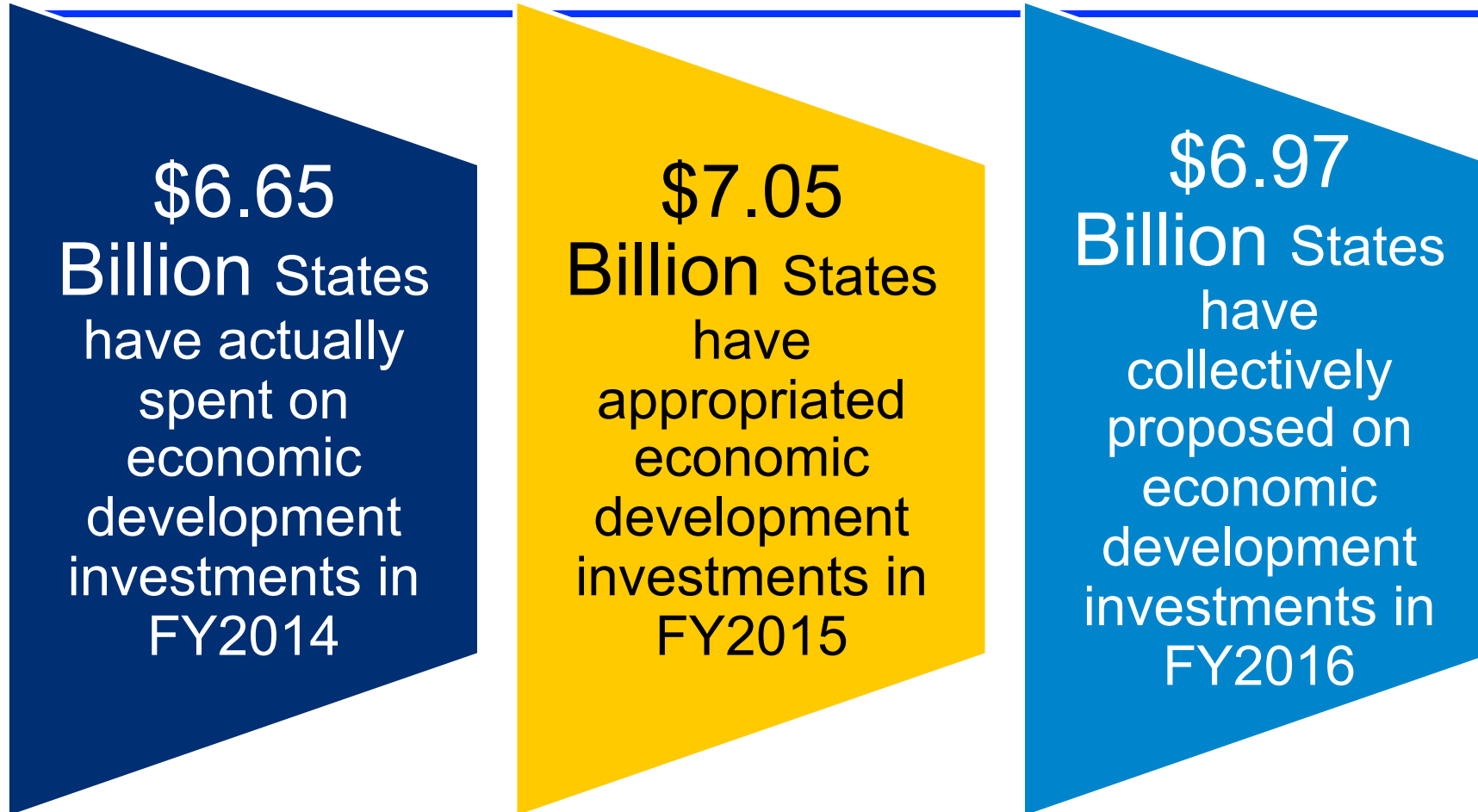
State environment

- Challenges in state economic development spending

- Growth of quasi-public corporations for state economic development

- Convergence of economic, community and workforce development

- Increased demands for accountability and transparency

Challenges SSTI members cite

- Sustainability of their organizations

- Developing meaningful partnerships

- Workforce

  - Shortage

  - Inclusion

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

Opportunities

- Opportunities to build on MEP's reputation

  - Remaking MEP's image to be beyond lean

  - Trusted credible results

  - Contact with small manufacturers

  - Workforce

  - Exporting/global connections

  - Commercializing research

Contact Information

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To sign up for *SSTI Weekly Digest* go to:

http://www.ssti.org

MAKING AN IMPACT ON U.S. MANUFACTURING

Board Subcommittee Report-outs

MAKING AN IMPACT ON U.S. MANUFACTURING

National Institute of Standards and Technology
U.S. Department of Commerce

Report to the MEP Advisory Board on Technology Acceleration Implementation Plan

Agenda

- **Recap of ABCTA Activity**

- Technology Acceleration Implementation Plan Implementation: Recommendations and Actions

- Questions / Discussion

Advisory Board Committee on Technology Acceleration Charter

Purpose:

To provide Board guidance to shape MEP's Technology Acceleration strategy and activities, which contribute to the MEP mission of enhancing the productivity and technological performance of U.S. manufacturing.

Objectives: The Advisory Board Committee on Technology Acceleration (ABCTA) will:

- Represent manufacturers' — and especially SMMs' (small- and medium-sized manufacturers') — viewpoints regarding current MEP services and emerging opportunities.
- Assist with setting priorities among competing demands and focus on highest-impact Technology Acceleration activities.
- Seek alignment between MEP Technology Acceleration activities and existing structures of MEP Centers.

Schedule:

- Launch Committee and schedule meetings (NIST MEP)   Nov/Dec 2014
- Collect data on current TA activities (NIST MEP)   Nov 2014-March 2015
- Present to Board draft work plan for analysis and research (Committee)   Jan 21, 2015
- Inform/validate findings and recommendations with Center leaders (NIST MEP)   Nov 2014-May 2015
- Deliver MEP Technology Acceleration Implementation Plan to Board (Committee) May 19, 2015

About Technology Acceleration:

- MEP defines Technology Acceleration as integrating technology into the products, processes, services and business models of manufacturers to solve manufacturing problems or pursue opportunities and facilitate competitiveness and enhance manufacturing growth. Technology Acceleration spans the innovation continuum and can include aspects of technology transfer, technology transition, technology diffusion, technology deployment and manufacturing implementation.

Contacts:
- Mark Troppe   NIST MEP
- Ben Vickery   NIST MEP
- Clara Asmail   NIST MEP

Committee Members:
- Jeff Wilcox, Chair
- Carolyn Cason   • Bernadine Hawes
- Roy Church   • Bill Shorma
                                    • Ed Wolbert

Opportunities for Center Input:
- Inventory of Center Activities Nov-Dec, Jan-Feb 2015.
- Nashville Quarterly Update meeting Nov.
- Inform/validate findings and recommendations Jan-May 2015.
- Convene Center Leadership Team (CLT) on TA March 2015.
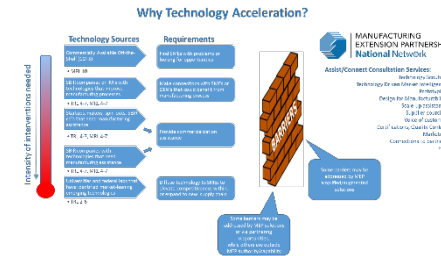
CLT Members:
- Christian Cowan   • Phil Mintz
- Dan Curtis   • Petra Mitchell
- Karen Fite   • Jim Watson
- Steve Hatten

Critical Issues:
- Collect and analyze data from inventory and Nashville System Update Meeting in time to incorporate into draft work plan.
- Respond to stakeholder interest in expanded MEP role with realistic goals.

About the ABCTA Background Report

- Prepared in response to ABCTA charge to provide Board guidance to shape MEP's Technology Acceleration strategy and activities.

- Compilation of information requested to provide necessary background for construction of Implementation Plan.

- Identified sources of relevant information, collected and analyzed data from a variety of sources, including: MEP Centers, published research, and others.

- Available at the NIST MEP public site (http://nist.gov/mep/about/advisory-board-meetings.cfm) and on the MEP Enterprise Information System (MEIS)

About the Technology Acceleration Implementation Plan

Structure of Implementation Plan:

- Background — Provides context, history and purpose of ABCTA
- Work Plan — a slightly abbreviated & updated edition of the *Draft Work Plan* presented to and approved by the MEP Advisory Board on January 21, 2015
- Key Findings from executing the Work Plan — summary of data collected and analyzed
- Eleven Recommendations, grouped into three categories:
  - I.   *Setting Priorities*
  - II.   *Barriers and Incentives*
  - III. *Scale-Up and Sustainability*
- Available at the NIST MEP public site (http://nist.gov/mep/about/advisory-board-meetings.cfm) and on the MEP Enterprise Information System (MEIS) to download

Agenda

- Recap of ABCTA Activity

- Technology Acceleration Implementation Plan Implementation: Recommendations and Actions

- Questions / Discussion

ABCTA Recommendations

I. Setting Priorities

1. NIST MEP should adopt a rubric of agreed-upon criteria for evaluating future Technology Acceleration opportunities, setting priorities, and investing and allocating resources.

   ➢ *Organizational Lead*: ABCTA and NIST MEP
   ➢ *Deliverable*: Finalized list of criteria
   ➢ *Due Date*: June 1, 2015 **DONE (see below)**

   These include:
   - aligning with Administration priorities
   - aligning with NIST and MEP mission
   - tapping core strengths of MEP Centers and the MEP System
   - generating high return for low investment of resources,
   - addressing key SME needs
   - identifying ready, willing and able partners

ABCTA Recommendations

I.   Setting Priorities

2.   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.

> *Organizational Lead*: NIST (MEP, Labs and Advanced Manufacturing Program Office) and Centers that are engaging early with Institutes
> *Deliverable*: Listing and descriptions of specific actions engaging MEP with NIST Labs, NNMI Institutes, and DOE Labs.
> *Due Date*: Ongoing, with report back at September MEP Advisory Board meeting
>   **UNDERWAY (see below & next slide)**

- NIST MEP has executed an MOU with the Department of Defense (DOD) to:
  - provide an overarching framework to identify opportunities for collaboration between the DOD-led Institutes and NIST MEP,
  - define how Institutes and MEP Centers can work together to facilitate SME outreach, engage SMEs to participate in Institute R&D planning and conduct, and implement and deploy Institute R&D results.

ABCTA Recommendations

Priority to developing and implementing Technology Acceleration opportunities with NIST, NNMI and DOE (ctd)

- Working with DOE's Advanced Manufacturing Office to execute MOU similar to MOU with DOD to frame collaboration between NIST MEP and DOE-funded Institutes.

- Developing MOU between DOC and DOE (Secretary-level) to accelerate commercialization of Federally-funded R&D, enhance diffusion of energy technology and advanced manufacturing techniques, and foster economic growth.

- NIST MEP partnering with NIST's Engineering Lab to organize Small Manufacturer Robotics Workshop on 10/7/15 to allow SMEs to gain insights into trends and emerging robot technologies and learn how others have addressed and overcome challenges of integrating robots into existing manufacturing processes.

- MEP Technology Acceleration Connector will develop and maintain a process for how we may leverage and track technology opportunities from the NIST Labs and respond to requests from partners and stakeholders.

- Partnering opportunity via DOE Small Business Voucher Pilot (*see next slide*).
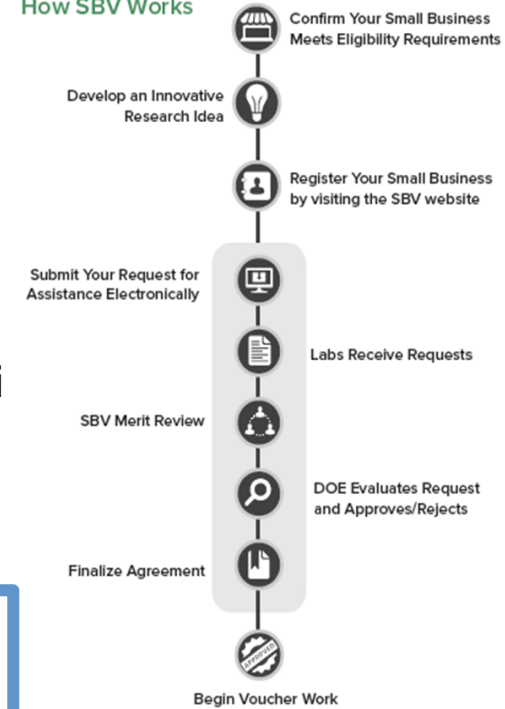
DOE Small Business Voucher Pilot

- EERE will match selected SMEs with National Lab experts and give vouchers valued at   ab technical assistance

- SMEs must match 20% of project in funds or in-kind

- SMEs need to identify a technical challenge inherent in bringing a clean energy innovati

How SBV Works

- Confirm Your Small Business Meets Eligibility Requirements
- Develop an Innovative Research Idea
- Register Your Small Business by visiting the SBV website
- Submit Your Request for Assistance Electronically
- Labs Receive Requests
- SBV Merit Review
- DOE Evaluates Request and Approves/Rejects
- Finalize Agreement
- Begin Voucher Work

Advanced Manufacturing	Solar
Bioenergy	Water
Buildings	Wind
Fuel Cells	Vehicles
Geothermal	

SBV Pilot Schedule:

Round 1: Sept 23 – Oct 23, 2015
Round 2: Feb – May 2016
Round 3: June – Sept 2016

Sandia
NREL
LBL
ORNL
PNNL

** This is a national program, not limited to regions surrounding the 5 selected Labs

ABCTA Recommendations

II. Barriers and Incentives: *Reduce Risk*

1. The MEP system should work diligently to enable permanent change in the cost share requirement to 1:1 to reduce Centers' risk of experimenting with Technology Acceleration services.

   ➢ *Organizational Lead*: MEP Centers, MEP advocates, partners and stakeholders, not NIST MEP
   ➢ *Deliverable*: Legislation that permanently changes the cost share requirement from 2:1 to 1:1.
   ➢ *Due Date*: as soon as Congressional action is feasible
   EXTERNAL TO NIST MEP STAFF

ABCTA Recommendations

II. Barriers and Incentives: *Reduce Risk*

2. NIST MEP should provide more competitive funding and, when available, supplemental funding, to Centers willing to experiment with Technology Acceleration strategies, tool development, and partner development.

   ➤ *Organizational Lead*: NIST MEP advised by the Technology Acceleration Working Group
   ➤ *Deliverable*: FFO to provide funds to Centers to develop Technology Acceleration products, services and practice across the system.
   ➤ *Due Date*: During FY 16, depending upon availability of funds
   UNDERWAY (see below)

- Work underway in the Technology Acceleration Working Group (Committee on Scale-Up and Sustainability) - *building upon August 2015 Technology Acceleration workshop at NIST and yesterday's Working Group meeting, and will continue at November 2015 meeting.*

ABCTA Recommendations

II.   Barriers and Incentives: *Professional Development / System Learning*

1.   Develop an 18-month systematic plan for system learning across the MEP system that would include education on new technologies, their implications, and Technology Acceleration strategies employed by Centers.

 ➢ *Organizational Lead*: NIST MEP P-PDO working with System Operations team
 ➢ *Deliverable*: A plan for system learning through Fall 2016.
 ➢ *Due Date*: Report back at September 2015 Board meeting
 UNDERWAY (see next slide)

ABCTA Recommendations

NIST MEP is the process of developing an 18-month systematic plan to educate Center staff on a broad range of Technology Acceleration issues.

- Technology Acceleration Workshop conducted at NIST on 8/11/15.

- Workshop engaged NIST MEP HQ, MEP Centers (AR Mfg Solutions, Catalyst Connection, CMTC, GA MEP, NC MEP, Polaris, TMAC, TN MEP), and partners (SSTI, NIST Lab, Advanced Manufacturing National Program Office) to develop a shared understanding and language around TA strategy and *Implementation Plan's* Professional Development/ System learning recommendation in particular.

- Work underway in the Technology Acceleration Working Group

- Working in concert with NIST MEP System Operations Division via internal meetings and at yesterday's MEP Update Meeting sessions on MEP Learning Organization.

ABCTA Recommendations

II. Barriers and Incentives: *Professional Development / System Learning*

2. Launch a Technology Acceleration Working Group to encourage peer-to-peer learning and build relationships that strengthen the network.

   ➤ *Organizational Lead*: NIST MEP Partnership and Program Development team and the Center Leadership Team for the ABCTA

   ➤ *Deliverable*: A charter and initial membership roster for the working group along with a plan of proposed activities for the first year.

   ➤ *Due Date*: Ongoing but report back at September Advisory Board meeting

   UNDERWAY (see next slide)

Technology Acceleration Working Group (TAWG) Charter

Purpose:

To encourage technology acceleration activities throughout the MEP system through peer-to-peer learning and building network-strengthening relationships. The TAWG is established in response to a recommendation of the MEP Advisory Board approved in May 2015.

Contacts/Staffing: from NIST MEP
• Mark Troppe, Ben Vickery, Clara Asmail

TAWG Members:
• Members opt in via the dedicated MEP TA Connect portal.

Objectives: The TAWG will:

• Implement the recommendations of and continue to develop and operationalize the ABCTA vision, and;
• Seek foundational supports, partnerships and opportunities to advance the TA agenda.

Near-Term Goals: The TAWG will execute and/or provide input to:

• Form the TAWG, including charter, initial membership roster and plan of proposed activities;
• Explore methods to promote professional development among the MEP System for TA engagements;
• Establish policy for TA scale-up throughout the MEP system; and,
• Advise NIST MEP regarding enhancements to performance metrics to acknowledge and encourage Centers' TA activities.

Long-Term Goals: The TAWG will execute and/or provide input to:

• Encourage, expand and track prioritized projects with NIST Labs, Institutes for Manufacturing Innovation (IMIs) and DOE Labs;
• Identify distinctive TA practices and coordinate sharing among the MEP System – this may include partnerships with universities and other technology sources;
• Advise NIST MEP on strategic investments related to TA; and,
• Enhance and participate in knowledge management system for TA activities, information and opportunities.

Membership Policy:
• TAWG membership is open to any Center staff willing to contribute expertise, share experiences, and/or volunteer to pilot activities to advance TAWG goals.
• TAWG members will share interest in engaging SMEs in transformational consultation.
• TAWG Committees to be formed for specific topic areas/recommendations.
• TAWG Steering Committee may be formed to help guide and move activity forward.
• TAWG to be facilitated by NIST MEP staff and convened via multiple mechanisms, including webinars, calls, and in-person meetings on an as-needed basis but at least three times per year.

Near-Term Opportunities for TAWG Input:
• Webconferences: 7/16/15, 8/19/15, future
• MEP System Update & Advisory Board Meeting (Dallas, TX September 23-24, 2015)
• In-person dedicated TAWG Meeting (Atlanta, GA November 17-18, 2015)
• Ongoing utilization of TA knowledge management system

ABCTA Recommendations

II. Barriers and Incentives: *Performance Measures*

1. Review MEP Center performance measures to explore quantitative and qualitative options for capturing impacts or other ways for acknowledging Centers' work as they engage in Technology Acceleration activities.

 ➢ *Organizational Lead*: NIST MEP

 ➢ *Deliverable*: In the context of the overall review of MEP performance measures, produce specific recommendations of ways in which MEP Centers can receive credit for their Technology Acceleration work with SMEs.

 ➢ *Due Date*: Upon completion of the review of MEP performance measures (December 2015)

 UNDERWAY (see next slide)

ABCTA Recommendations

Review MEP Center performance measures to explore quantitative and qualitative options for capturing impacts or other ways for acknowledging Centers' work as they engage in Technology Acceleration activities.

- Work underway in the Technology Acceleration Working Group Committee on Performance Measures resulting from 8/15 Technology Acceleration workshop at NIST.

- The 8/15 Technology Acceleration workshop efforts were built upon at yesterday's Working Group meeting and will continue at 11/15 meeting.

- This work is also being done with input from with NIST MEP M-PAR.

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ABCTA Recommendations

II. Barriers and Incentives: *Performance Measures*

2. As the MEP performance measures seek to increase Centers' ability to articulate their own metrics, work with Centers to encourage and assist in developing useful metrics for Technology Acceleration activities.

   ➢ *Organizational Lead*: NIST MEP

   ➢ *Deliverable*: Specific examples of individual Centers' performance measures documenting Technology Acceleration impacts based on Center work

   ➢ *Due Date*: December 2015 – Summer 2016

   LONG-TERM GOAL, BUT WORK UNDERWAY IN CONCERT WITH PRIOR PERFORMANCE MEASURES RECOMMENDATION

ABCTA Recommendations

III. Scale-Up and Sustainability

1. NIST MEP should work with Centers to consider formal options for how to best stay informed about the growing number of cross-cutting technologies and emerging opportunities in order to fully engage and leverage the value of the MEP Centers.

   ➢ *Organizational Lead*: NIST MEP working with the Technology Acceleration Working Group

   ➢ *Deliverable*: A plan for designating staff and/or Centers as expert resources in individual emerging technologies. The plan should take advantage of existing relationships and expertise and seek to disseminate that across the system as appropriate.

   ➢ *Due Date*: December 2015

- Work underway in the Technology Acceleration Working Group (Committee on Scale-up and Sustainability) - *building upon August 2015 Technology Acceleration workshop at NIST and yesterday's Working Group meeting, and will continue at November 2015 meeting.*

Agenda

- Recap of ABCTA Activity
- Technology Acceleration Implementation Plan Implementation: Recommendations and Actions
- Questions / Discussion

Questions / Discussion
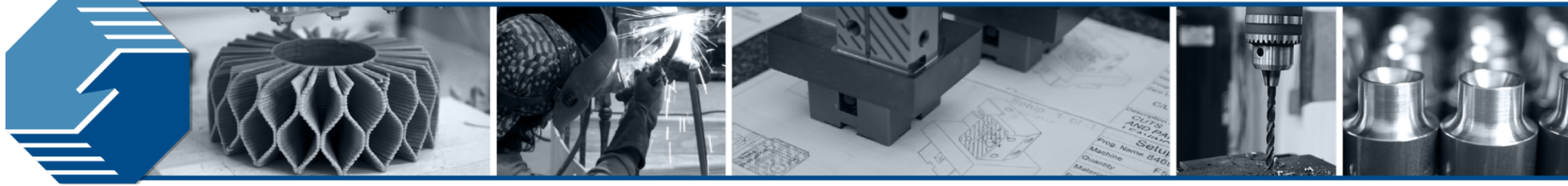
MAKING AN IMPACT ON U.S. MANUFACTURING

NIST
National Institute of
Standards and Technology
U.S. Department of Commerce

Subcommittee on Board Governance
Advisory Board Meeting

MAB Committee on Board Governance

Goals and Objectives

> ➢ Evaluate mechanisms and facilitate linkages to increase communication between the MEP Advisory Board and MEP Center Boards

> ➢ Inventory distinctive practices across Center Board

> ➢ Provide Board development resources

MAB Advisory Board Committee Deliverables

- ## Communication Plan

  To expand the communication between the MAB and NIST MEP with the MEP Center Boards

- ## Distinctive Practice

  To expand the sharing and learning and to develop MEP's capabilities as a learning organization and high performance system

- ## Board Self-Assessment

  To emphasize the critical role the Board plays in the success of an MEP center. Self assessment is an efficient way to get input from Board Members on how the Board is performing against generally accepted best practice standards.

Foundation Building

- **Certificate on Education on Non-Profit Governance**
  - BoardSource 6-week Training
    - Fiduciary Oversight, Financial Oversight, Board Roles and Responsibilities, Fundraising, By-Laws & Board Structure

- **MEP Connect**
  - Board Governance Resource Library
    - Center Director Recruitment, Job descriptions, Assessment tools, etc
  - Connecting MAB activities with Local Board activities
    - Information resource for New Board orientation, Quarterly update meetings, Events, webinars, National Advisory Board Events, etc

MEP Connect

MEP Connect

Communication Plan

- Board Orientation Webinar
  - 2 Orientation Webinars conducted: May 19 & Aug 19
    - 32 participants from 19 centers
    - New Board orientation scheduled for Nov 2015
- Regional Calls
  - Topical discussions
    - Assessment tools
    - Distinctive Practices
- Newsletter - first issue Oct 2015

Board Orientation Participation
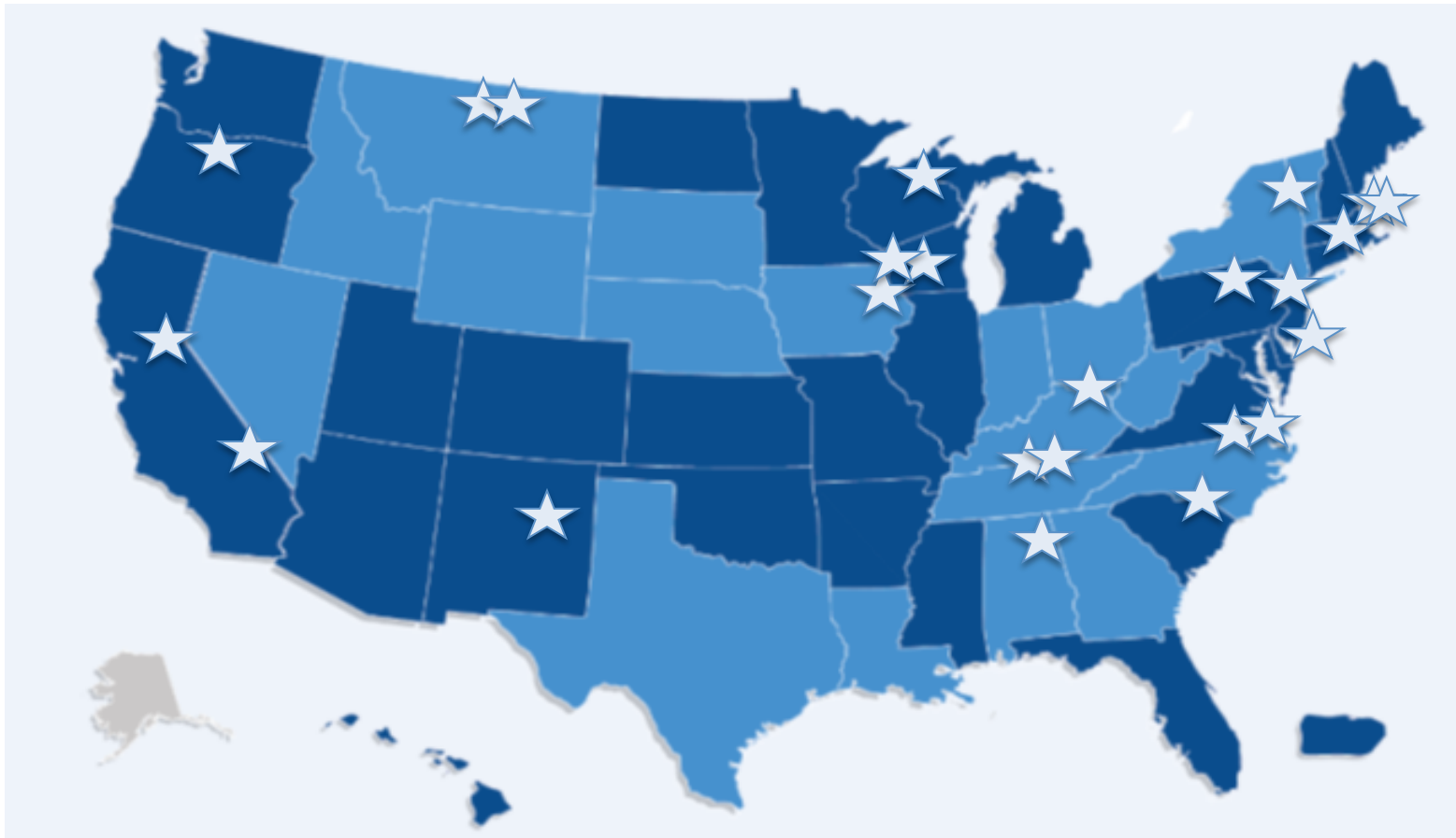
19 Centers, ⭐ 32 participants

Distinctive Practice

Webinars scheduled

- Sept 30, 2015
  - Board Self-Assessment

- December 10, 2015
  - Analysis of Center By-Laws

- March 24, 2016
  - Voice of and for Manufacturing

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Board Self-Assessment Tools

- 3 Sample Assessment Tools shared across system
  - Board engagement by RMSTs
  - Centers utilize <u>a</u> tool: CO, KS, MO, OK, NM
    - Customized Self-Assessment tools

"Even if you are on the right track, you'll get run over if you just sit there."

-- Will Rogers (1879 – 1946)
American actor and comedian

Schedule of Events

Aug 2015	Sept 2015	Oct 2015	Nov 2015	Dec 2015	Jan 2016	Feb 2016	Mar 2016
New Board Member Orientation webinar	**Distinctive Practice webinar: Self-Assessment Tools**	**Regional calls with Local Boards**	**New Board Member Orientation Webinar**	**Distinctive Practice webinar: Analysis of MEP Center Board By-Laws**	**MAB Advisory Board Meeting** **New Board Member Orientation Webinar**		**Distinctive Practice Webinar: Voice of and for Manufacturing**
20 Attendees -lauded as "great foundational information for new members"		• RMST led • Topical discussions		-MEP Local Boards sharing -MAB Member participation	Encourage Local Board attendance		

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Next Steps

- Monitor and Track use of Assessment tools

- Continue to develop webinars on Distinctive Practices
  - Center Director Hiring, Selection of New Board members, Financial Oversight
  - Inventory distinctive practices across system

- MEP Connect
  - Full launch of site to Center key staff
  - Continue to build resource materials

Thoughts? Reactions?

Thanks!

MAKING AN IMPACT ON U.S. MANUFACTURING

MEP State Competitions

Diane Henderson, Federal Program Officer & Competition Manager
NIST MEP

Timeline of State Competitions

Round 1
- FFO Published August 1, 2014
- Awards Announced February 2015

Round 2
- FFO Published June 5, 2015
- Awards Announced September 2015

Round 3
- Target FFO Publication – January 2016

  Anticipated Award Announcement – Summer 2016

Round 4
- Target FFO Publication – July 2016
- Anticipated Award Announcement – Early January 2017
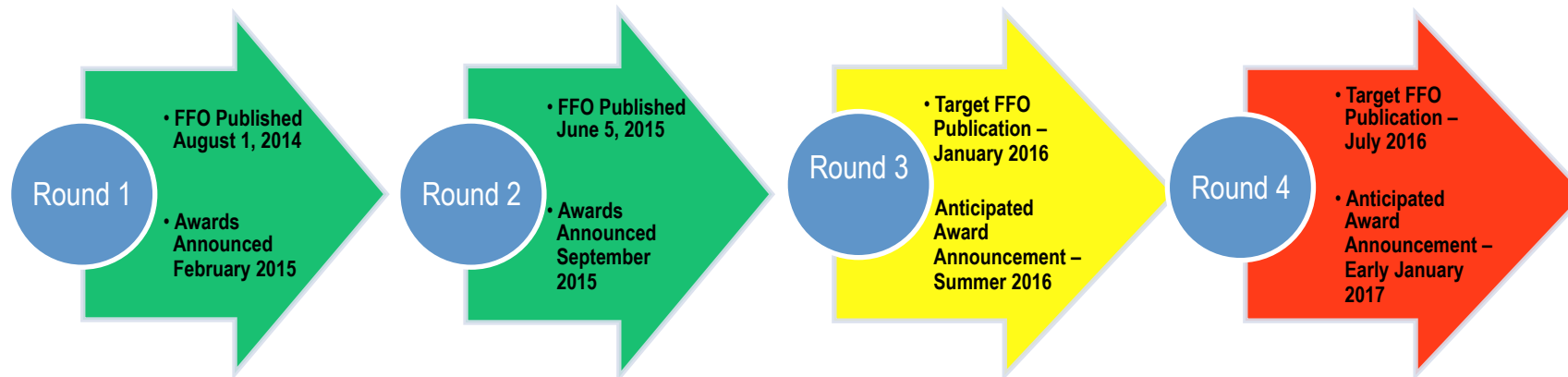
Rationale for Competition

- Allocate more funding to states with greater concentrations of manufacturers;

- Empower MEP centers to experiment more with new products and services (i.e., technology acceleration, supply chain and workforce, etc.), serving harder to serve clients like very small, emerging, rural companies;

- Bring MEP practice closer to other federal programs that refresh awardees periodically.

Competition Benefits to States

- Increased funding to bring $/SME up to national average

- Immediate readjustment of the cost share to 1:1 for the first three years of the award *

- A five year award reducing the annual renewal paperwork

- A reduction in the number of panel reviews from every two years to one at the third year

- Resetting of the funding levels to reflect the national recognition of the importance of manufacturing and the regional distribution of manufacturing activity**

- Reduction and simplification of reporting requirements

- Opportunity to re-align Center activities with State economic development strategies

*Congressional action needed to make the readjustment permanent

**Administration support for increased federal funding

Aggressive Outreach Effort

- 15-20 organizations publicizing MEP Competition

- Examples include SSTI, IEDC, EDA, NADO, etc.

- Regional Meetings

- Informational webinars for interested applicants
  - Round 3 webinars to be conducted January and February 2016
  - Webinar recordings and presentations will be made available on the MEP website.

- http://nist.gov/mep/ffo-regional-forum-state-competitions-03.cfm

2.0 MEP Centers – Round 1 Competition

- States - Colorado, Connecticut, Indiana, Michigan, New Hampshire, North Carolina, Oregon, Tennessee, Texas, Virginia

- **Kick-Off Meeting conducted week of July 27th**

  - 10 Centers, 35 Center Participants

  - 2 ½ days of content

    - **Business Operations -** Organizational Changes in Business Operations

    - **Partnerships -**Changes in Partnerships and On-boarding new partners

    - **Products and Services -** Services for very small, rural or underserved clients

    - Poster board session (Centers & NIST)

    - Interactive Lab Tours

      - **Additive Manufacturing** - NIST Engineering Laboratory

      - **Digital Manufacturing -Cyber Security for Manufacturing -** NIST Information Technology Laboratory

      - **Robotics for Manufacturing Applications -**NIST Engineering Laboratory

  - Positive feedback from participants!

MEP State Competition – Round 2

States - Alaska, Idaho, Illinois, Minnesota, New Jersey, New York, Oklahoma, Utah, Washington, West Virginia and Wisconsin

The winners of the Round 2 MEP State Competition are:

- **Illinois** - Illinois Manufacturing Excellence Center (Peoria) - $6,287,387

- **Minnesota** - Enterprise Minnesota, Inc. (Minneapolis) - $3,317,060

- **West Virginia** - West Virginia University Research Corporation (Morgantown) - $625,001

- **Alaska** - Southwest Alaska Municipal Conference (Anchorage) – $332,245

- **Idaho -** Boise State University (Idaho TechHelp -Boise) - $800,295

- **Washington -** Washington Manufacturing Services DBA Impact Washington (Mukilteo) - $3,168,589

- **New Jersey -** New Jersey Manufacturing Extension Program, Inc. (Cedar Knolls) - $3,518,032

- **Oklahoma -** Oklahoma Alliance for Manufacturing Excellence, Inc. (Tulsa) - $1,636,450

- **New York -** New York State Department of Economic Development (Albany) - $7,481,492

- Two remaining State applications are still under review.

CONGRATULATIONS!!!

*Ohio was initially included in Round 2, but did not result in a funding award. Ohio will be included in Round 3.

MEP State Competition – Round 2

- More competition in Round 2 vs Round 1

- Start Date of Awards – January 1, 2016

  - Funding Period of Performance – January 1, 2016 – March 31, 2017

- Pre-Award Webinars

  - 2 Webinars to focus on selecting topics for Kick-Off, voting on Lab Tours and development of the 3 Year Detailed Outcome Plans & Budgets

- Kick-Off Meeting for Round 2 Awardees – December 15-17th

- Conducted lessons learned session – incorporating suggested changes into overall Review Process and content of FFO for Round 3

MEP State Competition – Round 3

- FFO developed and currently with NIST Office of Chief Counsel, Grants Management Division and Federal Assistance Law Division for review.

  - Clarifying language around Board Governance

  - Notification of pre-award webinars and kick-off

- Targeting January 2016 publication – will post for 90 days

  - Proposals Due – April 2016 (approx.)

  - Anticipated Award Announcement – June/July 2016

  - Start Date – October 2016

MEP Center Location and Assigned Geographical Service Area (by State)	Federal Funding
Alabama	$1,780,800
Arkansas	$941,110
California	$11,558,908
Georgia	$2,552,258
Louisiana	$588,870
Massachusetts	$2,364,771
Missouri	$2,109,748
Montana	$512,000
Ohio	$4,545,417
Pennsylvania	$5,280,576
Puerto Rico	$510,718
Vermont	$500,000

*Funding level is dependent on appropriations and availability of funding.

*Ohio was initially included in Round 2, but did not result in a funding award. Ohio will be included in Round 3.

MEP State Competitions – Rounds 3 Regional Forums

Purpose:

- Regional Forums that go beyond typical webinars done for Rounds I and II, which occurred after the FFO had been released.

- A meeting in advance of FFO release provides a venue for more open exchange of ideas and allows potential bidders less familiar with MEP to better understand the process and content and expectations for operating an effective MEP Center.

- Following each regional forum presentation, potential applicants will also have a chance to schedule 20 minute private one-on-one meetings with NIST MEP representatives to ask additional follow-on questions.

- In addition, NIST MEP would attempt to conduct meeting with state officials that coincide with the regional forum trips, to the extent feasible.

Dates:

- September 17th – Boston, MA
    - 3 States Represented (MA, PA, VT)
- October 16th – San Francisco, CA
- November 17th – Atlanta, GA

http://nist.gov/mep/ffo-regional-forum-state-competitions-03.cfm

MEP State Competition – Round 4 Regional Forum & Competition

- Regional Forums (2-3 locations)
  - Targeting Spring 2016
- Targeting July 2016 publication – will post for 90 days
  - Proposals Due – End of September/early October 2016 (approximately)
  - Anticipated Award Announcement – End of 2016/ Early 2017
  - Start Date – April 2017

MEP Center Location and Assigned Geographical Service Area (by State)
Delaware
Hawaii
Iowa
Kansas
Maine
Mississippi
New Mexico
Nevada
North Dakota
South Carolina
Wyoming

Thank You!

Questions?

Please direct future questions to mepffo@nist.gov

MAKING AN IMPACT ON U.S. MANUFACTURING

MEP Strategic Planning

Carroll Thomas, Director, NIST MEP

Michael Simpson, Director, System Operations, NIST MEP

Program Vision

Enabling the next great revolution in manufacturing

Changing the way the world defines manufacturing

Advancing and transforming U.S. manufacturing through the power of technology and partnerships

We're building on what we do best…
…expanding, developing and strengthening our system capabilities and reach

We are the go-to experts for small manufacturers…
…intuitively guiding them through the maze of new technologies, helping them build their capabilities, making invaluable connections and being their beacon to the future of manufacturing.

MEP Strategic Plan

MISSION

To enhance the productivity and technological performance of U.S. manufacturing

ROLE

MEP 's state and regional centers facilitate and accelerate the transfer of manufacturing technology in partnership with industry, universities and educational institutions, state governments, and NIST and other federal research laboratories and agencies.

PROGRAMMATIC STRENGTHS:

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

Strategic Goals

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

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

Serve as a **voice to and voice for manufacturers** to engage policy makers, stakeholders, and clients.

Develop MEP's capabilities as a **high-performance system and learning organization.**

Goals/Strategic Objectives

- **Enhance Competitiveness**

  Enhance the Economic Competitiveness of US Manufacturing

  - Deliver services that create value for all manufacturers. Particularly focusing on small and mid-sized manufacturers ("SMEs").
  - Enable centers to make new manufacturing technology, techniques, and processes usable by US based small and medium sized companies.
  - Develop "Data as a Service" for Competitive Advantage

- **Champion Manufacturing**

  Serve as a Voice to and a Voice for Manufacturing

  - Champion the importance of SMEs and ensure their inclusion in the economic competitiveness polices and programs of the US government.
  - Increase Role of National and Center Boards

Goals/Strategic Objectives (Continued)

- **Support Partnerships**

  Support National, State, and Regional, Manufacturing Eco-Systems and Partnerships
    - 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
    - Promote System Learning
    - Evolve MEP Performance System
    - Continue administrative reforms.

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

Opportunities

- Opportunities to build on MEP's reputation

  - Remaking MEP's image to be beyond lean

  - Trusted credible results

  - Contact with small manufacturers

  - Workforce

  - Exporting/global connections

  - Commercializing research

MAKING AN IMPACT ON U.S. MANUFACTURING

MEP as a Learning Organization

Michael Simpson, Director, System Operations, NIST MEP

Traditional Approaches

- MEP Meetings … Quarterly, Regionally, Adhoc
- Working Groups … Lean, IT, Workforce, etc…
- MEP University … Face to Face Instructor Lead Courses
- MEP National Conference
- Group Email Lists
- Success Stories, and Case Studies

Knowledge Management

- Def'n … Getting the Right Information, to the Right People, when "they" need it.

- What was missing is;
  – Address how "they" learn
    - How our Staffs Learn,
    - How our Partners Learn,
    - How We Learn,
    - **How our Clients Learn**
      – **Plant manager**
      – **Chief Executive Officer**

Results from a Recent ASMC Survey on MEPU and the Service Working Groups

9 Question Survey

Working Group Related Questions

- Are Working Groups Important to Your Success and the Success of the Program?

- Would You or Your Staff Participate in Service Area Working Groups?

- If yes to the above, what working groups would you like to see established?

- If you do not plan to participate in Working Groups, why do you not see there value?

MEP University Related Questions

- Please Choose two ways that you prefer to have courses offered?

- Did you ever participate in training offered by the Original MEP University?

- What did you like, what did you dislike?

- What would make the service more valuable to the MEP System?

- If you never participated in MEPU, what content would be of value to ensure your participations?

Results and Feedback … Working Groups

Working Group Related Questions

- Are Working Groups Important to Your Success and the Success of the Program?
  - **YES – 90%   (18 out of 19 surveyed**)

- Would You or Your Staff Participate in Service Area Working Groups?
  - **YES – 90%   (18 out of 19 surveyed)**

- If yes to the above, what working groups would you like to see established?
  - **Growth**   **- Innovation**   **- Sustainability**   **- Megatrends**
  - **Supply Chain**   **- Tech Acceleration**   **- Workforce**   **- Market Intelligence**
  - **Salesforce**   **- Sales Force**   **- Export**

- If you do not plan to participate in Working Groups, why do you not see there value?
  - NIST/MEP wants us to focus at the "C" level however they continue to focus our agendas on tools and products

Results and Feedback … MEPU

MEP University Related Questions

- Please Choose two ways that you prefer to have courses offered?
  - **Face to Face   - Working Groups   - Web Based   - On the Job Training**
  - **Best Practice Reports**

- Did you ever participate in training offered by the Original MEP University?
  - **YES – 90%   (18 out of 19 surveyed**)

- What did you like, what did you dislike?

- What would make the service more valuable to the MEP System?
  - Focus on the Customer
  - Smaller and More Active and Engaged Materials and Presenters

- If you never participated in MEPU, what content would be of value to ensure your participations?

The Working Sessions

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Working Session Yesterday

- Four Working Group Meeting
  - Workforce
  - Technology Acceleration
  - Growth
  - Continuous Improvement

Working Session Yesterday (continue)

- MEP as a Learning Organization Working Sessions
  - Re-Deployment of MEPU - Phill
  - Working Groups - Mike
  - National Meeting Approaches - Gary
  - National Conference   - Tab
  - Distinctive Practices / Working w/ Outside Experts – Mark T / Wiza

- NIST MEP Strategic Discussion
  - Leveraging NIST Labs – Dave & Mike
  - Services for Very Small, Rural & S/U SMEs - Tab
  - Developing Data as a Service - Phill
  - Increasing the Role of Center and Ntl Boards - Gary
  - Center Flexibility and National Policy Goals - Mark

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Closing Remarks

Thank You

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