

HOLLINGS MANUFACTURING EXTENSION PARTNERSHIP **ADVISORY BOARD REPORT 2012**



**MEP • MANUFACTURING
EXTENSION PARTNERSHIP**

NATIONAL INSTITUTE OF
STANDARDS AND TECHNOLOGY

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Letter From the MEP Advisory Board

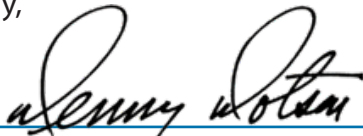
According to the Economic Policy Institute, manufacturing has played a leading role in the nation's economic recovery, adding 504,000 jobs between February 2010, when manufacturing employment fell to its lowest point, and October 2012. These 504,000 jobs constituted 11.1 percent of the 4.5 million jobs created in that period. The Manufacturing Extension Partnership (MEP) Advisory Board recognizes the important role manufacturing plays in the U.S. economy and supports the work the MEP program continues to do to foster growth in the industry through engagement with other federal agencies, state stakeholders, MEP Centers and U.S. manufacturers.

In 2012, President Obama proposed the National Network of Manufacturing Innovation (NNMI), 15 regional centers aimed at closing the gap between research and development (R&D) activities and the deployment of technological innovations in domestic production of goods. From the outset, the MEP Advisory Board saw the MEP program as a crucial connector between the Institutes for Manufacturing Innovation (IMIs) and smaller U.S. manufacturers. The relationships and knowledge MEP has gained over the past 25 years can be integrated with the NNMI through interagency cooperation and the involvement of MEP Centers in the consortiums that make up the IMIs. Currently, MEP Centers in Ohio and Pennsylvania are members of the NNMI pilot institute, the National Additive Manufacturing Innovation Institute.

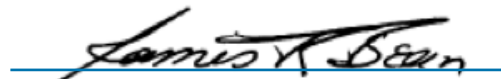
In 2012 we also saw the initiation of a national Manufacturing Day to highlight the importance of manufacturing to the U.S. economy and showcase the rewarding, highly skilled jobs available in manufacturing fields. On October 5, 2012 more than 200 manufacturing companies opened their doors to the public to host open houses, public tours, career workshops and other events. With 60,000 unfilled manufacturing jobs in the U.S., the MEP Advisory Board is extremely supportive of this effort to communicate the importance of this sector to the U.S. economy and to illustrate and highlight the manufacturing jobs of today and the opportunities they provide.

The Board continues to believe that the MEP model of public and private partnership, state and federal cooperation, industry and research collaboration and interagency manufacturing support is the most effective and productive use of federal funds. The Board encourages the MEP program to continue to explore partnerships and collaborations that work to support and increase the competitiveness of U.S. manufacturers.


Sincerely,



Dennis Dotson, Chairman
Dotson Iron Castings
Mankato, Minnesota



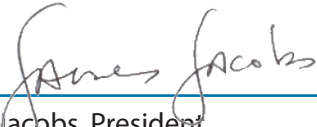
James R. Bean, Vice Chair
Preco Electronics, Inc
Boise, Idaho



Eileen Guarino, President & CEO
Greno Industries
Scotia, New York



Edward W. Hill, Dean
Maxine Goodman Levin College of Urban Affairs
Cleveland, Ohio



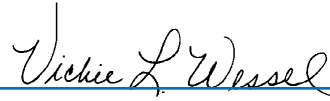
James Jacobs, President
Macomb Community College
Warren, Michigan



Ken Priest, CEO
Kenway Corporation & Maritime Marine LLC
Augusta, Maine



Mark Rice, President
Maritime Applied Physics Corporation
Baltimore, Maryland



Vickie Wessel, President
Spirit Electronics, Inc.
Phoenix, Arizona



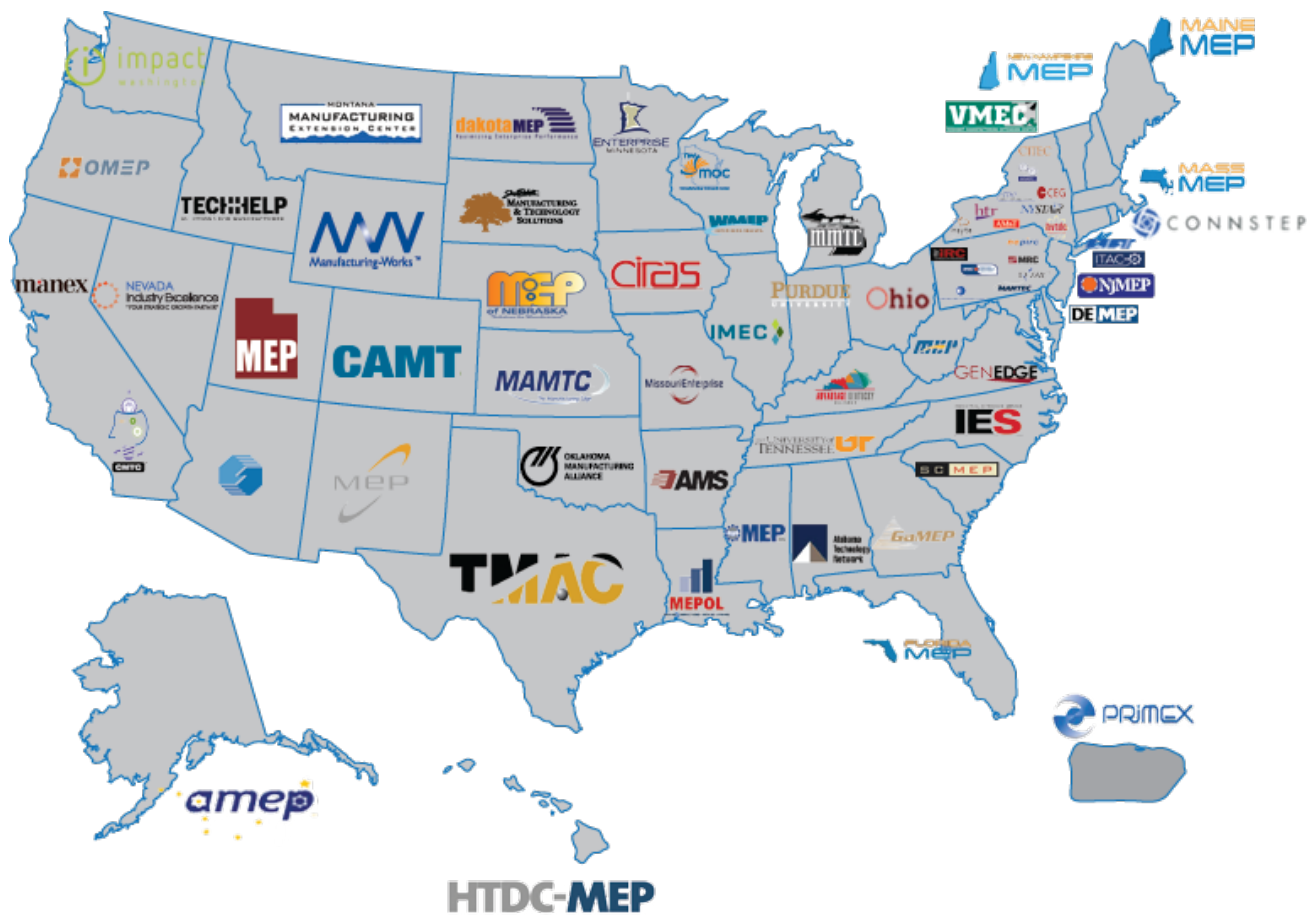
Ed Wolbert, President
Transaco Products, Inc
Chicago, Illinois

Preface

About the Manufacturing Extension Partnership

The Omnibus Trade and Competitiveness Act of 1988 created the Manufacturing Extension Partnership program (MEP) to improve the competitiveness of U.S.-based manufacturing by making manufacturing technologies, processes and services available. During the past two decades, MEP has focused on bridging the manufacturing productivity gap, identifying opportunities for growth, and encouraging technology deployment.

Growing from a pilot project of just three centers to a national network of 60 affiliated organizations, MEP works with manufacturers to help them create and retain jobs, increase profits, and save time and money. The MEP nationwide network provides services and support ranging from innovation strategies to process improvements to green manufacturing. MEP also works with partners at the state and federal levels on programs that put manufacturers in position to develop new customers, expand into new markets and create new products.



About the Manufacturing Extension Partnership Advisory Board

In August 2007, Congress passed the America Competes Act (P.L. 110-69) establishing the Manufacturing Extension Partnership Advisory Board. The Board meets biannually to provide advice and recommendations on:

- The programs, plans and policies of MEP;
- The soundness of MEP's plans and strategies; and
- Current performance in relation to MEP program plans.

The MEP Advisory Board consists of members broadly representing the interests and needs of the manufacturing sector. The MEP Advisory Board met twice in 2012 and performed its three chartered functions. In addition, individual Board members worked directly with the MEP staff and attended relevant meetings to collect information on MEP program status and planning activities.

This report highlights the Advisory Board observations, findings and recommendations. Detailed minutes for MEP Advisory Board meetings are available on the MEP website at: <http://www.nist.gov/mep/advisory-board.cfm>.

Board Members



James R. (Jim) Bean, Vice Chair

(Term expires: April 2013)

Jim Bean is the President and CEO of Preco Electronics, Inc. a wholly owned subsidiary of Saber Holdings, Inc. Preco is recognized worldwide as an innovator, designer and manufacturer of vehicle communications systems. Prior to Preco, Jim had over 20 years of operational experience with Fortune 500 companies including National Semiconductor Corporation, Apple Computer, and Sun Microsystems. He held positions in both domestic and international manufacturing. While at Sun, Jim was part of the executive team responsible for taking the company public and its rapid growth as a market leader. In addition to his experience as an employee in the international economy, Jim has served on the Board of Directors for both public and private organizations. He currently serves as the chair on the advisory board for TechHelp, the MEP-affiliate center in Idaho. Jim holds a degree in Industrial Engineering from New Mexico State University in Las Cruces, New Mexico.



Dennis Dotson, Chair

(Term expires: April 2016)

Dennis Dotson is a third generation foundryman serving as Chairman of Dotson Iron Castings in Mankato, Minnesota. The company is in the top tier of foundry suppliers and has been acknowledged by the industry's society as the "Metalcaster of the Year" out of 2,000 North American facilities. Denny has been very active in the industry serving on various boards, past president of the Ductile Iron Society and is the current president of the American Foundry Society. He is also chairman of People Driven Performance, a startup company focused on internal communications. Dennis has a strong commitment to education and is a trustee emeritus of the Minnesota State Colleges and Universities, the governing board for the 35 post-secondary state institutions. He is a U.S. Navy veteran and a graduate of the University of Notre Dame (1967 BBA) and the University of Chicago (1968 MBA). He currently serves on the board of Enterprise Minnesota (a NIST MEP affiliate). The constant in his career has been the involvement in many new community, educational and business startups.



Eileen Guarino

(Term expires: May 2014)

Eileen Guarino is currently President and COO of Greno Industries located in Scotia, New York. Ms. Guarino attended the University of South Carolina. Early in her career, Ms. Guarino was a buyer for a clothing company which represented apparel in various resort locations throughout SC, Florida and Georgia. There she developed a woman's clothing line that retailed in nine locations. Her responsibilities ranged from coordination of the annual buys to importing fabrics to be manufactured in the US. In 1988, Ms. Guarino relocated to upstate New York, where she lent her talents to her new career in the manufacturing parts business as what she calls "part of the Greno team". Greno Industries is a family owned business, and is a recognized minority women owned business in New York State. Ms. Guarino has worked to expand the company's clients to now include successful relationships in new markets throughout Europe and Asia, as well as leading the company's strategic planning growth efforts of its 60,000 sq. ft. manufacturing facility. As a result of her "Greno team" approach, she works to enhance the personal and professional growth of employees to be trained in Six Sigma and Lean Principles. One of her successes in her business career, of which she is most proud, was creating and implementing an in house high school MFG internship training program with local high school students. Ms. Guarino was the past President of the Tech Valley Global Business Network, and current Vice President of the Center of Executives Network of Manufacturing. She is also an active civic member in her chambers of commerce and the Women's Business Enterprise Network Council.

Board Members



Edward W. (Ned) Hill

(Term expires: April 2014)

Edward W. (Ned) Hill is Dean, Professor, and Distinguished Scholar of Economic Development at Cleveland State University's Maxine Goodman Levin College of Urban Affairs. He is also a Nonresident Senior Fellow of the Metropolitan Policy Program at The Brookings Institution, a Nonresident Visiting Fellow of the Institute of Government at the University of California at Berkeley, and Adjunct Professor of Public Administration at South China University of Technology. He edited *Economic Development Quarterly* from 1994 to 2005. Hill is a member of the board of directors of MAGNET, the MEP affiliate organization in Northeast Ohio. Ohio Department of Development Director Christine Schmenk appointed Hill to Ohio's Manufacturing Task Force in 2011 and he has been a member of Ohio's Cooperative Education Advisory Council since 2009. Hill and his team completed a major study of advanced manufacturing for Pennsylvania's Industrial Resource Network Program in 2010. In 2011 and 2012 they advised JobsOhio, Ohio's economic development organization, and Northeast Ohio's economic development network on development strategy in 2011 and 2012. The Ohio Manufactures Association presented Hill with its Legacy Award in 2005.



James Jacobs

(Term expires: March 2013)

James Jacobs is the President of Macomb Community College in Michigan. Dr. Jacobs is a national expert on workforce development and community colleges with more than two decades' experience working through community colleges to meet the training needs of manufacturers in multiple industries. At Macomb Community College, Dr. Jacobs initiated the Machinist Training Institute, a college program that trained entry level machinists for small and medium sized manufacturing firms. This program was the first NMCS (National Metalworking Standards Council)-certified machining center at any community college in the nation. Dr. Jacobs was also responsible for the establishment of community college training programs between the Industrial Technology Institute and Michigan community colleges. He also coordinated the Mid-American Training Group, a group of 15 major community colleges in the mid-west that performed education and training activities with auto and steel manufacturers in their communities. He has also conducted major studies on the impact of new manufacturing technologies on skill requirements of firms both for the U.S. Department of Education and the U.S. Department of Labor.



Kenneth G. (Ken) Priest III

(Term expires: April 2013)

Ken Priest is the President and Chief Executive Officer of Kenway Corporation, Chief Executive Officer of Maritime Marine LLC and a member of Priest and Priest LLC. After working as Project Engineer and Engineering Manager of St Regis/Champion/International Paper Company Bucksport Me for over 10 years, he acquired ownership in the family business Kenway Corporation. He has diversified the company from a manufacturer serving the composite needs of the Pulp and Paper Industry to a leader and innovator in composites for a variety of industries including Defense, Marine, Power Generation, Waste Water Treatment and Aquaculture. Ken serves on the Board of Directors, Maine Composites Alliance; MEP-affiliate center in Maine; Past Board of Directors, American Composites Manufacturing Association; Maine Technology Institute; Member of Compliance Advisory Panel Maine Department of Environmental Protection. He has a BS in Engineering from the University of Maine and is a licensed Professional Engineer in the State of Maine.



Mark Rice, Past Chair

(Term expires: March 2014)

Mark Rice is President of the Maritime Applied Physics Corporation. After working for several engineering firms and U.S. Government laboratories, he formed Maritime Applied Physics Corporation (MAPC) in 1986. MAPC has both R&D and production work with offices in Maryland, Virginia and Maine. MAPC currently designs and manufactures electro-mechanical systems that range from submarine and surface ship components to commercial motion control systems. The company has recently completed two unmanned surface vessels for the U.S. Navy along with prototype distributed power and water systems for use by individual families in Afghanistan. MAPC has had several export contracts supplying ship components to foreign shipbuilders. Mark is a member of the local District Export Council for the Department of Commerce. He has a BA in Physics from the University of Maine and is a licensed Professional Engineer.



Vickie Wessel

(Term expires: May 2014)

Vickie Wessel is the founder and President of Spirit Electronics, Inc. She has more than 30 years of experience in the electronics industry, including sales, marketing, procurement, operations, contracts, finance and quality systems management. Since its founding in 1979, Spirit has grown to support broad line electronic component distribution, supply chain solutions, and component value-added services. Her commitment to continuous improvement is evidenced by Spirit's ISO9002 and AS9000 certifications and her on-going participation in lean manufacturing and process improvement activities. Vickie's passion for improving the contracting environment for the benefit of small businesses throughout the nation has led to her active affiliation with the National Minority Supplier Development Council, the Grand Canyon Minority Supplier Development Council, the Aerospace Industries Association Supplier Management Council (SMC), the Arizona Minority Business Enterprise Center, and the Women's Business Enterprise National Council. In 2005, she received AIA's "Amelia Earhart Award", recognizing women who achieve excellence in the aerospace and defense industry.



Ed Wolbert

(Term expires: May 2014)

Ed Wolbert is the president of Transco Products Inc., a leading U.S. medium-sized manufacturer and contractor dedicated to nuclear power. Mr. Wolbert has been in the nuclear power industry for over 30 years, has been with Transco for the last 28 years, and has served as its president for the last 16 years. Mr. Wolbert oversees the daily strategic direction and tactical operations of the company, including direct guidance of its foreign activities. Mr. Wolbert is a member of the American Nuclear Society, and is also a member of ASTM (serving on the C16 committee). Mr. Wolbert continues in his service on the governing board of the Illinois Manufacturing Extension Center, the Illinois affiliate of the NIST MEP Program. Mr. Wolbert continues to serve on the Department of Commerce's Civil Nuclear Trade Advisory Committee (CINTAC), after previously been both the committee's vice-chairman and chairman, and has been a vocal advocate and champion for small/medium size enterprises in the nuclear power market.

Advisory Board Activities in 2012

The Advisory Board held two meetings in 2012. The Spring meeting was held in conjunction with the Manufacturing Innovations 2012 Conference in Orlando, Florida. The second meeting was held in September 2012 in Gaithersburg, Maryland. During these two meetings, the Advisory Board received presentations and held discussions on a number of topics relevant to the future of the MEP program. These included:

- Current state of manufacturing
- National MEP system trends
- How to revitalize U.S. manufacturing
- MEP's Next-Generation strategies for workforce development
- NIST manufacturing initiatives
- National Network of Manufacturing Institutes (NNMI)

During the Spring 2012 meeting, the MEP Advisory Board had the opportunity to engage with experts focused on the current state of U.S. manufacturing as well as representatives from MEP Centers and Center boards. There were dedicated breakout sessions allowing the MEP Advisory Board members to meet in smaller groups with MEP Center Board representatives. This activity built on the efforts started in 2011. The MEP Advisory Board finds these engagements invaluable and support plans to continue additional engagements in 2013. There are two specific objectives for these exchanges:

1. Enhance communication between local boards and the NIST MEP board regarding the strategic future of the MEP program with particular emphasis on gaining regional and sector-specific input from the local level; and
2. Provide the local board members with an opportunity to provide input into the activities and recommendations offered by the NIST MEP board.

MEP Partnerships and Activities Highlighted in FY2012

National Network for Manufacturing Initiatives

On March 9, 2012, President Obama announced a new \$1 billion proposal for a National Network for Manufacturing Innovation (NNMI) to catalyze manufacturing innovation institutes around the country. The NNMI will be 15 manufacturing innovation institutes focused heavily on public and private partnerships. The role of the NNMI is to help bridge the gap between basic research and industry with technologies that can be commercialized. The related report released by the Advanced Manufacturing Partnership (AMP) Steering Committee emphasized the importance of sustaining investments in advanced science and technology. Of the 16 recommendations, the Steering Committee called for the “establishment of a national network of Manufacturing Innovation Institutes (MIIs) to link the gaps between research conducted in universities and national laboratories, and production enterprises, with a focus on small and medium enterprises (SMEs).”

In considering the structure and implementation of the NNMIs, the MEP Advisory Board recognizes the role the MEP can play in connecting small- and medium- sized manufacturers to the NNMIs and transferring their innovations throughout the industry. MEP has experience in technology scouting, working to identify technologies needed by small- and medium- sized manufacturers, and finding the resources available to address their needs. In addition, MEP’s supplier scouting services help to identify domestic manufacturing capabilities to support the needs of original equipment manufacturers and federal agencies. Using these tools and the MEP network, these services could be expanded to provide direct input to NNMI on manufacturers’ capabilities and technology needs that could be supported through a technology-specific NNMI. This could provide the NNMI with valuable market research on company needs and capabilities as well as technologies available in the research laboratories.

Center Operations Review and Evaluation

During 2012, MEP began implementing a new evaluation system to assess the work and impact of the Centers holistically. The Center Operations Review and Evaluation (CORE) system will utilize a balanced approach to performance evaluation with greater focus on growth through innovation and market penetration. Centers will be evaluated on a number of dimensions including: activities, outcomes, and impacts; quantitative and qualitative measures; short-term current performance and investment in longer-term initiatives; and lagging and leading performance measures. The evaluation will look at four broad categories of metrics:

1. Center Diagnostics. This section is based on feedback and information from NIST MEP related to the Center’s actions and activities. Specific metrics assessed are: Innovation Practice, Next Generation Strategy, Market Understanding, Business Model, Partnerships, and Financial Viability.
2. Impact Metrics. This section is based on client feedback and information related to the services supplied by the Center and the relationship the Center maintained with the client. This information is aggregated across all completed client surveys. Specific metrics assessed are: New Sales, Retained Sales, New Jobs per Million Dollars in Federal Funding, New Investment, Cost Savings, Clients per Million Dollars in Federal Funding, and New Clients per Million Dollars in Federal Funding.

MEP Partnerships and Activities Highlighted in FY2012

Center Operations Review and Evaluation *continued*

3. Opportunities and Challenges. This section allows for thoughtful benchmarking for Centers and provides additional context to stakeholders on both internal and external factors that may explain performance in the metrics discussed above. Additionally, this category allows the system to identify and transfer best practices efficiently. To gather this information, some of the questions asked in this category include: What is the center doing well that others could learn from? What can the center learn from other centers?
4. Panel Review. The most recent Panel review of the Center is an important document that informs the analysis of the metrics discussed in center diagnostics and impact metrics.

Using CORE, NIST MEP will focus on the health of their entire Center operation and allow for concerns to be addressed and areas of strengths to be shared across the system.

Continuing the MEP focus on Innovation

NIST MEP continues to position the MEP system to provide business leaders with a reliable process for faster commercialization of new products and expansion into new markets. MEP's innovation services are designed to both teach manufacturing companies the concepts of innovation and to help these companies implement systems to support continuous innovation. In 2012 NIST MEP continued to make significant investments in the professional development of MEP Center staff and partners to support a nation-wide network of professionals able to deliver consistent and high-quality innovation services to the nation's small and mid-sized manufacturing community.

Innovation services that are rooted in a foundation of continuous improvement and innovation are critical to the success of American manufacturers. To stimulate a culture of continuous innovation within a manufacturing company the MEP Centers need to engage at the strategic level to both understand the overall direction of the company and provide an appropriate suite of solutions and services.

As MEP continues to focus on innovation services, the MEP Advisory Board is interested in feedback from additional MEP Centers and clients on the effectiveness and impact of these offerings.

MEP Competitive Awards

Advanced Manufacturing Jobs and Innovation Accelerator

The Advanced Manufacturing Jobs and Innovation Accelerator Challenge was created to support initiatives that strengthen advanced manufacturing at the local level. These public-private partnerships consist of small and large businesses, colleges, nonprofits and other local stakeholders that “cluster” in a particular area. The funds will help the winning clusters support local efforts to spur job creation through a variety of projects, including initiatives that connect innovative small suppliers with large companies, link research with the start-ups that can commercialize new ideas, and train workers with skills that firms need to capitalize on business opportunities.

The Advanced Manufacturing Jobs and Innovation Accelerator Challenge is a partnership between the U.S. Department of Commerce’s Economic Development Administration and the National Institute of Standards and Technology’s Manufacturing Extension Partnership, the U.S. Department of Energy, the U.S. Department of Labor’s Employment and Training Administration, the U.S. Small Business Administration, and the National Science Foundation.

The 10 winning initiatives – based in Arizona, California, Michigan, New York, Oklahoma, Oregon, Pennsylvania, Tennessee, and Washington– each received approximately \$2 million to fund projects that are expected to train a total of 1,000 workers and help nearly 650 companies leverage a cluster’s resources in their regions and create jobs across the country. MEP Centers are involved in 9 of these initiatives, and the best practices and innovations of their work may be spread to other small- and medium- sized manufacturers through the MEP system.

Building Construction Technology Extension Program

This past year, NIST MEP partnered with the Department of Energy to launch the Building Construction Technology Extension Program (BCTEP) pilot program to address increasing energy efficiency in commercial and industrial building operations. BCTEP focuses on “re-tuning,” which is a systematic semi-automated process of identifying operational problems in commercial and industrial buildings. Re-tuning leverages data collected from the building automation system to identify opportunities to improve the building operations and provides guidance on implementing corrections at no cost or very low cost, leading to reduction in the overall energy consumption.

This innovative services initiative assists small- and medium-sized manufacturers in:

1. reducing their energy usage, greenhouse gas emissions, and environmental waste to improve profitability;
2. accelerating the domestic commercialization of new product technologies, including components for renewable energy and energy efficiency systems; and
3. identification of and diversification to new markets, including support for transitioning to the production of components for renewable energy and energy efficiency systems.

MEP Competitive Awards

Building Construction Technology Extension Program *continued*

The BCTEP program made 3 awards to MEP Centers: Delaware Valley Industrial Resource Center (DVIRC, Philadelphia, PA), New York State Empire State Development (NY ESD, Albany, NY) and the Corporation for Manufacturing Excellence (Manex, San Ramon, CA), totaling over \$1M.

Through these competitive award programs, NIST MEP continues to expand and strengthen partnerships with other federal agencies. These partnerships provide the opportunity to leverage federal resources and expand opportunities for manufacturers. The NIST MEP Advisory Board encourages the MEP program to continue to explore opportunities to partner with other programs that support the shared mission of a strong U.S. based manufacturing industry.

MEP Advisory Board 2012 Recommendations

1. Recommendation that MEP and the Centers consider all possible sources of funds (including state, local, other federal, outside grants and service fees), specifically those that are targeted to manufacturing. Additionally, the Advisory Board would like to see more return on investment figures and analysis of MEP's growth strategy in order to track success.
2. Recommendation on improving services provided to U.S. manufacturers including: development of a financial stability model for SMEs, and increasing focus on workforce development tools and services offered to SMEs. The Board stressed in their recommendations that in the federal-level and new initiatives, the existing MEP system of centers is considered and utilized rather than reinventing the infrastructure.
3. Recommendations to enhance communication throughout the system:
 - a. NIST MEP should consider rotating staff through the individual Centers to maintain a sense and understanding of Center perspective.
 - b. Centers need to be engaged with the changes to the evaluation system and implementation of Center Operations Reporting Evaluation (CORE). There is still some trepidation from the Centers. The focus needs to be on the overall strategy and how to achieve it – not on the measures themselves.
 - c. Any National Manufacturing Strategy needs to be a single strategy with an understanding of the crucial role of small businesses clearly articulated.
 - d. Additional small- and medium- sized manufacturer input needs to be put into the planning of advanced manufacturing initiatives. The voice of the small- and medium-sized manufacturer needs to be more fully integrated into planning processes that may otherwise be dominated by large corporations and universities.

Looking Ahead

The MEP Advisory Board priorities in FY 2013 will continue to focus on the areas most essential to U.S. manufacturing. To do this the Advisory Board will continue to review the progress on updating the NIST MEP strategic plan. The revision will clarify the growth framework and detail more specific steps to take. The Board also plans to strengthen the strategic alignment between NIST MEP and the Centers through increased communication about NIST MEP changes and plans.

In order for MEP to continue as an effective and efficient program, the Advisory Board hopes to align the NIST MEP performance system with the realities of the program. With recent changes such as CORE and the focus on innovation, this realignment has begun. As FY 2013 progresses the Advisory Board will consider significant programmatic changes that would assist in the revitalization of U.S. manufacturing. The Advisory Board looks forward to all interested parties collaborating together towards shared understanding, strategies, outcomes, and impact.

Finally, the Advisory Board will continue to support the national discussion of the importance and value of manufacturing. MEP is part of the front line in educating decision makers and the public, dispelling the perception of an antiquated, low-paying industry and instead promoting the advanced technology, high-skill and groundbreaking work many manufacturers engage in every day.