

# **Model Based Enterprise A MEP Center Perspective**

Presented by

## **Catalyst Connection**

The MEP Center of Southwestern Pennsylvania

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[www.Model-Based-Enterprise.org](http://www.Model-Based-Enterprise.org)

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# Quick MEP Overview

**The Manufacturing Extension Partnership is a national network of providers that assist manufacturers to reduce costs, improve quality and grow revenue.**

- Provides consulting and training, utilizing industry best practices
- Funded by the National Institute of Standards and Technology
- Consists of 59 MEP Centers having 393 locations nationwide, employing nearly 1600 manufacturing professionals
- Affiliated with nearly 2500 partners, with specialized expertise
- 22 years of experience with small to medium manufacturers
- The only federal program dedicated to small-medium sized manufacturing



# MEP National Results

## The MEP Centers are uniquely positioned:

- Conduct outreach to 189,000 of SMEs (in 2009) to assess needs and provide resources
- Complete projects with over 30,000 companies annually (3 year average)
- Return of \$20 in independently reported client impact for every dollar invested

## Impact reported by clients to NIST in 2009 (a recession year):

- Created or retained 57,000 jobs
- Increased or retained sales of \$10.5 billion
- Invested \$2.19 billion into their plants



# Next Generation Manufacturing Principles

- **Workforce** – Establishing and Enabling a Strong Workforce
- **Continuous Improvement** – Performance Improvement as a Foundation
- **Technology Acceleration** – Leveraging Technology to Stimulate Business Growth
- **Sustainability** – Embracing the Green Economy
- **Supplier Development** – Responding to Evolving Supply Chains



# Next Generation Manufacturing Principles

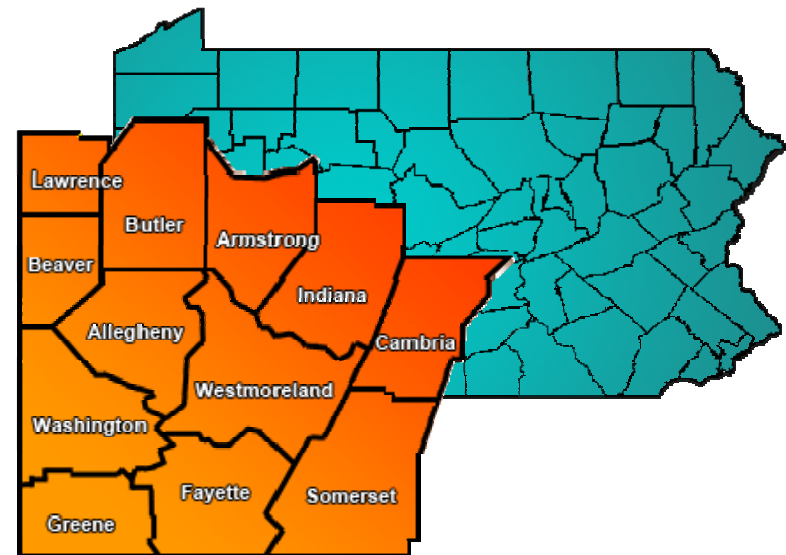
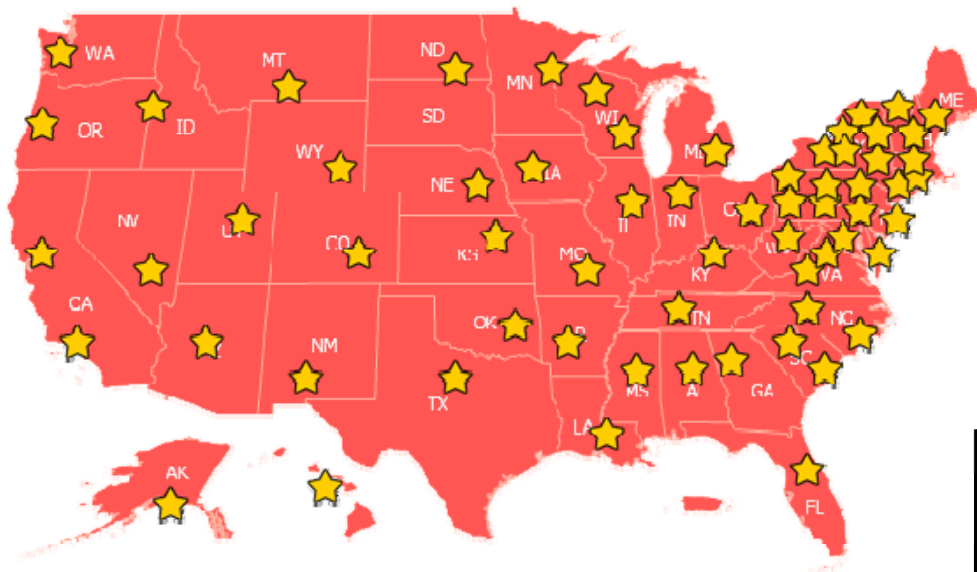


## **MEP Supply Chain Resources**

- **The MEP system is uniquely qualified as a prime resource for increasing the competitiveness of U.S. supply chains**
- **MEP works with OEMs and government buyers to understand their expectations regarding supplier performance**
- **MEP has a long track record of improving the competitiveness of these suppliers through a wide array of performance improvement services**
- **Suppliers that are lean are highly valued in supply chains because they are faster, more flexible, focused on quality and cost competitive**



# MEP: A National Network with Regional Impact





# Catalyst Connection – Pittsburgh's MEP





# MEP Supply Chain Services for ARDEC – Small Manufacturers Defense Initiative

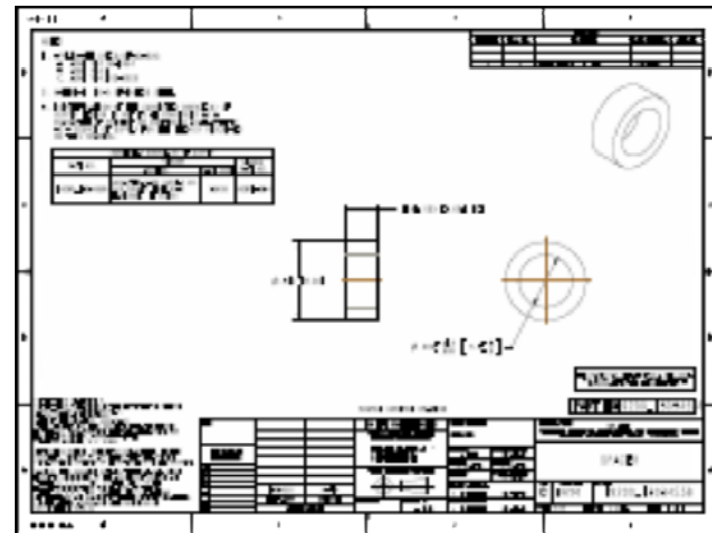
- ARDEC's need: to streamline supplier qualification and supply delivery model for prototyped parts expressed by ARDEC
- Analyze ARDEC's specific supply needs and supplier qualification requirements
- Create processes and tools that efficiently qualify suppliers that meet ARDEC's technical and quality requirements
- Create a business model that integrates within ARDEC's RFQ and TDP processes
- Enhance supplier management with assessments, scorecards and improvement /technical assistance



# Lessons Learned from ARDEC Project

1. Catalyst Connection and ARDEC have successfully demonstrated MEP is an effective intermediary between DoD buyers and manufacturers
2. The procurement process can be a “Tennis Match”
3. Dumbing down TDPs
4. Is There a Better Way?

## Model Based Enterprise



# MBE - A Center Perspective

- MBE is consistent with MEP mission and services
- Fortune 500 practices translated for smaller manufacturers
- Point of delivery: at the center level
- National network of resources and relationships, with local relevance



# The MBE Website

**Purpose:** an accessible and practical resource for MBE awareness and knowledge

- **Updates:** events, training, MBE news
- **Information:** white papers, presentations, videos
- **Guidance:** referrals to experts (MEP, DoD)
- **Social media tools:**
  - ✓ LinkedIn: a “live extension” of the website
  - ✓ YouTube: video presentations



# The MBE Website

## Who Does it Serve?

- **Manufacturing Suppliers**
- **OEM Buyers**
- **Government Buyers**
- **Market Intermediaries**





# MBE

## Model Based Enterprise

The Next Generation of Defense Supply Chain



- Home
- Model Based Enterprise
- Defense Supply Chain Management
- MBE Benefits
- Model Based Enterprise Resources
- Getting Started with Model Based Enterprise
- 2009 Supplier Assessment
- MBE Events
- ITAR Compliance
- About Us
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- SiteMap
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**LinkedIn**

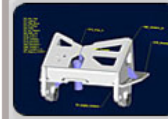
**Next Event**  
 MBE Supplier Education and Training Summit  
 University of Alabama  
 Huntsville  
 February 22, 2011

### Model Based Enterprise

Welcome to the **Model Based Enterprise (MBE)** website. Our intent is to provide you with an overview of what is going on in the area of using 3D models and Technical Data Packages as a single source model throughout the lifecycle of a product. MBE is an integrated and collaborative environment, founded on 3D product definition (Model Based Definition) shared across the enterprise, enabling rapid, seamless, and affordable deployment of products from concept to disposal.

The Army Research Laboratory, in collaboration with several OEM and government buyers, is working in an R&D environment to develop MBE capabilities in an effort to cut waste and develop a lean process. Through this new technology, suppliers will benefit through the reduction of error rate and re-work as well as reduced labor in data and document creation. MBE also reduces the time to mission by making it possible to quickly produce 'build-to' packages, that is, sets of documents that contain all data required to manufacture components, and provide all the information you need to begin production.

The practice of using 2D drawings as the master deliverable in the design process is fading fast, as many companies are adopting a new approach called MBE, where the 3D model is the central source of all design information. One key driver in this trend is the development of new standards for 3D model annotation which specify that 3D drawings now include all information to satisfy the needs of downstream users.



#### What is Model Based Enterprise?

Model Based Enterprise is a fully integrated and collaborative environment founded on 3D product definition detailed and shared across the enterprise to enable deployment of products from concept to disposal. [More](#)



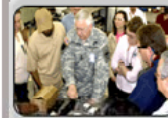
#### Defense Supply Chain Management

MBE has been proven to dramatically cut nonrecurring costs as well as the time needed to bring it to market. The Department of Defense (DoD) has begun to adopt it for many of its new contracts. [More...](#)



#### Model Based Enterprise Resources

Our Resource Center provides the latest information and media regarding model based enterprise. Keep up to date with new information in one resource location [More...](#)



#### How do I get Started With MBE?

Model based enterprise is more than a new technology it is a cultural shift in process improvement much like lean manufacturing but in using technology as a part of your manufacturing process. [More..](#)



#### What is ITAR Compliance?

ITAR is a set of government regulations that control the export and import of defense-related articles and services. To participate in MBE a company must be ITAR compliant, Learn more about ITAR and becoming compliant. [More..](#)

Contact Us

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