

# MEP: Helping U.S. Manufacturers Grow, Compete, and Enter New Markets

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## “Building a U.S. Battery Industry for Electric Drive Vehicles: Progress, Challenges, and Opportunities”

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National Institute of Standards and Technology (NIST)  
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# TODAY'S PRESENTATION



**MEP** • MANUFACTURING  
EXTENSION PARTNERSHIP

§MEP Program Overview

§MEP Innovation and Technology Focus

§MEP Supplier Development Efforts

- Market Diversification for Manufacturers
- Supplier Scouting – Bringing Business Opportunities to Manufacturers

§Summary



# THE MEP PROGRAM IN SHORT...

§ MISSION – “To act as a strategic advisor to promote business growth and connect manufacturers to public and private resources essential for increased competitiveness and profitability. ”

§ Program started in 1988 to address “market failures” affecting competitiveness of small U.S. manufacturers.

§ 59 centers with ~ 400 field locations

- System wide, Non-Federal staff is ~ 1,600
- Contract with over 3,000 third party service providers



**MEP • MANUFACTURING  
EXTENSION PARTNERSHIP**

§ MEP System budget ~ \$300M – Federal / State / Industry

- 1/3 Federal (\$124.7M FY10), ~1/3 State and ~1/3 Industry (fees for services)

§ MEP Program and Center performance measured per impact of services on client firms.

- Approximately 33,000 manufacturing client interactions in FY09 (projects, workshops, etc.)
- Significant impacts obtained: sales, jobs, cost savings, capital investment



## MANUFACTURING EXTENSION PARTNERSHIP

# MEP Office Locations

[www.mep.nist.gov](http://www.mep.nist.gov) – or – 800-MEP-4MFG

**59 “Centers”  
1600 Field Staff  
400 Service Locations**



## What MEP Does

§ Focus on meeting manufacturer's short term needs – in the context of overall company strategy

§ MEP Center areas of common strength

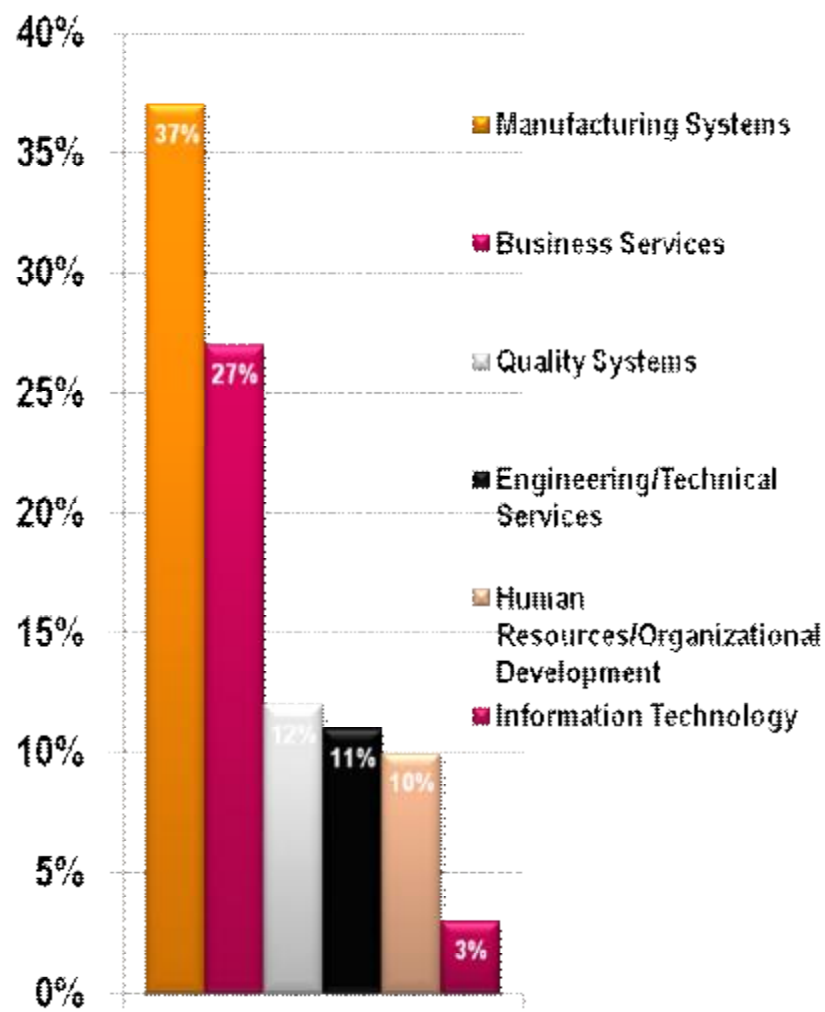
- Engineering Services for products and processes
- Growth Services – new or expanded market opportunities
- Lean Manufacturing
- Quality Systems
- Environmental Services
- Workforce Development



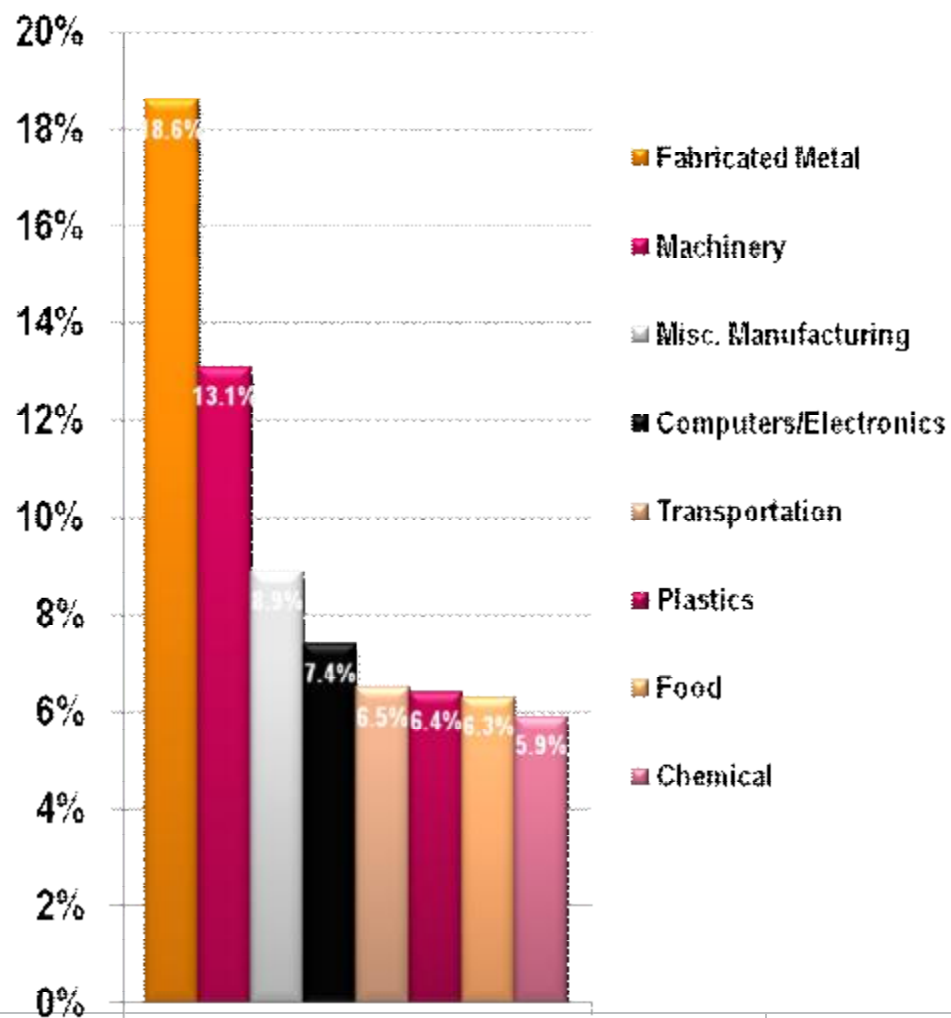
## MANUFACTURING EXTENSION PARTNERSHIP

# MEP Services – FY2009 Project Data

### *Type of Assistance*



### *Top Industries Served*



## Client Impacts Resulting from MEP Services

§ Increased/Retained Sales	\$9.1 Billion
- <i>New Sales</i>	<i>\$3.6 Billion</i>
- <i>Retained Sales</i>	<i>\$5.5 Billion</i>
§ New Client Investment	\$1.7 Billion
§ Cost Savings	\$1.4 Billion
§ Jobs Created/Retained	52,948
- <i>Created</i>	<i>13,949</i>
- <i>Retained</i>	<i>38,999</i>

*Independent follow-up of MEP clients with projects completed in FY 2008. Of the 8,921 clients selected to be surveyed, 7,648 MEP completed the survey in FY2009. Measures are a conservative snapshot of benefits, and recurring or cumulative benefits may be larger.*



# MEP and the U.S. Battery Industry

2005-2009

## § MEP Centers conducted 120 projects for companies using NAICS Code 33591, Battery Manufacturing

- 47 different companies, 26 different states (6 in PA), 28 different MEP Centers
- Company size: 1-19=9 20-49=8 50-99=6 100-249=8 250-499=12 >500=4
- Addressed diverse needs: lean/six sigma, web design, marketing, roadmapping, ISO certification, export/intl trade assistance, energy, supply chain mgt, product development, growth, ...

## § Impacts Reported via 3<sup>rd</sup> Party Surveys:

○ Sales (Retained and New)	\$68,669,200.00
○ Cost Savings	\$34,520,129.00
○ Investment	\$31,679,361.00
○ Jobs (Created and Retained)	1041





# MEP and the U.S. Battery Industry 2009

## § MEP Centers conducted 15 projects for Battery Mfg companies

- 12 different companies, 10 different states, 10 different MEP Centers
- Company size: 1-19=4 20-49=2 50-99=2 100-249=1 250-499=3 >500=0
- Addressed diverse needs

## § Impacts Reported via 3<sup>rd</sup> Party Surveys:

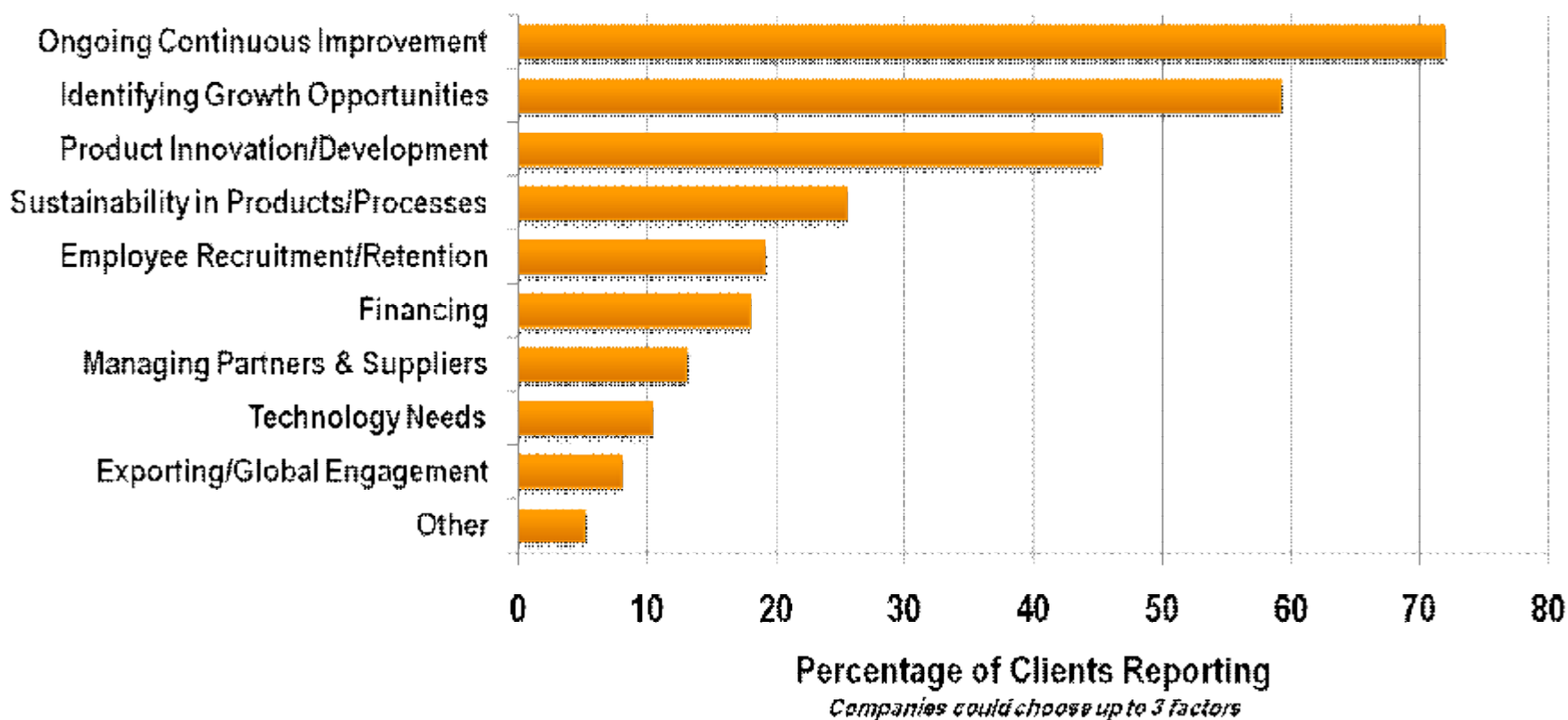
○ Sales (Retained and New)	\$8,560,000.00
○ Cost Savings	\$1,701,000.00
○ Investment	\$1,926,501.00
○ Jobs (Created and Retained)	274



# Current Landscape for U.S. Manufacturers

## *Client Challenges*

*As you look forward over the next 3 years, what do you see as your company's three most important strategic challenges?*



*Data from MEP Clients responding to a Client Impact Survey conducted in April/May 2009*



# MEP Strategy

§ Increasing manufacturers' profitable growth is the overarching strategy for the MEP.

§ The approach is to provide a 20/20+ framework for manufacturers:

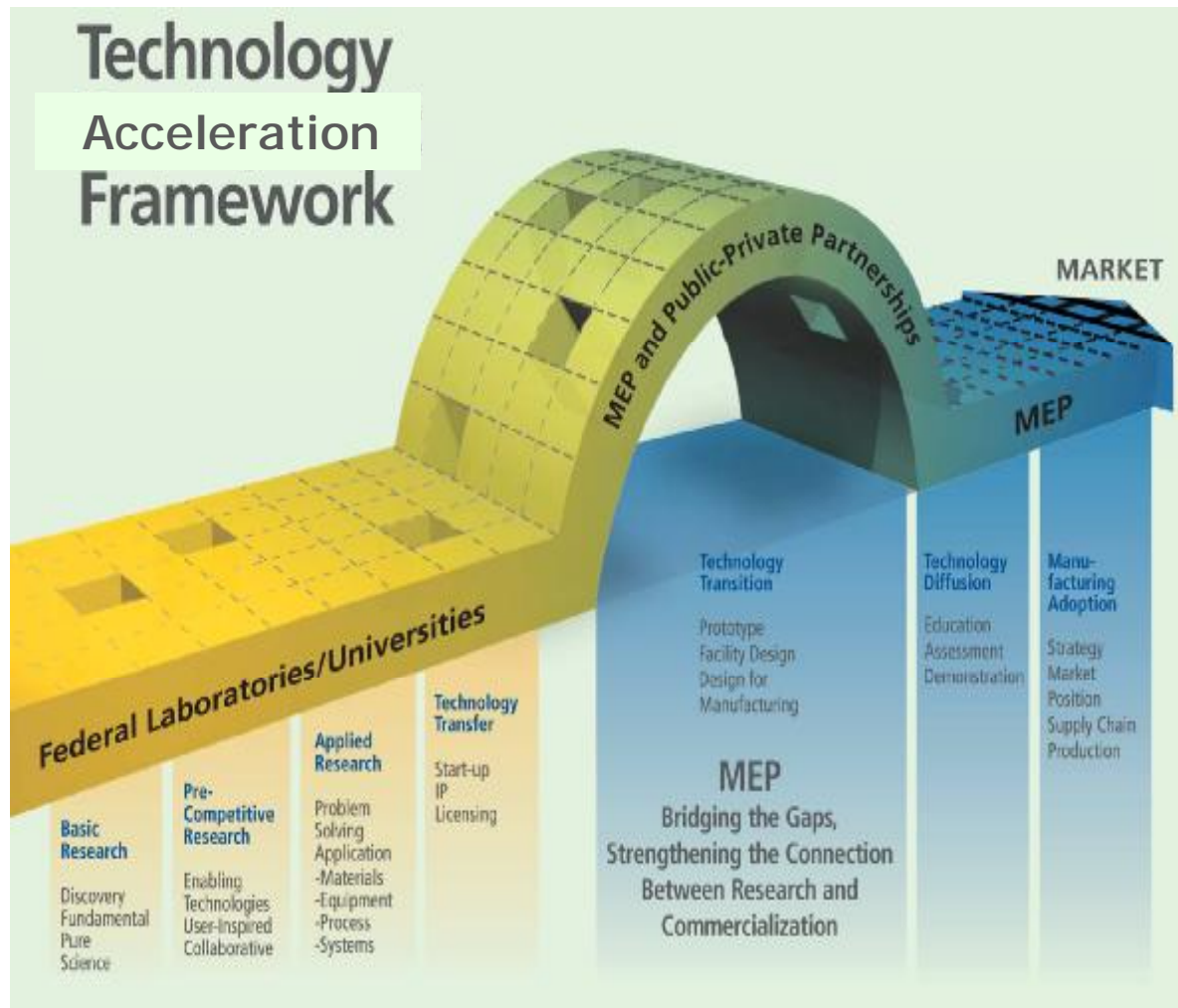
- Take 20% off bottom line expenses through lean, quality, & other programs targeting plant efficiencies – which frees up capacity for business growth.
- Add 20% to top line sales through business growth services focused on the development of new sales, new markets, and/or new products.

§ There are 5 key areas of the strategy:

- Continuous Improvement
- Technology Acceleration
- Supplier Development
- Sustainability
- Workforce



# Technology Acceleration

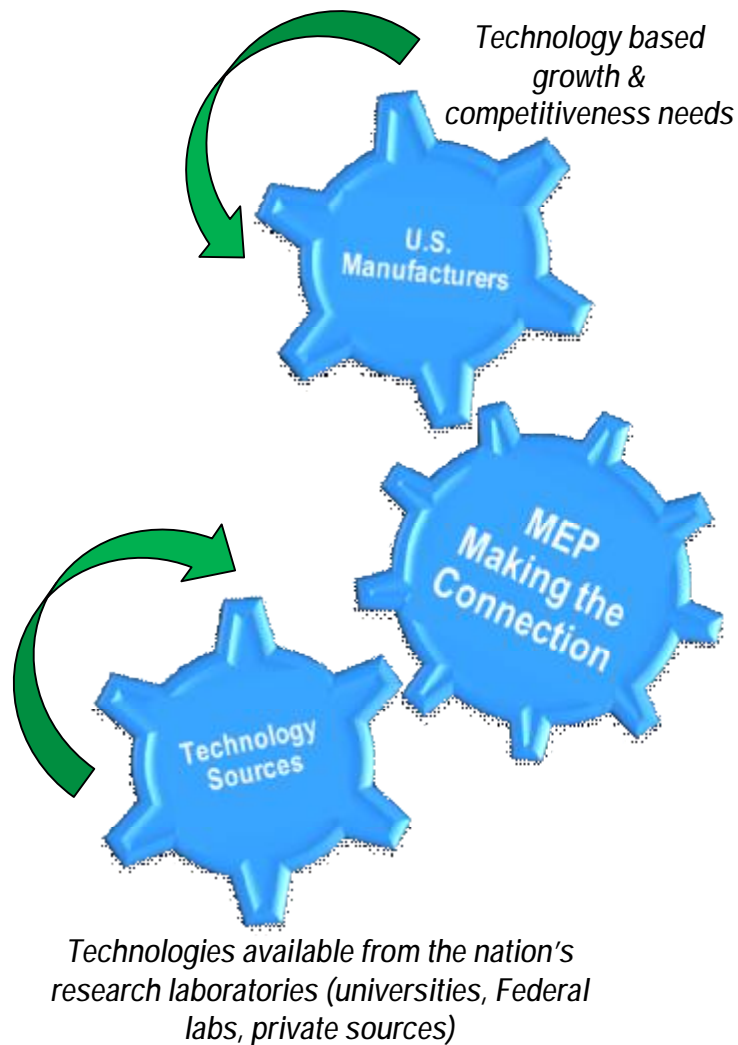


***FOCUS:*** Systematically identify, and capitalize on, opportunities to leverage technology into the processes, products, and services of manufacturers



## MANUFACTURING EXTENSION PARTNERSHIP

# MEP Approach to Connecting Manufacturers with Technology and Business Opportunities



- MEP accelerating technology deployment, utilization by getting needs of U.S. manufacturers to Technology Sources , getting new technologies translated into real-world product concepts by:

- § Connecting manufacturers with solutions, opportunities
- § Providing development & commercialization assistance
- § Leveraging 3<sup>rd</sup> party partners

- Tools / manufacturer assistance mechanisms being tested, developed, supported by MEP:

- § National Innovation Marketplace, Technology Scouting, Edison Nation, others



# Supplier Development

- § Data shows that 60-80% of U.S. manufacturers operate as parts of supply chains – rather than developing and producing products for final retail customers.
- § Primes / OEMs / All companies cannot compete without constantly improving supply chains
  - Supplier Development
  - Finding new suppliers
  - Finding new technology
  - New Sources
- § Small and medium-sized manufacturers cannot stay in business without sales to Primes / OEMs / Customers
  - Most small manufacturers sell b-2-b
  - Delighting Current Customers
  - Finding New Customers



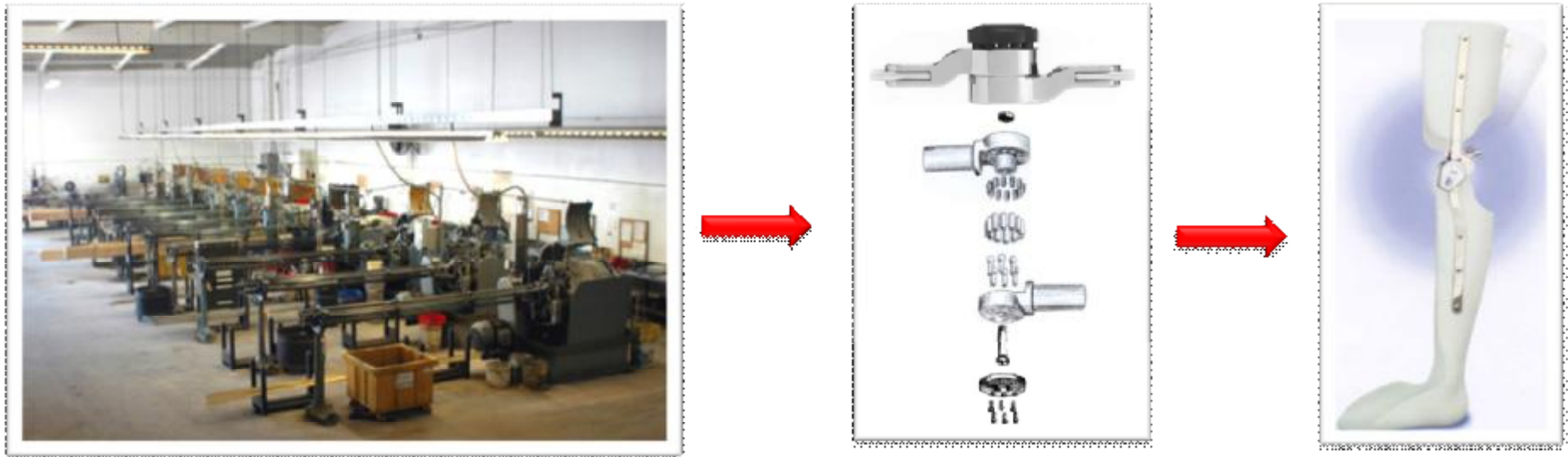
FOCUS: Help manufacturers strategically understand, maintain, and expand their positions in supply chains





# Market Diversification for Manufacturers

With an assessment and defined scope, MEP matches market trends and data with a company's specific **Process Capabilities** to ID Market Diversification opportunities.



### Medical Prosthetics

In the example above, the Michigan Manufacturing Technology Center (MI MEP) used this process to help a particular company realize they could use the **same equipment** and **same manufacturing process** to move from Automotive to Medical Appliances.



# Understanding Opportunities for Growth

Markets \ Products	Existing	New
	Existing	New
Existing	<u>MARKET PENETRATION</u> Lowest Risk Least Investment Cost No business cycle benefits Limited growth potential	<u>PRODUCT DEVELOPMENT</u> Moderate Risk Moderate Investment Cost Some business cycle benefits Moderate growth potential
New	<u>MARKET DEVELOPMENT</u> Moderate Risk Small Investment Cost Limited bus. cycle benefits Moderate growth potential	<u>DIVERSIFICATION</u> Highest Risk Highest Investment Cost Highest bus. cycle benefits Greatest growth potential





## MEP Supplier Scouting

- § Bringing business opportunities to small manufacturers with specific capabilities, capacities
- Understand supply chain needs of government agencies, large corporations/OEMs
  - Deliver capable suppliers
    - MEP currently working with:
      - *DOD Defense Logistics Agency*
      - *U.S. Army*
      - *U.S. Dept of Veterans Affairs, Naval Air Systems Command*
      - *DOE Office of Energy Efficiency & Renewable Energy*
      - *alternative energy/wind power OEMs, nuclear power OEMs*
- § Leveraging MEP knowledge of local manufacturer capabilities on national basis
- (Pre)Qualify supplier manufacturing/technology capabilities and capacity
  - Provide MEP assistance to suppliers as needed



# MANUFACTURING EXTENSION PARTNERSHIP

TECHNOLOGY ACCELERATION

+

SUPPLIER  
DEVELOPMENT

=

TECHNOLOGY-BASED  
SUPPLIER DEVELOPMENT



§ FOCUS: understanding supply chain positioning ( for current / new market spaces) and capitalizing on opportunities where technology can be leveraged to differentiate companies from competition

§ Example areas of emphasis:

- *Integration of new processing techniques / technologies (tooling, capital equipment, metrology/sensors) into factory systems*
- *Implementation of automation technologies / approaches into operations*
- *Implementation of advanced engineering practices / integration of engineering with production & other manufacturing execution functions*



# SUMMARY: MEP and the U.S. Battery Industry



- § MEP is a strong, national manufacturing assistance program managed by NIST that provides unmatched connections with U.S. manufacturers.
- § There is significant potential to leverage MEP services and existing partnerships to help develop the U.S. Battery Industry for Electric Drive Vehicles.
  - MEP's focus on supplier development + technology and innovation – combined with MEP's experience working with U.S. manufacturers in this sector – provide an excellent foundation.
  - The other aspects of MEP's strategy for assisting U.S. manufacturers are also relevant – continuous improvement, workforce, sustainability.
- § NIST MEP is interested in exploring opportunities to continue to work with and assist this industry.