CATALYST CONNECTION℠
Your Strategic Partner for Manufacturing Growth

# *Request for Information*
# *Manufacturing Technology Acceleration Centers (M-TACs)*

## Introduction – Catalyst Connection

Manufacturing in southwestern Pennsylvania is growing. The sector is our third largest, behind financial and business services, has grown almost 13% in one year, employs approximately 100,000 people and is hiring, and has seen continued productivity increases, greater than Pennsylvania as a whole. In 2011, we saw 46 announced manufacturing expansions in our region.

Catalyst Connection has been serving the manufacturing sector for 25 years. We were established in 1988 to assist manufacturers implement technological advances and react to the decline of the steel industry. Since 1988, there have been many challenges faced by our manufacturing sector, including the rise of low cost labor markets that resulted in significant outsourcing and the loss of manufacturing jobs. While the job losses are significant, the real story is in the productivity and technology advances seen by this sector. The companies that remain are highly competitive, innovative, and provide high wages.

### Introduction - Manufacturing Technology Acceleration Centers (M-TACs) RFI

The M-TACs will focus on addressing the technical and business challenges encountered by small and mid-sized U.S. manufacturers as they attempt to integrate, adopt, transition, and commercialize both existing and emerging product and process technologies into their operations to help them grow and compete within manufacturing supply chains as innovative, value-adding components of our nation's economy.

M-TACs will amplify the effectiveness of the current Hollings Manufacturing Extension Partnership (MEP) network, establishing teams of experts in specific technology/supply chains, offering multiple services and deep expertise through the national MEP network.

This Request For Information (RFI) seeks comments relating to four primary issue areas

(1) technology transition and commercialization tools and services that should be provided by M-TACs;
(2) M-TAC roles relating to supply chain needs;
(3) potential business models for M-TACs; and
(4) M-TAC performance and impact metrics. In addition, NIST seeks comments relating to other critical issues that NIST should consider in its strategic planning for future M-TAC investments.

### Catalyst Connection Comments

1) Technology transition and commercialization tools and services that should be provided by M-TACs;

M-TACs should align themselves with existing service models such as that deployed by Catalyst Connection, which aligns its service model with the Balanced Scorecard methodology for business


Sources: *Pennsylvania Manufacturing Scorecard*, IRC Network and Pittsburgh Regional Alliance, 2012

strategy, planning and implementation. The balanced scorecard is a strategic planning and management system that is used to align business activities to the vision and strategy of the organization, improve internal and external communications, and monitor organization performance against strategic goals. The balanced scorecard is organized into 4 areas: financial performance, customer metrics, internal business process and learning and growth.

Using the balanced scorecard as a guide, M-TACs should support the services provided by MEPs in the following areas: business growth, operational excellence and talent development. Specifically, in business growth, services should be aligned with finding new markets and new customers, and developing and launching new products. Operational excellence services should be based on the principles of lean enterprise and six sigma, while talent development services should focus on hiring, developing and retaining the best employees.

Technology commercialization and transition tools should be based on new product development best practices in planning, selecting, designing and commercializing new technology. These services can be further defined according to new product development process improvement, ideation, market opportunity assessments, commercialization and project management. M-TACs should also consider allocating funding to provide repayable grant programs to assist small manufacturers fund the cost of new product development which can be significant compared to overall revenue streams and profitability. Public funds can best be utilized to assist companies identify and assess new ideas, helping to minimize the risk of development and reduce time to market by focusing on customer and market opportunities and utilizing technical resources to bridge technology gaps.

M-TACs should also offer outreach and networking opportunities with regional and national universities and national laboratories to offer access to technical experts to bridge technology gaps, and/or to provide off the shelf, licensable intellectual property (IP). M-TACs staff can provide risk management support through market feasibility, business case development and technical assistance and commercialization assistance.

2) M-TAC roles relating to supply chain needs;

M-TACs should coordinate with regional MEPs to conduct outreach to suppliers in critical supply chains. Consideration should be given to minimize overlap between M-TAC outreach and existing MEP Center outreach. M-TACs can also play a critical role in providing secondary market research on end market opportunities for critical supply chains, and help to disseminate that research utilizing existing MEP Centers.

3) potential business models for M-TACs; and


Sources: *Pennsylvania Manufacturing Scorecard*, IRC Network and Pittsburgh Regional Alliance, 2012

M-TAC business models should support existing Center business models. Web-based marketing strategies can be used to create broad awareness of M-TAC capabilities, along with the dissemination of technical content related to specific content. Educational opportunities should be offered regarding supply chain technologies, end market opportunities, industry wide best practices and other topics of interest to the members of the supply chain. Finally outreach, assessment and planning activities can be done in person to assist supply chain members identify and scope opportunities for improvement, followed by technical assistance, implementation and economic impact. M-TACs however, should coordinate all activities with regional MEPs to avoid confusion and duplication of efforts in the marketplace.

4) M-TAC performance and impact metrics.

M-TAC performance metrics can be aligned with existing MEP Center performance metrics. Current performance metrics are focused around capacity to deliver services as measured by revenues, quantity and volume of outreach, assessment and implementation activities as measured by clients served, and finally by the quality of the work as measured by company impacts and total regional economic impact. M-TACs should be especially considerate of minimizing duplication of efforts by regional MEP Centers and to not create confusion in the marketplace.

(5) . In addition, NIST seeks comments relating to other critical issues that NIST should consider in its strategic planning for future M-TAC investments.

M-TACs should be carefully established to coordinate and compliment the efforts of existing MEP Centers that have invested and developed long standing, effective relationships with their manufacturing clients. M-TACs can play a valuable role in providing behind the scenes end market research, technical assistance in new technologies, access to technical experts to bridge technology gaps, access to university based intellectual property as a source of new product ideas, access to Original Equipment Manufacturers (OEMs) that spearhead industry supply chains and other thought leadership related to specific supply chains. M-TACs should work with existing MEP Centers to build and enhance relationships with clients, assess needs and deliver services.

M-TACs offer a significant opportunity to enhance US-based supply chains, but also create a threat to existing MEP Center relationships, activities and regional economic impact that has been built over approximately 25 years of service to US- based small manufacturers.

There continue to be many opportunities for manufacturing to continue to grow, compete in a global economy and create jobs. M-TACs can be an additional resource to existing MEPs to assist

manufacturing companies look to the future to take advantage of the following new and emerging trends:

- Companies are focusing on innovation, implementing best business practices and looking to our state's researchers and universities to bridge technology gaps; universities are not just for start-ups anymore.
- The energy sector is representing significant opportunities for manufacturers. Companies are participating in critical supply chains and taking advantage of low cost energy to remain competitive, again innovation is key to taking advantage of this business opportunity.
- Reshoring is a national trend and is based on the total cost of outsourcing, including risks associated with rising labor costs and transportation costs, and recognizing that our own US and PA based suppliers can be a better alternative. Our manufacturers are well positioned to take advantage of this national trend.
- To increase competitiveness, small manufacturers are leveraging significant advances in computing, including the cloud, social media and other new tools that make small companies look like very big companies. Industrial buyers are like consumers, they want exactly what they want, when they want it.
- Finally, a known challenge facing all of our manufacturers is the lack of a skilled and qualified workforce. Manufacturers are engaging with their local schools and students to provide career awareness and workplace learning opportunities, to support the development of a highly skilled workforce capable of operating and maintaining sophisticated computer equipment such as that involved in additive manufacturing.

Manufacturing has a bright future in southwestern Pennsylvania. We have great companies that are willing to invest in their people, invest in technology, engage and support their community. And when manufactures grow, the ripple effect can be felt through our entire economy, where supply chain members, service providers and retail and hospitality all prosper. And most importantly, our communities prosper making Pennsylvania truly the best place to live and work in the world! Catalyst Connection is pleased to be a member of the Manufacturing Extension Partnership and support ongoing and new state and federal efforts to support small manufacturers.

Respectfully Submitted:

Petra Mitchell

Petra Mitchell
President and CEO
Catalyst Connection


Sources: *Pennsylvania Manufacturing Scorecard*, IRC Network and Pittsburgh Regional Alliance, 2012
Rev July 11, 2013