Manufacturing Technology Acceleration Center Pilot Projects

Request for Information

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The American Small Manufacturers Coalition (ASMC) appreciates the opportunity to provide comments in response to the RFI on the M-TAC proposal in the FY14. As the trade association of the nation's manufacturing extension agents (e.g. MEP Centers), it is critical that we have the opportunity to comment on a program in which MEP Centers are integrally involved.

In 2011, ASMC released its Next Generation Manufacturing Study[1] based on a survey of 826 manufacturers. That study showed that 72 percent of manufacturers surveyed believe that supply chain management is important or highly important, but only 29 percent of manufacturers are near or at world-class status in supply chain management. This gap presents a barrier for long-term success for US manufacturing. Small manufacturers face an even wider gap than their large manufacturer counterparts. Only 25% of small manufacturers (less than $10 million in revenues) are near or at world class supply chain management vs. 41 percent of large manufacturers (more than $100 million in revenues).[2] The NGM Study reported that 62.7 percent of manufacturers surveyed never or rarely get support from outside resources for supply chain development.[3] For this reason, ASMC understands the need for such a supply chain or industry cluster focused program like M-TAC. Ultimately however, it is the structure and execution of the M-TAC program which will affect its impact on the US manufacturing supply chain as a whole.

ASMC will address the questions posed in the RFI in a slightly different order to address structural considerations first.

Question 5: Are there any other critical issues that NIST MEP should consider in its strategic planning for future M_TAC investments that are not covered by the first four questions? Is so, please address those issues here and explain your response.

M-TAC Recipient. Recipients of an M-TAC award should be a MEP Center or a collaboration of Centers with a proven expertise in an industry cluster or supply chain. M-TAC recipients should collaborate with research consortia, institutions and/or organizations with a technical expertise in the industry cluster or supply chain. The success of the M-TAC program should be locally driven as the needs of small manufacturers are individualized and cannot be broadly implemented.

Overall structure. M-TACs should have employ or have access to staff with an expertise in an industry cluster or supply chain. M-TACs would operate with a three pronged approach.

[1] Manufacturing Performance Institute (MPI). *Next Generation Manufacturing Study*. 2011, p. 4
[2] MPI, p. 5
[3] MPI, p. 26

1. Coordinator of industry specific or supply chain needs. M-TACs would convene a group of OEMs, associations and others to identify the challenges facing a specific supply chain. The group would develop the desired supplier standard for each challenge identified by a set of metrics. These standards would be shared with all MEP Centers who could assist local suppliers to achieve the supplier standard. Center assistance would not be prescribed about how to achieve the standard (input), but the success of the service would be evident in supplier achievement of the standard (output). As the supplier standard is made public, manufacturers will want to contact their local Center to help them achieve the standard and therefore make them a more competitive supplier. This approach could eventually lead to the M-TACs being the supplier certification hub for the industry or supply chain.
2. Gateway of small manufacturers to supply chains. The M-TAC would also be used as a third party provider of industry specific services to local manufacturers. Much like a "Tiger Team" of technical experts, staff of the M-TAC would provide third party assistance to MEP Centers needing expertise in a certain industry or supply chain. For example, when a MEP Center enters into an engagement with a local manufacturer it may call on the M-TAC to help the manufacturer improve its position or gain access to a certain supply chain. The M-TAC would be able to draw on services and technologies to assist the manufacturer to better position itself in the supply chain, thereby improving its performance and competitiveness. This is a bottom-up approach which would force the M-TAC to stay on the leading edge of technology scouting and commercialization. This strategy also ensures that M-TAC services are market driven and not pushed.
3. Facilitator of OEM supply chain improvements. M-TACs could serve as a third party facilitator of OEM supply chain improvements. Many OEMs spend a great deal of time focused on the stability and performance of their supply chain by pushing down requirements or metrics for their suppliers to achieve. M-TACs could serve as the national facilitator for the local implementation of the national product and process technology the OEM requires. The MEP Centers would help implement the OEM requirements while making the necessary improvements necessary to achieve the standard.

Authority and Precedence. Without specific authorization for the establishment and creation of the M-TAC program, NIST is forced to use existing authority and precedence to execute the awards. 15 U.S.C. 272 (b)(1, 4, 5) and (c)(3,7).[4] Precedence for this authority is exemplified in

[4] http://www.gpo.gov/fdsys/pkg/USCODE-2011-title15/html/USCODE-2011-title15-chap7-sec272.htm

the State Relations Rapid Response Team Grants Program established in 2001 which used the authority of 15 U.S.C. 272 (b)(1) and (c)(17).[5]

M-TAC could also use the authority of the Competitive Grant Program indentified in the America COMPETES Act (PL 110-69). The purpose of the Competitive Grant Program is aligned with the goal of the M-TAC proposal as stated in the RFI. The Competitive Grant Program's purpose is:

> The purpose of the program under this subsection is to develop projects to solve new or emerging manufacturing problems as determined by the Director, in consultation with the Director of the Centers program, the Manufacturing Extension Partnership Advisory Board, and small and medium-sized manufacturers. One or more themes for the competition may be identified, which may vary from year to year, depending on the needs of manufacturers and the success of previous competitions. These themes shall be related to projects associated with manufacturing extension activities, including supply chain integration and quality management, and including the transfer of technology based on the technological needs of manufacturers and available technologies from institutions of higher education, laboratories, and other technology producing entities, or extend beyond these traditional areas.[6]

Required MEP Center Involvement. In order to achieve the goal of "fostering connections between the existing MEP system and its network of Centers…"[7] the involvement of the MEP Centers within a proposed region should be a requirement. As the only national public/private conduit to the nation's small manufacturing community, local MEP Center involvement is critical to the success of this program. The involvement however, should be defined as a key coordinator of partners and expertise as well as financial recipient/sub-recipient of the FFO to cover the expenses of the expanded services.

Role of the MEP Center. The role of the MEP Center is simple. The local MEP Center will serve as the interface between the M-TAC and the local manufacturer being served. The very nature of MEP's original authorizing legislation calls for:

> 1. the transfer of manufacturing technology and techniques developed at the Institute to Centers and, through them, to manufacturing companies throughout the United States;
> 2. the participation of individuals from industry, universities, State governments, other Federal agencies, and, when appropriate, the Institute in cooperative technology transfer activities;
> 3. efforts to make new manufacturing technology and processes usable by United

[5] https://www.federalregister.gov/articles/2001/10/04/01-24928/state-relations-rapid-response-team-sr3-team-grants-program
[6] http://www.nist.gov/mep/upload/PL110-69_8907.pdf
[7] https://www.federalregister.gov/articles/2013/06/21/2013-14895/request-for-information-on-pilots-to-inform-the-creation-of-potential-new-manufacturing-technology

States- based small- and medium-sized companies;
4. the active dissemination of scientific, engineering, technical, and management information about manufacturing to industrial firms, including small- and medium-sized manufacturing companies; and
5. the utilization, when appropriate, of the expertise and capability that exists in Federal laboratories other than the Institute.[8]

These functions are consistent with the purpose of the M-TAC with the nuance that the M-TAC would provide a more broad regional or national coordination and service offering aligned by industry cluster or supply chain. The participating MEP Centers would be the conduit to the local manufacturer who will draw up on the specialized capacity of the M-TAC to deliver supply chain or industry cluster services as needed.

Questions 1: What are the specific types of technology transition and commercialization tools and services that should be provided by M-TACs? Emphasis is on the alignment of these tools and services with the most pressing needs of small and mid-sized U.S. manufacturers.

Without knowledge of the needs of the specific supply chains or industries, it is impossible to specify what technology commercialization tools and services could be provided. As mentioned in question 5 above, M-TACs should first identify the most pressing needs and develop supplier standards in each area. M-TACs should then call upon industry experts and research institutions to develop tools and services to meet these needs and offer them as a suite of services to Centers to implement. M-TACs should focus on the improving small manufacturers performance and integration within a supply chain, without prescribing (or requiring) a way in which to achieve it.

Throughout the history of the program, MEP Centers have learned that the needs of its small manufacturing clients are as unique as their product. Tools and services must be tailored to the needs of each unique client. Unless prescribed by an OEM, technology transition and commercialization tools would need maximum flexibly for small manufacturer implementation.

Question 1a: How would M-TAC services complement the services currently offered by MEP Centers?

MEP Centers currently offer an array of services to small manufacturers including (but not limited to): process improvements; quality systems; business systems; product development and testing; innovation; and technology implementation. The M-TAC would be yet another access point to manufacturers which would provide a specialized expertise around one industry cluster or supply chain. M-TACs could also coordinate the supplier development needs of OEMS and serve as an intermediary between the OEM and MEP Centers for implementation to

[8] http://www.gpo.gov/fdsys/pkg/USCODE-2011-title15/pdf/USCODE-2011-title15-chap7-sec278k.pdf

suppliers. MEP Centers would continue to be the local contact to all small and medium-sized suppliers but draw upon regional or national resources as necessary.

Question 2: What role should future M-TACs play with respect to supply chain needs? How should OEMs participate? How can industry associations, professional societies, and other appropriate national organizations participate?

M-TACs should have a significant role in identifying the needs and challenges of supply chains as noted above. By first identifying the needs of the supply chain and developing a supplier standard in each area, the M-TACs can then identify appropriate tools and services that can meet those needs. Doing so would identify market demand for supplier development services which would drive local manufacturers to pay for those services through their local MEP Center. Market demand for supplier development services is a critical component to the M-TAC program as cost share for the MEP Center is a significant driver of service delivery.

Industry associations, professional societies and other appropriate national organizations could participate in three ways. First, these organizations can serve a key role in identifying the needs of various supply chains and assisting in the supplier standard in each of those areas. Second, industry associations and professional societies could be a service provider of the M-TAC to local MEP Center clients. For example, with significant knowledge of the supply chain M-TAC experts could provide an individual market analysis of the supply chain for perspective suppliers. Third, these organizations can market the M-TAC services specific to the supply chain.

Question 3: Is there a particular long-term scalable and financially sustainable business model that should be implemented by future M-TACs that will enable small and mid-sized U.S. manufacturers to effectively access and benefit from the technology transition and commercialization assistance and other resources they need?

Without authorization as proposed, the current M-TAC program does not have long-term scalable and financially sustainable business model without using the existing MEP network. By using the existing MEP Center network for cost share and reporting, start-up costs are minimized and the probability for success for the M-TAC program are increased. If the M-TAC program is structured like a specialized coordination or service model for industry clusters and supply chains, it could be an addition to a Centers base offering and therefore use the financial and reporting mechanisms in place to be scalable in the future. This structure (exempt from cost share) could be immediately effective and targeted as M-TACs are intended.

If the

Questions 3a: Because of the programmatic connection to the NIST MEP Program, M-TACs may require cost share. Are there cost share models for future M-TACs that promote scale up

to reach nationally dispersed clusters of small and med-sized manufacturers? If so, what are those models, and why might they be successful?

The M-TAC program should not require cost share. If the Centers are to be the conduit to the manufacturer and the deliverer of services using the M-TAC specialist as third party providers, the program should not require cost share. Placing a matching requirement on M-TACs would be duplicative to Center matching requirements and could be detrimental to base operations of an MEP Center. Currently, Centers are strategically partnered with local research institutions, federal labs and others. If M-TACs require cost share separately, Center partners would be more inclined to partner with the M-TAC assuming that the cost requirement is less than the Center. In addition, these research institutions would be more inclined to partner with a regional based M-TAC than their local Center for the prospects of a broader manufacturing base. These two factors alone would cause Centers to possibly lose match necessary to access federal funds for the base MEP Center award as well as client impact needed to maintain it.

There are several programmatic connections to the NIST MEP Program that do not require cost share. An example of which is the State Relations Rapid Response Team Grant referenced above. Although this program used NIST authority, it was directly related to MEP and was similar in its approach. The Rapid Response Team was funded as group of specialist that would be deployed to Centers to improve upon or establish state relations. M-TACs would operate in an identical manner and therefore should not require cost share.

Another example is the "T-CAR" grant program authorized in the America COMEPETES Act (PL110-69). Funding was subsequently provided for this authorized program via MEP's annual appropriation without a special designation in the appropriations law. "Unless the underlying law prohibits it, the Congress may also extend the program, simply by providing new appropriations."[9] Since appropriations for the T-CAR program was not specifically included in the FY10-13 Appropriations bills, yet was funded, existing precedent exists to use part of MEP's overall appropriation for the M-TAC program using T-CAR authority as a basis. Through the T-CAR authorization, Centers (or collaboration of Centers) can apply to expand existing operations to provide such services using the existing infrastructure, metric system and partners in place.

Question 4: How should an M-TAC's performance and impact be evaluated? What are appropriate measures of success for future M-TACs? Please explain your response including the value of performance measure to business growth.

[9] http://www.appropriations.senate.gov/about-budget-process.cfm

M-TAC performance and impact should be evaluated through the existing MEP client survey. This would prevent increased administrative burden and cost to both NIST and MEP Centers. M-TAC success is based a small manufacturers improved access and integration into the supply chain. Additional client survey questions should include should include new and retained access to supply chains which would measure the success of a client served by the M-TAC and therefore the M-TAC itself.