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DEPARTMENT OF COMMERCE

National Institute of Standards and Technology

[Docket No.: 130426414-3414-01**]**

Request for Information on Pilots to Inform the Creation of Potential New Manufacturing Technology Acceleration Centers (M-TACs)

AGENCY: National Institute of Standards and Technology (NIST), Department of Commerce

ACTION: Notice; Request for Information (RFI).

SUMMARY: The National Institute of Standards and Technology (NIST) invites interested parties to comment on NIST's planning for a Federal Funding Opportunity (FFO), anticipated in fiscal year 2014 (FY14), subject to the availability of appropriated funding. The anticipated 2014 FFO will competitively fund a select number of new Manufacturing Technology Acceleration Centers (M-TACs).

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. U.S. small and mid-sized manufacturers are a critical segment of our economy, comprising over 90% of all manufacturing establishments and approximately 45% of employment.[1] U.S. small and mid-sized manufacturers are also playing a growing role in technology innovation, including product and process technologies.[2] The emphasis of these future M-TACs will be to conduct technology transition and commercialization activities with small and mid-sized U.S. manufacturers to foster their readiness to adopt and/or adapt advanced technologies into their manufacturing processes and products.

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 regarding the M-TACs that are further defined herein: (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.

DATES: Comments are due on or before 11:59 p.m. Eastern Time on [PLEASE INSERT DATE 30 DAYS AFTER PUBLICATION IN THE FEDERAL REGISTER].

1. "2010 County Business Patterns," U.S. Census Bureau Data, release date 10/2012. For information on confidentiality protection, sampling error, non-sampling error, and definitions, see http://www.census.gov/econ/susb/methodology.html
2. "International Benchmarking of Countries' Policies and Programs Supporting SME Manufacturers," Stephen J. Ezell and Dr. Robert Atkinson, The Information Technology and Innovation Foundation, September 2011, http://www.itif.org/files/2011-sme-manufacturing-tech-programss-new.pdf

ADDRESSES: Comments will be accepted by e-mail only. Comments must be sent to diane.henderson@nist.gov with the subject line "M-TAC RFI Comments."

FOR FURTHER INFORMATION CONTACT: Diane Henderson, 100 Bureau Drive, Mail Stop 4800, Gaithersburg, MD 20899-4800, 301-975-5105, diane.henderson@nist.gov; or David Stieren, 100 Bureau Drive, Mail Stop 4800, Gaithersburg, MD 20899-4800, 301-975-3197, david.stieren@nist.gov. Please direct media inquiries to NIST's Office of Public Affairs at (301) 975-NIST.

SUPPLEMENTARY INFORMATION: The objective of this RFI is to assist NIST in the development of the anticipated 2014 FFO for the creation of M-TACs, should NIST receive future appropriated funds for this purpose. NIST notes that in advance of the targeted 2014 M-TAC FFO that is the subject of this RFI, NIST will be releasing an FFO in 2013 to fund approximately two pilot projects that will also inform the planning for future M-TAC investments.

Small and mid-sized manufacturers have proven to be flexible and adaptable in their approach to profitable growth through new markets, customers, products, and processes. Yet there remains a gap between the research being performed by universities, federal labs, consortia, and other entities, and the readiness of many small and mid-sized manufacturers to adopt both existing and emerging technologies into their products and processes to respond to the quality and performance requirements of original equipment manufacturers (OEMs). Recent reports by

the President's Council of Advisors on Science and Technology,[3] as well as the Information Technology and Innovation Foundation,[4] point out that small and mid-sized manufacturers lack the financial resources and technical capabilities that large manufacturers have to be able to stay abreast of, and gain access to, the universe of emerging technologies and processes being constantly innovated around the globe. As a result, technology adoption rates of smaller U.S. manufacturers lag those of larger ones.

Through the efforts of its existing network of Centers to provide Next Generation innovation services, NIST's Hollings MEP program has made strides forward to address these needs. However, to effectively assist small and mid-sized manufacturing firms to compete in the global economy, deep expertise specific to a given supply chain or sector is required.

The lack of readiness of small and mid-sized manufacturers and the corresponding lagging technology adoption rates of smaller manufacturers will be primary focus areas of M-TACs. Bridging the gap between available technologies and commercial adoption by manufacturers is essentially a two-part problem that first requires a critical step of translating available technologies into competitive market advantage. Second, bridging the gap requires addressing a variety of challenges that serve as barriers to small and mid-sized manufacturers incorporating technology solutions into their processes and new product portfolio. These challenges include technology and knowledge transfer, technology transition, and technology diffusion steps, along with numerous commercialization interventions needed to bring a

3. "Report to the President on Capturing Domestic Competitive Advantage in Advanced Manufacturing," President's Council of Advisors on Science and Technology, Executive Office of the President, July 2012, http://www.whitehouse.gov/sites/default/files/microsites/ostp/pcast_amp_steering_committee_report_final_july_27_2012.pdf

4. "International Benchmarking of Countries' Policies and Programs Supporting SME Manufacturers," Stephen J. Ezell and Dr. Robert Atkinson, The Information Technology and Innovation Foundation, September 2011, http://www.itif.org/files/2011-sme-manufacturing-tech-programss-new.pdf

technology from lab to market. M-TACs will emphasize the provision of technical and business assistance to small and mid-sized manufacturers along the broad spectrum of process improvement and product development services they may need.

A key success factor of the Administration's focus on enhancing U.S. competiveness in advanced manufacturing is the support for highly effective supply chains in technology intensive manufacturing sectors. NIST envisions that future M-TACs will become the connective fabric for efficiently connecting academia, researchers, scientists, engineers and manufacturers with valuable supply chain and market demands, with a particular focus on the needs of small and mid-sized U.S. manufacturers. These M-TACs can serve as a coordination point within key supply chains. The anticipated approach should result in increased job creation and economic growth.

This M-TAC effort aligns with the President's plan to launch a nationwide network of innovation institutes across the country that will develop world-leading manufacturing technologies and capabilities that U.S.-based manufacturers can apply in production to support U.S. manufacturing sector growth.[5] The expectation is that M-TACs will work in collaboration with existing resources, including research consortia and institutions such as those operating as part of or in conjunction with the proposed National Network for Manufacturing Innovation (NNMI), state and local technology-based economic development intermediaries, industry associations, industry-university partnerships, and manufacturing organizations. NIST envisions that M-TACs will operate on a national level using sustainable business models that will allow technology commercialization scale-up to occur to serve substantial numbers of small and mid-

5. "Fact Sheet: The President's Plan to Make America a Magnet for Jobs by Investing in Manufacturing," The White House Office of the Press Secretary, February 13, 2013, http://www.whitehouse.gov/the-press-office/2013/02/13/fact-sheet-president-s-plan-make-america-magnet-jobs-investing-manufactu

sized manufacturers – on the order of several thousand annually.

By providing direct technical and business assistance in technology transition and commercialization areas, M-TACs will address the gap between the research being performed by universities, federal labs, consortia, and other entities, and the readiness of many small and mid-sized manufacturers to adopt new and existing technologies into their products and processes. The ultimate goal of the M-TACs is to deploy scalable resources to increase and accelerate the commercialization of existing and emerging technologies that lead to sustainable economic growth and job creation through more robust domestic supply chains.

The goals of future M-TACs include:

- Demonstrating the operation of business models that enable small and mid-sized U.S. manufacturers to effectively and efficiently access – on a continuing and financially sustainable basis – the assortment of technology transition and commercialization services they need to adopt and/or adapt technology into their products and processes;
- Establishing the appropriate partnerships and demonstrating the interfaces necessary to enable small and mid-sized U.S. manufacturers to effectively access the diverse array of technology transition and commercialization services they need;
- Fostering connections between the existing MEP system and its network of Centers, and other public and private initiatives tasked with linking technologically promising research discoveries and ideas for advanced, high-value-added products and processes with existing U.S. manufacturers and aspiring start-up firms; and
- Identifying where on the technology development and commercialization continuum small and mid-sized manufacturers tend to operate by identifying technology transition and commercialization areas in which small and mid-sized U.S. manufacturers most critically need assistance.

M-TACs are expected to achieve these goals through:

1. Interacting with small and mid-sized U.S. manufacturers through the nationwide network of MEP Centers to operate an effort that is focused on the provision of technology transition and commercialization services to manufacturers, doing so in a manner that is locally driven and nationally connected;
2. Creating teams of experts in specific technology or industrially organized supply chains and offering multiple services and deep expertise to support small and mid-sized manufacturer needs relating to technology transition and commercialization;
    - Emphasis will be placed on assisting small and mid-sized manufacturers in functions that apply to the spectrum of technology transition and commercialization services that small and mid-sized manufacturers may need. This may include those services associated with technology and process integration, engineering, new product development, existing product and process innovation, manufacturing scale up, supply chain development, financing, legal (intellectual property and regulatory), marketing, market analysis and research, and workforce development.
3. Collaborating with research consortia and institutions such as those operating as part of or in conjunction with the proposed NNMI, state and local technology-based economic development intermediaries, industry associations, industry-university partnerships, and manufacturing standards organizations.

Request for Information

As noted above, this RFI will assist NIST in developing the anticipated 2014 FFO for the creation of M-TACs, should NIST receive future appropriated funds for this purpose. As such,

the questions below are intended to assist in the formulation of comments that will be used to inform future strategic planning. These questions should not be construed as a limitation on the number of comments that interested parties may submit, or as a limitation on the issues that may be addressed in such comments, and the fifth question here provides an opportunity to comment on issues not specifically covered by the first four questions. Submissions should clearly indicate which RFI questions are being addressed by each comment. Comments containing references, studies, research, and other empirical data that are not widely published should include copies of the referenced materials. Comment submissions must be kept to a maximum of 10 pages, using 12 point, single-spaced font. Do not include in comments or otherwise submit proprietary or confidential information, as all comments received by the deadline will be made publicly available at www.nist.gov/mep/. NIST is specifically interested in receiving input on one or more of the following 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.
    a. How would M-TAC services complement the services currently offered by MEP Centers?
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?
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?

   a. 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 mid-sized manufacturers? If so, what are those models, and why might they be successful?

   b. The generation of intellectual property is possible, and even likely as a result of M-TAC operations. What types of intellectual property arrangements and management constructs would promote active engagement of industry in these pilots, especially among small and mid-sized U.S. manufacturers that would be supportive of the business model? As appropriate, please include a set of potential options, and please explain your responses.

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 the performance measure to business growth.

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? If so, please address those issues here and explain your response.

Dated: June 12, 2013

Phillip Singerman,
Associate Director for Innovation & Industry Services

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