

## NOTICE OF INTENT (NOI)<sup>1</sup>

**FEDERAL AGENCY.** National Institute of Standards and Technology (NIST)  
United States Department of Commerce (DoC)

**TITLE.** National Network for Manufacturing Innovation (NNMI) Institute Awards Competition

- 1. GENERAL INTENT.** The National Institute of Standards and Technology (NIST) intends to announce a competition that will seek applications for new National Network for Manufacturing Innovation (NNMI) Institute<sup>2</sup> awards. The expected competition will seek to establish up to two additional NNMI Institutes operating within the NNMI Program established by the Revitalize American Manufacturing and Innovation Act of 2014 (15 U.S.C. § 278s).

The competition for the new NIST funded NNMI Institutes is expected to be announced on Grants.gov in January 2016.

The Federal Funding Opportunity will be posted on Grants.gov at <http://www.grants.gov>. More information about the expected NIST NNMI competition will be available from the NIST website: [www.nist.gov/amo/nnmi](http://www.nist.gov/amo/nnmi).

## **2. BACKGROUND.**

### **a. Objectives**

NNMI Institutes bring together industry, universities and community colleges, federal agencies, and state organizations to accelerate innovation by investing in industrially-relevant pre-competitive manufacturing technologies with broad applications. They are intended to bridge the gap between basic research and product development, provide shared assets allowing access to cutting-edge capabilities and equipment, and create an environment that will provide workforce and student training in advanced manufacturing. Each NNMI Institute also serves as a regional hub of manufacturing excellence, providing the innovation infrastructure to reinforce the competitiveness of the U.S. manufacturing sector as a whole.

### **b. Design and Operations**

NNMI Institutes address the full spectrum of manufacturing challenges associated with an identified area of focus including the associated technology, manufacturing process, novel material, enabling technology, supply chain integration methodology, or another relevant aspect of advanced manufacturing. Their role is to mature advanced

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<sup>1</sup> A Federal Register Notice announcing this Notice of Intent (NOI) will be published. Publication in early January 2016 is expected.

<sup>2</sup> The terms “Centers for Manufacturing Innovation,” “Manufacturing Innovation Institutes (MIIs),” “Institutes for Manufacturing Innovation (IMIs),” and “Clean Energy Manufacturing Innovation Institutes” have all been used in different framing documents to refer to Institutes participating in the National Network for Manufacturing Innovation (NNMI). For consistency, an individual Institute is here referred to as a “NNMI Institute”.

manufacturing technologies from Manufacturing Readiness Levels (MRLs) 4 to 7. Institutes bring together a community of small, medium and large businesses from across the supply chain to work on industry priorities and big challenges that are solvable only by collaboration. Institutes also incorporate workforce development opportunities through targeted training and curriculum programs. Through their work, NNMI Institutes enable academic institutions and the government to participate in and benefit from advances in manufacturing technology. NNMI Institutes leverage non-Federal sources of support to promote a stable and sustainable business model without the need for long-term Federal funding and are designed to become sustainable within the time period of the federal award.

### c. **Open Topic Competition**

The competition process will allow for consideration of all applications relevant to advanced manufacturing regardless of technology area. To address national advanced manufacturing needs identified by the President's Council of Advisors on Science and Technology (PCAST) Advanced Manufacturing Partnership,<sup>3</sup> NIST is especially interested in receiving applications for NNMI Institutes within the following two areas of focus:

- 1. Collaborative Manufacturing Robots.** Due to their tireless flexibility and reusability, robotic systems are an essential tool in strengthening U.S. manufacturing competitiveness by enabling dramatically greater responsiveness and innovation. A concerted effort is needed to advance robotics beyond current limited applications to widespread adoption by a broader set of sectors and manufacturers of all sizes. To achieve this, advanced robotic systems need to be highly-capable, perceptive, dexterous, mobile, and relocatable. Advanced robotic systems must operate safely in collaboration with humans or other robots, be tasked and re-tasked easily, and be integrated into the rest of the enterprise seamlessly and quickly.
- 2. Biopharmaceuticals Manufacturing.** The economic and medical success of the pharmaceutical industry was built on drugs made by chemical processes. The pharmaceutical landscape, however, has dramatically shifted over the last 40 years, with the emergence of 'biologic' therapies that are manufactured using living cells instead of conventional chemistry. Stimulating critical innovation in manufacturing for biologic therapies will increase quality, flexibility and efficacy, reduce costs, and solidify the domestic competitiveness of the US biopharma industry. Innovation in the development and adoption of advanced biopharmaceutical manufacturing technologies will enhance national economic security and improve our quality of life.

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<sup>3</sup> President's Council of Advisors on Science and Technology. Report To The President On Capturing Domestic Competitive Advantage In Advanced Manufacturing, Executive Office of the President, 2012

([https://www.whitehouse.gov/sites/default/files/microsites/ostp/pcast\\_amp\\_steering\\_committee\\_report\\_final\\_july\\_17\\_2012.pdf](https://www.whitehouse.gov/sites/default/files/microsites/ostp/pcast_amp_steering_committee_report_final_july_17_2012.pdf)) and associated Annexes 1-10 – Manufacturing Technologies (<https://www.whitehouse.gov/sites/default/files/microsites/ostp/PCAST/amp2.0-annex1-10-manufacturingtechnologyareas.pdf>).

Examples include development and usage of: continuous manufacturing approaches instead of large ‘batch’ processes; single-use technologies that reduce capital costs and enable flexible ‘plug-and-play’; more energy and environmentally efficient manufacturing approaches; and ‘real-time’ product quality evaluation tools instead of time-consuming and high cost post-manufacture product testing.

- d. Award Information.** The U.S. Government intends to enter into a five-year cooperative agreement with the possibility of a renewal for up to an additional two (2) years and provide federal funding of up to \$70 million per Institute distributed across (7) seven fiscal years. This funding is to be matched or exceeded by funding from private industry and other non-federal sources, with a minimum 1:1 cost share. A Federal Funding Opportunity announcement is expected to be released in January 2016. To provide the public with an opportunity to learn more about the solicitation before submitting a proposal, a Proposer's Day will follow shortly thereafter, with details regarding date and location to be announced to the public. This event will be for informational purposes only. Attendance is not a prerequisite for submitting a proposal.
- e. Pre-Applications.** NIST envisions that a two-step process will be used for soliciting NIST NNMI Institute Applications and that Pre-Applications will be required. To limit burden on applicants and the federal government, NIST will only consider only one Pre-Application per applicant. NIST anticipates that the due date for Pre-Applications will be 60 days from the date the FFO is released. Beyond a singular SF-424 form, NIST expects that Pre-Applicants will be required to submit a preliminary Rough Order of Magnitude (ROM) budget that reflects the anticipated expenses for a potential Institute award and an Abbreviated Project Narrative. Only an applicant whose Pre-Application has been selected by NIST and who has been invited to submit a Full Application will be permitted to submit a Full Application to NIST.

In anticipation of the FFO being released, potential applicants are encouraged to complete the following steps, which are required to submit applications for Federal assistance:

- Obtain a Dun and Bradstreet Data Universal Numbering System (DUNS) number (including the plus 4 extension, if applicable) at <http://fedgov.dnb.com/webform>.
- Register with the System for Award Management (SAM) at <https://www.sam.gov>. Designating an Electronic Business Point of Contact (EBiz POC) and obtaining a special password called an MPIN are important steps in SAM registration. Please update your SAM registration annually.
- Register for a Grants.gov (<http://www.grants.gov/>) account. It is advisable also to go to “manage subscriptions” on Grants.gov and sign up to receive automatic updates when Amendments to a FFO are posted.

### 3. FURTHER INFORMATION.

General Information - Frank Gayle, Advanced Manufacturing Office, National Institute of Standards and Technology, 100 Bureau Drive, Mail Stop 4700, Gaithersburg, Maryland 20899-4700, telephone number (301) 975-6161, email: [frank.gayle@nist.gov](mailto:frank.gayle@nist.gov).

Questions - Questions may be directed via email to [NNMIfund@nist.gov](mailto:NNMIfund@nist.gov). All questions received and answers will be posted on the NIST NNMI competition website at [www.nist.gov/amo/nnmi](http://www.nist.gov/amo/nnmi).

Competition Information - Once the competition has been announced, further information may be found at [www.nist.gov/amo/nnmi](http://www.nist.gov/amo/nnmi).

**DISCLAIMER**

This NOI does not constitute a solicitation. No applications may be submitted in response to this NOI. Any inconsistency between information within this Notice and the expected *Federal Register* Notice announcing NIST's NNMI Awards Competition shall be resolved in favor of the *Federal Register* Notice. NIST also will post a future announcement to Grants.gov that will provide the full requirements for applying for an assistance award. When published, information within the Federal Funding Opportunity will supersede any information provided within the *Federal Register* Notice.

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