



The Advanced Manufacturing Technology Consortia (AMTech) Program and 2013 Federal Funding Opportunity

AMTech Informational Webinars August 15 & 20, 2013

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U.S. Department of Commerce
Gaithersburg, MD**

Overview

Both Dates

- An Overview of AMTech and the 2013 Funding Opportunity

August 15th

- AMTech in the Context of Advanced Manufacturing and NIST
- Expectations and Outcomes
- AMTech Evaluation Criteria and Performance Reporting
- Evaluation, Selection and Award Announcements

August 20th

- Responding to the FY 2013 Solicitation
- Preparing a Complete Application (Proposal)
- Budget and Administrative Documentation
- Grants.gov

Both Dates

- Competition Resources and Next Steps

What is AMTech?

The Advanced Manufacturing Technology Consortia (AMTech) Program

Newly launched by NIST in FY 2013

- To incentivize the formation of and provide resources to industry-led consortia
 - To support basic and applied research
 - On long-term, pre-competitive and enabling technology development
- For the U.S. manufacturing industry



AMTech-supported consortia will strengthen the capacity of U.S. industry and the nation to compete in global markets

How Will AMTech Work?

- FY 2013 AMTech planning awards will fund eligible applicants to create new or strengthen existing industry-led technology consortia
- AMTech-supported consortia will:
 - Identify and prioritize long-term, pre-competitive industrial research needs;
 - Enable technology development;
 - Create the infrastructure necessary for more efficient transfer of technology;
 - Represent a broad range of involved firms across stages of the value chain.
- Once fully implemented, NIST envisions AMTech to offer funding in two broad areas: *planning awards* and *implementation awards*

The 2013 AMTech Funding Opportunity

Grants.gov Funding Opportunity No. 2013-NIST-AMTECH-01

For FY 2013

- Applications/proposals for planning awards only

Funding Level & Instrument

- Total funding available: approx. \$4 M
- Award size: approx. \$250 k - \$500 k
- Grant or Cooperative Agreement

Key Dates

- Solicitation released: July 24, 2013
- Informational webinars: August 15 & 20, 2013
- Pre-application (optional): September 6, 2013
- Full Application due: October 21, 2013
- Award Announcement: Q1, CY2014



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Eligibility and Partnerships

- Collaborative partnerships that include broad participation by companies of all sizes, universities and government agencies to form an industry-led consortium are sought
- Eligible applicants may be any U.S. organization, located within the United States, excluding commercial organizations and federal entities
- An eligible applicant may work individually or include others effectively forming a team or consortium. Eligible subrecipients are the same types of organizations eligible to apply.
- Commercial organizations may participate in teams as contractors or in unfunded roles

Competition Resources

- Visit the AMTech Website at <http://www.nist.gov/ampo/>
- Direct Questions to amtech@nist.gov



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What is Advanced Manufacturing?

A family of activities that:

- Depend on the use and coordination of information, automation, computation, software, sensing, and networking, and/or
- Make use of cutting edge materials and emerging capabilities enabled by the physical and biological sciences (e.g. nanotechnology, chemistry, and biology)

AM involves both new ways to manufacture existing products, and the manufacture of new products emerging from new advanced technologies.

Manufacturing **Economic** Impact

Manufacturing drives jobs throughout the economy, including in services



Source: U.S. Department of Commerce, Bureau of Economic Analysis

Manufacturing **Innovation** Impact

U.S. manufacturers

- Employ over half of all R&D personnel in domestic industry
- Employ over a third of all engineers
- Account for 70% of all U.S. patents issued annually

10% of
employment



12% of gross
domestic product



47% of exports



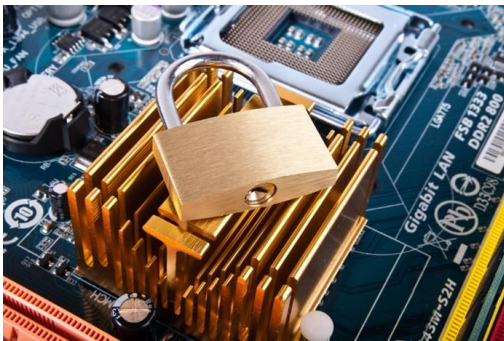
70% of private
R&D spend



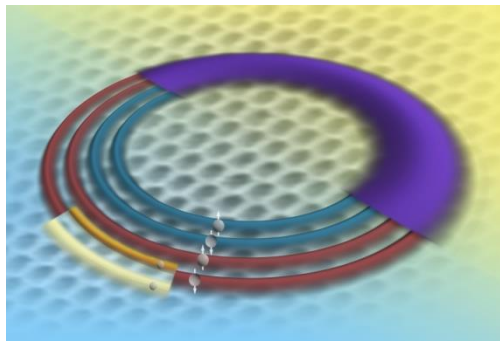
NIST's Unique Mission

To promote U.S. innovation and industrial competitiveness by advancing measurement science, standards, and technology in ways that enhance economic security and improve our quality of life.

- Mission focus: Targeted programs to advance U.S. innovation and boost economic growth
- Deep research expertise underpins technological innovation – e.g. lasers, memory, GPS, wireless
- Non-regulatory status enables important role as a convener that facilitates collaboration between industry and government



Cybersecurity: Improved response to cyber threats



Nanomanufacturing: New measurement tools for advanced materials manufacturing



Energy: Measurements and standards for energy security

110 years of Service to Industry: Manufacturing is in the NIST DNA

The Congress finds and declares ...

- The future well-being of the United States economy depends on a **strong manufacturing base** and requires continual improvements in **manufacturing technology**, quality control, and techniques for ensuring product reliability and cost-effectiveness.
- Improvements in **manufacturing and product technology** depend on fundamental scientific and engineering research to develop
 - a) the precise and accurate measurement methods and measurement standards needed to improve quality and reliability, and
 - b) new technological processes by which such improved methods may be used in practice to **improve manufacturing and to assist industry** to transfer important laboratory discoveries into commercial products.

NIST Organic Act - 15 U.S.C 271, Section 1, 1988

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PCAST Advanced Manufacturing Report

1) Launch a Federal Advanced Manufacturing Initiative

- Concerted, whole-of-government effort
- Report to President on Federal priority needs, including:
 - Coordinated Federal support to academia and industry for applied research on new technologies and design methodologies
 - Shared facilities and infrastructure to help SME's compete globally
 - Public/Private Partnerships (PPPs) to advance such technologies through pre-competitive consortia

2) Improve Tax Policy

- Reform corporate income taxes, increase, extend and make permanent the R&E tax credit

3) Support Research

- Strengthen research of three key science agencies: NSF, DOE Office of Science, NIST

4) Strengthen the Workforce

- Strengthen STEM education

REPORT TO THE PRESIDENT ON
ENSURING AMERICAN
LEADERSHIP IN ADVANCED
MANUFACTURING

Executive Office of the President
President's Council of Advisors
on Science and Technology

JUNE 2011



Creating AMTech to Strengthen the U. S. R&D Ecosystem in Manufacturing

Timeline

- June 2011 - PCAST issues recommendations
- July 22, 2011 - NIST published a Request for Information (RFI) seeking public opinion on AMTech - a possible new program to *"provide Federal financial assistance to leverage existing or newly created industry-led consortia to develop precompetitive enabling manufacturing technologies."*
- February 7, 2012 - NIST Visiting Committee on Advanced Technology (VCAT) and subcommittee on Advanced Manufacturing conclude *"the AMTech Program is a model public-private partnership for supporting technological innovation and facilitating its deployment to support advanced manufacturing."*
- FY 2012 budget - NIST requests initial AMTech funding
- May 2013 - AMTech receives first funding as part of the FY 2013 enacted budget



Expectations and Outcomes

- Increase the number of industry sectors and organizations that participate in technology partnerships
- Identify critical pre-competitive, enabling manufacturing processes and platform technologies
- Unlock capital and spur industry-led research that arises from the partnerships and roadmaps
- Spur technology diffusion and knowledge dissemination among the partnerships
- Strengthen the capacity of new small and medium companies to become successful enterprises

The 2013 AMTech Funding Opportunity Evaluation Criteria

*A. Identifying and Addressing
Significant Challenges*

0-30 points

*B. Consortium and/or Road-
mapping Development Plan*

0-50 points

*C. Resource Availability and
Qualifications*

0-20 points

Criterion A: Identifying and Addressing Significant Challenges

- The quality and technical merit of the proposed consortium development and/or roadmapping project in relation to the significant challenges, vision, scope, goals, objectives and outcomes
- The importance and significance of the challenges to be addressed within the context of national needs, existing industry capabilities and efforts, and the potential for substantive national impacts

Criterion A: Identifying and Addressing Significant Challenges *(cont'd)*

- The degree to which the proposed activity(ies) has a strong potential to:
 - enhance U.S. manufacturing competitiveness in advanced manufacturing,
 - significantly advance pre-competitive, enabling manufacturing processes and platform technology research and the state of the art, and
 - contribute to the U.S. knowledge base
- The magnitude of the expected payoffs from the proposed solutions and the likelihood of achieving a sustainable competitive advantage for U.S. manufacturers

Criterion B: Consortium and/or Road-mapping Development Plan

- The quality of the plan to perform the proposed work - “what, how, where, when, why, and by whom”
- The breadth and comprehensiveness of the stakeholder entities that are identified and included in the consortium’s efforts
 - particularly the participation of small and medium sized manufacturers, where appropriate, or the consideration of their specific needs
- The approach to be used to develop/update the proposed consortium development activities and/or proposed roadmapping and how potential stakeholders will be involved

Partnerships are Essential



Criterion B: Consortium and/or Road-mapping Development Plan *(cont'd)*

- The quality and appropriateness of the project's progress monitoring systems and the project's measurable success criteria and the means by which progress will be monitored and documented, including:
 - appropriate interim and final key milestones for each year of the plan
 - the quality of the timeline provided, such as a Gantt chart
- The sustainability planning during and after the award period, including:
 - the nature and importance of collaborations with all team members, and
 - the plan to accelerate the project results and/or move them into routine or commercial use

Criterion C: Resource Availability and Qualifications

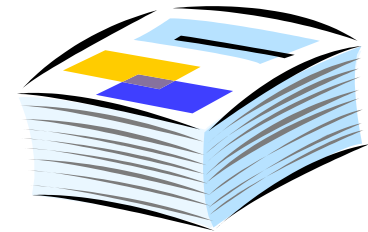
- The resources and budget against the proposed project scope and activities
 - The appropriateness and cost-effectiveness of the proposed resources and budget with respect to carrying out the work and meeting the objectives of the application
- Qualifications of each team member – both organizations and individuals – and the team as a whole
- The proposed operational or management structure, delegation of activities, and qualifications of key personnel and participating organizations
- The quality of the qualifications, experience and track record of accomplishment in programs, projects and activities related to the purpose or scope of the AMTech FFO

Participation across the value-chain is essential

Performance Reporting

- Semi-annual Reporting

- Financial Reports
- Performance (Technical) Reports
- Patent and Property Reports



- Third Party Evaluation

- ✓ To interface with NIST and award recipients
- ✓ Ongoing evaluation and best practice identification
- ✓ Recipients will be required to participate



Evaluation, Selection and Award Announcement

- Evaluation to consist of:
 - **Initial Screening** of all proposals for eligibility, completeness, and responsiveness to the FFO (See *Section IV.3.a* of the FFO for a complete list of required forms and documents)
 - **Full Review** of applications that meet the above
 - Technical and Administrative Review
 - Evaluation Panel Deliberations and Adjectival Ranking
 - **Final Selection** by the Selecting Official
 - **Award Negotiation and Issuance** by NIST Grants Officer (See *Section V.2* of the FFO for a complete description)
- Awards anticipated: Q1, Calendar Year 2014

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 - ✓ *View FAQs and webinar recordings and slides*
 - ✓ *Join AMTech's LinkedIn Group*
- **Grants.gov and 2013-NIST-AMTECH-01 FFO**
 - ✓ <http://www.grants.gov/web/grants/view-opportunity.html?oppld=238327>
- **Email questions to: amtech@nist.gov**
- **Key dates to remember:**
 - ✓ *August 20, 2013 – Second AMTech webinar*
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Questions

Next AMTech Webinar – August 20, 2013

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Wrap up and Thank you

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 - ✓ August 20, 2013 – Second AMTech webinar
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 - ✓ October 21, 2013 - Full Application due through Grants.gov (only)
- Complete a brief AMTech webinar survey at the conclusion of today's event. Thank you!