The Advanced Manufacturing Partnership and the Advanced Manufacturing National Program Office

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Webcasts for Industry
Advanced Manufacturing Office
US Department of Energy

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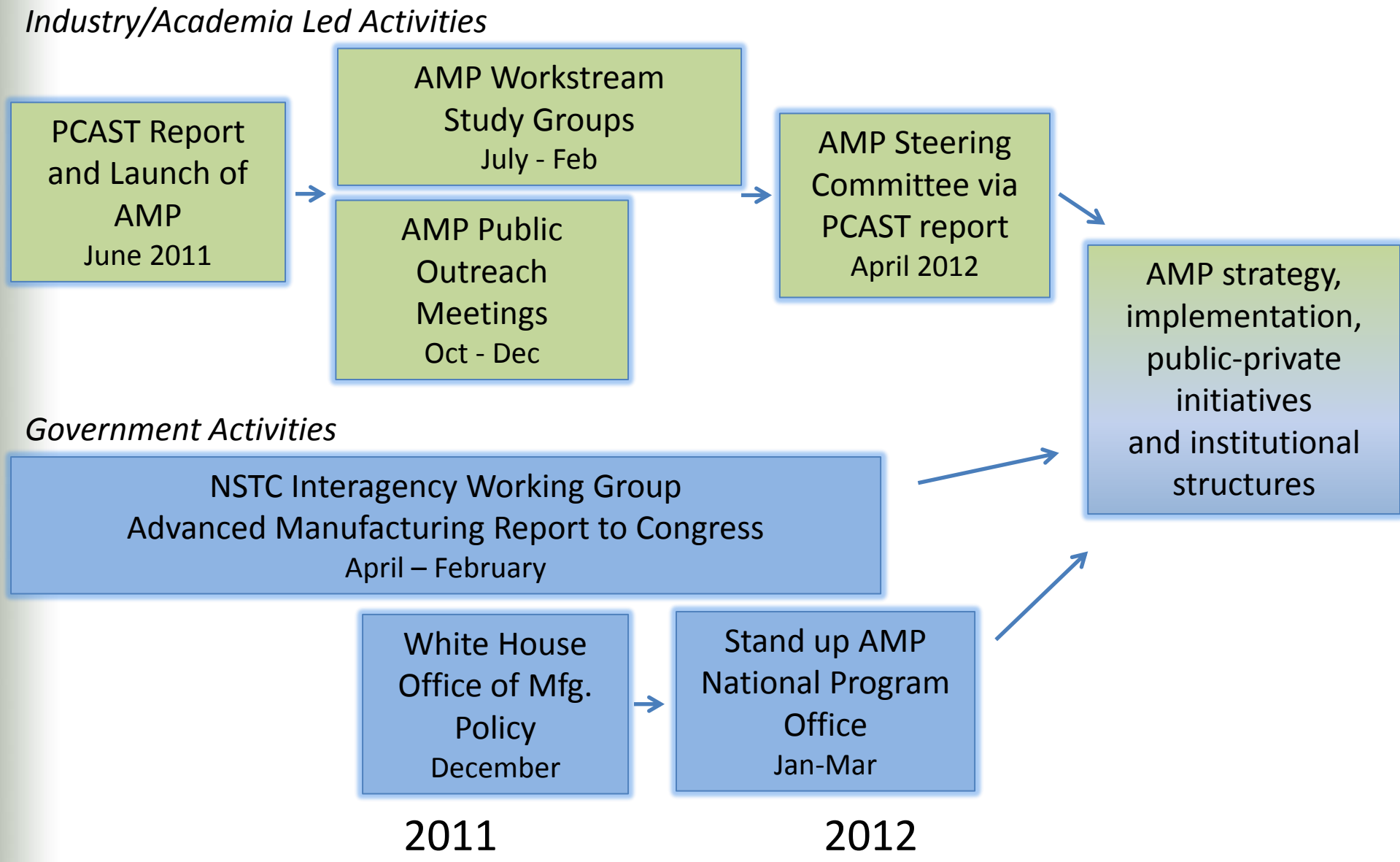
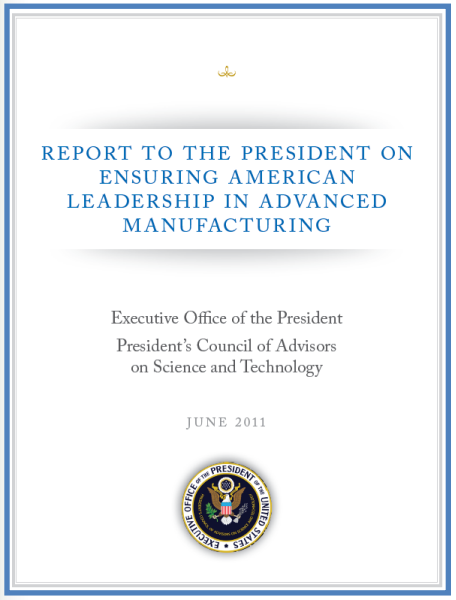
Overview

- Advanced Manufacturing Activities
- Advanced Manufacturing Partnership (AMP)
- AMP Steering Committee
- AMP Workstream Study Groups
- Office of Manufacturing Policy (OMP)
- NSTC Working Group on Advanced Manufacturing
- Advanced Manufacturing NPO

Advanced Manufacturing Partnership (AMP) Timeline



Advanced Manufacturing Recommendations: PCAST



1) Launch a Federal Advanced Manufacturing Initiative

- Concerted, whole-of-government effort, led by DOC, DOD, DOE and NSF
- Report to President on priority needs for Federal investments, including:
  - Coordinated Federal support to academia and industry for applied research on new technologies and design methodologies
  - Development and dissemination of design methodologies
  - Shared facilities and infrastructure to help small and medium-sized firms compete globally
  - Public/Private Partnerships (PPPs) to advance such technologies through pre-competitive consortia

2) Improve Tax Policy

- Reform corporate income taxes, extend the R&D tax credit permanently and increase the rate to 17%, as advocated in the President's Innovation Strategy.

3) Support Research

- Strengthen research of three key science agencies: NSF, DOE O/S, NIST

4) Strengthen the Workforce

- Strengthen science, technology, engineering and mathematics (STEM) education

Advanced Manufacturing Partnership

Revitalizing US Manufacturing Through an Industry-Academia-Government Partnership

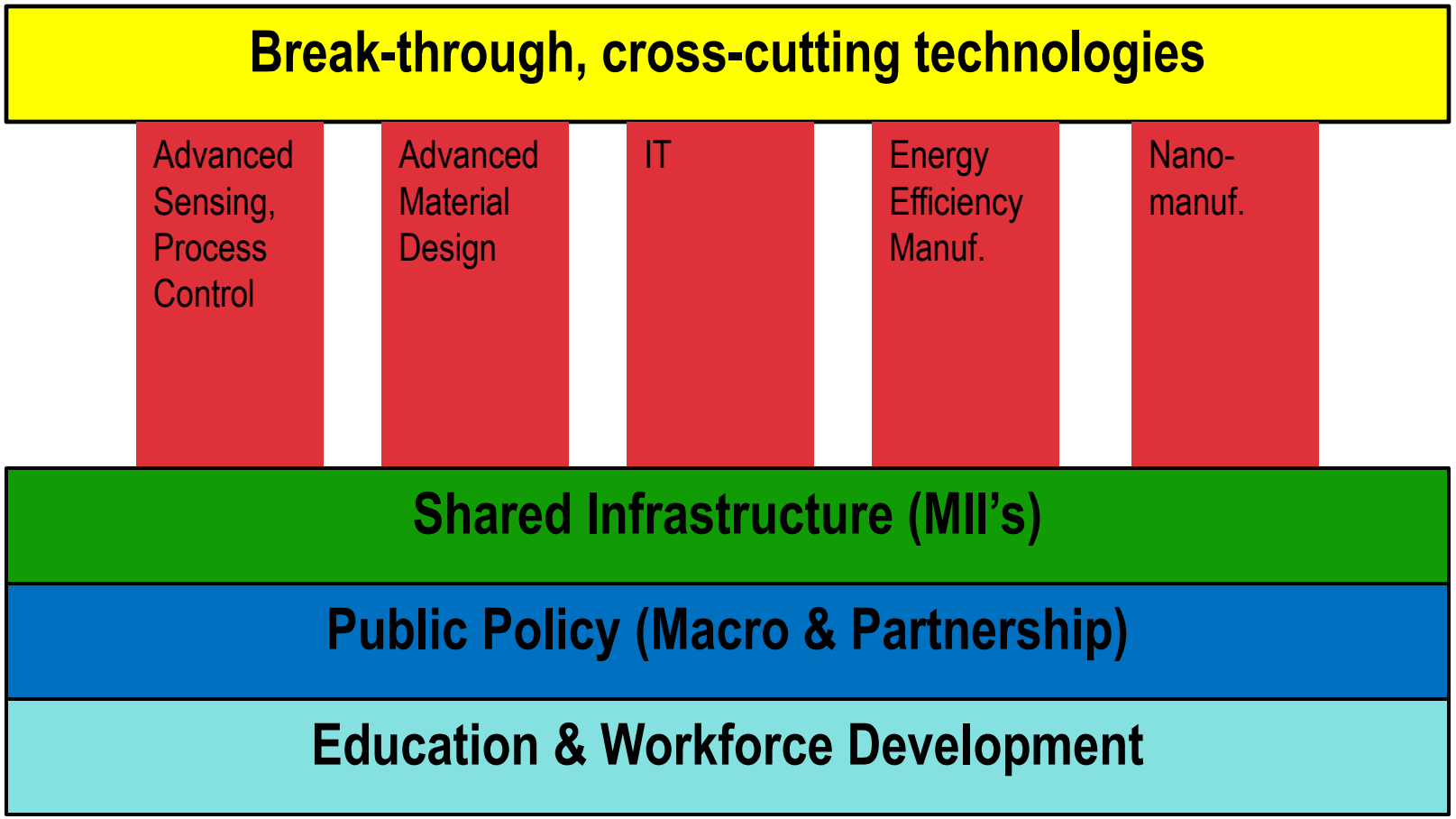
Advanced Manufacturing Partnership

- Goal is to lay a roadmap that leads to a revitalized US manufacturing sector
- Chartered by President Obama in June 2011
- Co-Chaired by Dow and MIT
- Membership Includes:
  - Stanford, University of Michigan, MIT, UC Berkeley and Georgia Tech
  - Allegheny Technologies, Caterpillar, Corning, Dow, Ford, Honeywell, Intel, J&J, Northrop Grumman, P&G, Stryker and United Technologies
  - Various federal agencies- NIST, DoD, DoE, NSF, OSTP, etc.

AMP Organization

- AMP was organized into 5 workstreams, developing recommendations in parallel
  - Technology Development
  - Shared Infrastructure
  - Public Policy
  - Education & Workforce Development
  - Outreach

Advanced Manufacturing Partnership



Technology Development: Overview

- Two broad objectives
  - Develop a permanent mechanism to be used for identifying and developing key manufacturing technologies
  - Identify a set of top technology areas that would ensure US manufacturing competitiveness.
- Inputs to the process included:
  - Surveys and workshops of industry and university participants
  - Desk research of comparable mechanisms used in other countries and regions to identify and nurture technologies
  - White-paper solicitations from select experts.

Technology Development: Process to ID New Technologies

- A national foresight mechanism generating a national strategy on the set of important future needs and broad technology areas of focus, including a robust input mechanism.
- The use of industry-government-university consortia (where possible) to generate detailed roadmaps for industries of strategic importance.
- Creation and management of programs to carry out the research and eventually help commercialize technologies with strong industry participation
- Periodic review of program results and strategic analysis of the portfolio of projects is necessary.

Shared Infrastructure: Overview

- The team has refined their recommendations to the following:
  - Creation of a network of Manufacturing Innovation Institutes (MII's) to bridge the gap between basic research and manufacturing
    - » Staffed with university and industry SME's
    - » Infrastructure & expertise available to companies of all sizes
    - » Facilitates collaboration between industry & academia and coordinates efforts with national labs
  - The development of a searchable catalog of data, services and facilities that are available for SME use.

- The MII concept will be further polished to include a strong technology transfer provision

Public Policy: Overview

- The goal was two-fold:
  - To define the macro policy elements that are required to “set the table” for a resurgence in manufacturing
  - To identify particular policy needs that facilitate collaboration between industry, academia and the national labs / federal agencies

Public Policy: Macro Policies

- Comprehensive tax reform lowering corporate rates to below 25% and a coherent national energy strategy
- Permanent R&D tax credit
- Sound cost-benefit analysis for all regulations to consider US competitiveness and innovation
- Pursue better fair-trade enforcement, and protection of IP
- Modify the GI bill so that it covers non-degree skilled trades and accreditation training

Public Policy: Partnership Policies

- Eliminate caps on the amount of corporate investment in university research programs
- Connect the ecosystems of university startups and domestic manufacturing using a MEP tie-in and the reporting of domestic manufacturing from university spinouts & licensing
- Expand resources available (like venture capital mechanism) to bridge the “valley of death” for new technologies / start-ups.

Education & Workforce Development: Overview

- Community colleges have the biggest potential to impact the workforce of the US manufacturing sector near-term
- High school teaching and learning models must be adapted to meet the needs of today's workforce so that post-secondary institutions can focus on accreditations, not remedial teaching
- Project-based learning models are the game-changer at all education levels to bring a short-term improvement in workforce readiness
  - Internships, Apprenticeships, Co-ops & Job Shadowing in STEM fields
  - Technical curricula with hands-on projects

Education & Workforce Development: Overview

- This team worked on six individual aspects of workforce development:
  - » Identification of Attributes of Successful Partnerships
  - » Federal Funding Options for Curricula Development
  - » Standards and Certifications
  - » Joint Development of University Manufacturing Programs
  - » The Image of Manufacturing
  - » Recruitment of Veterans to the Manufacturing Sector

Outreach

- This team served in a coordination capacity to support the activities of the other workstreams and to provide stakeholders the opportunity to provide input to the process.
- The team coordinated four regional meetings, which took input from more than 1000 participants in late 2011.
- Members also provided Hill briefings and met with numerous trade associations.
- The team is now responsible for the assembly of the final report.

AMP Going Forward

- Recommendations will be further refined over the next six weeks and a final report submitted to PCAST at end of March

- A NPO has been established for manufacturing, which we hope will help coordinate the implementation of AMP recommendations

Office of Manufacturing Policy (OMP)

Secretary Bryson
Department of Commerce

White House
Office of Manufacturing Policy
Co-chairs

Director Sperling
National Economic Council

Office of Manufacturing Policy: Operates within the White House NEC
First cabinet level meeting held January 20, 2012

Goal: Ensure effective coordination of manufacturing policy implementation and to serve as a resource for agencies to highlight and coordinate their manufacturing activities

NSTC Interagency Working Group on Advanced Manufacturing

NSTC Committee on Technology:

Interagency Advanced Manufacturing working group

- chartered March 30, 2011
- Co-chaired by DOE, DOD, and NIST

IAM Charter: to develop a strategic plan to guide Federal programs and activities in support of advanced manufacturing research and development

COMPETES REAUTHORIZATION 2010: Congress calls for strategic plan to address

- Foster transfer of R&D results into U.S. based manufacturing
- Strengthen education and training to ensure a well-trained workforce
- Assist SMEs in developing and implementing advanced manufacturing
- Specify objectives, metrics, and roles

Release of report to Congress targeted for late February 2012

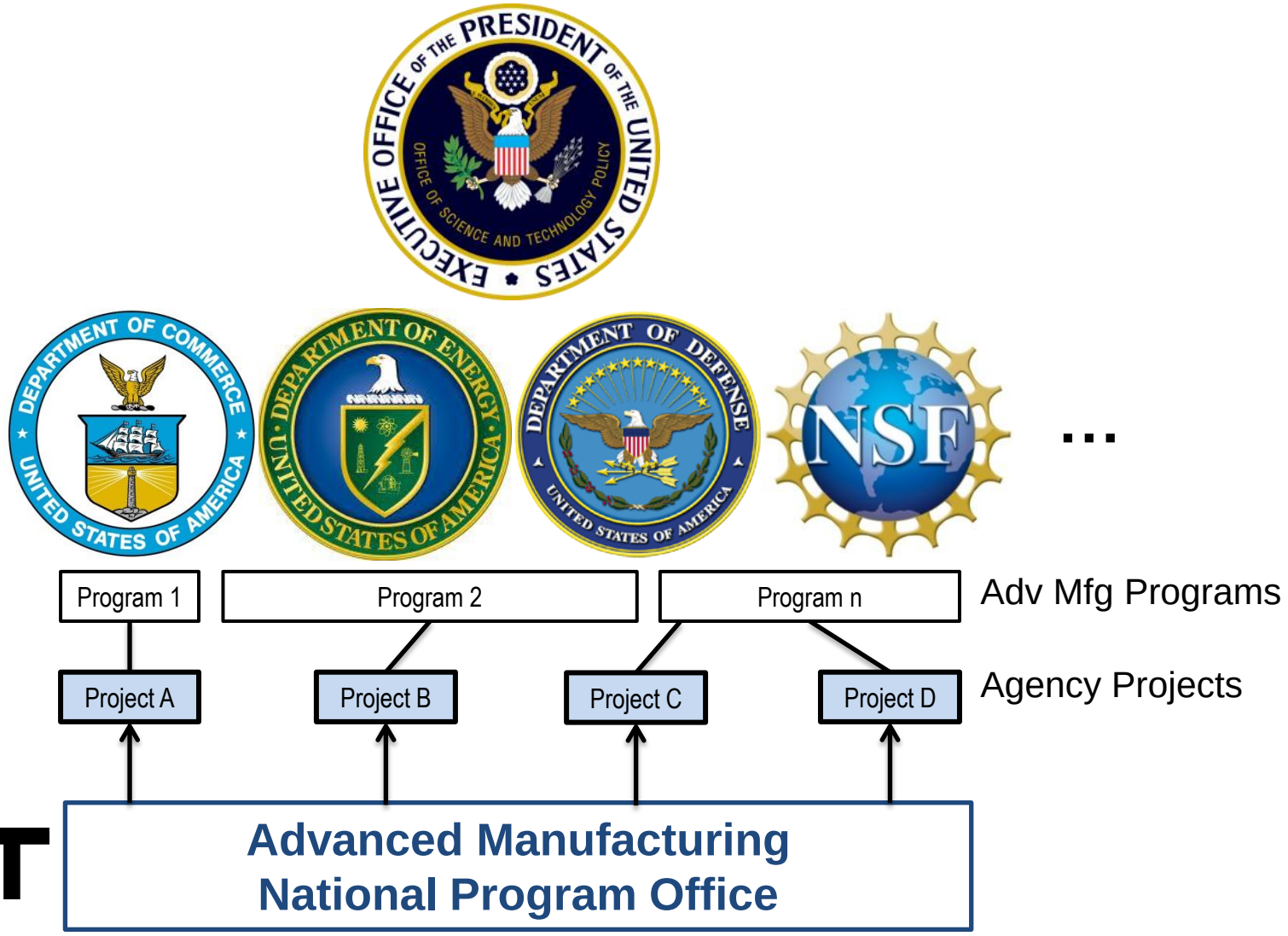
Advanced Manufacturing National Program Office (NPO)

- Advanced Manufacturing National Program Office
  - Announced by Secretary Bryson, December 19, 2011
  - True interagency staff, with IPA/fellows from industry and academia
  - Hosted by Department of Commerce/NIST

- The AM-NPO will:
  - Lead other federal agencies involved in U.S. manufacturing and support interagency coordination of advanced manufacturing programs
  - Provide a linkage to the private-sector partnerships between manufacturers, government, and universities.
  - Satisfy the PCAST report recommendation to create an integrated private/public advanced manufacturing initiative.
  - Work to implement recommendations from AMP

Credit: Carnegie Mellon Univ.

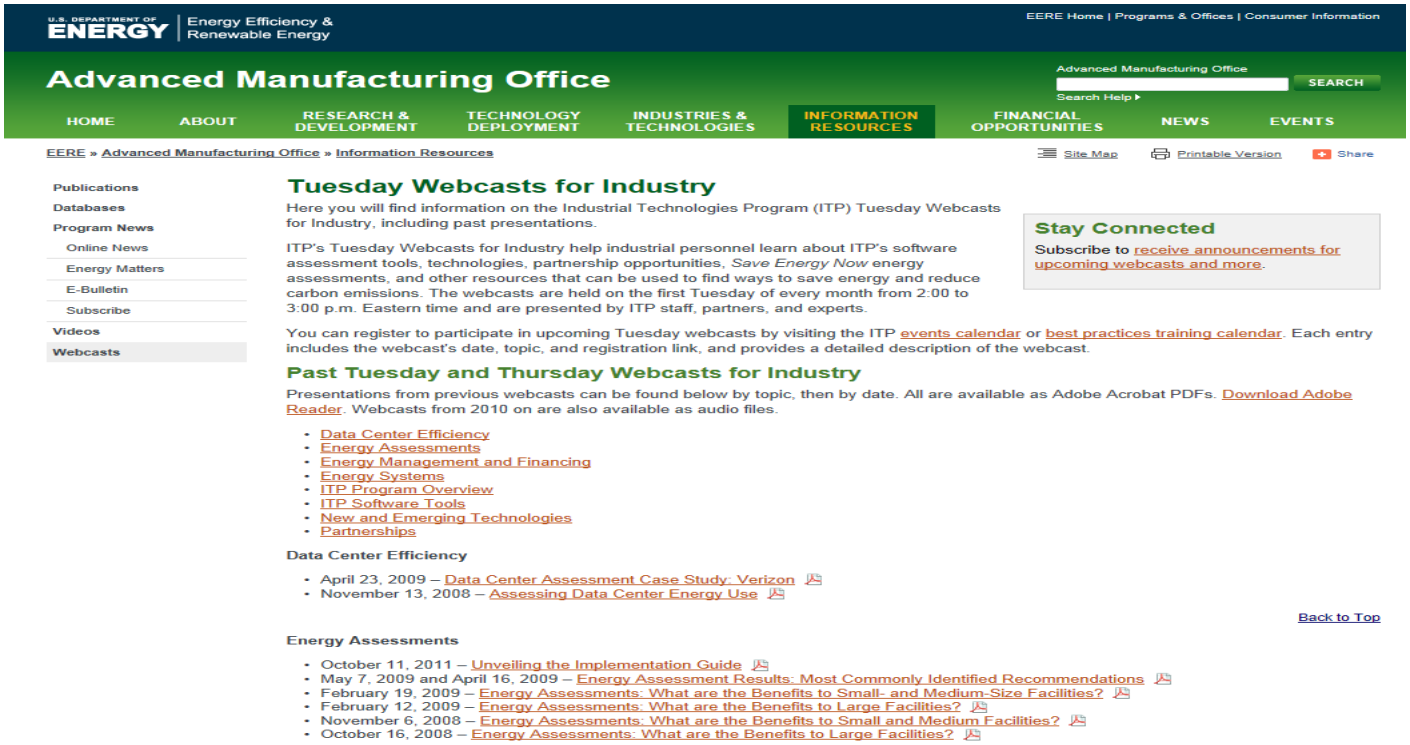
Adv Mfg NPO: Core Federal Partners



Adv. Mfg. NPO Planned Activities

- Respond to AMP, PCAST, IAM recommendations
- Coordinate federal advanced manufacturing strategic planning
- Coordinate AM planning and budget activities with EOP
- Produce annual AM supplements to the President's Budget
- Support advanced manufacturing public-private partnerships
- Establish broad engagement mechanisms among stakeholders in government, industry, and academia
- Hold public workshops throughout the US on initiatives and priorities

Slides from Previous Webcasts



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ITP's Tuesday Webcasts for Industry help industrial personnel learn about ITP's software assessment tools, technologies, partnership opportunities, *Save Energy Now* energy assessments, and other resources that can be used to find ways to save energy and reduce carbon emissions. The webcasts are held on the first Tuesday of every month from 2:00 to 3:00 p.m. Eastern time and are presented by ITP staff, partners, and experts.

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- Data Center Efficiency
- Energy Assessments
- Energy Management and Financing
- Energy Systems
- ITP Program Overview
- ITP Software Tools
- New and Emerging Technologies
- Partnerships

Data Center Efficiency

- April 23, 2009 – Data Center Assessment Case Study: Verizon
- November 13, 2008 – Assessing Data Center Energy Use

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Energy Assessments

- October 11, 2011 – Unveiling the Implementation Guide
- May 7, 2009 and April 16, 2009 – Energy Assessment Results: Most Commonly Identified Recommendations
- February 19, 2009 – Energy Assessments: What are the Benefits to Small- and Medium-Size Facilities?
- February 12, 2009 – Energy Assessments: What are the Benefits to Large Facilities?
- November 6, 2008 – Energy Assessments: What are the Benefits to Small and Medium Facilities?
- October 16, 2008 – Energy Assessments: What are the Benefits to Large Facilities?

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http://www1.eere.energy.gov/manufacturing/resources/tuesday_webcasts.html

Next Month's Webcast

Please join us for our next Webcast.

Topic: Superior Energy Performance (SEP) and ISO 50001: How SEP will Help Your Plant Implement ISO 50001

Date and Time: Tuesday, March 13 at 11:00 a.m. PST/2:00 p.m. EST

To Register: https://www1.gotomeeting.com/register/112323080