Advanced Manufacturing Jobs & Innovation Accelerator Overview

Lynn Daniels
AAAS Science & Technology Policy Fellow
Advanced Manufacturing Office
U.S. Department of Energy

November 14, 2012
**AMO Goal:** Reduce energy consumption of manufactured goods across product life-cycles by 50% over 10 years by targeting the production, use, and/or deployment of advanced manufacturing technologies.

**AMO Strategy:** Co-invest with other agencies/industry to produce and deploy technologies at a scale meaningful to manufacturers.

### Next Generation Materials

- Pervasive materials technologies that lead to better products.

### Next Generation Manufacturing Processes

- Broadly applicable processes that lead to better production.

### Technology Projects and User Facilities

- Manufacturing Demonstration Facilities
  - Increase adaptability of manufacturers through alternate materials and process pathways
  - Reduce technical risk to make business case
- National Network for Manufacturing Innovation (Pilot Institute)
- Innovative Manufacturing Initiative and SBIR
  - Competitively-selected, cost-shared technology projects
- Advanced Manufacturing Jobs & Innovation Accelerator

### Technology Deployment

Promote better energy use practices to capture U.S. competitive advantage.

### Targeted Partnerships

- Stakeholder Engagement and Partnerships
- Better Buildings, Better Plants
- Industrial Assessment Centers
- Combined Heat and Power

**TRL 2-6**

**TRL 2-8**

**TRL 9**
Advanced Manufacturing Jobs & Innovation Accelerator

- Interagency initiative to support advanced manufacturing and drive *high-potential industry clusters* across the U.S.
  - Clusters are regional concentrations of firms and supporting institutions that:
    - Develop organically based on regional competitive advantages and resources
    - Focus on a technology or market sector
    - Increase productivity through frequent and collaborative interactions, sharing of best practices, and common resources and infrastructure

- Five agencies provide funding for complementary activities:
  - Department of Commerce Economic Development Administration (EDA) and NIST Manufacturing Extension Partnership (MEP)
  - Department of Energy Advanced Manufacturing Office (AMO)
  - Department of Labor Employment and Training Administration (ETA)
  - Small Business Administration (SBA)

- Accelerate innovations from idea to commercialized product to create a skilled workforce, grow the economy, and enhance the competitiveness of U.S. manufacturers.
10 grants awarded following a competitive review process to regional clusters across the U.S.

Range of technology areas including carbon fiber and composites, lightweight metals, optics, and bio-inspired manufacturing

Regional winner: Agile Electro-Mechanical Product Accelerator

- Partners include Innovation Works, National Center for Defense Manufacturing and Machining, Catalyst Connection
- Focus on metals manufacturing and electrical equipment with an impact on region’s energy, life sciences, and advanced electronics industries
- Establish the Agile Hardware Design Center to accelerate start-ups
CHP Executive Order

- On August 30th, 2012, President Obama signed an Executive Order to accelerate investments in industrial energy efficiency (EE), including combined heat and power (CHP)
  - National **goal of 40 GW** of new CHP installation over the next decade
  - Expand participation in the **Better Buildings, Better Plants program**
  - Significant opportunity for DOE to support states’ efforts to address barriers to accelerate investment in industrial EE and CHP

- **Dialogue meetings**
  - **Southeast** Industrial Energy Efficiency & Combined Heat and Power Regional Dialogue Meeting, January 24, 2013, Little Rock, Arkansas
  - **Northeast / Mid-Atlantic**, March 13, 2013, Baltimore, Maryland

- Eight regional **Clean Energy Application Centers** (CEACs)
  - Provide analysis of CHP market potential, education and outreach about CHP benefits, and technical information and site assessments
  - Mid-Atlantic CEAC, [http://www.maceac.psu.edu/](http://www.maceac.psu.edu/)

Contact Katrina Pielli, katrina.pielli@ee.doe.gov, 202-287-5850. Lead for DOE’s efforts in support of the Executive Order.
Future Funding Priorities

• “Foundational” technology areas
  • Significant impact on life-cycle energy
  • U.S. has competitive advantage and capabilities
  • High economic impact in multiple markets
  • Platform, enabling other technologies and markets

• Anticipated funding priorities subject to appropriations, include:
  • R&D projects (IMI)
  • Manufacturing Demonstration Facilities
  • SBIR Phase I currently open (LOIs due December 17)
    • Multi-material joining, in-situ metrology, process controls
    • http://science.energy.gov/sbir/funding-opportunities/