

Dear Advanced Manufacturing Working Group members –

Today, President Obama announced a series of executive actions to strengthen advanced manufacturing in America. These include: a commitment of \$300 million in the emerging technologies of advanced materials including composites and bio-based materials, advanced sensors for manufacturing, and digital manufacturing; the creation of up to two new manufacturing “centers of excellence” in basic research, funded by NSF, bringing together universities and industry with a focus on advanced sensors for manufacturing and digital manufacturing; a \$100 million apprenticeship grant competition; and additional funding to help small manufacturers adopt new technologies and bring new products to market. I will pass along further information on these initiatives, including any potential opportunities for you that arise as a result of these actions, as it becomes available.

Background on today’s announcement is contained below in the White House Fact Sheet press release:

**The White House**  
Office of the Press Secretary

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For Immediate Release  
October 27, 2014

**FACT SHEET: President Obama Announces New Actions to Further Strengthen U.S. Manufacturing**

U.S. manufacturing is central to the foundation of our economy, and the U.S. manufacturing sector is as competitive as it has been in decades for new jobs and investment. Since February 2010, U.S. manufacturing has added more than 700,000 jobs, the fastest pace of job growth since the 1990s.

Today, to continue to build on this momentum, the President will unveil new executive actions to strengthen U.S. advanced manufacturing, spur innovation, and continue to take steps to make the U.S. a magnet for new jobs and investment. At an event this afternoon, the President will thank the Advanced Manufacturing Partnership (AMP) Steering Committee, a working group of the President’s Council of Advisors in Science and Technology, for their efforts to develop advanced manufacturing across the U.S. The final AMP, *Accelerating U.S. Advanced Manufacturing*, is available [here](#).

In response to an earlier report of the Advanced Manufacturing Partnership, which began in June 2011, the President has already launched four manufacturing innovation institutes with four more on the way; invested nearly \$1 billion to upgrade our community colleges to train workers for advanced manufacturing jobs; expanded investments in applied research for emerging, cross-cutting manufacturing technologies;

and launched a new initiative to deploy the talent of returning veterans to in-demand jobs, including in advanced manufacturing.

The final AMP report makes recommendations addressing three key pillars that support American manufacturing: 1) enabling innovation, 2) securing the talent pipeline, and 3) improving the business climate. The executive actions announced today align with the report's recommendations by making investments in emerging, cross-cutting manufacturing technologies, training our workforce with the skills for middle-class jobs in manufacturing, and equipping small manufacturers to adopt cutting-edge technologies.

### ***New Executive Actions to Strengthen Advanced Manufacturing in America***

#### ***Enabling Innovation:***

##### **Investing More than \$300 Million in Emerging Manufacturing Technologies**

**Critical for U.S. Competitiveness:** The Departments of Defense, Energy, Agriculture and NASA are announcing more than \$300 million in investments in three technologies the AMP identified as critical to U.S. competitiveness: advanced materials including composites and bio-based materials, advanced sensors for manufacturing, and digital manufacturing.

##### **Spurring Innovation by Providing Manufacturers Access to New and Expanded**

**State-of-the-art Facilities like those at our National labs:** The National Science Foundation, the Department of Energy, and NASA are taking steps to connect industry and universities on research and development and develop 'technology testbeds' within Federal research facilities where companies can design, prototype, and test a new product or process.

#### ***Securing the Talent Pipeline:***

##### **Expanding Effective Workforce Development Strategies through the \$100 Million**

**American Apprenticeships grant competition:** This fall, the Department of Labor will launch a \$100 Million American Apprenticeships Grant Competition to spur new apprenticeship models and scale effective ones in high-growth fields like advanced manufacturing. AMP members Dow, Alcoa, and Siemens have launched apprenticeship pilots and a "how-to" guide for other employers looking to use apprenticeship as a proven training strategy.

#### ***Improving the Business Climate:***

##### **Launching New Tools and a Five-Year Initial Investment to Support Innovative**

**Small Manufacturers in the Supply Chain:** Given the innovation gap faced by small manufacturers, the Department of Commerce's Manufacturing Extension Partnership, which serves over 30,000 U.S. manufacturers each year, will build new capabilities at its state-based centers and pilot a competition for \$130M over five years across ten states to help small manufacturers adopt new technologies and bring new products to market.

### **Background on New Executive Actions to Strengthen American Manufacturing**

## *Enabling Innovation*

- **Investing Over \$300 Million in Emerging Manufacturing Technologies Critical for Sustaining U.S. Competitiveness:** The Departments of Defense, Energy, and Agriculture and NASA are committing to invest over \$300 million in three emerging manufacturing technologies including advanced materials like composites and bio-based materials, advanced sensors, and digital manufacturing. In its recommendations, the AMP report identified these technologies as critical for lasting U.S. competitiveness in advanced manufacturing. The Administration's research investments, matched by private sector efforts and resources, will drive advances in manufacturing high-tech materials, like new steel alloys that are twice as strong and lighter than today, new processes to eliminate reliance on foreign supplies of critical materials, cut the time to test and prototype a design by half, and replace chemicals made using oil with those made from plants harvested on American farms.
- **Spurring Manufacturing Innovation by Reinforcing New Partnerships between Manufacturers and Universities, National Labs, and Manufacturing Centers of Excellence:** The National Science Foundation (NSF), the Department of Energy (DOE), and NASA will take new steps to support science and research capabilities that strengthen U.S. manufacturing competitiveness.
  - NSF will establish up to two new manufacturing centers of excellence in basic research, bringing together universities and industry to partner at the earliest stages of the manufacturing technology pipeline with a particular focus on advanced sensors for manufacturing and digital manufacturing, through its Industry and University Cooperative Research Center Program (IUCRC).
  - DOE will expand its efforts to provide small manufacturers with access to cutting-edge tools for technology demonstration by reaching more companies through new or expanded "technology testbeds." An existing model for these efforts is the Manufacturing Demonstration Facility located at Oak Ridge National Laboratory, which has helped close to 150 small businesses access cutting edge manufacturing technologies and research this year alone.
  - NASA is expanding its efforts to engage industry and academia on advanced manufacturing topics central to the nation's space mission through its National Center of Advanced Manufacturing, with a particular focus on manufacturing technologies that reduce the weight of materials during space flight.

## *Securing the Talent Pipeline*

- **Expanding Effective Workforce Development Strategies through the \$100 Million American Apprenticeships Grant Competition:** AMP has highlighted

apprenticeships as a highly effective strategy for manufacturing workforce development. This fall, the Department of Labor will launch a \$100 Million American Apprenticeships Grant Competition to launch new apprenticeship models in high-growth fields like advanced manufacturing, align apprenticeships with pathways for further learning and career advancement, and scale apprenticeship models that work. Industry is already leading the way in exploring new models, and Dow, Alcoa, and Siemens have launched new apprenticeship pilots and developed a “how-to” guide for other employers looking to use apprenticeship as a proven training strategy.

- **Communicating the Value of Careers in Manufacturing to America’s Youth:** This year’s National Manufacturing Day, hosted by the Department of Commerce Manufacturing Extension Partnership and leading manufacturing industry associations, attracted more than 50,000 visitors to over 1,600 factories across the country to teach America’s youth about the good career opportunities in manufacturing, double the number of events in previous years. Next year, the Department of Commerce and its partners plan to further expand the number of Manufacturing Day events across the country and the number of people participating in Manufacturing Day. In addition, the Department of Education has begun developing a national campaign to promote the value of career and technical education. The campaign will inform educators, students, and their families of the value of promising careers and education pathways in technical fields, like advanced manufacturing.

### ***Improving the Business Climate***

- **Launching New Tools and a Five-Year Initial Investment to Support Innovative Small Manufacturers in the Supply Chain:** The National Institute of Standards and Technology Manufacturing Extension Partnership (NIST MEP), using its network of more than 50 centers and relationships with over 30,000 small manufacturers each year, will deploy new tools to help small manufacturers access advanced technologies, new markets, and growth capital. As part of a national Supply Chain Innovation initiative, these tools will help connect small manufacturers with testbeds housed at national research facilities to test new technologies, helping small manufacturers bring to market novel products and processes. In addition, NIST MEP is committed to providing greater flexibility and funding to its national network of locally-based centers, to allow them to use these new tools and others to better assist small firms in adopting new technologies and innovations. As an initial investment, NIST MEP is launching a \$130 million pilot competition in ten states to give centers the flexibility to adopt supply chain innovation tools and build enhanced capabilities over five years.

### **Building on Progress: The Administration’s Investments to Increase U.S. Competitiveness in Advanced Manufacturing**

The Obama Administration has continued to make investments that directly support innovations in manufacturing, and we’ve made significant progress to date, supported by our ongoing work with AMP, making good on the President’s commitment in 2011

when he launched the AMP to create new partnerships between industry, academia, and government to spur U.S. advanced manufacturing competitiveness, including:

- [Reaching the halfway mark](#) on the President's original goal of 15 manufacturing institutes in the [National Network for Manufacturing Innovation](#) with more than \$1 billion in Public-Private Investment to date supporting four manufacturing institutes open today and four more on the way.
- Deploying nearly \$1 billion to strengthen manufacturing curriculum at [community colleges](#) across the country to train America's workforce through the TAA-CCCT fund, led by the Departments of Labor and Education.
- Increasing Federal investments in advanced manufacturing research and development to nearly \$2 billion supporting investments in major developments in advanced manufacturing, up over 34 percent from \$1.4 billion in 2011.
- [Investing in energy efficiency](#) to lower costs for manufacturers so that American manufactures have the opportunity and the imperative to lock in a competitive advantage in energy costs by implementing energy-saving technologies and practices.

The White House and the Department of Commerce recently released a [Digital Tour of American Manufacturing](#), highlighting how our manufacturing sector is central to making America a magnet for good, middle-class jobs and for generating durable economic growth, both today and tomorrow.

### **Advanced Manufacturing Partnership Final Report**

Beginning in October 2013, the AMP Steering Committee "2.0" – a council of 19 leading CEOs, labor leaders, and university presidents co-chaired by Andrew Liveris, CEO of Dow, and Dr. Rafael Reif, President of MIT - began working with the recognition that industry, academia, and government must work in partnership to revitalize our manufacturing sector. The AMP Steering Committee is a working group of the President's Council of Advisers of Science and Technology (PCAST) and was initially launched in June 2011. The [initial findings and recommendations in the AMP "1.0" report released in July 2012](#) have already spurred action by both the Administration and by the manufacturing community.

Over the past year, the AMP Steering Committee has harnessed the energies and expertise of over 100 manufacturing industry and academic experts to identify opportunities and policies to strengthen U.S. advanced manufacturing. The final Advanced Manufacturing Partnership report released today, *Accelerating U.S. Advanced Manufacturing*, AMP makes recommendations addressing three key pillars:

- *Enabling Innovation* – Recognizing that leadership in emerging technologies anchors advanced manufacturing in the U.S., AMP endorses increased technology coordination and investments in three priority technology areas – advanced materials, advanced sensors for manufacturing, and digital manufacturing – calling. The report s for a full pipeline approach spanning centers of excellence in basic

manufacturing research, the continued creation of the National Network for Manufacturing Innovation for final mile development of advanced technologies, and technology testbeds to spur the adoption of these technologies on factory floors.

- *Securing the Talent Pipeline* – Manufacturers continue to need highly-skilled workers to fill open jobs on factory floors. AMP, building on its playbooks for employers and colleges to replicate proven training models, like apprenticeship, calls for further investments in the creation of a national industry-recognized, competency-based system of workforce development. And, to change the image of manufacturing, a national effort to communicate the value of careers in manufacturing to the nation's youth.
- *Improving the Business Climate* – For the U.S. to compete in manufacturing, we must build the environment for main street and start-up manufacturers to scale and grow. AMP calls for building new intermediary services to help small manufacturers adopt new technologies and expand into new markets and calls for a public-private investment fund to help high tech manufacturing start-ups scale from pilots and prototypes into full scale U.S. commercial production, ensuring what is invented here can be made here.

The final Advanced Manufacturing Partnership report released, *Accelerating U.S. Advanced Manufacturing*, is attached.

**Chaired by Andrew Liveris, President, Chairman, and CEO of the Dow Chemical Company, and Rafael Reif, President of the Massachusetts Institute of Technology, the AMP Steering Committee includes:**

- Wes Bush, Chairman, CEO and President, Northrop Grumman Corp.
- Mark Schlissel, President, The University of Michigan
- David Cote, Chairman and CEO, Honeywell
- Nicholas Dirks, Chancellor, University of California, Berkeley
- Kenneth Ender, President, Harper College
- Leo Gerard, International President, United Steelworkers
- Hon. Shirley Ann Jackson, President, Rensselaer Polytechnic Institute
- Eric Kelly, President and CEO, Overland Storage
- Klaus Kleinfeld, Chairman and CEO, Alcoa Inc.
- Andrew Liveris, President, Chairman, and CEO, The Dow Chemical Company
- Ajit Manocha, Senior Advisor, GLOBALFOUNDRIES
- Douglas Oberhelman, Chairman and CEO, Caterpillar Inc.
- Annette Parker, President, South Central College
- G.P. "Bud" Peterson, President, Georgia Tech
- Luis Proenza, President, The University of Akron
- Rafael Reif, President, Massachusetts Institute of Technology
- Eric Spiegel, President and CEO, Siemens Corp.

- Mike Splinter, Executive Chairman of the Board, Applied Materials Inc.
- Christie Wong Barrett, CEO, Mac Arthur Corp.

For more information about the Advanced Manufacturing Partnership, please visit: <http://www.manufacturing.gov/amp.html>

For more information about PCAST, please visit: <http://www.whitehouse.gov/administration/eop/ostp/pcast>

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