

BRIEFING ROOM

FACT SHEET: Biden Administration Celebrates Launch of AM Forward and Calls on Congress to Pass Bipartisan Innovation Act

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AM Forward will help lower costs for American families by improving the competitiveness of America's small-and-medium-sized manufacturers, creating and sustaining high-paying manufacturing jobs, and improving supply chain resilience through adoption of additive manufacturing

President Biden's top economic priority is to fight inflation by lowering costs that working families face, and lowering the federal deficit.

One of the best ways to lower the cost of the goods and services that families rely on is to make more things in America, with more secure, resilient supply chains. We've learned this the hard way during this crisis – when brittle supply chains and hollowed out manufacturing resulted in backlogs, bottlenecks and higher prices for families.

President Biden's plan to fight inflation addresses this problem head on. Thanks to the President's leadership, we are in the midst of an American manufacturing boom with over \$200 billion of investments in new manufacturing facilities and record-setting job creation. The Biden Administration has spurred unprecedented job growth and the fastest economic recovery in nearly four decades. Since taking office, President Biden's actions have resulted in the creation of 7.9 million jobs, including 473,000 in manufacturing – more jobs in the first 14 months of any President's term ever.

Companies are investing in America again, bringing good-paying manufacturing jobs back home. Whether it's semiconductors, advanced batteries, or other leading sectors, companies are opening new facilities and announcing commitments to produce the world's most cutting-edge technologies in the United States.

This is just the beginning of a broad revival of American industrial might. Continuing this momentum is key to easing price pressures throughout our economy and bringing inflation

down. That is why the President is committed to making more in America, strengthening our supply chains, supercharging American leadership in the industries of the future, and lowering costs for families. That starts with the historic resources in the Bipartisan Infrastructure Law, which are rebuilding our roads, bridges, ports, airports, and making our businesses and workers more competitive globally. And we can take the next step by passing the Bipartisan Innovation Act, which will make generational investments in innovation, domestic manufacturing, and lowering prices through stronger supply chains.

AM Forward builds on that work and advances key Administration goals:

- More resilient and innovative supply chains, by investing in small and medium sized companies;
- Growing industries of the future, overcoming coordination challenges that limit adoption of new technologies like additive manufacturing; and
- Both inventing and making more in America, through investments in regional manufacturing ecosystems.

Each of these goals is also advanced by the Bipartisan Innovation Act (BIA), which establishes a Supply Chain Office at the Department of Commerce, supports foundational technologies such as additive manufacturing, and invests in regional tech hubs as well as increasing funding for Manufacturing USA Institutes and the Manufacturing Extension Partnership.

Keeping pace with technological change should not be the capability of a few, or an over-the-horizon goal, out of reach for most of our manufacturing base. It should be a pillar of American industrial competitiveness – something that is broadly deployed and available to small and large companies alike. Enacting BIA will put important new technologies like additive manufacturing into the hands of entrepreneurs and companies across the country—raising the productivity and resilience of US manufacturers while lowering costs for American families. It is urgent that Congress acts quickly to pass the BIA, sending it to the President’s desk for his signature.

But not enough American companies are using 3D printing or other high-performance production technologies. That’s why President Biden is pleased to join several leading American companies to celebrate the launch Additive Manufacturing Forward (AM Forward), a voluntary compact between large, iconic manufacturers and their smaller U.S.-based suppliers. GE Aviation, Honeywell, Lockheed Martin, Raytheon, and Siemens Energy are the initial participants in AM Forward. These leading manufacturers will support their U.S.-based

suppliers' adoption of new additive capabilities, helping to transform shop floors across the country.

In additive manufacturing, producers transmit computer data to industrial 3D printers. In turn, these machines build parts on-demand, directly in suppliers' own shops. Firms use this capability to reduce the number of parts required for an application, to make spare parts one at a time as needed, and design high-performing components in various industries ranging from aviation to medical devices

Through AM Forward, each of these iconic companies will make clear, public commitments to purchase additively produced parts from smaller U.S.-based suppliers; train the workers of their suppliers on new additive technologies; provide detailed technical assistance to support their suppliers' adoption of new capabilities; and engage in common standards development and certification for additive products.

Among other public commitments:

- GE Aviation will target small/medium sized suppliers to compete on 50% of the requests for quotes that are sent out on products made using additive or related technologies; and will target 30% of its total external sourcing of additively manufactured parts from U.S.-based SME suppliers.
- Raytheon will seek SME manufacturers involvement in over 50% of its requests for quotes on products manufactured using additive technologies; the company will also seek to simplify and accelerate the procurement process of AM parts.
- Siemens Energy will target to purchase 20-40% of total externally sourced AM parts and services from U.S.-based suppliers and partners. It will engage 10-20 U.S. SME suppliers to help improve their AM capability. And, it will also train 10-20 SME suppliers on inspection and post-processing best practices.
- Lockheed Martin will work with its SME suppliers to conduct research to improve the performance of additive manufacturing AM techniques specifically focused on the use of 3D printing as an alternative to castings and forgings; and it will further participate in university and technical college programs for additive workforce development, including coursework and apprenticeship.
- Honeywell will target U.S.-based SME suppliers to compete on request for quote packages sent out for products, machinery, manufacturing tooling, and/or manufacturing process development utilizing additive or related technologies. It will also offer technical

assistance in part design, data generation, machine operation, post-processing, part inspection / quality management to its SME suppliers.

AM Forward is a completely voluntary compact open to any OEM to participate, provided they are willing to make public commitments to support their suppliers' adoption of additive capabilities. It will be supported by Applied Science & Technology Research Organization (ASTRO), a non-profit organization.

To support AM Forward, the Biden Administration has identified a range of federal programs that U.S. SME manufacturers can use to support their adoption of additive capabilities and increase their competitiveness. The Administration's actions are focused on helping to overcome common challenges that have slowed the deployment of AM technologies, particularly among smaller manufacturers.

They include:

- *Providing access to capital to our SME manufacturers:* Providing affordable financing to small manufacturers will support the installation of additive equipment by reducing its cost. To address this issue, the U.S. Department of Agriculture will make its Business and Industry program available to rural manufacturers to support the purchase of new additive machines, and the training necessary to upskill their workforce. The Export-Import Bank will highlight its new domestic lending program that can help SME manufacturers upgrade their existing production equipment. And the Small Business Administration will work with the participants of AM Forward on how its 504 Loan Program and Small Business Investment Company (SBIC) program can support the widespread deployment of new additive capabilities across U.S. industry.
- *Delivering technical assistance from the federal government and OEMs to our SME manufacturers:* SME manufacturers have noted the need for technical assistance to utilize new production technologies like 3D printers to their fullest extent. To support AM Forward, the Department of Energy will make its Manufacturing Demonstration Facility at Oak Ridge National Laboratory available to SME manufacturers to test new additive techniques. The Manufacturing Extension Partnership will provide enhanced technical assistance; and the Department of Defense (DOD) will use its Mentor Protégé Program to reimburse the cost to the large OEM participants in AM Forward for providing technical assistance to their smaller U.S.-based suppliers owned and controlled by socially and economically disadvantaged individuals. DOD's Manufacturing Technology Program Office will work with America Makes, a DOD-sponsored Manufacturing Innovation Institute, and AM Forward members on a pilot standardization project.

- *Investing in the additive manufacturing workforce:* To fully benefit from the use of additive capabilities, SME manufacturers must train their workforce differently to successfully deploy additive capabilities, including upskilling workers. America Makes will thus develop curriculum for workforce training with AM Forward participants; and, along with the U.S. Department of Labor, will assist manufacturers in launching apprenticeship programs in additive manufacturing.
- *Setting industry standards:* Finally, since 3D printing requires different standards and process certifications, the U.S. Department of Commerce – through the National Institute of Standards and Technology (NIST) – will conduct measurement science research to overcome key barriers to widespread use of metals-based additive manufacturing, develop the technical basis for new high-priority standards, and disseminate these results to AM Forward participants through leadership of standards development within ASTM International, International Organization for Standardization (ISO), American Society of Mechanical Engineers (ASME), and other standards bodies.

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