



April 7, 2022

Applied Science & Technology Research Organization of America (ASTRO America)
6701 Democracy Blvd., Suite 300
Bethesda, MD 20817

Re: AM Forward

Siemens Energy, with its more than 9,600 employees at 84 locations including 26 production facilities in the United States, is pleased to join ASTRO America and the Biden-Harris Administration in implementing *AM Forward*— a voluntary compact aimed at strengthening supply chains in the United States by supporting the adoption and deployment of additive manufacturing (AM), or industrial 3D printing capabilities, by U.S.-based manufacturers.

Additive manufacturing is a leading-edge production technology that is foundational to the global competitiveness of manufacturers in the United States. The benefits of AM include forming geometries that are unattainable through any other medium. It has the potential to improve the agility of casting and forging supply chains where legacy processes are often resource- and time-intensive. AM can also be used to reduce part procurement lead times substantially, even under current supply chain conditions.

The energy sector uses AM technology to speed up innovation cycles and reduce downtime by repairing and upgrading parts up to 60% faster. AM also can reduce emissions by creating less material waste, reducing transportation of parts, and driving better efficiency and power output through improved designs.

Siemens Energy utilizes AM in its own U.S. sites to support the energy sector. This includes the Siemens Energy Orlando Innovation Center, an 18,000+ sq. ft. facility that enables suppliers and customers to design, simulate, produce, and test prototypes using AM and other technologies. The company also partners with Siemens USA in the Charlotte Advanced Technology Collaboration Hub (CATCH) located at the Siemens Energy facility in Charlotte, NC. CATCH is a software and digital training lab to accelerate the industrialization of advanced manufacturing, 3D printing, and design.

Siemens Energy is committed to supporting its suppliers across the energy sector in their efforts to adopt and deploy additive manufacturing. Siemens Energy is keenly aware that for this to be widespread, especially in small and medium-sized enterprises (SME), action must be taken.

Through *AM Forward*, Siemens Energy will take action to support multiple U.S.-based suppliers so that in 12-24 months each will have increased their ability to additively produce parts, thus enhancing their competitiveness, agility, and productivity. This initiative will demonstrate clear, consistent, and growing demand for additively produced parts, provide training to suppliers' workers to support broad additive capabilities, engage in standards development, and offer technical assistance. Siemens Energy appreciates the Biden Administration's support of these efforts through U.S. government financing programs, capacity building, and workforce development initiatives.

Specifically, Siemens Energy will support the goals of *AM Forward* by committing to:

- Target to purchase 20-40% of total externally sourced AM parts and services from U.S.-based suppliers and partners.
- Target to include U.S. SMEs using AM technologies and services to compete on 30-50% of requests for quotes.

- Engage 10-20 U.S. SME suppliers and partners to conduct research to improve AM techniques for functional performance upgrades or conventional supply chain substitution.
- Provide a comprehensive training and education portfolio of real-world industrial application of AM to 100 representatives of SME suppliers and partners through the Siemens Energy, Inc. network of Innovation Hubs in the United States.
- Train 10-20 SME suppliers and partners on inspection and post-processing best practices to support the development of the full end-to-end supply chain for AM in the United States.
- Support industry-led consortium opportunities to accelerate establishment of industry standards for materials and process across the AM ecosystem to increase adoption of AM in the supply chain.
- Explore conventional and digital platform/inventory-based supply chain models to increase the reach of the AM supply chain and to simplify and accelerate the procurement process of AM parts.

Siemens Energy will begin immediately to deliver on these commitments and will regularly report on progress to ensure that *AM Forward* achieves its ambitious objectives.

To achieve the foregoing objectives, Siemens Energy is committed to collaborating with the other participants in *AM Forward*, as well as U.S. government agencies to improve the capability, agility, and competitiveness of its supply base. This activity will require engagement at both a working-level and a senior executive-level along with government officials and other industry peers to support a range of industry, government, and non-profit activity. Siemens Energy understands that as an *AM Forward* participant, it will be supported with staff coordination from 501(c)(3) nonprofit organizations including ASTRO America and Gettysburg College's Eisenhower Institute.

Siemens Energy will support efforts by its suppliers to take part in key U.S. government programs associated with *AM Forward*. Federal agencies can play an important role in accelerating SME access to necessary capital, workforce training, technical assistance, and technology transition support. For this reason, we will work with the relevant federal government agencies as well as nonprofit organizer ASTRO America to encourage participation in *AM forward* workshops and, as appropriate, support proposals for assistance associated with government programs.

The competitiveness of the U.S. industrial base, including Siemens Energy, relies on the capability of tens-of-thousands of SMEs producing and post-processing critical parts and components for the energy sector. Many SMEs need increased access to resources to upgrade their technology, and thus improve productivity. *AM Forward* will help accelerate AM adoption at scale, increasing the agility, capacity, and resiliency of U.S. supply chains; and supporting and sustaining good-paying jobs across the United States.

Thank you for your leadership on this important initiative.

Sincerely,



Brian Raymond
Head of U.S. Government Affairs
Siemens Energy, Inc.