

About MUSA

Manufacturing USA was created in 2014 to secure U.S. global leadership in advanced manufacturing by connecting people, ideas, and technology. Manufacturing USA institutes convene business competitors, academic institutions, and other stakeholders to test applications of new technology, create new products, reduce cost and risk, and enable the manufacturing workforce with the skills of the future.

Contents

| | |
|---|----------|
| Vision..... | 5 |
| Mission..... | 5 |
| 1. Way of Life..... | 6 |
| 1.1. Workers..... | 6 |
| 1.2. Buildings..... | 6 |
| 1.3. Energy..... | 6 |
| 1.4. Safety..... | 6 |
| 2. Economy..... | 7 |
| 2.1. R&D..... | 7 |
| 3. National Security..... | 8 |
| 3.1. Cyber..... | 8 |
| 3.2. Economy..... | 8 |
| 3.3. Energy..... | 8 |
| 3.4. Food..... | 8 |
| 3.5. Health..... | 8 |
| 4. Empowerment..... | 9 |
| 4.1. Manufacturing Technologies..... | 9 |
| Administrative Information..... | 9 |

DEMONSTRATION ONLY



Manufacturing USA (MUSA)

Stakeholder(s):

Advanced Manufacturing National Program Office :

National Program Office — The Manufacturing USA network is operated by the interagency Advanced Manufacturing National Program Office, which is headquartered in the National Institute of Standards and Technology (NIST), in the Department of Commerce. The office operates in partnership with the Department of Defense, the Department of Energy, NASA, the National Science Foundation, and the Departments of Education, Agriculture, Health and Human Services (HHS), and Labor. The office began as a pilot, recommended by the President's Council of Advisors on Science and Technology, but the overarching mission has not changed:

- *To convene and enable industry-led, private-public partnerships focused on manufacturing innovation and engaging U.S. universities.*
- *To design and implement an integrated whole-of-government advanced manufacturing initiative to facilitate collaboration and information sharing across federal agencies.*
- *By coordinating federal resources and programs, the Advanced Manufacturing National Program Office enhances technology transfer in U.S. manufacturing industries and helps companies overcome technical obstacles to scale-up new technologies and products.*

National Institute of Standards and Technology (NIST)

Department of Commerce

Department of Defense

Department of Energy

NASA

National Science Foundation

Department of Education

Department of Agriculture

Department of Health and Human Services (HHS)

Department of Labor

MUSA Institutes :

Working Together Toward a Bright Future — Manufacturing USA is a public-private partnership comprised of 14 institutes, 1,900+ member organizations, and federal sponsoring agencies including the U.S. Departments of Commerce, Defense, and Energy. The institutes work in critical advanced technology areas and bring together manufacturers, government, and educational organizations to address national challenges, advance these technologies in manufacturing processes and facilities, expand the knowledge and skills needed by the workforce to use the new technologies, and develop a strong manufacturing industrial base that delivers novel products here in the U.S. Manufacturing USA institutes are leveraging the fourth industrial revolution to ensure we reap the rewards of American innovation that bolsters our robust economy, national security, and sustainability. Find your institute and join the revolution ...

Advanced Functional Fabrics of America :

Our clothes help define us yet the fabrics we wear have remained functionally unchanged for thousands of years. Recent breakthroughs in fiber materials and manufacturing processes will soon allow us to design and wear fabrics that see, hear, sense, communicate, store and convert energy, regulate temperature, monitor health and change color — heralding the dawn of a “fabric revolution.”

AIM Photonics :

Integrated Photonics, the use of light for applications traditionally addressed through electronics, is finding use in a wide range of areas including: telecommunications, laser based radar, data communications, sensing, and many others. Integrated photonics, specifically silicon photonics, dramatically improves on the performance and reliability of electronic integrated circuits while significantly reducing size, weight, and power consumption.

America Makes :

As the national accelerator for additive manufacturing (AM) and 3D printing (3DP), America Makes is the nation's leading and collaborative partner in AM and 3DP technology research, discovery, creation, and innovation. Structured as a public-private partnership with member organizations from industry, academia, government, non-government agencies, and workforce and economic development resources, we are working together to innovate and accelerate AM and 3DP to increase our nation's global manufacturing competitiveness. America Makes was established in 2012, is based in Youngstown, Ohio, and is the flagship Institute for Manufacturing USA, the National Network for Manufacturing Innovation.

— continued next page

Stakeholders (continued)

America Makes is managed and operated by the National Center for Defense Manufacturing and Machining (NCDMM). NCDMM is a 501(c)(3) not-for-profit, organization delivering innovative and collaborative manufacturing solutions that enhance our nation's workforce and economic competitiveness. NCDMM has extensive knowledge in manufacturing and continually works to innovate, improve, and advance manufacturing technologies and methodologies

Advanced Robotics for Manufacturing (ARM) :

US-based manufacturing is due for a resurgence. One that uses technology to empower American potential and ingenuity to build and create stronger, faster, and more powerful than before. One that elevates—not eliminates—the human roles in manufacturing. The key to all this? Robotics. That's why ARM exists. To be the leading catalyst of robotics innovation and expertise. To accelerate growth in US-based manufacturing and the high value careers that go arm in arm with this industry change. To secure America's future by strengthening the US industrial base. As a national membership-based consortium, ARM is dedicated to creating the ecosystem that will drive innovation in robotics. Our staff and resources are focused on spurring innovations in not just robotics technology, but also workforce development, ensuring the future is built by robots, but directed by humans. ARM and its members seek to lower economic, technical, and operational barriers, allowing enterprises of all sizes to adopt robotic technologies. ARM is a member of Manufacturing USA, a network of institutes, each with a specialized technology focus. The institutes share one goal: to secure the future of manufacturing in the U.S. through innovation, collaboration and education. Learn more here.

Advanced Regenerative Manufacturing Institute (ARMI) :

MANUFACTURING THE FUTURE OF BIOFABRICATION

Smart Manufacturing Institute (CESMII) :

Smart Manufacturing (SM) enables all information about the manufacturing process to be available when it is needed, where it is needed, and in the form it is needed across the entire manufacturing value-chain to power smart decisions. Islands of efficiency become interoperable, networked, and resilient solutions to drive transformational manufacturing enterprise performance for any size, level of technical sophistication, or resource availability at lower cost. Smart Manufacturing unlocks real-time data currently inaccessible or unused through new technology tools that realize benefits faster across the manufacturing enterprise. The business improvements vary depending on the manufacturer and their goals and strategies, examples include; customer satisfaction, energy efficiency, productivity, safety and time to market. Ultimately, Smart Manufacturing becomes the sustainable engine that delivers profitable business in the manufacturing environment enabling expansion and growth.

Institute for Advanced Composites**Manufacturing Innovation (IACMI) :**

The Institute for Advanced Composites Manufacturing Innovation, IACMI, is a partnership of industry, academic institutions, as well as federal, state, and local governments that are working together to benefit the nation's energy and economic security. This diverse public/private partnership validates manufacturing technologies that respond to private industry's

need for faster and more cost, material, and energy-efficient composite manufacturing, including recycling at the end of product life. IACMI's research and development programs are driven by major industry participation with a focus on reducing technical risk and developing a robust supply chain to support a growing advanced composites industry. IACMI broadly engages educational, economic development, trade, and professional organizations to build the skills and workforce critical to the growth of composite industry companies of all sizes. IACMI is managed by Collaborative Composite Solutions Corporation (CCS), a not-for-profit organization established by the University of Tennessee Research Foundation.

American Lightweight Materials Manufacturing Innovation Institute (ALMMII) :

LIFT, operated by the American Lightweight Materials Manufacturing Innovation Institute (ALMMII), is a public-private partnership between the U.S. Department of Defense, industry and academia. LIFT's mission is to advance technology and talent development – driving rapid implementation of smarter manufacturing. We operate two business units: Leading Innovations For Tomorrow, our technology program, and Learning Innovations For Tomorrow, our talent program. Together, we are Driving American Manufacturing Into the Future.

The Digital Manufacturing Institute (MxD) :

The Nation's Destination for Innovative Manufacturers — MxD (Manufacturing x Digital) is where innovative manufacturers go to forge their futures. In partnership with the Department of Defense, MxD equips U.S. factories with the digital tools and expertise they need to begin building every part better than the last. As a result, our approximately 300 partners increase their productivity and win more business.

NextFlex :

WE ARE MANUFACTURERS. WE ARE INNOVATORS. WE ARE EDUCATORS. It takes people coming together from across the United States in industry, academia and state, local and federal governments to collaborate and coordinate their efforts to move what are a series of good ideas from R&D, into commercial production, and to then have a skilled and available workforce able to manufacture the solution at the other end. And at the center of all of these efforts, acting as the connective tissue binding everything together, is NextFlex.

National Institute for Innovation in Manufacturing Biopharmaceuticals (NIIMBL) :

The National Institute for Innovation in Manufacturing Biopharmaceuticals (NIIMBL) is a public-private partnership whose mission is to accelerate biopharmaceutical innovation, support the development of standards that enable more efficient and rapid manufacturing capabilities, and educate and train a world-leading biopharmaceutical manufacturing workforce, fundamentally advancing U.S. competitiveness in this industry. NIIMBL is part of Manufacturing USA®, a diverse network of federally-sponsored manufacturing innovation institutes, and is funded through a cooperative agreement with the National Institute of Standards and Technology (NIST) in the U.S. Department of Commerce with significant additional support from its members.

— continued next page

Stakeholders (continued)

PowerAmerica :

PowerAmerica, a proud member of Manufacturing USA, brings together the brightest minds in the wide bandgap (WBG) semiconductor world. Semiconductor manufacturers and the companies that use power semiconductors in their products are working together to accelerate the adoption of next generation silicon carbide (SiC) and gallium nitride (GaN) power electronics. Our objective is to reduce the cost and the perceived risk inherent with this new technology. With the backing of the U.S. Department of Energy and engagement of top researchers, we exchange knowledge and processes and provide access to an educated workforce. This enables American industry to develop more innovative power electronics products and systems. Harnessing the capabilities of wide bandgap semiconductors can lead to dramatic energy savings in industrial processes, data centers, and consumer devices; increase electric vehicle driving range; and help integrate renewable energy onto the electric grid.

RAPID :

As a member of RAPID, you'll be part of the premier group of industry-leading organizations working on more efficient processes and distributed industrial modularization.

- *Chemical Commodity Processes*
- *Intensified Process Fundamentals*
- *Modeling and Simulation*
- *Module Manufacturing*
- *Natural Gas Upgrading*
- *Renewable Bio Products*

REMADE Institute :

In partnership with industry, academia and national labs, the REMADE Institute will enable the early stage applied research and development of key industrial platform technologies that could dramatically reduce the embodied energy and carbon emissions associated with industrial-scale materials production and processing. By focusing our efforts on addressing knowledge gaps that will eliminate and/or mitigate the technical and economic barriers that prevent greater material recycling, recovery, remanufacturing and reuse, The REMADE Institute seeks to motivate the subsequent industry investments required to advance technology development that will support the U.S. manufacturing eco-system.

Vision

What's invented here is made here by a skilled American workforce

Mission

To secure U.S. global leadership in advanced manufacturing

1. Way of Life

Improve Our Way of Life

Innovations enabled by the Manufacturing USA institutes results in products that assist workers, make buildings safer, consume less energy, and save lives. Today's research will improve tomorrow's reality.

1.1. Workers

Assist workers

Stakeholder(s):
Workers

1.2. Buildings

Make buildings safer

1.3. Energy

Consume less energy

1.4. Safety

Save lives

DEMONSTRATION ONLY

2. Economy

Strengthen Our Economy

Manufacturing USA institutes lead research and development on critical manufacturing technologies to strengthen U.S. global competitiveness, ensuring our country will reap the rewards of American innovation at scale.

2.1. R&D

Lead research and development on critical manufacturing technologies

DEMONSTRATION ONLY

3. National Security

Ensure Our National Security

Manufacturing USA institutes' efforts support a strong advanced manufacturing sector, critical for our cyber, economic, energy, food, and health security. The network's emphasis on domestic manufacturing and technology will secure American prosperity.

3.1. Cyber

Support cyber security

3.2. Economy

Support economic security

3.3. Energy

Support energy security

3.4. Food

Support food security

3.5. Health

Support health security

4. Empowerment

Empower the Next Generation

Stakeholder(s)

Educational Organizations

Workforce

Manufacturing USA institutes partner with educational organizations to teach advanced manufacturing technologies via workshops, courses, internships, and apprenticeships.

4.1. Manufacturing Technologies

Teach advanced manufacturing technologies

With this investment in skills, Manufacturing USA will create the workforce of the future.

Administrative Information

Start Date: 2014-12-31

End Date:

Publication Date: 2020-09-01

Source: <https://www.manufacturingusa.com/about-us>

Submitter:

Given Name: Owen

Surname: Ambur

Email: Owen.Ambur@verizon.net

Phone: