



Department of Defense Manufacturing Technology Program

Defense Manufacturing Conference

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Promoting domestic advanced manufacturing growth to support the national defense and economic prosperity

Notable Events:

- DoD MII Network Program Review at Warner Robins AFB: 28 Feb - 3 Mar
- Point-of-Need Manufacturing Challenge hosted by ARM Institute: 8-9 Mar
- DSAT/PEO Meeting at Aberdeen Proving Ground: 10 Mar

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Defense Manufacturing Conference Back in Full Swing

DoD ManTech was excited to participate again at the annual Defense Manufacturing Conference, hosted this year by the U.S. Army in Tampa, FL. from December 5 - 8. The conference is the nation's foremost annual forum to showcase and celebrate the efforts of engineers, managers, technology leaders, scientists, and policymakers across the defense industrial base. Leaders and manufacturing subject matter experts from government, industry, and academia exchanged information and perspectives on defense manufacturing policies, priorities, best practices, funding opportunities, and the latest manufacturing innovations that will benefit our warfighters.

DoD ManTech Director Tracy Frost facilitated a panel discussion featuring topical enterprise-level manufacturing challenges and opportunities. Brig. Gen. David C. Trybula, Deputy Commanding General at U.S. Army Combat Capabilities Development Command (DEVCOM), illustrated how emerging technologies are primed to support point-of-need manufacturing; Dr. Angela Campo, Program Manager for the DoD Manufacturing Innovation Institute (MII) BioMADE, elaborated on how a growing U.S. bioeconomy will directly benefit from the acceleration of biotechnology platforms; and Mr. Chris DeLuca, Director of Specialty Engineering in the OUSD(R&E), explained how the adoption of digitalization by large and small companies is creating efficiencies for manufacturing.



A new booth this year demonstrated a few ways our DoD MIIs are equipping our warfighters. We told a compelling narrative about our representative soldier, an Army Chief Warrant Officer and Geospatial Engineering Technician deployed in a cold weather environment.

The booth displayed MII innovations such as a high performance fabric uniform for use in arctic climates, a physiological status monitor, a self-assembled ligament for ACL, a soldier wireless authenticator, Small Unmanned Aircraft Systems (SUAS) using Flexible Hybrid Electronics, an additively manufactured UH-60 Blackhawk fuel elbow, and even an alternative protein bar to help our soldier stay fueled up.

Read more about the MIIs' leap-ahead technologies [here](#) and to get involved, view our [Engagement Guides](#).

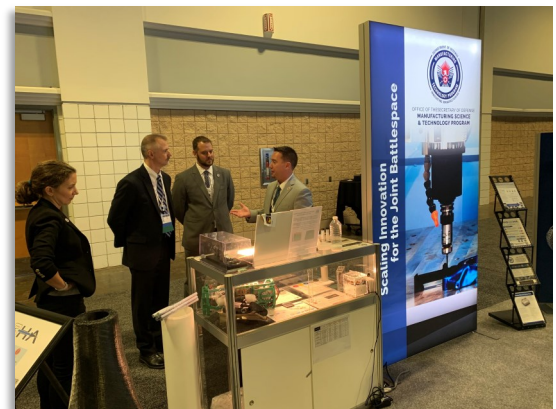
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OUSD(R&E) Leaders Promote Collaboration at DMC

Hon. Heidi Shyu & Director of S&T Futures Dr. Kevin Geiss shared OUSD(R&E)'s priorities at the DMC. In a video message, Ms. Shyu invited the assembled community to bring ideas and challenges to DoD partners, stay engaged, and collaborate for success in building an enduring national advantage.

Dr. Geiss encouraged the audience, including small and large manufacturing companies, members of the Armed Services ManTech programs, educators and U.S. government representatives, to push the boundaries for technologies to help the DoD develop the still unrealized – but potentially game-changing – capabilities of tomorrow. Dr. Geiss moderated a panel on manufacturing innovation and saw current funded projects, like the hydrogen fuel cell, at our Manufacturing Science & Technology Program booth.



DMC Showcases Education & Workforce Development

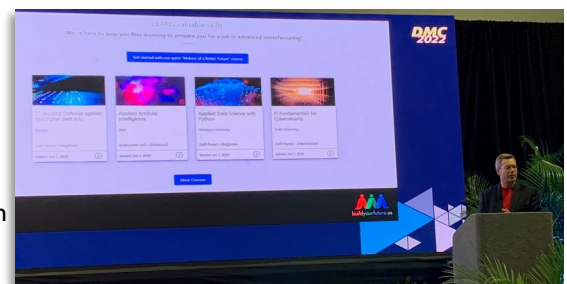


EWD experts, including ARM Institute's Lisa Masciantonio (right), and OSD ManTech's Mike Gilroy (third from right) discussed current needs, capacity and challenges and proposed solutions to help DoD grow our needed skilled workforce for advanced manufacturing.

OSD ManTech Launches Manufacturing Careers Platform Version 2.0

The OSD ManTech Program office built a platform that integrates three key job search criteria – market data, career pathways, and training – into a single portal providing job seekers a “one-stop-shopping” experience.

At the DMC, OSD ManTech officially launched Version 2.0 of the platform – [BuildYourFuture.us](https://buildyourfuture.us). While still in prototype, the platform currently helps over 1,000 learners with multiple DoD Manufacturing Innovation Institutes (MII) courses. The portal's current focus is on providing the DoD MIIs and other Industry 4.0 technologists a platform to host training courses and career type information. In 2023, the platform design team looks to launch an asynchronous cohorts program blending the flexibility of self-led online learning with the benefits of shared group discussions, ideating, and learning. Over the next two years, the platform plans to incorporate virtual reality (VR) into courses and provide career pathway tools using artificial intelligence to connect people to jobs in advanced manufacturing.



Manufacturing Day 2022

Established in 2011 by the Manufacturing Institute, the first Friday in October is recognized as Manufacturing Day and is marked with a White House proclamation. Manufacturing Day serves as an annual opportunity to recognize the importance of our Nation's manufacturers within every aspect of our daily lives and to inspire the next generation to start careers in modern manufacturing, especially in Science, Technology, Engineering, and Math (STEM).

Organizations throughout the country opened their doors for public events throughout the month to showcase the innovation occurring in the manufacturing industry and foster interest in manufacturing career opportunities.

According to the [U.S. Department of Commerce](#), "All across the country, organizations showed the public what manufacturing really looks like through more than 2,600 open houses and events in each of the 50 states and Puerto Rico with an estimated 400,000+ students, parents, and community members attending."

Within OSD ManTech, we were honored to have our nine Manufacturing Innovation Institutes (MII) highly involved in Manufacturing Day, hosting numerous events nationwide. A few highlights are shown at right.

The DoD Manufacturing Technology program embraces the values of Manufacturing Day, activating its resources to drive further innovation in advanced manufacturing to ensure our Armed Forces' technological superiority and maximize readiness.



ARM Institute: Pittsburgh Manufacturing Day
October 6th, Pittsburgh, PA
Onsite robotics demonstration, panel discussions, and opportunities to talk with regional robotics companies, manufacturers, and educators.

LIFT: Manufacturing Day at LIFT
October 7th, Detroit, MI
Onsite, hands-on experience for 100+ students to promote academic technology development, welding trades, diversity in technology, and high school STEM pathways. In collaboration with Miller Electric.

America Makes: MFG Day for High School Students
October 7th, Youngstown, OH 10 am- 1 pm
Hosting three local high schools to participate in hands-on additive manufacturing experience, including the Alice, Engineer in Wonderland Additive MFG Pop-Up

America Makes: MFG Day Open House
October 7th, Youngstown, OH 3 pm- 6 pm
Public open house for all ages to experience the America Makes facility and the Alice, Engineer in Wonderland Additive MFG Pop-Up



Under Secretary Recognizes Value of Manufacturing Innovation Institutes to DoD

In October, Hon. Heidi Shyu, the Under Secretary of Defense for Research & Engineering, sent out a memorandum to the Defense Manufacturing Community recognizing 10 years of DoD partnership with the Manufacturing Innovation Institutes (MIIs).

The first institute to launch was America Makes in August 2012. Today there are nine DoD MIIs with over 1,700 members collectively. The DoD MIIs have leveraged \$1.5B in Federal funding and \$2.2B in private-sector cost share, executing more than 1,110 applied research projects and more than 480 education and workforce development projects.

Per Ms. Shyu, "The DoD MIIs are game-changing catalysts intended to build enduring advantage for the future Joint Force by connecting innovative industrial ecosystems with emerging technology and domestic market sectors... I encourage the defense manufacturing community to leverage the DoD MIIs' technology development and manufacturing education resources."

Read [the full memorandum](#) and [learn more](#) about how the MIIs are developing advanced manufacturing solutions for national and economic security.

Manufacturing USA Releases Institutes Highlights Report

Manufacturing USA released its Highlights Report covering the fiscal year 2021. Notable accomplishments by the institutes:

- Worked with **2,300 member organizations**: 63% being manufacturers and 72% of those being small companies
- Conducted **708** major research and development projects
- Engaged more than **90,000** students, workers and teachers in advanced manufacturing workforce development and training
- Leveraged **\$127 million** in base federal funds to attract **\$354 million** in funds from state, federal and pandemic funds, and private funds
- Built innovation ecosystems to move American discoveries into production and strengthen the nation's manufacturing supply chains
- Empowered the current and next-generation workforce through activities with national partners
- Demonstrated their novel approach to strengthen American economic competitiveness and help ensure that what is invented here is made here by a skilled American workforce

Read the full report [here](#).

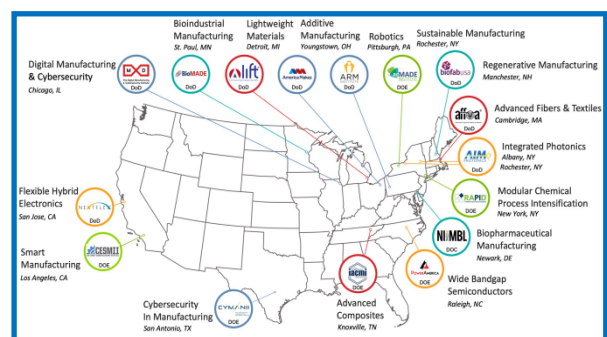
First White House Leadership Summit with Manufacturing USA Innovation Institute Directors

On October 24, all sixteen Manufacturing USA Innovation Institute directors met at the White House for the first leadership summit since the network's founding in 2014. The meeting with the National Economic Council and Office of Management and Budget leaders discussed the network's critical role in advancing a modern American industrial strategy, following the passage of the Bipartisan Infrastructure Law, the CHIPS and Science Act, and the Inflation Reduction Act.

Amidst a historic boom in manufacturing, the institutes have played a key role in generating over 700,000 manufacturing jobs nationwide. Collectively, the Manufacturing USA institutes collaborate on over 700 major technology and workforce R&D projects and have helped more than 90,000 people get trained in advanced manufacturing. As the U.S. implements a manufacturing and investment agenda, the institutes' role will continue to be crucial to help promote innovation, strengthen national competitiveness, and revitalize local economies.

Assistant, Deputy and Under Secretaries from the Departments of Defense, Energy, Commerce, Labor, and Agriculture, and six other federal agency representatives, also attended the summit.

See the full list of attendees and read the entire press release [here](#).





"If we can't make it, the warfighter can't have it!"

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LIFT Institute Celebrates Expansion to Puerto Rico

[LIFT](#), the Detroit-based Department of Defense national manufacturing innovation institute, announced on December 6 its plans to begin technology and talent development operations in Puerto Rico in support of the Island's manufacturing base and workforce. This was followed on December 20 by the signing of a Memorandum of Understanding (MOU) by LIFT, the Governor of Puerto Rico and the Department of Economic Development and Commerce of Puerto Rico (DEDC) to launch an institute facility satellite to advance applied research and development, as well as advanced manufacturing on the island. "Puerto Rico is known for its specialized workforce, and LIFT Puerto Rico brings world-class advanced manufacturing technology development capabilities to Puerto Rico and provides a significant economic asset that will expand

competitiveness, manufacturing readiness, economic, and workforce growth", said Pedro R. Pierluisi, Governor of Puerto Rico. "It is incumbent upon us as a national manufacturing innovation institute, to support manufacturers and their workforce where they are and where we are able," said Nigel Francis, Chief Executive Officer and Executive Director, LIFT.



AIM Photonics Appoints New Executive Director



[AIM Photonics](#) announced in November that Dr. William W. (Wade) Cook has been appointed Executive Director of the Institute.

Cook brings over 20 years of technology experience in optics and photonics. He also served more than 29 years in the U.S. Army.

"Wade's extensive military background, along with his deep industry knowledge, positions him well to work closely with our wide-ranging constituencies," said Amie Kaplin, AIM Photonics Deputy Executive Director.

The MII's partnership with electronic photonic design automation (EPDA) industry leaders, large and small photonic integrated circuit (PIC) companies, government institutes, and globally recognized university researchers has established an ecosystem that provides complete access across the entire product cycle: design, research, development, proof of concept, prototyping, validation, and fast transfer to volume manufacturing.

DoD ManTech Publishes New Strategy

The DoD ManTech Program is composed of the Military Service and DoD Agency (or "Component") investment programs operated out of the Army, Navy, Air Force, Defense Logistics Agency (DLA), and Office of the Secretary of Defense (OSD).

Our country faces diverse, complex challenges that include sophisticated cyber-attacks, supply chain risks, defending against hypersonic missiles, and responding to biological threats. In a dynamic global environment, America's technological advantage requires constant renewal. The DoD cannot rely on today's technology to ensure military technological dominance tomorrow.

In November, the Program released its [2022 DoD ManTech Program Strategic Plan](#), focused on four thrust areas for the next five years. It provides the basis for the coordination of DoD Service and Agency ManTech efforts and provides plans to our stakeholders, other government entities, industry, and academia.