



DEPARTMENT OF DEFENSE MANUFACTURING TECHNOLOGY PROGRAM MANUFACTURING EDUCATION AND WORKFORCE DEVELOPMENT PROGRAM



ABOUT

The Office of the Secretary of Defense Manufacturing Technology (OSD ManTech) Program furthers advanced manufacturing technologies and processes through joint, interagency, and public-private collaborations.

OSD ManTech administers the **Manufacturing Education and Workforce Development Program (M-EWD)** and oversees the Federal government's program management of the nine **Department of Defense Manufacturing Innovation Institutes (DoD MIIs)** – public-private partnerships each focused on a unique advanced manufacturing technology area.

VISION

A defense workforce that is ready to implement new technologies in defense products and manufacturing techniques without delay.

STRATEGIC GOALS

- Build regional and state workforce ecosystems for defense manufacturing
- Upscale DoD MII solutions across networks
- Leverage interagency relationships for M-EWD and DoD MII efforts

DoD MII MISSION

Connect organizations and activities to better enable the affordable, rapid transition and delivery of defense-essential technologies through...

- Advancing research and development to promote American innovation
- Growing manufacturing ecosystems to enhance the Nation's competitiveness
- Training Americans of all backgrounds for manufacturing jobs of the future



OSD ManTech's M-EWD Program works with the DoD MIIs to close the manufacturing workforce gap

Each DoD MII focuses on a unique technology area and manages its own education and workforce development strategy and programs.



The OSD ManTech's M-EWD Program collaborates with the DoD MIIs' EWD leads and provide guidance, interagency coordination, and opportunities to help prepare the defense workforce.

DoD MII EWD PROGRAMS

The ARM Institute's RoboticsCareer.org

RoboticsCareer.org connects civilians and military personnel with the industry-vetted training needed for high-value robotics careers in manufacturing.
<https://www.roboticscareer.org>

AFFOA Skillbridge

Skillbridge seeks to offer active members of the Armed Services the opportunity to engage in on-the-job exposure to the cutting-edge field of advanced textile manufacturing, to learn new skills, and develop new capabilities while receiving real-world training. <https://skillbridge.osd.mil>

BioFabUSA BioTrek

BioTrek is a project-based learning program for high school students in advanced biomanufacturing and entrepreneurship. Through the research and work associated with the program, students learn how to approach and solve complex problems and communicate their findings to an audience.
<https://www.armiusa.org>

BioMADE BEST

The Bioreactor Education, Setup, and Training (BEST) project developed a cost-effective do-it-yourself bioreactor with all the functionality of a commercially available, far more expensive bioreactor with an accompanying learning module.
<https://www.biomade.org>

DOD MANUFACTURING INNOVATION INSTITUTES DoD MIIs

America Makes: National Additive Manufacturing Innovation Institute

Headquarters: Youngstown, OH
Contact: ewd@americamakes.us

MxD: Digital Manufacturing and Cybersecurity Institute

Headquarters: Chicago, IL
Contact: mxdlearn@mxdusa.org

LIFT: National Advanced Materials Manufacturing Innovation Institute

Headquarters: Detroit, MI
Contact: communications@almii.org

AIM Photonics: American Institute for Manufacturing Integrated Photonics

Headquarters: Albany & Rochester, NY
Contact: info@aimphotonics.com

NextFlex: America's Hybrid Electronics Institute

Headquarters: San Jose, CA
Contact: WorkforceTeam@nextflex.us

AFFOA: Advanced Functional Fabrics of America

Headquarters: Cambridge, MA
Contact: ewd@affoa.org

BioFabUSA: Advanced Regenerative Manufacturing Institute

Headquarters: Manchester, NH
Contact: ewd@armiusa.org

The ARM Institute: Advanced Robotics for Manufacturing

Headquarters: Pittsburgh, PA
Contact: roboticscareer@arminstitute.org

BioMADE: Bioindustrial Manufacturing and Design Ecosystem

Headquarters: Twin Cities, MN & Emeryville, CA
Contact: hello@biomade.org

MANUFACTURING EDUCATION AND WORKFORCE DEVELOPMENT PROGRAM

Department of Defense Manufacturing Technology Program
Office of the Secretary of Defense | Under Secretary of Defense for Research and Engineering
For more information visit www.DoDManTech.mil



Explore our website
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OSD ManTech M-EWD Focused on Mission Enabling Capabilities

The M-EWD program provides strategic leadership in advanced manufacturing talent development across the organic and defense industrial bases in support of the DoD Mission to provide our Warfighters with what they need to deter and win wars.

The nine DoD MII's are key drivers of both technology innovation and education and workforce development for the advanced manufacturing industry.

M-EWD's current projects puts these objectives into specific areas of focus to include:

Leveraging interagency relationships

Supporting the White House's Subcommittee on Advanced Manufacturing in crafting the Nation's Advanced Manufacturing Strategy. In partnership with multiple Federal agencies, M-EWD leadership leads a working group planning cross-agency implementation strategies to build the technical capacity of our advanced manufacturing workforce.

Upscaling successful DoD MII solutions across other manufacturing institutes and stakeholder networks

Funding the joint competency modeling project led by Advanced Robotics for Manufacturing (ARM) Institute to adapt and expand their Competency Framework Methodology for use across the Defense MIIs. In collaboration with America Makes, MxD, and NextFlex, they will identify and develop competency frameworks that address both industry-specific skills for each DoD MII's area of expertise and an overarching framework available to all institutes that will demonstrate to both job seekers and employers how relevant skills can transition from one industry to another.

Building regional and state workforce ecosystems for defense manufacturing

Working with MassTech which is leading a team of 139 partners including Commonwealth of Massachusetts (four assistant secretaries), MassMEP, Mass Hire, Massachusetts Institute of Technology, National Coalition of Advanced Technology Centers, Massachusetts Community Colleges, AFFOA, and DoD MIIs to develop, pilot, and document an advanced manufacturing technology career/education deployment framework and toolset that integrates advanced manufacturing into educational curriculums statewide. In parallel, MassTech is creating a Playbook documenting the transferable processes, methodologies, tools, and training to support implementation across the United States.

WORKFORCE ACTIVATION

OSD ManTech works collaboratively to drive innovation using the full capacity of the nation.

SCALE OF DOD MII EWD PROGRAMS

Between FY20 - FY24

- **700+** EWD projects and initiatives executed
- **500,000+** students, teachers, workforce trained by DoD MIIs
 - **45%** K-12 grade students
 - **38%** post-secondary students
 - **14%** upskilling members of the manufacturing workforce
 - **3%** teachers and trainers
- **34,000+** individuals completed a DoD MII professional development certification, apprenticeship, or training program

IMPACT EXAMPLES

- NextFlex's FlexFactor has grown to national impact across **12** states, **35** community college and education partners, **50** industry partners, and **22,000+** participants.
- LIFT's Operation Next trained **1,000+** departing service members, National Guard and Reserve Members, military spouses, and veterans to transition into in-demand, high-paying manufacturing jobs. Over **90%** of graduates are successfully recruited to work for major advanced manufacturing companies across the nation

