

THE OHIO TECHNET DEFENSE INDUSTRIAL BASE STEM CONSORTIUM

Executive Summary & Progress Update

SUPPORTED BY AN AWARD FROM:

Office of the Undersecretary of Defense (Research & Engineering) – DoD STEM
National Defense Education Program (NDEP) –
Congressional Add-on Funds
Regional Community College Consortium (RC3)

AWARD INFORMATION

Base Period: 1 September 2022 – 31 August 2026

Base Award Under Contract: \$4,999,955

Three one-year option periods, contingent on
Congressional funding and project performance,
\$2M each

Total Potential Amount of Federal Award with
3 Option Periods: \$10,999,500



Ohio Education & Industry Partners

OhioTechNet



Lorain County
Community College



SINCLAIR
COMMUNITY COLLEGE



Cincinnati State



CLEVELAND STATE
UNIVERSITY
COMMUNITY COLLEGE



COLUMBUS STATE
COMMUNITY COLLEGE



Cuyahoga
Community
College



HOCKING
COLLEGE



MIAMI
UNIVERSITY



THE OHIO STATE
UNIVERSITY



OHIO
UNIVERSITY



Stark State
COLLEGE



ZANE STATE COLLEGE
ZSC



WASHINGTON STATE
COLLEGE OF OHIO



The Ohio
Manufacturers'
ASSOCIATION



Ohio

Manufacturing
Extension Partnership



FASTLANE
ACCELERATING MANUFACTURING GROWTH



MAGNET



MEP
AT COLUMBUS STATE



MANUFACTURING
WORKS



The NewGrowth
Group



National Partners



America's Flexible Hybrid Electronics Manufacturing Institute



ARM
ADVANCED ROBOTICS
FOR MANUFACTURING



CENTRAL GEORGIA
CGTC
TECHNICAL COLLEGE



CESMII
THE SMART MANUFACTURING INSTITUTE

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The Ohio TechNet Defense Industrial Base STEM Consortium leverages the Ohio Technical Skills Innovation Network's (Ohio TechNet, OTN) collaborative network to accelerate and scale innovation, and to support the Department of Defense's mission to build a diverse and sustainable defense manufacturing STEM and technician workforce. This project aligns to defense-critical technologies and technical occupations. Lorain County Community College (Elyria, Ohio) and Sinclair College (Dayton, Ohio) co-lead a consortium of 13 OTN member colleges and universities and numerous strategic partners, including the Ohio Manufacturer's Association, Manufacturing USA Institutes, and Ohio Manufacturing Extension Partnership centers.

OHIO-WIDE IMPACT TO-DATE

ENGAGING NEW TALENT: PARTNERSHIP WITH MANUFACTURING USA INSTITUTE NEXTFLEX

- Since 2018, 12 OTN partners have served **more than 10,000 Ohio youth** with engaging, hands-on exposure to advanced manufacturing, local industry, and related educational pathways via the FlexFactor program
- National Defense Education Program, Regional Community College Consortium investment supports additional youth engagement in manufacturing pathways including high school dual-enrollment and work-based learning
- **540 iterations** of FlexFactor at nearly **118** Ohio middle and high schools, camps, and community programs, and **117 employers and stakeholders** engaged with the program
 - 62% of FlexFactor students are more aware of career opportunities in manufacturing and STEM
 - 12% are military-connected (parent/guardian are active duty, national guard, and/or reserve)

PREPARING THE FUTURE-READY WORKFORCE: INDUSTRY 4.0 TRAINING & EDUCATION

AUTOMATION AND ROBOTICS – LORAIN COUNTY COMMUNITY COLLEGE

- **40 Ohio high school, career tech, and post-secondary faculty** trained and credentialed in Automation & Robotics
- **200+ students** statewide received instruction in I4.0 A&R from LCCC-trained instructors
- **15 manufacturers** engaged in talent planning and Industry 4.0 road mapping and technical assistance
- **Enrollment in LCCC Automation programs has grown 78% since 2023**
- Expansion of Innovative **Earn & Learn** and **Apprenticeship** at LCCC and OTN partner schools
- Marion L Steele High School (Amherst, OH) has grown its robotics and advanced manufacturing program from 14 to 88 students between 2024 and 2025
- **\$13.2 Million of known investments** in Automation & Robotics educational equipment, capacity, and facilities to secondary schools with instructors trained in LCCC I4.0 Automation & Robotics Teacher Training

DIGITAL THREAD AND DIGITAL TRANSFORMATION – SINCLAIR COMMUNITY COLLEGE

- **Digital Transformation** non-credit curriculum is being utilized in 14 SW Ohio classes
- **40+ faculty** trained in the use of Digital Transformation curriculum modules and implementing content in lessons
- **41 Wright Brothers Institute Summer of Innovation interns** completed Digital Transformation curriculum and FlexFactor in 2024 and 2025, in partnership with Midwest Microelectronics Consortium and UDRI FastLane
- **Short-Term Technical Certificate in Digital Thread Engineering Technology** developed by Sinclair (supported by Air Force Prime Contract No. F48650-16-D-5524, MITS Task Order J: Regional Fabrication and Certification Training Labs)

OTN DIB STEM REPPLICATION, INNOVATION, AND CUSTOMIZATION OF INDUSTRY 4.0 CURRICULA

- **Ohio University** – Developing curriculum in digital engineering for deployment through 3DEXPERIENCE platform, with content tailored to different learning levels including K-12, in partnership with Educational Services Centers
- **Miami University** – Developing a tiered robotics pathway providing flexible options for students and incumbent workers to earn micro-credentials, certifications, 2-year, and 4-year degrees aligned to in-demand technician and engineering careers. Miami's Robotics Engineering Technician **program enrollment has grown 33% since 2023**.
- **Cleveland State University** – Piloted a non-credit Digital Transformation training course incorporating Sinclair DTx curriculum modules and industry training content with industry and academic representatives. Augmented with hands-on training in Digital Thread utilizing CSU Transdigm Advanced Manufacturing Lab.
- **Central Georgia Technical College** has delivered AI & Robotics courses for operators, engineers, and leaders to **over 150** students, including civilian personnel from Warner Robins Air Logistics Complex, and has developed an AI-Enhanced Robotic Manufacturing Specialist certificate program. Central Georgia stays closely engaged with Warner Robins ALC to ensure curriculum is aligned to USAF technical talent needs

Ohio TechNet partners drive innovative strategies to recruit new talent into manufacturing STEM pathways, increase enrollment and student success, and create sustainable models to support the DoD STEM mission

Marion L. Steele HS - Amherst, OH

Instructor completed Industry 4.0 Automation & Robotics Teacher Training program with grant support in 2023

Amherst launched its Advanced Manufacturing program in Spring '24 with **14 students**, utilizing robotics equipment lent by LCCC. Later that year the school won a \$1.6M grant from the Ohio Department of Education and Workforce to purchase robotics, automation, and mechatronics equipment

In Fall 2025 the program has **88 students** enrolled in traditional and dual-enrollment courses, earning up to 9 industry credentials, high school graduation points, and college credit

Pre-apprenticeships and Earn & Learn opportunities are being developed through deep industry partnerships



Ohio's Manufacturing Workforce Blueprint

2025

The Ohio Manufacturing Workforce Blueprint is a statewide strategy to align, grow and strengthen Ohio's manufacturing workforce, led by the Ohio Manufacturers' Association's (OMA's) Workforce Leadership Committee and the Governor's Office of Workforce Transformation, in partnership with Ohio TechNet, JobsOhio, and key state agencies. Developed by manufacturing leaders and workforce experts, the Blueprint provides a practical, actionable framework to:

- Coordinate education, training and workforce efforts statewide
- Expand talent pipelines and broaden access to manufacturing careers
- Ensure training programs are aligned with industry-defined skill needs
- Support current and emerging industries with qualified talent

NDEP RC3 funding has been instrumental to Ohio TechNet's ability to engage with and support this transformational statewide effort.