



# The ARM Institute

The Nation's Leading Robotics and AI  
Manufacturing Innovation Institute

# About the ARM Institute

- Established 2017 by Carnegie Mellon University (CMU) as an independent, non-profit consortium
- One of 9 DoD Manufacturing Innovation Institutes (MIIs) and one of 17 Manufacturing USA® Institutes
- Headquartered at Mill 19, Hazelwood Green, Pittsburgh, PA with a satellite office in St Petersburg, FL
- Approx. \$120M investment by DoD and other federal agencies for projects and resource development
- Complete ecosystem of over 400 organizations –the largest robotics & AI consortium in the nation with project funding
- Resources and services include program management, the Robotics Manufacturing Hub, and RoboticsCareer.org



# Part of Manufacturing USA® Network with DoD Sponsor





# The ARM Institute Mission

The ARM Institute accelerates the development and adoption of innovative robotics technologies that are the foundation of every advanced manufacturing activity today and in the future.

We leverage a unique, robust and diverse ecosystem of partners across industry, academia and government to:



**Make robotics, autonomy, and artificial intelligence more accessible to U.S manufacturers large and small**



**Strengthen our economy and global competitiveness**

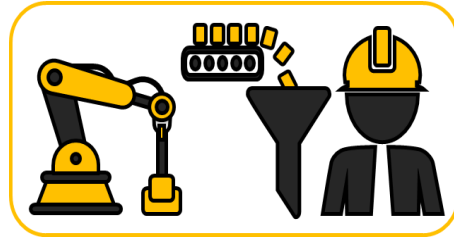


**Train and empower the manufacturing workforce**



**Elevate our national security and resilience**

# Pursuing Mission on **Three Fronts**



## **Ecosystem Collaboration and Impact**

Convening and leveraging a nationwide consortium of over 400 organizations to participate in funded projects and drive innovation

## **Technology Development, Transition and Usage**

Lowering barriers to adoption of robotics by advancing technology through funded projects led by consortium members and by providing manufacturing services

## **Education & Workforce Development (EWD) Impact**

Expanding the robotics workforce with new and better career pathways with [roboticscareer.org](http://roboticscareer.org) and national workforce initiatives



# Over 400 Members - Building the Right Ecosystem via Ecosystem Engagement

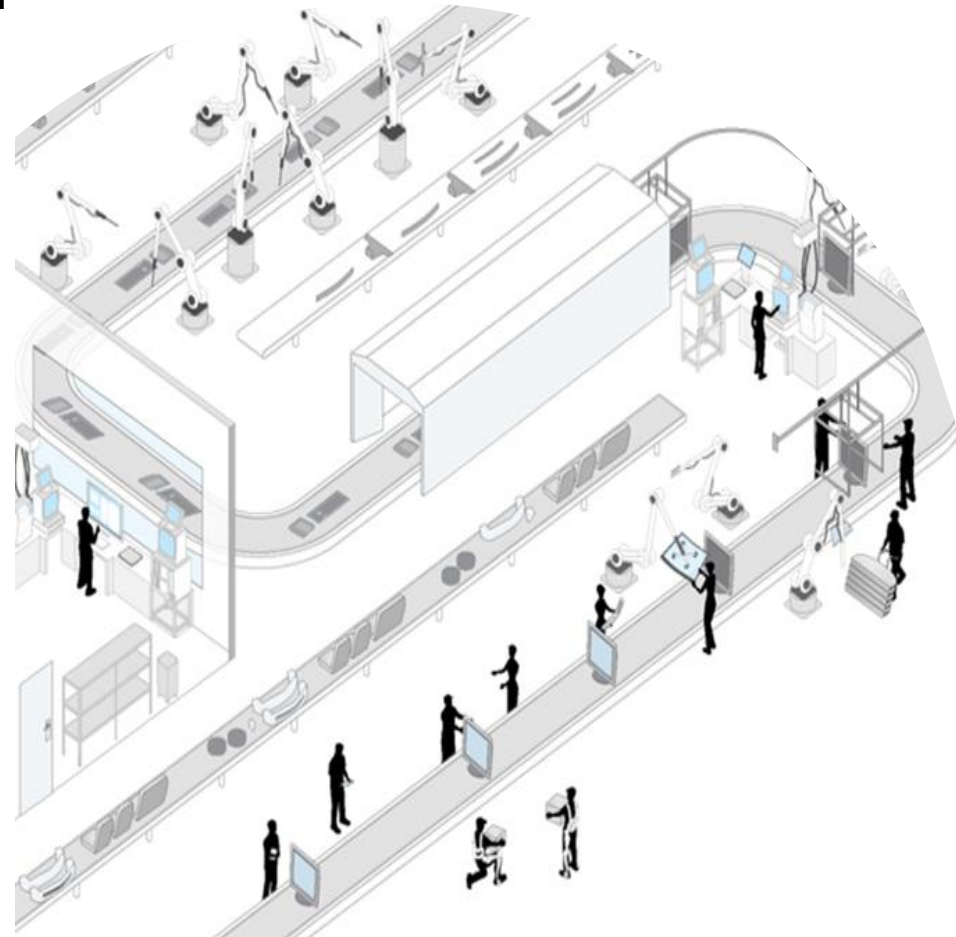


- **Small & Start-up** businesses across a variety of industries with over 90 small robotics and AI companies
- **Large DoD OEMs** and businesses and dominant share of robot suppliers to the US with broad industry representation (AI, Space, Textiles, Logistics, Materials Automotive)
- **Top Research Universities** with leading robotics programs
- **Community Colleges and Trade Schools**
- **Government Partners** including the Army, Air Force, Navy, DoC/NIST, NIOSH, DoL, DoEd, White House
- **Economic Development Partners** – MEPs, workforce training
- **STEM Partners** – robotics competitions, youth programs



# Technology Focus Areas for Roadmapping and Funded Projects

- Risk Reduction for Transition to the Factory Floor
- Human- Robot Interaction
- Interoperability
- Reconfigurable, Agile, and Flexible Robotic Work Cells
- AI/Intelligent Robotic Systems



# Robotics Manufacturing Hub at Mill 19

Robotic Demonstration and Prototyping for Small and Medium Manufacturers in Southwest PA

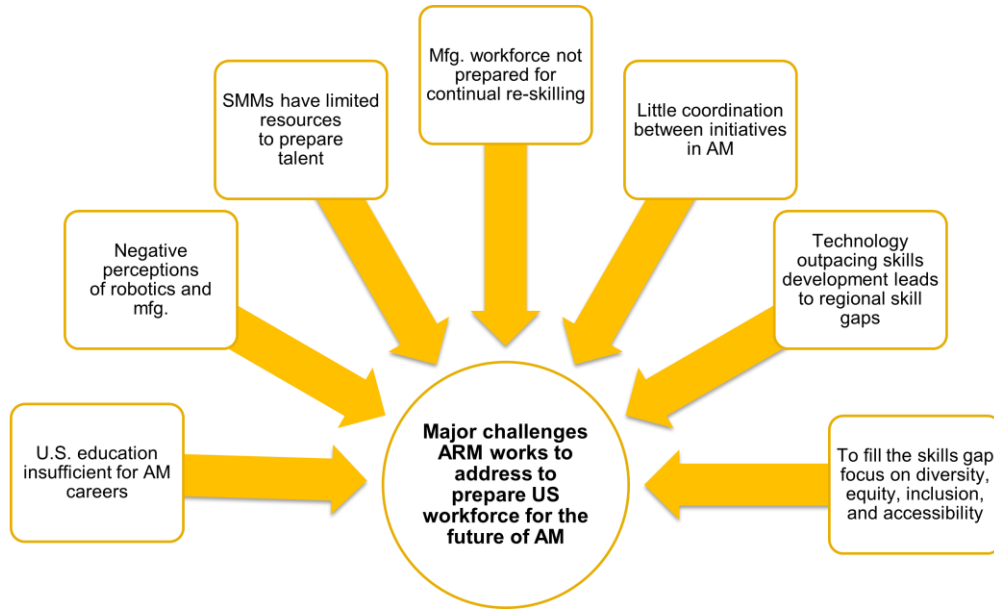
- Helps manufacturers determine if using robotics and AI can help solve production challenge or help with labor shortage
- Service provided free of charge through federal funding



*Capability funded through EDA Build Back Better program*



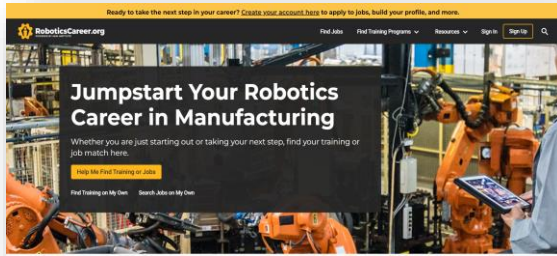
# Education & Workforce Development Focus Areas



## These 6 challenges lead to:

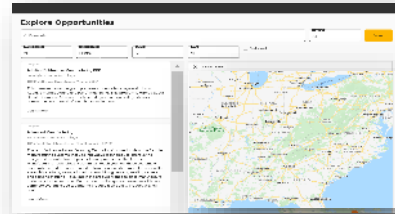
- Significant skilled labor shortage for advanced technologies
- Lower interest in manufacturing careers
- Lack of knowledge about manufacturing careers

# Roboticscareer.org National Capability Platform, Content & Endorsements



## Online Platform

- Designed for employers, education and job seekers, and education providers
- Maps advanced manufacturing robotic competencies to career pathways, training programs and job opportunities
- Freely available



## Content

- Helps employers, education and job seekers find the resources in their region and nationally
- Information on 17,000+ training programs from 2,600 organizations
- Over 2000+ job opportunities in robotics in manufacturing, updated 2x week



## Training Program Endorsement

- Audit to provide validation & endorsement
- Identifies and promotes best programs
- **ARM Seal of Approval**
- Access to community of practice



# EWD National Impact

- **Pittsburgh** has been named a **Workforce Hub by the White House**. ARM Institute is partnering with ARM Member and Hub lead Partner4Work to ensure a diverse and skilled regional workforce
- ARM Institute is part of the **White House Advanced Manufacturing Workforce Sprint** to expand and diversify pathways into jobs and careers in advanced manufacturing that don't require a 4-year college degree
- ARM Institute is partners with 11 out of 23 **Defense Manufacturing Community Support Programs** throughout the United States to award Robotics Career Training Program Endorsements and provide regional robotics education



**U.S. Department of Defense**  
Office of Local Defense  
Community Cooperation





**ARM**  
**INSTITUTE**



The ARM Institute is leading the way to a future where people and robots work together to respond to our nation's greatest challenges and to develop and produce the world's most desired products.

[www.arminstitute.org](http://www.arminstitute.org)

[membership@arminstitute.org](mailto:membership@arminstitute.org)

412.785.0444