



The Future of the Advanced Manufacturing Workforce

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WHY MARYLAND: WORKFORCE

#2
**Human Capital
Investment**

#2
**Tech Talent
Pipeline**

#3
**Most Educated
State**

#1 Concentration of Doctoral Scientists and Engineers

#3 Most Educated State

#2 High School Senior Advanced Placement Exam Scores

#2 Percentage of Population Age 25 and Above with Graduate or Professional Degree or Higher

#3 Percentage of Population Age 25 and Above with Bachelor's Degree or Higher

56 Accredited Colleges and Universities, Including the University of Maryland; Johns Hopkins University; U.S. Naval Academy



WHY MARYLAND: EDUCATION

#2

**Best Early Education
System Quality**

#3

**Best School System
Among the States**

#4

**Percentage of
Schools Ranked in
the Top 25%**



**WHY MARYLAND:
LEADING THE
WAY IN K-12**



WHY MARYLAND: STEM TALENT POWERHOUSE

#1 STEM Concentration

#1 Tech Workforce Growth

When it comes to STEM talent in the U.S., you won't find a better talent pool anywhere else. Maryland is densely populated with highly trained workers in science and technology fields, including **120,000 workers in the information technology field, and 46,000 in life sciences.**

Maryland attracts the best and brightest, too. With access to the federal agencies and military institutions in Maryland, STEM professionals can work on some of the biggest challenges facing the globe. Whether you're looking for NSA trained cybersecurity professional or life sciences leaders who understand how to work with the FDA and NIH, find them in Maryland.

Over 130
Private Career
Schools

#3
Best Community
College Systems



WHY MARYLAND:
LEADING THE WAY
IN CAREER
PREPARATION



**WHY MARYLAND:
INCLUSIVE**

#1

**State for Minority
Business**

#1

**Most Diverse State
on the East Coast**

#1

**Best City for Women
(Columbia)**

#1

**Best State for
Minority
Employment**

The logo for the Maryland Workforce Expressway, featuring a stylized red and yellow swoosh above three black silhouettes of people (two adults and one child).

Maryland WORKFORCE EXPRESSWAY

businessexpress.maryland.gov/grow/workforce

- Talent Engagement Services
- Workforce Education
- Hiring Incentives
- Workforce Training Grants
- Labor & Industry Standards
- Reemployment

Skills Needed in Smart Factories

Automation, AI, and Industry 4.0 are Transforming the Workplace

- More than 50% of tasks could be automated in some industries
- Most digital tools require new human-machine collaboration
- The current workforce gap can provide opportunity for innovation



Skills Needed in Smart Factories



Most In-Demand Technical Skills

- Data Analytics & AI Integration
- Robotics & Automation Programming
- Cybersecurity for Manufacturing Systems
- Additive Manufacturing
- Industrial IoT & Smart Sensors

Most In-Demand Soft Skills

- Problem Solving in Tech-Heavy Environments
- Adaptability & Agility
- Collaboration Across Humans & Machines
- Leadership in Digital Transitions



Why Upskilling and Reskilling Matter



- The digital factory is only as strong as its people.
- Rapid pace of technology adoption outpaces the skills of the current workforce.
- Skills gaps leads to productivity and competitiveness risks.
- Continuous learning is the bridge between today's workforce and tomorrow's factory.

Strategies for Building a Future Ready Workforce

- Employer-led Training
 - In-house Academies
 - Registered Apprenticeships
- Public Private Partnerships
 - Community Colleges
 - Industry Groups
 - State Programs
- Micro-Credentialing
 - Stackable Credentials
 - Short-Term Certifications
- On the Job Learning
 - Mentorship
 - Cross-Functional Rotations
- Continuous Learning Cultures



Thank You

Let's Talk Business

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