



GETTING SMART ABOUT SMART MANUFACTURING

Partnering to Create and Accelerate a Smart
Manufacturing Workforce Transformation



CESMII –The Smart Manufacturing Institute and Tooling U-SME, the leader in competency-based manufacturing learning and development, have partnered to drive the smart manufacturing workforce transformation further and faster. Leveraging Tooling U-SME’s existing smart manufacturing resources and collaborating on the development of new content, the partners are working to expedite access to critical learning resources that will support the upskilling of the incumbent workforce and expose the next generation of talent to critically needed competencies in smart manufacturing.

Tooling U-SME works with thousands of companies, including more than half of all Fortune 500® manufacturers and nearly 1,000 educational institutions across the country. Tooling U-SME is expert at design and distribution of learning resources and at tailoring solutions to the needs of the manufacturing community. With Tooling U-SME’s extensive training experience and reach into industry and academia and CESMII’s subject matter expertise and know-how on smart manufacturing technology and business practices, the CESMII and Tooling U-SME collaboration on smart manufacturing training will expedite adoption and drive progress through transformational workforce development.

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Our vision, as two nonprofit organizations focused on creating a more productive and competitive manufacturing environment, is completely aligned around accelerating the transformation of the U.S. manufacturing workforce.”

*Jeannine Kunz,
Chief Workforce Officer, SME*



Together, Tooling U-SME and CESMII are accelerating and amplifying smart manufacturing training and workforce development across the ecosystem.

FUNDAMENTALS OF SMART MANUFACTURING

Developing a Strong Smart Foundation to Advance America's Manufacturing Workforce

The first deliverable of the Tooling U-SME and CESMII workforce partnership is the Fundamentals of Smart Manufacturing learning curriculum that covers essential methodologies for today's manufacturing ecosystem. Smart impacts many job roles from leadership to engineering and the frontline workforce, to educators training the next generation of manufacturers. These new resources will set a common foundation and language that enables cross-disciplinary innovation, ensuring American manufacturing competitiveness.



Introduction to Smart Manufacturing

- Introduction to Smart Manufacturing **100**
- Introduction to Smart Business Strategy **251**
- Smart Business Strategy: Adopting Smart Manufacturing **252**
- Smart Business Strategy: Data Management **311**

Capturing & Organizing Data

- Introduction to the Industrial Internet of Things **111**
- Data Collection Fundamentals **121**
- Automatic Identification Technology **141**
- Data Collection: Inventory and Maintenance **231**
- IIoT Infrastructure for Smart Manufacturing **225**
- Organizing Big Data for Smart Manufacturing **227**

Connecting Data, Platforms, & Systems in Smart Manufacturing

- Introduction to PLCs **201**
- Introduction to Digital Networks **221**
- Introduction to Digital Twin **241**
- Introduction to Digital Thread **242**
- Vision Systems **320**
- Introduction to Integrated Systems for Smart Manufacturing **320**
- Integrated Management Systems Operations*

*Classes under development. Coming soon.

Cybersecurity

- Cybersecurity for Manufacturing Basics **101**
- Cybersecurity for Manufacturing: Malware Overview **102**
- Cybersecurity for Manufacturing: Hacking Overview **201**
- Cybersecurity for Manufacturing: Wireless Networks **202**
- Cybersecurity: Tools and Methods **205**

Automating Flow & Control

- Introduction to the Smart Supply Chain **120**
- Augmented Worker **150**
- Robot Applications **215**
- Automated Systems and Controls **216**
- Introduction to Collaborative Robots **275**
- Introduction to Machine Learning & Artificial Intelligence **301**
- Machine Learning and Artificial Intelligence Applications **302**
- Introduction to Production Process Modeling and Optimization **306**
- Leveraging Machine Learning for Process Modeling and Optimization **307**

Providing Insights for Enhanced Decision Making

- Continuous Process Improvement: Managing Flow **124**
- Continuous Process Improvement: Identifying & Eliminating Waste **125**
- Troubleshooting **181**
- SPC Overview **211**
- Lean Smart Manufacturing **280**

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Manufacturers are looking for a more effective, future-proof approach to upskill their workforce, and we believe that the best way to accomplish that is for CESMII and Tooling U-SME to work together. This partnership brings together the deep domain expertise and necessary skills with the know-how to package education, work with employers and schools, and effectively deliver it at scale nationally.”

Conrad Leiva, Vice President of Ecosystem and Workforce Education at CESMII

START YOUR
**SMART
JOURNEY
TODAY**

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