

ADVANCED MANUFACTURING 2026 SYMPOSIUM

From Prototype to Production

Session Descriptions

AI for High-Impact Decision Systems: Bridging Professional Services and Advanced Manufacturing

Artificial Intelligence is transforming professional decision making in both accounting and advanced manufacturing. Attendees will see how intelligent tools enhance financial analysis, forecasting, and workflow automation, while AI driven CAM systems enable adaptive machining, predictive insights, and digital twin optimization. The discussion highlights practical use cases, ethical and data integrity considerations, and the shared shift toward AI systems that augment human expertise across knowledge based and industrial environments.

Robotics-Driven Automation in Industrial Production

Advanced robotics is reshaping industrial production through intelligent automation, machine vision, and AI driven control. Speakers will highlight real world deployments of cobots, autonomous assembly systems, and flexible manufacturing cells, along with the integration of robotics with IIoT platforms, digital twins, and edge computing. Attendees will gain practical insights into scaling robotics driven automation while addressing workforce transformation, interoperability, cybersecurity, and ROI in modern manufacturing.

From Assembly Lines to Airspace: Drones Powering Adaptive Manufacturing

The surge in UAS demand is redefining the domestic industrial base, shifting focus from low-volume prototyping to the mass production of "attributable" defense systems. This panel examines the friction of scaling production to meet the high demands on the UAS market: from navigating from additive manufacturing into injection molding to acquiring or manufacturing large volumes of high demand, compliant components. Attendees will explore strategies for overcoming supply chain volatility, eliminating reliance on foreign-sourced components, and bridging the design, test, and evaluation gaps as products mature. The discussion highlights how researchers and manufacturers are evolving to provide the agility of a startup with the security and scale required for modern national defense.

Advances in Design Optimization Using CAD Tools

Highlights advances in modern CAD methodologies that integrate simulation, parametric modeling, and generative design to accelerate engineering optimization. Speakers will explore breakthroughs in computational design methods, AI assisted workflows, real time multi physics simulation, and cloud based collaboration, with case studies showing how CAD driven innovation is reshaping product development across aerospace, automotive, civil, and biomedical engineering.

Decision Frameworks for Manufacturing Technology Selection

Explore structured, data driven frameworks for selecting manufacturing technologies, from Multi Criterial Decision Analysis and total cost of ownership modeling to lifecycle assessment and risk informed decision methods. Speakers will examine how these approaches support decisions in emerging paradigms such as additive manufacturing, smart factories, and hybrid production systems, illustrated through case studies across aerospace, automotive, medical devices, and electronics. Attendees will gain practical insights into balancing automation, flexibility, cost, and long term adaptability while integrating digital tools like simulation, digital twins, and AI enabled decision support.

The Talent Pipeline

This session delves into strategies for building a strong, future ready talent pipeline in technical and manufacturing fields. Speakers will examine workforce development partnerships, apprenticeship models, industry recognized credentials and approaches to broaden participation, close skills gaps, and adapt to evolving workforce expectations. Attendees will gain practical insights for attracting, developing, and retaining skilled professionals in a competitive labor market.

