

# From Prototype to Production

## Session Descriptions

Oct. 8, 2025 • 8 am – 5:30 pm • CONVERGE Innovation Center, 1201 Technology Dr., Aberdeen, MD 21001

	Room 1 (Technical)	Room 2 (Resources)	Room 3 (Enterprise)
9:00	<p><b>Bridging the Gap: AM Innovation Across Research, Defense, and Aerospace Production</b></p> <p>Go beyond the hype and explore the real journey of additive manufacturing (AM) innovation. This panel brings together unique perspectives from the front lines of AM research, large-scale aerospace &amp; defense industry implementation, and operational deployment within the defense sector. Discover how cutting-edge advancements in materials, processes, and digital integration are moving from the lab to the factory floor and into the field, tackling critical hurdles like qualification and scaling along the way. Gain valuable insights into the practical challenges and opportunities shaping the future of industrial AM in demanding sectors.</p>	<p><b>The Future of the Advanced Manufacturing Workforce: Upskilling and Reskilling for the Digital Factory</b></p> <p>This session delves into the critical need for upskilling and reskilling in the age of automation, AI, and smart factories. Panelists will Identify strategies for building a future-ready workforce, the most in-demand technical and soft skills, and how organizations can foster continuous learning to thrive in the digital factory era.</p>	<p><b>Ramping Up the Defense Industrial Base: What Is Our Readiness Level?</b></p> <p>With global tensions rising amidst a tariff trade war, where does U.S. manufacturing stand in meeting the current and future needs of the warfighter and our nation's security? Panelists will discuss critical defense technology development, efforts to restock the U.S. weapon supply, and supply chain gaps in meeting DoD readiness levels.</p>
10:45	<p><b>Hybrid Metal Manufacturing</b></p> <p>Hybrid manufacturing technologies are driving innovation and sustainability combining the geometric flexibility and material efficiencies of additive manufacturing and the accuracy of subtractive processes. During this session, we plan to delve into the latest advancements in hybrid manufacturing systems, combining 3D metal printing with precision machining to achieve unparalleled design freedom, improved material properties, and reduced lead times. The session will also highlight challenges in interoperability and qualification for mission-critical applications.</p>	<p><b>Politics, Tariffs, and Turbulence: Building Resilient Supply Chains</b></p> <p>In today’s global landscape, supply chain disruptions are not a matter of if but when. This session will explore how organizations can anticipate, manage, and mitigate disruptions through risk assessment, diversification, and digital tools.</p> <p>Beyond operational tactics, we will examine the broader economic and strategic implications of government restructuring and shifting tariff policies. These forces are reshaping supply chains, altering investment decisions, and redefining competitive advantage across industries. Participants will hear from experts on how policy changes and trade dynamics intersect with supply chain strategy—and what it means for competitiveness in a volatile global market.</p> <p>Attendees will leave with actionable strategies for building agility and resilience, from procurement through logistics and operations, while also learning how to navigate political transitions and policy shifts to turn uncertainty into opportunity.</p>	<p><b>Cybersecurity Best Practices in Manufacturing</b></p> <p>As manufacturing becomes increasingly digitized, the risk of cyber threats grows exponentially. Security leaders share practical cybersecurity strategies tailored for industrial environments, highlight key vulnerabilities in connected manufacturing systems and share proven best practices for protecting critical infrastructure, from legacy equipment to IoT-integrated production lines. Attendees will leave with actionable insights to strengthen their cyber defenses and ensure operational continuity.</p>
1:00	<p><b>Tooling for Casting, Molding, and Thermoforming Using Additive Manufacturing</b></p> <p>Additive manufacturing (AM) in tooling for casting, molding, and thermoforming is gaining traction across several industries. During this session we will look at how additive manufacturing (AM) is transforming the production of tooling for casting, molding, and thermoforming applications. Presentations will highlight innovations in tool design, material advancements, and process integration that reduce lead times, lower costs, and improve performance.</p>	<p><b>Grants, Funding, and Tax Incentives for Manufacturers</b></p> <p>Grants, funding, and tax incentives play a crucial role in strengthening the manufacturing sector. In this session we will provide an in-depth look at the latest developments in grants, funding opportunities, and tax incentives designed to support manufacturers. Attendees will learn about new programs, government-backed funding options, and tax benefits available to help companies innovate, expand, and enhance their competitiveness. Experts will discuss the latest policy changes, the application process for various funding sources, and how manufacturers can take advantage of available tax incentives to drive growth.</p>	<p><b>Digital Transformation in Manufacturing</b></p> <p>Digital transformation is reshaping manufacturing—unlocking new levels of efficiency, agility, and innovation. This session explores how technologies like AI, cloud computing, and advanced analytics are being leveraged to modernize operations, optimize production, and enable data-driven decision-making. Gain insights into successful digital adoption strategies, common challenges, and the cultural shift needed to thrive in Industry 4.0.</p>
2:45		<p><b>From Text to Spaceship: Advancements in Computational Product Design</b></p> <p>Join us for an in-depth look at the evolution of advanced product design featuring NASA's Ryan McClelland and thier research in generative and AI-driven design. This session highlights cutting-edge tools, materials, and methodologies that are redefining how products are conceived and developed. From integrating AI and simulation in early-stage design to leveraging sustainable and user-centered approaches, learn how industry leaders are accelerating innovation and delivering smarter, more impactful products.</p>	<p><b>Quality Management System (QMS) for Manufacturing</b></p> <p>In an era of rapid production cycles and rising customer expectations, a robust Quality Management System (QMS) is essential for manufacturing success. This session explores how modern QMS frameworks drive efficiency, compliance, and continuous improvement across operations. Attendees will learn best practices for implementing and optimizing QMS tools to enhance product quality, reduce waste, and meet regulatory standards.</p>