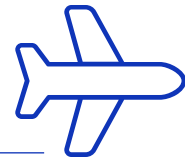




ICAM25

International Conference on Advanced Manufacturing Research to Application through Standardization

October 6-10 | Las Vegas, NV



Industrial Sector: Aviation

The aerospace industry has yet to fully leverage the benefits of additive manufacturing (AM) across all applications, but its potential is undeniable, particularly as OEMs move toward clean-sheet designs. While space-based applications are actively utilizing AM, and defense aviation is increasing adoption, commercial aviation faces unique challenges in integrating AM into high-criticality components. Cost savings, weight reduction, functional improvements, and schedule optimization are key drivers which can be achieved through the redesigning of existing components, on-demand production of replacement parts, new design concepts, and through part consolidation. New materials with superior or similar properties, capable process controls, process stability, and novel design methodologies are the key enablers. However, barriers such as qualification and certification (Q&C), economic viability, and industry-wide acceptance continue to limit adoption in aviation. As AM moves beyond non-critical applications, it is critical to assess what is working, what is not, and how standards can support broader implementation. Related standards, as well as qualification and certification (Q&C) practices, may need to be re-evaluated/updated for additively manufactured products and the digital manufacturing process.

THE FOLLOWING SPECIFIC TOPICS ARE OF INTEREST TO THIS SYMPOSIUM:

- General discussions on topics such as airworthiness of AM parts, specific AM applications in aviation, MRO, etc. (including metallic and polymers)
- Testing and quality assurance of AM parts, processes, and feedstock materials, including in-situ and non-destructive (NDI) methods and techniques
- Acceleration of AM adoption across the lifecycle through the application of computational approaches
- Recognized regulatory requirements and Q&C strategies
- Qualification of non-fixed parameter processing
- Introducing new materials and sustainable feedstock (alloy modifications, novel materials, functional grading)
- Challenges in scaling AM into high-criticality applications and how to overcome them
- Success stories and lessons learned from failed AM implementations
- Role of public standards in Q&C framework
- Aerospace business cases and adoption challenges (including lead times/cost trades)
- Readiness and sustainment of AM supply chain for Aviation -- including qualification, process validation, and certification
- Industrialization of AM in Aviation, challenges in scaling AM for high-volume production and large-size applications.
- The role of AM in aviation to meet the UN Sustainable Development Goals

Symposium Organizers

- **Cindy Ashforth**, Federal Aviation Administration, USA
- **Daniel Braley**, Boeing, USA
- **Tamas Havar**, Gulfstream Aerospace, USA
- **Bradley Hughes**, GKN Aerospace, United Kingdom
- **Morgan Mader**, Joby Aviation, USA
- **Simone Romano**, Avio Aero, Italy

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an abstract
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