Joint FAA – EASA Workshop on Qualification / Certification of Metal Additively Manufactured Parts

August 21-23, 2018

Venue: National Center for Aviation Training (http://ncatkansas.org/)
Hosted by NIAR
Wichita, KS

- **Workshop Co-organizers**: Dr. Michael Gorelik (FAA); Dr. Simon Waite and Dr. Matthew Mercy (EASA)
- **Workshop Facilitator**: Dr. Rollie Dutton (Universal Technologies Corp.)

**Day 1 – August 21**

7:45 – 8:10  Arrival and Registration
8:15 – 8:40  Welcome Remarks – Prof. John Tomblin, VP of Research and Technology, WSU
8:40 – 9:10  Workshop Overview and Objectives (FAA / EASA)
9:10 – 9:40  Industry Keynote 1 – MR. Harinder Grewal, Director of Advance Repairs, Delta TechOps
10:10 – 10:30  Coffee Break / Networking
10:30 – 11:00  “GE approach to part family”, Mark Shaw, GE Additive
11:00 – 11:30  “Qualification and Certification of AM Parts: AFRL perspective and progress”, Adam Hicks, AFRL / USAF
11:30 – 12:00  “Update on NASA’s Additive Manufacturing Standards Development Effort and Top Durability and Damage Tolerance Concerns”, Rick Russell, NASA
12:00 – 13:00  Lunch & Networking (buffet-style, catered on site -- optional, but reservation and payment on-site required for those who choose to participate)
13:00 – 13:30  Summary and Conclusions from the June 2018 EASA Workshop on AM Machine Producers Knowledge Transfer”, Rachael Andrulonis (NIAR) and Jeff Conner (GE)
13:30 – 14:00  “EASA Regulatory Update on AM”, Simon Waite, EASA
14:00 – 14:30  “Airbus experiences in qualification of AM products”, Stephane Bianco, Airbus
14:30 – 15:00  Coffee Break / Networking
15:00 – 15:30  “Quality Assessment during LPBF-Process by Optical Tomography Inspection of systematic and local deviations”, Alexander Ladewig, MTU Aero Engines
15:30 – 16:00  “FAA Regulatory Update on AM”, Michael Gorelik and Mark Freisthler, FAA
16:00 – 16:30  “Certification and Qualification of AM Parts”, Donald Palmer, Boeing Research and Technology
16:30 – 16:45  Summary of Day 1

18:00 – 20:00  No-host social (and optional dinner) - River City Brewing Co., 150 N. Mosley St.

Dress Code: Business Casual
Day 2 – August 22

8:00 – 8:15 Arrival and registration
8:15 – 8:45 Introduction of breakout sessions (objectives, format, list of participants, etc.)
8:45 – 9:00 Transition to breakout session rooms (main auditorium + 2 additional rooms)
9:00 – 12:00 Breakout Session #1 (Main Auditorium) – Co-chairs: R. Dutton (UTC) and D. Wells (NASA)
“Design Data for Q&C – static properties characterization, part family considerations, feature-based qualification, component vs. coupon properties”.
9:00 – 12:00 Breakout Session #2 (Breakout Room 1) – Co-chairs: M. Gorelik (FAA) and S. Waite (EASA)
“Fatigue and Fracture Considerations – effect of defects, characterization of defects, characterization of F&DT properties, zoning considerations for F&DT”.
9:00 – 12:00 Breakout Session #3 (Breakout Room 2) – Co-chairs: E. Lindgren (USAF) and M. Mercy (EASA)
“NDI Inspections and In-situ Process Monitoring – validated NDI methods for AM (current state), flaw detection capabilities, in-situ monitoring (current and future use)”.

12:00 – 13:00 Lunch & Networking (buffet-style, catered on site -- optional, but reservation and payment on-site required for those who choose to participate)

12:30 – 13:00 Luncheon Speaker: Mr. Brandon Wegge, Chief Engineer – Boeing Additive Manufacturing, “Update on Additive Manufacturing at Boeing”
13:00 – 15:00 Breakout Session #1 – Continued (Main Auditorium)
13:00 – 15:00 Breakout Session #2 – Continued (Breakout Room 1)
13:00 – 15:00 Breakout Session #3 – Continued (Breakout Room 2)
15:00 – 15:30 Coffee Break / Networking
15:00 – 15:30 “The Certification Toolbox Approach and Future Opportunities for Qualification”, Martin White, GKN Aerospace
15:30 – 16:00 “Influence of Atmospheric Control on LPBF Part Quality & Powder Life”, Stuart Jackson, Renishaw Plc
16:30 – 16:45 Summary of Day 2

Day 3 – August 23

8:00 – 8:15 Arrival and Coffee
8:15 – 8:45 Breakout Session #1 Debrief – session lead(s)
8:45 – 9:15 Breakout Session #2 Debrief – session lead(s)
9:15 – 9:45 Breakout Session #3 Debrief – session lead(s)
9:45 – 10:15 Coffee Break / Networking
11:30 – 12:00 Summary of Workshop Observation and Next Steps (FAA, EASA)
12:00 – 13:00 Lunch & Networking (buffet-style, catered on site -- optional, but reservation and payment on-site required for those who choose to participate)
13:00 – 15:00 Tour of NIAR AM Labs (registration required, details to be announced)
Optional tour – please indicate interested at the NIAR registration site

15:00 Adjourn