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Preliminary program

Additive Manufacturing in Aviation

Clean Aviation Workshop January 17th – 18th, 2024 Aachen, Germany



Introduction

In the Clean Aviation Joint Undertaking the aviation industry is applying additive manufacturing (AM) in several projects. Material suppliers, manufacturers, research institutions and the aviation industry are collaborating to increase the maturity of AM and to decrease the buy-to-fly ratio for metals.

Additive manufacturing offers great potential for improving materials efficiency, reducing life-cycle impacts, and enabling greater engineering functionality compared to conventional manufacturing. AM has been increasingly adopted by aircraft component manufacturers for lightweight designs.

Workshop topics

- Legislation and regulation for AM in aviation
- Characterization and certification of AM parts
- Powder production and powder treatment
- Treatment of production waste
- Powder recycling
- Manufacturing efficiency
- Life cycle assessment of AM in aviation

Agenda

17th January 2024

- Additive manufacturing workshop
 Fraunhofer Institute for Laser Technology ILT
 15.00 17.00
- Technical tour
 Fraunhofer Institute for Laser Technology ILT 17.00 – 18.30
- Networking dinner, 20.00 Restaurant Am Knipp Bergdriesch 3 DE-52062 Aachen www.amknipp.de

18th January 2024

Additive manufacturing workshop
 Fraunhofer Institute for Laser Technology ILT
 09.00 – 13.00

General information

Venue

The workshop will be held in the conference room at:

Fraunhofer Institute for Laser Technology ILT Steinbachstrasse 15, 52074 Aachen (Germany)

Registration:

Please send an e-mail with your complete address to gabriela.gromer@ict.fraunhofer.de. Please specify if you will participate f2f or online.

Participation fee

Presenters will be free of chargeRegular participation fee (f2f): $200 \in$ Online participation fee: $100 \in$

Chairman

Rainer Schweppe Fraunhofer Institute for Chemical Technology ICT Environmental Engineering Joseph-von-Fraunhofer-Str. 7, 76327 Pfinztal, Germany Phone +49 721 4640-538 rainer.schweppe@ict.fraunhofer.de www.ict.fraunhofer.de

Organizing committee

- Thomas Reichert, Gabriela Gromer; Fraunhofer ICT
- Sabine Aref; GUS e.V.
- Simon Vervoorth; Fraunhofer ILT
- Christian Weiß; Fraunhofer ILT

Hotel recommendation:

Hampton by Hilton - Aachen Tivoli*** Merowinger Str. 2, 52070 Aachen info@hamptonaachen.de Phone +49 241 955 9300 Booking link: <u>group.hamptoninn.com/a2y3kg</u>

Aquis Grana Cityhotel **** Büchel 32, 52062 Aachen reservations@hotel-aquisgrana.com Phone +49 241 443-0

Please book and pay directly in the hotel, citing the keyword "Clean Aviation 2024".

Workshop program

17th January 2024

14:30	Registration for day 1	15:40	P 2	Titanium connection brackets using laser wire DED
15:00	Welcome & introduction			Marko Bosman
	Simon Vervoortt, Fraunhofer ILT, Germany			GKN Aerospace, Fokker Aerostructures B.V.,
	Rainer Schweppe (workshop chairman),			Papendrecht, The Netherlands
	Fraunhofer ICT, Germany			
		16:10	Р 3	Manufacturing an aircraft lining panel
15:10 P 1	RACER rotorless tail – disruptive design			using hybrid technologies
	and advanced manufacturing			Xavier Tuto Cabedo
	Juan Manuel Jimenez Garcia ¹ ,			LEITAT Managing Technologies,
	Dr. Fernando Lasagni ²			Barcelona, Spain
	¹ Head of Research and Innovation,			
	Airbus Helicopters Spain, Madrid, Spain			
	² CTO Materials & Processes,	17:00 -	18:30	Technical tour
	CATEC Advanced Center for Aerospace			Fraunhofer Institute for Laser Technology ILT
	Technologies, Seville, Spain			
		20:00		Networking dinner

Workshop program

18th January 2024

08:50		Registration and welcome, day 2	11:05	P 8	Life-cycle assessment of helicopters AM parts: a necessary lever to support
09:00	9:00 P 4	Hybrid additive manufacturing with preforms for repair application Christian Weiß, Simon Vervoort, Tim Lantzsch Fraunhofer ILT, Aachen, Germany			industrial deployment and certification Tom Delage, Johannes Siegert AIRBUS HELICOPTERS S.A.S., Marignane, France
09:25	P 5	Overcoming metal AM powder produc- tion challenges for aerospace applications Francois Bonjour 6K Additive, USA/France (European Director)	11:30	P 9	LCA for AM for engine stators Killian Fricke ¹ , Gilles Bessenay ² ¹ Fraunhofer IPT, Aachen, Germany ² Safran Aircraft Engines,
09:50 P	P 6	Powder production for AM Daniel Beckers			Courcouronnes, France
		Rosswag Engineering, Pfinztal, Germany	11:55		Open panel discussion
10:15		Coffee break	12:50		Closing remarks
10:40	P 7	Methodology for life-cycle inventory and assessment for FRC NGCTR gear box housing Giada Luppino, Sergio Sartori, Dario Bonanno, Martina Morsilli	13:00		End

Leonardo Company S.p.A., Cascina Costa, Italy