



Programme

Recycling in Aviation

Clean Aviation Workshop
November 16th – 17th, 2023
Paterna, Valencia

Introduction

In the Clean Aviation Joint Undertaking the aviation industry is searching for increased circularity and less material consumption. Material supplier, manufacturer, research institutions and aviation industry are working collaborative together to increase the re-use and recycling quota of the European aviation industry.

For decades, aircraft reaching the end of their operational life have been stripped down for parts, and some components refurbished and recertified. But with the increasing use of composite material in today's airliners, it's environmentally essential to find a solution for recycling of aircraft composites. Additional challenges will arise for hybrid electric aircraft for recycling of high-power electronics full cells and batteries. New solutions are expected by digitalization in industrial recycling processes.

Workshop topics

- Legislation and regulation in aviation recycling
- Treatment of production waste
- Disassembling and sorting
- Mechanical recycling of aircraft materials
- Chemical recycling
- Characterisation and certification

Agenda

Technical tour

16th November 2023

Technical visit at TARMAC, Teruel: 14.30 – 16.30

Shuttle transfer departure: 12.30 at AIMPLAS Paterna

Networking dinner

16th November 2023

Restaurant Esteban Montesinos, Paterna, 20.00

Recycling workshop

17th November 2023

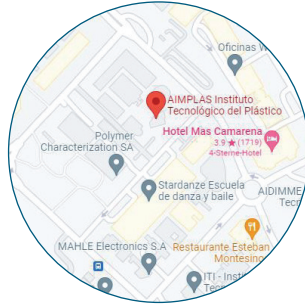
Workshop, AIMPLAS Paterna: 08.30 – 16.30

General information

Venue

The workshop will be held in the conference room at:

AIMPLAS – Technological Institute of Plastics
C/Gustave Eiffel 4
46980 – Paterna
Valencia, Spain



Registration

Please send an email with your complete address to:
gabriela.gromer@ict.fraunhofer.de
Please state your f2f or online participation.

Participation fee

One presenter per presentation is free of charge.
The other participants will get an invoice by our co-organizer

- Regular participation fee (f2f): 200 €
- Online participation fee: 100 €

Chairman

Rainer Schweppe
Environmental Engineering
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Organising committee

- Thomas Reichert, Fraunhofer ICT
- Gabriela Gromer, Fraunhofer ICT
- Sabine Aref, GUS e.V.
- Rocío Ruiz Gallardo, AIMPLAS
- Elisa Cones Sánchez, AIMPLAS

Hotel recommendation

Aparthotel Wellness Paterna
www.aparthotelwellness.com
repcion@aparthotelwellness.com

Please book and pay directly at the hotel
by using the key word. Key word for booking:
"Clean Aviation Workshop".

Workshop programme

08.30		Welcome and introduction Anabel Crespo, AIMPLAS Rainer Schweppe, Fraunhofer ICT	
08.50	P 1	Design, manufacturing, and testing of a metallic fuselage panel out of 2198 Al-Co-Li alloy Alexandra Karanika ¹ , Evangelos Carelas ¹ , Egoitz Aldanondo ² , Alexander Abramoivich ³ , Marc Van Der Geest ⁴ , Peter Visser ⁴ ¹ Hellenic Aerospace Industry ² IK4-LORTEK ³ Israel Aerospace Industries ⁴ AkzoNobel	
09.15	OP 2	Eco-design tips and EOL strategies for enhanced recyclability of integral welded fuselage panels made of Al-Li alloys Clara Delgado ¹ , A. I. Fernández-Calvo ¹ , B. García ² , P. Dufour ³ ¹ AZTERLAN, (BRTA), Spain ² CIDETEC, BRTA, Spain ³ SONACA, Belgium	
09.40	P 3	Circularity and end-of-life studies on magnesium alloys for the aircraft industry Luis Antonio S. A. Prado ¹ , Selim Coskun ¹ , Abdul Rafay ¹ , Andres Robelo Roberg ¹ , Felipe Andia de Campos Leite ¹ , Andreas Kötter ¹ , Thomas Reichert ² , Haim Rosenson ³ ¹ Capgemini Engineering, Hamburg, Germany ² Fraunhofer Institute of Chemical Technology ICT, Pfinztal, Germany	
10.05	P 4	German national project on light aircraft recycling Peter Brantsch Fraunhofer Institute for Chemical Technology ICT, Pfinztal, Germany	
10.30		Coffee break	
10.50	P 5	Automated recycling of unidirectional preimpregnated carbon fibre scraps Oscar Gonzalo, Jose María Seara, Gotzone Aizpurua, Kepa Garmendia, Jose Antonio González, Javier del Pozo Tekniker, Gipuzkoa, Spain	
11.15	P 6	ELIOT Project: new ways to recycle bio-composites from airplanes Nora Lardiés Miazza ¹ , Sergio Fita Bravo, Rajesh Mehta ² ¹ AIMPLAS, Paterna, Spain ² TNO, Den Haag, Netherlands	
11.40	P 7	Sustainable scrapping method of thermoplastic composite materials Rocío Ruiz-Gallardo AIMPLAS, Paterna, Spain	
12.05	P 8	Eco-friendly frame clips and system brackets for a fuselage demonstrator Elena Rodríguez Senín AIMEN (MAVA), Vigo, Spain	

12:30	Lunch break	15:00	Coffee break
13:20	P 9 DIGESTAIR – a novel anaerobic digester solution in air transport for on board efficient waste management. Development of a DSS tool Eric Rovira-Cal ^{1,2} , T. Fernández-Arévalo ¹ , J. González ¹ , E. Aymerich ^{1,2} ¹ CEIT-Basque Research and Technology Alliance (BRTA), San Sebastián, Spain ² Universidad de Navarra, Tecnun, San Sebastián, Spain	15:25	OP 13 Industry 5.0 and social inclusion: a new vision for end-of-life aircraft recycling in aviation Samira Keivanpour Polytechnique Montreal, Montreal, Canada
13:45	P 10 Chemical recycling for sustainable aviation – a case study on aircraft seats Ronny Hanich-Spahn Fraunhofer Institute for Chemical Technology ICT, Pfinztal, Germany	15:50	Open panel discussion
14:10	P 11 Circularity studies on high performance thermoplastic demonstrators for the aircraft industry – end-of-life concepts for PEKK/carbon fibre composites Selim Coskun Capgemini Engineering, Hamburg, Germany	16:30	Closing remarks
14:35	P 12 How to define a reuse and recycling quote for LCA in aviation Thomas Reichert, Peter Brantsch, Ronny Hanich-Spahn Fraunhofer Institute for Chemical Technology ICT, Pfinztal, Germany		