

CANSO/EUROCONTROL Sustainable Skies Conference & Exhibition: Contrails in Focus

7 & 8 November 2023, Brussels

CANSO



DAY 1 – Tuesday, 7 November 2023

08.30 - 10.00	Registration at reception & Welcome coffee in the lobby
10:00	Welcome by Marylin Bastin , Head of Aviation Sustainability, EUROCONTROL
10:05	Philippe Merlo , Director European Green Sky Directorate, EUROCONTROL
10:10	Michelle Bishop , Director Programmes, CANSO
10:15 - 10:55	What are contrails? Matthieu Plu , Deputy Head of Numerical Weather Prediction Research, Météo France Klaus Gierens , Researcher, Earth System Modelling, Institute of Atmospheric Physics, DLR Judith Rosenow , Postdoctoral Researcher Group Leader, Technical University of Dresden (<i>remote</i>) Q&A session
10:55 - 11:35	Contrails versus CO₂ Keith Shine , Regius Professor, Meteorology and Climate Science, University of Reading (<i>remote</i>) & David S. Lee , Professor, Atmospheric Science, Manchester Metropolitan University (<i>remote</i>) Nicolas Bellouin , Professor, University of Reading & Chair in Aviation and Climate, Sorbonne University Q&A session
11:35 - 12:35	Detection and monitoring of contrails (Part 1) Kevin McCloskey , Software Engineer, Google Steven Barrett , Professor and Interim Department Head, MIT Rémi Chevallier , PhD Student, Airlines Sciences, Airbus Q&A session
12:35 - 13:35	Lunch & tour of the stands in the lobby
13:35 - 14:35	Detection and monitoring of contrails (Part 2) Philippe Very & Gabriel Jarry , Aviation Sustainability Experts, EUROCONTROL Luca Bugliaro , Cloud Physics Researcher, Institute of Atmospheric Physics, DLR Teodora Petrisor , AI Scientist & Frédéric Barbaresco , Senior Expert & Sensing Algorithms Segment Leader, Thales Q&A session
14:35 - 15:30	Prediction of contrails formation and climate impact (Part 1) Valentin Curat , Meteorological Engineer, Météo France & Laure Péchaud , B787 First Officer & Pilot Expert, Air France Björn Beckmann , Senior Advisory Aviation Customer Service, German National Meteorological Service (DWD) and Expert Team on Weather and Climate Science for Aviation Applications (WMO) Simone Dietmüller , Climate Scientist, Earth System Modelling Department, Institute of Atmospheric Physics, DLR (<i>remote</i>)
15:30 - 16:10	Coffee break & tour of the stands in the lobby

**TO SUBMIT QUESTIONS DURING
THE CONFERENCE Q&A SESSIONS,
PLEASE SCAN THE QR CODE**

Pin: #8042548



DAY 1 – Tuesday, 7 November 2023 (cont'd)

16:10 - 16:50	Prediction of contrails formation and climate impact (Part 2) Marc Stettler , Reader in Transport and the Environment, Imperial College Kevin McCloskey , Software Engineer, Google Q&A session for Part 1&2 speakers
16:50 - 18:20	Contrails Research Roadmap Olivia Nunez , Operational Expert, SESAR 3 Joint Undertaking David Antonello , Green Operations Project Leader, Thales Philippe Masson , CICONIA Project Leader, Airbus Carlo Abate , Environment & Energy Head of Area, Deep Blue Manuel Fernando Soler , Associate Professor, Aerospace Engineering, Universidad Carlos III de Madrid Sigrun Matthes , Scientific Expert, Institute of Atmospheric Physics, DLR Alexis Manneville , Engineering, Aircraft Architect - Energy & Environment, Airbus Angelo Riccio , Associate Professor in Physics for Earth and Atmospheric Sciences, Parthenope University of Naples Feijia Yin , Assistant Professor, Faculty of Aerospace Engineering, University of Technology, TU Delft Andrew Chen , Principal, Climate Aligned Industries, Aviation (<i>remote</i>) & Joey Cathcart , Senior Associate, Climate Aligned Industries, Aviation, RMI (<i>remote</i>)
18:20 - 18:30	Future Research Priorities and Roadmap for Deployment (ATM Master Plan) Andreas Boschen , Executive Director, SESAR 3 Joint Undertaking
18:30 - 18:35	Day 1 Wrap-up
18:35 - 21:00	RECEPTION in the lobby

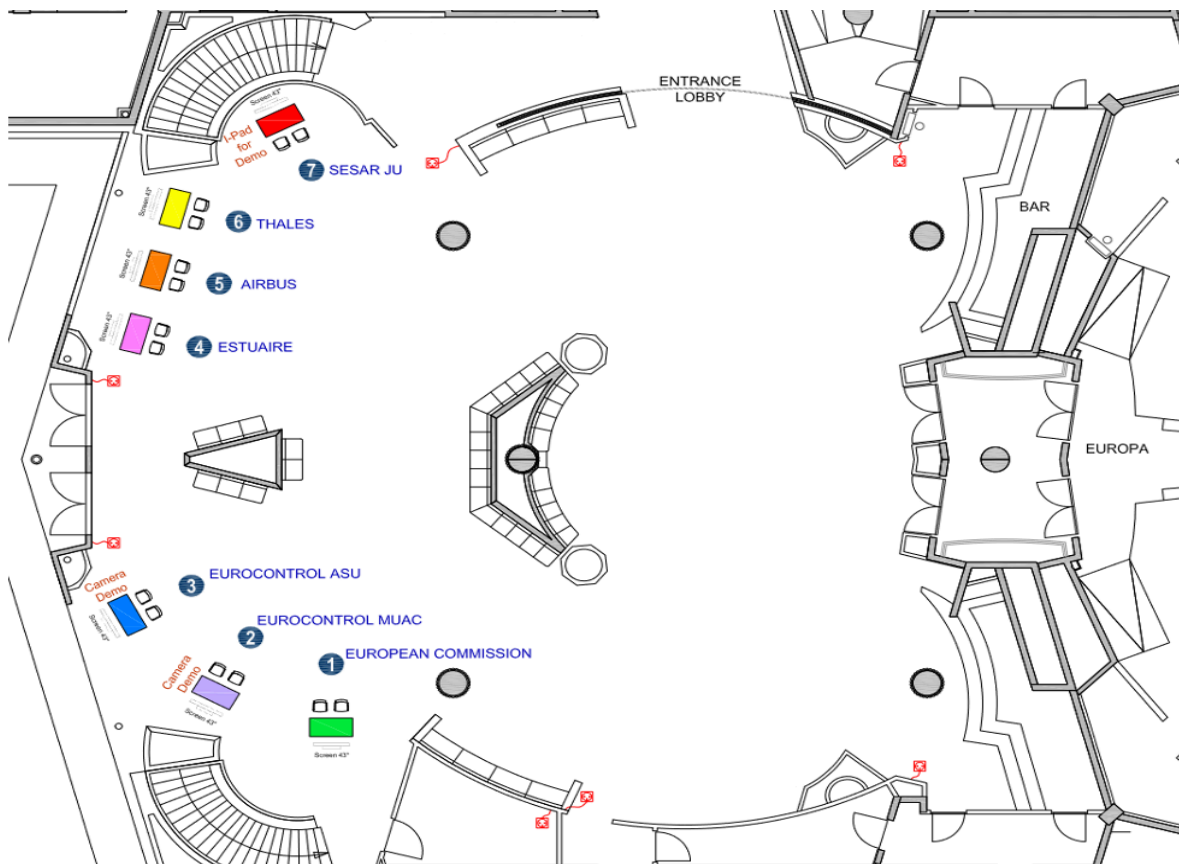
DAY 2 – Wednesday, 8 November 2023

08:00 - 09:00	Registration at reception & Welcome coffee in the lobby
09:00	Welcome and opening Tanja Grobotek , Director Europe Affairs, CANSO
09:10 - 09:30	Non-CO₂ Monitoring, Reporting and Verification (MRV) Dimitar Nikov , Senior Policy Officer, DG CLIMA, European Commission Vincent de Haes , Sustainable Aviation Consultant, To70
09:30 - 10:15	Panel discussion on non-CO₂ MRV Jo Dardenne , Director Aviation, Transport & Environment, T&E Laurent Donceel , Deputy Managing Director, Airlines for Europe, A4E Patrick Arpino , Professional Affairs Director, European Cockpit Association, ECA Vincent De Vroey , Director of Civil Aviation, Aerospace, Security and Defence Industries Association of Europe, ASD Steven Moore , Head of ATM Network Operations, EUROCONTROL Q&A session
10:15 - 11:00	Coffee break & tour of the exhibits
11:00 - 12:15	Operational Mitigation Strategies (Part 1) Ilona Sitova , ATC Environmental Performance Specialist, EUROCONTROL MUAC & Rüdiger Ehrmanntraut , Senior Project Manager, EUROCONTROL MUAC David Antonello , ATM Green Operations Project Leader, Thales & Reynir Sigurdsson , Executive Director, Borealis Marc Shapiro , Director Contrails, Breakthrough Energy Alejandra Frías , Head of Sustainability, Flightkeys GmbH Q&A session
12:15 - 13:15	Lunch break & tour of exhibits

DAY 2 – Wednesday, 8 November 2023 (cont'd)

<p>13:15 - 14:35</p>	<p>Operational Mitigation Strategies (Part 2) Benedikt Anweiler, Business Lead Lido Flight Optimiser, Lufthansa Systems GmbH Adam Durant, Chief Executive Officer, SATAVIA Brice Bergantz, Flight Operations Architect, Airbus & Siân Andrews, SESAR Environmental Lead, NATS Emily Dallara, Operational Efficiency Engineer, Boeing Commercial Airplanes Q&A session</p>
<p>14:35 - 15:50</p>	<p>Other Mitigation Strategies Marc Stettler, Reader in Transport and the Environment, Imperial College Astrid Sonneveld, Technical Development & OEM Partnerships Manager, Renewable Aviation, Neste (remote) Nicolas Jeuland, Fellow Expert / Prospective Manager Aviation environmental impact assessment and low carbon fuels, Safran Arvind Gangoli Rao, Professor and Chair of Sustainable Aircraft Propulsion, University of Technology, TU Delft Q&A session</p>
<p>15:50 - 16:10</p>	<p>Coffee break & tour of exhibits</p>
<p>16:10 - 16:55</p>	<p>Mitigation strategies panel discussion Reynir Sigurdsson, Executive Director, Borealis Robert Brons, Pilot, Dutch Airlines Pilots Association Mike Hornby, Operations Standing Committee Chair, CANSO Maja Marciniak, Senior Economist, IATA Q&A session</p>
<p>16:55 - 17:20</p>	<p>European non-CO2 research programme Stephen Arrowsmith, Chief Expert, Environmental Protection, EASA Michail Kyriakopoulos, Aviation Research Policy Senior Expert, DG RTD, EC</p>
<p>17:20 - 17:35</p>	<p>Conference wrap-up and way forward</p>

EXHIBITS



EXHIBITS

	<p>BOOTH 1: European Commission</p> <p>Project: Horizon Europe projects on non-CO₂ emissions</p> <p>This exhibit features Horizon Europe projects on non-CO₂ emissions, drawing from the achievements of Horizon 2020 as well as forthcoming initiatives. A key emphasis is placed on enhancing collaboration by creating a European network of experts committed to facilitating assessments of non-CO₂ emission impacts and policy options.</p>
	<p>BOOTH 2: EUROCONTROL (MUAC)</p> <p>Project: Contrail Camera - Monitoring contrails in real time</p> <p>Demo with the contrail camera system from Maastricht UAC in live mode.</p>
	<p>BOOTH 3: EUROCONTROL (Aviation Sustainability Unit)</p> <p>Project: Contrail Research with All-Sky cameras</p> <p>EUROCONTROL presents its first experience of using All-Sky cameras to automatically identify and monitor contrails.</p>
	<p>BOOTH 4: ESTUAIRE</p> <p>Project: Estuaire Climate App Store</p> <p>Estuaire Climate App Store is the go-to tool for aviation stakeholders wishing to understand the climate impact of their activities. Estuaire specialises in bringing CO₂, non-CO₂ and lifecycle impact assessments to the aviation industry. Estuaire notably leverages the latest scientific research to analyse contrail formation and their impact globally.</p>
	<p>BOOTH 5: AIRBUS</p> <p>Project: CICONIA project</p> <p>Non-CO₂ effects measurement flight test campaigns and Wake Energy Retrieval trials.</p> <p>This project pairs Airbus with three partners, NATS, Météo-France and DLR, to assess the impact that atmospheric conditions have on non-CO₂ emissions, including contrails. The project includes the delivery of operational mitigation concepts to reduce aircraft emissions, accounting for different fuel and engine types.</p>
	<p>BOOTH 6: Thales</p> <p>Project: Green Operations</p> <p>Green Operations solutions, addressing both CO₂ and non-CO₂ effects, and leveraging collaboration between airlines and ATC.</p>
	<p>BOOTH 7: SESAR 3 Joint Undertaking</p> <p>Projects:</p> <p>SESAR Programme:</p> <p>The SESAR programme has been researching potential strategies to mitigate the impact on contrails on the environment since 2016. The initial exploratory work (<TRL2) has addressed research into improving the understanding of the impact of contrails and development of metrics that can be used in operations. The work has now moved into industrial research, where ongoing projects CONCERTO (led by EUROCONTROL) and CICONIA (led by AIRBUS) are now guiding on this previous research in order to investigate potential ATM concepts where this improved understanding is used to reduce the environmental impact of aviation, considering both CO₂ and non-CO₂ effects. In parallel, SESAR projects AEROPLANE and E-CONTRAILS continue expanding the body of knowledge on contrails at exploratory research level, including research on embedded contrails, further development of metrics aggregating CO₂ and non-CO₂ effects and innovative climate services.</p> <p>FLYATM4E:</p> <p>SESAR project ATM4E (2016-2018) defined an initial version of the Climate Change Functions (CCF), which aggregates CO₂ and non-CO₂ impacts in order to provide an estimate of the impact of a set of trajectories in the Average Temperature Response in 20 years (ATR20). This work was continued by SESAR project FLYATM4E (2020-2022) with the development of the Advanced Climate Change Functions (aCCF). In the SESAR concept, the quantification of the climate impact of a set of trajectories is a key input to the CDM process that will lead to the declaration of a specific area of the airspace as eco-sensitive (E-area).</p> <p>CREATE:</p> <p>CREATE (2020-2022), addressed at exploratory research level a concept for aircraft to avoid contrail formation areas in real time during the execution of the flight. The objective was to use SESAR's layered trajectory management concept to allow the modification of the route for airborne aircraft with a medium-term (approximately 30 minutes) look ahead time, as part of what is referred to in SESAR as the integrated Network ATC planning. The regulation of traffic over eco-sensitive areas at this late stage is more challenging for operational actors than if it were to be done during the planning phase, but it also benefits from improved quality of shorter-term weather and eco-sensitivity predictions.</p>