

“Towards Sustainable Aviation” Summit
Toulouse • France - 18-20 October 2022



SESAR



Association Aéronautique
et Astronautique de France

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3AF, the French Aerospace Society, presents Towards Sustainable Aviation, an International Summit, held on 18-20 October 2022, in Toulouse - France.

This international conference will bring together all stakeholders of the aeronautical ecosystem (designers, manufacturers, universities, research centers, ...) TSAS is regrouping former AEGATS and Greener Aviation conferences held in 2016, 2018 and 2020 and organised by 3AF with the support of Cleansky, Sesar, AIAA and CEAS.

PROGRAMME COMMITTEE

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Stéphane VIALA	Head of Engineering	ATR
Gary WAY	Head of EU and International R&T Programmes	Rolls-Royce



OBJECTIVES

This conference will address both aircraft design and operations perspectives to prepare and shape a more Efficient Global Air Transport System with the aim to reach carbon neutrality by 2050 for the aviation ecosystem.

A more eco-efficient aircraft provides more and more Net Present Value, on one hand, an aircraft which has a significantly improved environmental footprint on the other hand through implementation of new design and technologies, use of drop-in and non-drop-in fuel and potentially new ways of operating aircraft. As a result, the aircraft design must enable to reduce dramatically the operating costs, the cost of ownership, to be sustainable and competitive versus other transportation alternatives, while increasing revenue through cabin services and enhanced aircraft operability.

The post-COVID anticipated situation associated to the ambition for carbon-neutral growth for aviation will open a new era for the aviation ecosystem and new opportunities to meet these new challenges. Some emerging technologies or approaches such as the Artificial Intelligence and the digital transformation of the industry, including the intensive use of big data with new business models are key enablers to achieve the objectives of having a more Efficient Global Air Transportation System.

Security has not to be seen as a threat but as an opportunity for improvement.

CONFERENCE TOPICS

ECO-DESIGN AIRCRAFT

- Basic objectives for an aircraft eco-design
- Aircraft configuration, emerging technologies and innovative architectures
- New energies and their management Impact on aircraft configuration and design
- Fuel burn
 - Weight
 - Aerodynamic
 - Multi-disciplinary design
 - Systems including on-board energy management and AI opportunities.
- Other contributing items e.g., Operating Costs reduction, Revenue service increase, Airborne system acceptability and affordability
- Environment
- Security
- Post COVID Cabin design and air quality
- In Flight connectivity and potential additional ancillary revenues
- New methods and tools for end-to-end safety assessment and certification using modelling and simulations.



OPERATIONS

- Aircraft
 - Ground operations
 - Maintenance and maintenance predictive
 - Flight operations
 - Post COVID remaining issues
- From "ATM" to "The digitalization of the infrastructure supporting aviation" and the reliance on strong air/ground system integration
 - Hyper connectivity and Machine to Machine applications
 - Lead time reduction DevOps
 - Single Pilot Operations
 - Digital cockpit and ground assistants
 - Certified AI for better airborne operations
 - "Zero waste" trajectories
 - New ways of flying
- Airport
 - Connection from home to airport
 - Post-COVID remaining issues
 - Airport design for passenger's flow efficiency
 - Airport Security
 - Ground handling
 - New energies deployment
- Integration of Safety Management Systems
- Cross-fertilization between security and safety standards



NEW INDUSTRY SET-UP

- How Artificial Intelligence push boundaries in design, operations, organization and safety risk management
- Anticipated new boundaries within engineering and between engineering and manufacturing due to new technologies and MRO repercussions, subsequently.
- Post-COVID airlines panorama



ENERGY AND PROPULSION

- Energy overview and opportunities: New Energy sources, SAF production pathways, emission impacts, mission optimisation, next generation integration
- Gas Turbine Propulsion: New Architectures, Hybridisation, Energy Management, Aerodynamics, Revolutionary Cycles
- Hydrogen powered Propulsion: Propulsion Technologies, Aircraft Architecture, Storage, Fuel Distribution
- Hybrid-Electrical and Electrical Aircraft: Aircraft Architecture, Storage, Fuel/Energy Transfer and Utilisation
- Impact of technological breakthrough on safety risks, standards, regulations and certification



CONFERENCE SCHEDULE

Deadline for Abstracts submission :	May 15th, 2022
Notification of acceptance to Authors :	July 15th, 2022
Preliminary Programme :	July 30th, 2022
Online registration opening :	July 30th, 2022
Papers submission deadline :	September 15th, 2022
Final Programme :	30 September 2022
Towards Sustainable Aviation Summit :	18-20 October 2022

ADVICE TO THE AUTHORS

- The main purpose of the abstract is to give the Program Committee information to assist them in selecting the papers to be presented at the conference.
- The selected papers will be presented in a 20 minute speech at the conference (including for Q&A).
- An abstract will be selected based on the importance and originality of the subject addressed, on its relevance to the conference theme, on the clarity of its expression.
- The abstract should be a «stand alone» summary that can be used in the compilation of abstracts.
- The abstract should be in English and no longer than 400 words.
- The abstract should summarize the main objectives of the paper to be presented and outline its conclusions.
- Work that has been presented else where, and not updated, will be considered inappropriate.
- All abstracts (PDF files) and bio data (date and place of birth) of the main author should be uploaded on the conference website www.3af-tsas.com before May 15th, 2022.
- All information concerning the deposit of abstracts are available on the website : www.3af-tsas.com

Notification of Acceptance/Refusal

The Programme Committee will notify all authors of its decision in July 15th, 2022.

This notification will be accompanied by detailed instructions allowing authors to prepare and send their paper to the 3AF Secretary by September 15th, 2022.

Please note that failure to comply with the deadline will entail not having the paper included in the conference proceedings.

THE CONFERENCE VENUE

TSAS2022 will be held in the Pierre Baudis Congress Centre, Toulouse, France.

Pierre Baudis Congress Centre

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