DAY 1 - TUESDAY 18 OCTOBER

08:00 – 08:30 — **REGISTRATION AND WELCOME COFFEE**

09:00 — **INTRODUCTION and OPENING PLENARY SESSION**
Robert LAFONTAN, *3AF Vice-President*

Thierry COTELLE, Conseiller Régional, La Région d'Occitanie
Sabine KLAUKE, *AIRBUS - Chief Technical Officer*
Alexandre JAY, *Conference Chair*

09:30 — **KEYNOTE 1 : Research for a greener aviation sector**
Axel KREIN, *Clean Aviation Executive Director*

10:00 — **COFFEE BREAK**

10:30 — **ROUND TABLE 1 : A Greener Aviation Sector: What does it mean?**
Moderator : **Sebastien DUBOIS, *Clean Aviation***

Jérôme BONINI, *Safran* - Josef KALLO, *H2LFY* - Olivier CRIOU, *AIRBUS*
Pierre HAMELIN, *Air Liquide* - Bruno STOUFFLET, *Dassault Aviation*

11:30 — ***INTERSESSION***

	ROOM 1	ROOM 2	ROOM 3
	Session 1	Session 2	Session 3
	AIRCRAFT DESIGN - OVERVIEW	AIRCRAFT DESIGN - NEW ENERGIES	AIRCRAFT DESIGN - PRODUCTION
	Session Chair : Daniel CUCHET - ATR	Session Chair : Pierre CRESPI - Air Liquide	Session Chair : Andrew MURPHY - Pratt & Whitney
11:40	146 Innovative Infrastructure for Research on Climate-Friendly Mobility Center for Hybrid Electric Systems Cottbus (chesco) Jane WORLITZ, Brandenburg University of Technology Cottbus, Center for Hybrid Electric Systems Cottbus (CHESCO)	45 Hydrogen: at the Heart of the Energy Transition for aviation Its various uses as a non drop-in fuel and as a key component in the synthesis of e-fuels Melanie PETITJEAN, Air Liquide Advanced Technologies	87 Towards a comfortable eco airplane interior Peter VINK, Delft University of Technology
12:00	117 Adaptive Planning and Assessment Towards Sustainable Aviation Richard CURRAN, City, University of London	63 Comprehensive Simulation Model of the Electric and Thermal Management System in Passenger Aircraft Peter ESCHENBACHER, German Aerospace Center (DLR)	56 MP-SIM: Maintenance Policy Simulations Tool Sin-Seok SEO, Safran
12:20	77 Sociotechnical systems thinking approach to aviation cybersecurity. Nassam ASSOUMA - Mehran EBRAHIMI , Université du Québec à Montréal	67 Fuel management, transportation and monitoring of future sustainable fuels from commercial airports to commercial aircraft Venkatesh BALAKRISHNAN - Yash-Ajay SHAH , ISAE SUPAERO	130 Experimental validation strategies of curved fuselage composite structures for regional aircraft Miguel ángel JIMÉNEZ SÁNCHEZ, Element Materials Technology

12:40 — **LUNCH BREAK**

DAY 1 - TUESDAY 18 OCTOBER

14:00 — **ROUND TABLE 2 : Squaring the Circle: Simultaneous Solutions for Less Fuel and Better Fuel**
Moderator : **Frank HASELBACH, *AIRBUS***

Luca BEDON, *Avio* - Alan NEWBY, *Rolls Royce*
Adam KLAUBER, *World Energy* - Andrew MURPHY, *Pratt & Whitney*

15:00 — ***INTERSESSION***

	ROOM 1	ROOM 2	ROOM 3
	Session 4	Session 5	Session 6
	AIRCRAFT DESIGN - OVERVIEW	ENERGY AND PROPULSION - OVERVIEW	NEW INDUSTRY SET UP
	Session Chair : Daniel CUCHET - ATR	Session Chair : Gary WAY - Rolls Royce	Session Chair : Bruno DARBOUX - Aerospace Valley
15:10	28 Global aviation emissions and their air quality impacts in 2019 Flavio QUADROS, Delft University of Technology	17 Towards "Energy Mix" in Aviation, an experimental approach Sarah LINK, Delft University of Technology	142 Circular economy indicators as a supporting tool for ecodesign aerospace industry Geoffrey LONCA, Capgemini Engineering
15:30	145 Deutsche Aircraft's Route to Sustainable Aviation Regina POUZOLZ, Deutsche Aircraft	80 Towards eco-friendly aviation Farid MONZAVIZADEH, Research	118 How Net-zero 2050 Can Work With Sustainable Finance Richard CURRAN, City, University of London
15:50	54 In-Flight User Terminals Based On Active Array Antenna For LEO Scenario Including Soft Handover Manuel J GONZALEZ, TTI	5 Insights from the first Life Cycle Assessment comparing biofuels, electrofuels, electric and hydrogen systems for the aviation Pimchanok SU-UNGKAVATIN, Toulouse Biotechnology Institute (TBI), INSA Toulouse	

16:10 — **COFFEE BREAK**

	Session 7	Session 8	Session 9
	AIRCRAFT DESIGN - NEW METHODS	ENERGY AND PROPULSION - OVERVIEW	NEW INDUSTRY SET UP
	Session Chair : Richard CURRAN - City, University of London	Session Chair : Gary WAY - Rolls Royce	Session Chair : Bruno DARBOUX - Aerospace Valley
16:30	106 New electrical actuation technology for aircraft valves using thermal effects. Nicolas MONTIN, EQUIP'AERO	52 First Turbo-engine tests with 100% Sustainable Aviation Fuel at SAFRAN Jean-Louis CHAMPION-RÉAUD - Jean-Baptiste JARIN, Safran	141 Eco-friendly tiles for Aeropace sector Catarina FERREIRA, Almadesign
16:50	66 A new efficient production method of mm-wave components used in Enhanced Flight Vision Systems Alexander VOROBYOV, CSEM	105 100% Sustainable Aviation Fuel - an engine OEM perspective on challenges and opportunities Alastair HOBDAY, Rolls-Royce Plc	37 Reducing Support Material Usage in Laser Powder Bed Fusion Parts: Segmented Passive Support Designs for Sustainable Aviation Orhan GÜLCAN, General Electric Aviation
17:10	90 On the way to simulation-driven certification of composite structures Ludovic BARRIERE, IRT Saint Exupery	101 In-flight measurements of emissions and contrail properties of large passenger aircraft burning Jet A-1 and 100% SAF Katharina SEELIGER, Airbus Operations SAS	104 Sustainability-oriented topology optimization of aircraft components and best practices in LPBF-based metal additive manufacturing Klaus HOSCHKE, Fraunhofer
17:30	128 Tool agnostic model-based Simulation Integration enabling Collaboration and Certification Lionel YAPI, Collins Aerospace, Slaheddine FRIKHA , ESI Group	116 Recent advances in the prediction of soot formation in aero-engine combustors Eduardo PEREZ, Barcelona Supercomputing Center (BSC)	91 Integrated Materials Information Management Enables Aerospace Product Optimization and Environmental Sustainability, Early in the Design Process Rachel ARDUIN, Ansys UK Ltd
17:50	140 Disruptive technology certification process Mauro BALDIZZONE, AvioAero	25 ALTERNATE : Experimental and modelling study of soot formation in SAFs combustion Cornelia IRIMIEA, ONERA	34 Investigating the sustainability of 3D printed Inconel parts for aerospace applications Ersilia COZZOLINO, Università degli Studi di Napoli Federico II

18:10 — **END OF DAY 1**

19:45 — **TSAS GALA DINNER**
Restaurant Le MOAI, 35 Allées Jules Guesde - TOULOUSE

DAY 2 - WEDNESDAY 19 OCTOBER

08:00	**REGISTRATION AND WELCOME COFFEE**
08:30	**KEYNOTE 2 : Which propulsion for tomorrow ?** **Frank PRELI - *Pratt & Whitney***
09:00	**ROUND TABLE 3 : Making airports ready for hydrogen-powered aircraft** Moderator : **Diego ALONSO TABARES, *AIRBUS*** **Nicolas LANDRIN, *AIRBUS* - Pierre HAMELIN, *Air Liquide*** **Blandine LANDFRIED, *ADP***
10:00	**COFFEE BREAK**

	ROOM 1	ROOM 2	ROOM 3
	Session 10	Session 11	Session 12
	AIRCRAFT DESIGN - E POWER	ENERGY AND PROPULSION - HYDROGEN	OPERATIONS - IN FLIGHT
	Session Chair : Laurent HARTENSTEIN - Liebherr Aerospace	Session Chair : Mélanie PETITJEAN - Air Liquide	Session Chair : Sebastien DUBOIS - Clean Aviation
10:30	41 Achieving full electric eco-operation : application of fault-tolerant architecture on electro-mechanical landing gear actuators (EMAs) Frederic MALLERET, UMBRAGROUP	39 Cryogenic Tests of an Airborne Liquid Hydrogen Tank for a Manned Aircraft in the HEAVEN Project Pierre CRESPI, Air Liquide Advanced Technologies	119 Implications of Reduced Flying on Pilot Proficiency with respect to Safety and Sustainability Richard CURRAN, City, University of London
10:50	85 Independent Electrical Power Generation based on hydrogen fuel cell system. Karine PRINCE, LIEBHERR	127 Spanish Alliance for paving the way to the use of green H2 in aviation sector: fostering regulation and standardization developments Marta MAROÑO, Airbus	82 The DISCO Innovation Machine Pascal TRAVERSE, Airbus
11:10	109 ePower System : Enhanced Electric or hybrid electric high power channel including Smart motors and generators, protections, wiring and batteries Alexis RENOTTE Guillaume CHEROUVRIER, Safran, SEP	151 A comparative study of the energy balance of various new aviation propulsion modes Gilles ROSENBERGER, Time To Fly	35 Data Representativeness in the Context of Pilot State Monitoring: A Case Study on Sleep and Drowsiness Detection and Certification Challenges Stephane MARCHE, Honeywell
11:30	***INTERSESSION***		

	Session 13	Session 14	Session 15
	AIRCRAFT DESIGN	ENERGY AND PROPULSION - HYDROGEN	OPERATIONS
	Session Chair : Daniel CUCHET - ATR	Session Chair : Pierre CRESPI - Air Liquide	Session Chair : Ovidiu DUMITRACHE - Eurocontrol
11:40	6 SSPCs for power distribution in electric aircraft Rodolphe DE MAGLIE , LIEBHERR	8 Flow field analysis of a swirl stabilized premixed hydrogen combustor with axial air injection at non-reacting conditions Kaushal DAVE, Delft University of Technology	114 Airport Infrastructure Planning to Support Sustainable Aviation Iain FLEMING, University of Strathclyde
12:00	124 At scale, experimental capture of electrical response of carbon fibre composites to inform integrated electrical power and structural designs. Catherine JONES, University of Strathclyde	43 LES analysis of H2 addition effects on a CH4 swirled stabilized combustor with axial air injection Gioele FERRANTE, Delft University of Technology	120 Investigation into the Use of Sustainable Aviation Fuel from an Airline Perspective Richard CURRAN, City, University of London
12:20	24 Distributed Active Load Control Guido WEBER, LIEBHERR-Aerospace Lindenberg GmbH	27 LES of reheat hydrogen combustion with water/steam injection Boris KRULJEVIC, Delft University of Technology	
12:40	**LUNCH BREAK**		

DAY 2 - WEDNESDAY 19 OCTOBER

14:00 — **ROUND TABLE 4 : How do you see the future of ATM?**
Moderator : Marouan CHIDA, *SESAR Joint undertaking*

George PAPAGEORGIOU, ***Honeywell Aerospace*** **- Hugues DE BECO,** ***AIRBUS*** **- Richard CURRAN, University of London**
Patrick SOUCHU, ***SESAR Programme Director (DSNA)*** **- Ovidiu DUMITRACHE,** ***EUROCONTROL***

15:00 — ***INTERSESSION***

	ROOM 1	ROOM 2	ROOM 3
	Session 16	Session 17	Session 18
	AIRCRAFT DESIGN	ENERGY AND PROPULSION - GAS TURBINE	OPERATIONS - GROUND
	Session Chair : Bruno STOUFFLET - Dassault Aviation	Session Chair : Andrew MURPHY - Pratt & Whitney	Session Chair : Diego ALONSO - Airbus
15:10	31 Integration of Particle Dampers with Additive Manufacturing for Sustainable Aviation Ugur SIMSEK, GE Marmara Technology Center	79 UltraFan Demonstrator Engine - First Engine to Test Gary WAY, Rolls-Royce Plc	89 How much do ground operations contribute to global warming? Carlo ABATE, Deep Blue SRL
15:30	64 Silicon Carbide (SiC) based Bidirectional Solid-State Circuit Breaker (SSCB) for Electric/Hybrid-Electric Aircraft Application Asad FAYYAZ, University of Nottingham	22 Organic Rankine Cycle Waste Heat Recovery for Aircraft Auxiliary Power Units Dabo KREMPUS, Delft University of Technology	71 AEON: Toward a Concept of Operation and Tools for Supporting Engine-Off Navigation for Ground Operations Jeremie GARCIA, ENAC
15:50	150 Exploring novel propulsion technologies in R&T demonstration Riaan MYBURGH, Deutsche Aircraft	#N/A	115 A Methodology for Sustainable Aircraft and Airline Fleet Maintenance Richard CURRAN, City, University of London

16:10 — **COFFEE BREAK**

	Session 19	Session 20	Session 21
	AIRCRAFT DESIGN	ENERGY AND PROPULSION - GAS TURBINE	OPERATIONS - ATM
	Session Chair : Bruno STOUFFLET - Dassault Aviation	Session Chair : Richard CURRAN - City, University of London	Session Chair : Ovidiu DUMITRACHE - Eurocontrol
16:30	139 The Conception of e-VTOL 1 for urban traffic André-Denis BORD, Air & Space Academy	72 Design and Development of Innovative Oil Flow Control Valve for the Ultra-High-Bypass Ratio Engines Batoul ATTAR, Fluid Actuation & Control Toulouse	76 Collaborative european wide efforts for more sustainable aviation in the very large scale demonstration project ALBATROSS Mattia NURISSO, AIRBUS
16:50	11 Optimization of the Synthetic jet to improve aerodynamic efficiency of the Next Generation Civil Tilt Rotor Aircraft Hung TRUONG, Strasbourg University	94 Additive Manufacturing of Large Scale Aerospace Engine Parts Maria Isabell MAIWALD, Hamburg University of Technology	20 Multi-Modal Multi Party Interaction Martin DOSTÁL, Honeywell Aerospace
17:10	92 Electronic controlled turbo-compressor for fuel cell air supply system Rodolphe DE MAGLIE, LIEBHERR Elektronik GmbH	93 Test rig for tooth root load capacity investigations and material model in the area of very high cycle fatigue of geared turbofans Johannes LÖVENICH, Laboratory for Machine Tools and Production Engineering (WZL) of RWTH Aachen University	16 Improved energy management during arrival for lower noise emissions Peter PAULY, German Aerospace Center (DLR)
17:30	103 Coupled Nonlinear Aeroelastic-Flight Dynamics Modeling, Analysis, and Simulation of HARW Commercial Aircraft Fabio VETRANO, Airbus	84 Predicting the thermal performance of pulsating heat pipes using artificial neural networks Mira IBRAHIM, Capgemini Engineering	111 Dispatcher3 - Machine learning for efficient flight planning Sergi MAS-PUJOL, Technical University of Catalonia

17h50 — **END OF DAY 2**

18h30 — **CLOSING COCKTAIL**
Salle des Illustres, Capitole - TOULOUSE

DAY 3 - THURSDAY 20 OCTOBER

08:00 — **WELCOME COFFEE**

08:30 — **KEYNOTE 3 : Return of experience taken from the crisis**
Farid ZIZI, *DSNA Services Director*

09:00 — **ROUND TABLE 5: Aircraft Eco Design for the future**
Moderator : Robert LAFONTAN, 3AF

Laurent HARTENTSTEIN, *LIEBHERR* - Denis BONNET, *THALES Avionics*
Stéphane VIALA, *ATR* - Fabienne LACORRE, *Safran*

10:00 — **COFFEE BREAK**

	ROOM 1	ROOM 2	ROOM 3
	Session 22	Session 23	Session 24
	AIRCRAFT DESIGN	ENERGY AND PROPULSION - GAS TURBINE	ENERGY AND PROPULSION - HYBRID
	Session Chair : Sebastien DUBOIS - Clean Aviation	Session Chair : Gary WAY - Rolls Royce	Session Chair : Nawal JALJAL - Safran
10:30	32 Clean-Sky 2 Large Passenger Aircraft Platform 1 Advanced Engine and Aircraft Configurations Daniel KIERBEL, Airbus SAS	99 Future Gas Turbine Architectures – Delivering a step change in efficiency and an optimum architecture for net zero carbon fuels Craig BEMMENT, Rolls-Royce Plc	126 Modular & Scalable Approach to Electrified Aircraft Propulsion Solutions Zubair BAIG, Pratt & Whitney
10:50	95 System impacts of an high aspect ratio wing for sustainable aviation Frederic SAUVINET, Airbus	122 Sustainable Propulsion: Powering Sustainable Aviation into the Future Sean BRADSHAW, Pratt & Whitney	100 Development of an Electro-hydraulic STeering, Extension and Retraction nose Landing Gear System Marcelo NASCIMENTO DUVAL, LIEBHERR-Aerospace Lindenberg GmbH
11:10	18 Application of a climate impact evaluation methodology to compare turboprop and jet aircraft Fulya KELES, Deutsche Aircraft	108 Clean Sky 2 Large Passenger Aircraft Propulsion Technology – Developing Compact Powerplant Integration Technology Understanding Chris SHEAF, Rolls-Royce Plc	69 Whole speed range sensorless control for high-speed motor-generator in mild-hybridized turboprop' Yuzheng CHEN, University of Nottingham

11:30 — ***INTERSESSION***

	Session 25	Session 26	Session 27
	AIRCRAFT DESIGN	ENERGY AND PROPULSION - GAS TURBINE	ENERGY AND PROPULSION - HYBRID
	Session Chair : Sebastien DUBOIS - Clean Aviation	Session Chair : Gary WAY - Rolls Royce	Session Chair : Laurent HARTENSTEIN - Liebherr Aerospace
11:40	48 Rotorcraft Low Noise Trajectory Design: a focus on RACER Pierre DIEUMEGARD, Airbus Helicopters	96 Application of a newly developed simulation tool for forged alloy 718 turbine disks to predict the microstructural evolution Christian GRUBER, voestalpine BÖHLER Aerospace GmbH & Co KG	102 Electrical Integrated Drives an reliability: fault-tolerant architectures and supply Eric SEMAIL, Université de Lille
12:00	65 Subjective evaluation of turboprop aircraft regarding noise and vibration Anna REICHHERZER, University Hospital, LMU Munich	125 I2BS (Integrated Intelligent Bearing System) for UHPE (Ultra High Propulsion Efficiency) Ground Test Demo Tina BAUER, Schaeffler Aerospace Schweinfurt	107 Multi-MW Hybrid Electric Power System Test and Learning Craig BEMMENT, Rolls-Royce Plc
12:20	10 Propeller predesign for distributed propulsion architectures Ye-Bonne MALDONADO, Safran	155 Air bp and Sustainable aviation fuel (SAF) Sven RIEVE, Air BP	112 Electrical Machine for Hybrid Electric Propulsion Benoit JEHANNEUF, Safran Electrical and Power

12:40 — **END OF CONFERENCE**

14:00 — **TECHNICAL VISITS *(optional - pre-registration mandatory)***
- AIRBUS : Visit of A350 Final Assembly Line
- LIEBHERR : Development Test Center : Fuel Cell, Thermal and Electrical Integrated Systems Rig

16:30