12th EASN International Conference on Innovation in Aviation & Space for opening New Horizons

Preliminary Programme in detail

DAY 1 | 18.10.2022

Time (CET)		Room:		Auditori
8:30	17:30			Registration
9:00	9:15	Welcome Lecture	Chaired by Prof. A. Strohmayer	Welcome by the Rector of the Universitat Politècnica de Catalunya, Prof. Daniel Crespo Artiaga Welcome & Introduction by the Conference Chairmen
9:15	9:45	Keynote Lecture	the Conference Chairpersons Prof. A. Strohmayer | EASN Coordinator Prof. Spiros Pantelakis | EASN Honorary Chairman Dr. J. Perez Frias | EASN NCP Member	"Catalonia is going into orbit with the NewSpace Strategy" Keynote speech by **Mr. Daniel Marco Parraga** | Director General of Innovation and Digital Economy, **Government of Catalonia**
9:45	10:15	Keynote Lecture		"From inception to implementation of EU Aviation: Research, Innovation and Deployment with CINEA" Keynote speech by **Mr. Pablo Perez-Illana** | Deputy Head of Unit, Horizon Europe Transport, **"Climate, Infrastructure and Environment Executive Agency" (CINEA), European Commission**
10:15	10:45	Coffee Break		

Rooms		Auditori	Sala d'Actes	VS208	VS217	VS218	VS219	VS216	VS201
Session Title		Hybrid Electric aircraft roadmaps *joint session of FuPrint50, IMOTHEP and EASIER*	ecoDESIGN and Sustainable Productivity: Part I	Urban Air Mobility (UAM) Workshop I: Scaled Demonstrators	Air Traffic Management (ATM) and Airports: Part I	2nd DOMMINIO Workshop	Aerodynamic Analysis & Design: Part I	Aerostructures: Part I	ALTERNATE project session
Session Chair		Dr. Ricardo Reis (EMBRAER, Portugal) & Prof. Timoleon Kipouros (University of Cranfield, UK)	Dipl.-Ing. Torsten Mall (Fraunhofer-Gesellschaft, Germany)	Dr.-Ing. Christian Eschmann (DLR, Germany)	Prof. Octavian Thor Pieter (University Politehnica of Bucharest, Romania)	Dr. Ricardo Losada Mateo (AIMEN, Spain)	Prof. Jerzy Zoltak (ILOT, Poland)	Prof. Konstantinos Tserpes (University of Patras, Greece)	Dr. Gustavo Alonso (Polytechnic University of Madrid, Spain) & Dr. Jordi Pons Prats (Universitat Politècnica de Catalunya, Spain)
10:45	11:05	**Introduction and Brief overview of Clean Aviation** ***Jean-Francois Brouckaert***	**ecoDESIGN and Sustainable Productivity** ***Torsten Mall***, Rainer Schweppe		**Flight Trajectory Efficiency Analysis Using Brachistochrones** ***Cristian Emil Constantinescu***, Octavian Thor Pieter	**Introduction & DOMMINIO Overview** ***Ricardo Losada Mateo (AIMEN, Spain)***	**Implementation of CFD as an Educational Practice for Post-Graduate Engineering Programmes with special focus on High-Speed Intake Aerodynamics and Flow Distortion** ***Aristia L Philippou***, Pavlos K Zachos	**From Machine Tool 4.0 to Machine Tool 5.0: Review on Digital and Intelligent Manufacturing in Aeronautics** ***Dimitris Mourtzis***, John Angelopoulos, Nikos Panopoulos	**Policies and regulations to promote the use of Sustainable Aviation Fuels (SAFs)** ***Gustavo Alonso***, Arturo Benito, Ana Nieto
11:05	11:25	**IMOTHEP European project: toward a roadmap for the development of hybrid electric propulsion** ***Philippe Novelli***, Sébastien Defoort, Nicolas Tantot, Dirk Zimmer, Dario Varchetta, Christophe Viguier, Pia Iadice	**ecoDESIGN in Next Generation Aircraft Fuselage** ***Marta Solares Canal***, Torsten Mall, Laura Costa Lopez, Ralf Herrmann, Piet-Christof, Wilcsken, Carl-Christoph Hönne, Peter Bramlich		**Machine Learning Supporting Enhanced Optimized Spacing Delivery between Consecutive Departing Aircraft** ***Luca De Petris***, Ivan De Visscher, Guillaume Sternplel, Arnaud Jacques, Massinissa Saïd, Catherine Chaion Morgan	**Continuous fiber thermoplastic materials for 3D printing** ***Radoslaw Nerel (Supreem SA)***	**Helicopter main rotor CFD analysis for different flight conditions using parametric blade model as an application for multidisciplinary optimization** ***Jakub Kacjan***, Stanisław Kachel, Robert Rogalski	**Optimal design of damping composite lamination** ***Soheil Bozazzadeh***, Marco Morandini, Gian Luca Ghiringhelli	**RSB's approach on SAF: Towards certification on Horizon projects** ***Bianca de Ulibarri***
11:25	11:45	**Development of the Initial Certification and Technology Roadmap for the FUTPRINT50 Framework** ***Nicolas Moebs***, Ricardo Reis, Evert Windels, Timoleon Kipouros, Michelle Westin, Andreas Strohmayer	**Stiffened thermoplastic aircraft structures by integral stiffening concepts and continuous ultrasonic welding** ***Senne Stenk***, Jan Holm, Bram Jongbloed, Irene Fernandez Villegas		**SEESAW Concept: Data-driven Approach for Safety and Resilience Integration in Air Traffic Management** ***Bojana Mirkovic***, Darolega Smolic, Fedja Netjasov, Dusan Crnogorac, Christian, Eduardo Verdonk Gallego, Chen Xia	**The silent revolution of composites additive manufacturing via compact AFP and CFRP 3D printing systems** ***Pravin Luthada (ADDcomposites)***	**Parametric investigation of the aerodynamic and acoustic performance of a low-boom supersonic airliner** ***Chris Blanks***, Pavlos Papadopoulos, Kyros Yakinthos	**Lightweight aircraft structures welded by Refill Friction Stir Spot Welding with integral corrosion protection.** ***Ilya Ostrovsky***, Bjoern Sievers, Dr. Jorge F. dos Santos, Dr. Lucas Suhadolnik, Dr. Koen Faes, Jens Candeveerts, Dr. Landry Giraud	**Uncertainty in life cycle greenhouse gas emissions of sustainable aviation fuels** ***Gonca Seber***, Nieus Escobar, Hugo Valin, Robert Malina
11:45	12:05	**A roadmap for engineering development practices for the electrification of aircraft** ***Ola Isaksson***, Christoffer Levandowski, Timos Kipouros, Massimo Panarotto	**Energy Consumption of Autoclave Curing using Semi-empirical Thermodynamics Based Model** ***Chizoba Josphine Ogugua***, M.D. Larrabeiti, J. Sinke, C.A. Dransfield	Open Discussion	**Simple airports are not that simple when it comes to airside capacity analysis** ***Bojana Mirkovic***	**Process and performance evaluation of Automated Fiber Placement (AFP) for CF/LM-PAEK composite** ***Francisco Arsedas***, Noelia González-Castro, Ivette Coto, Adrián Rodríguez, Ricardo Losada, Elena Rodríguez-Senín	**Designing aerodynamic devices for UAV - lessons learned** ***Mieloszyk J.***, Tomowski A., Goetzendorf-Grabowski T.	**Fatigue performance evaluation of a LPBF Ti-6Al-4V bracket for aerospace application: an experimental study** ***Alok Gupta***, Chris Bennett, Wai Sun	**SAF developments in Europe in the context of global discussions - Speaker: César Velarde**
12:05	12:25	**Cross-sectional battery projects under CTRL mapping the synergy** ***Pablo Perez-Illana***	**Development of a framework to support the preliminary design of eco-efficient aircraft structural components** ***Natália Cristina Gomes de Paula***, Christos Kassapoglou, Roeland De Breuker		**The concentration values of PM2.5 and PM10 in selected places of the airport, propagation and amount of NOx and CO emitted during take-off and landing cycle of airplanes** ***Paweł Głowacki***, Piotr Kalina, Damian Maciarowski	**Improving thermal management of FPP nozzle for aerospace applications** ***Claudia Zalvan***, Mustafa Megahed, Thomas Jaffre, Wolfgang Ottow, Antoine Runacher, Stephane Pelletreau	**Aerodynamic modeling of a VTOL tilt-wing transition corridor** ***Robert Kułkiński***, Petr Vrchota, Pavel Hospodář		**Impact of Sustainable Aviation Fuel composition on fuel system and emissions** ***Jean Baptiste May-Carle***, Ismael Ortiega
12:25	12:45	Open Discussion Moderators: Ricardo Reis & Timoleon Kipouros	**Replacement of Hexavalent Chromium on LCA Study** ***Ali Bahwan***		**CO2 and non-CO2 balanced Environmental Scores Module for flight performance evaluation and optimisation** Jan Middel, Kinanthi Sutopo, Bart Hesebeen, René Verbeek, Nick van den Dungen, Raúl Sáez, ***Xavier Prats***, Angelo Riccio	**Development and characterization of magnetic nanoparticle reinforced filament for additive manufacturing applications** ***Christos Tsirogianis***, N. Lara, S. Anagnou, D. Semitekolos, P. Maroulis, K. Zafeiris, C. A. Charitidis	Open Discussion		**Laser Peening on advanced alloys for the enhancement of fatigue performances** ***Nicola Zavatta***, Enrrico Troiani
12:45	13:05		**Enhanced ecological analysis of aircraft using a combined approach of life cycle assessment and discrete-event simulation** ***Kai Wicke***, Antonia Rahn						
12:25	13:25	Lunch Break							

Rooms		Auditori	Sala d'Actes	VS208	VS217	VS218	VS219	VS216	VS201
Session Title		Hybrid-electric flight: Part I	ecoDESIGN and Sustainable Productivity: Part II	Urban Air Mobility (UAM) Workshop II: Future Energy Sources for Aviation	Air Traffic Management (ATM) and Airports: Part II	MRO & Recycling Activities on Aeronautics' Composites Parts	Aerodynamic Analysis & Design Part II	Aerostructures Part I	Optimizing Design for Inspection
Session Chair		Prof. Andreas Strohmayer (University of Stuttgart, Germany)	Dipl.-Ing. Torsten Mall (Fraunhofer-Gesellschaft, Germany)	Mr. Marcello Kivel Mazuy (CIRA, Italy)	Prof. Octavian Thor Pieter (University Politehnica of Bucharest, Romania)	Prof. Costas Charitidis (National Technical University of Athens, Greece)	Prof. Jerzy Zoltak (ILOT, Poland)	Prof. Konstantinos Tserpes (University of Patras, Greece)	Prof. E. Jasiuniene (Kaunas University of Technology, Lithuania) & Prof. R. Pullin (Cardiff University, UK)
13:30	13:50	**Influence of Distributed Propulsion on the Sizing of the Vertical Stabilizer and Rudder in Preliminary Aircraft Design** ***Alexander Albrecht***, Andreas Bender, Andreas Strohmayer	**A national engine model approach to address Aircraft Engine Life Cycle Assessment** ***Kilian Fricke***, Maud Lemanger, Torsten Mall		**Innovative integration of severe weather forecasts into an extended arrival manager** ***L. Noehren***, M. Temme, O. Gluchshenko, K. Muth, A. Temme, M. Kerschbaum, A. Parodi, V. Mazzarella, M. Milelli, M. Lagasio, L. Poletti, E. Realini, L. Ebri, M. C. Llasat, T. Rigo, S. Federico	**Identification and critical assessment of circular ecosystems for aerospace composite components based on a novel 8R-strategy** ***Philipp Jahn***, Paul Schulz, Alexander Knorr, Robert Kupfer, Robert Böhm	**Multidisciplinary design of aircraft wing for multiregime purposes** ***Pavel Hospodar***, Armand Dršlerek	**Development and design of titrator nacelle's (NGCTR)** ***Magdalena Gronowska***, Marek Tabor, Jacek Dudzisz, Michał Furdyna	**Health monitoring of the shaft bearings in a micro turbojet based on vibration analysis** ***Radosław Przysowa***, Paweł Majewski
13:50	14:10	**Assessment of (hybrid)-electric drive-train architectures for future aircraft applications** ***Paul König***, Philipp Müller, Klaus Hönschler	**Life Cycle Impact Assessment of Engine Blisk-Manufacturing** ***Kilian Fricke***, Thomas Berge, Philipp Ganser, Sascha Gierlings		**Enabling UAS BVLOS flights in CTR** ***Adam Kleczatsky***, Jakub Kraus, Sarka Hubinska	**ECO-CUP: From CF/ LMPAEK factory waste to recycled material for aerospace structural parts manufacturing** Rocío Pierna, ***Elena Rodríguez-Senín***, Celia Martín-Pérez, Daniel Rodríguez-Del Rosario, Noelia González-Castro	**Kriging-based framework applied to a multi-point, multi-objective engine air-intake duct aerodynamic optimization problem** ***Przemysław Drezek***	**Towards numerical simulation of fatigue damage detection in CFRP laminates by modeling of stochastic vibration response** ***Niki Tsivoustis***, Konstantinos Tserpes, Spiros Fassois	**Evaluation of quality of adhesive joints using non-destructive testing techniques and image fusion** ***Gawher Ahmad Bhat***, Bengisu Yilmaz, Damira Smagulova, Valdatas Cicénas, Egidijus Zukauskas, Elena Jasiuniene
14:10	14:30	**Modelling of a battery supported fuel cell electric powertrain topology for a regional aircraft** ***Martin Staggat***, Janusz Ludowicz, Victor Bahrs, Antje Link, Dr. Stefan Kazula	**CFRP Recycling Demonstrators for Engine Applications** ***Ronny Hanich-Spahn***	Open Discussion	**QAR Data-driven assessment of fuel efficiency in Continuous Descent Operations and evaluation of performance metrics** ***Maria del Pozo Domínguez***, Javier López Leonés	**Potential of polymer recycling in aeronautics. ECOCLIP project** ***Celia Martín Rocío Pena***, Santiago G. Cuervo, Raquel Travieso, Elena Rodríguez	**Experimental studies of airliner aerodynamic characteristics at overcritical angles of attack** ***Andrzej Krzysiak***, Aleksander Olejnik, Robert Placek, Łukasz Kiszkowiak	**Bird strike simulation on a bonded Ti/CFRP leading edge of an engine fan blade and numerical implementation of damage detection using FBGs** ***Konstantinos Tserpes***, Kosmas Papadopoulos, Ioannis Floros	**Mode-I Fracture Toughness Evaluation of a 2D-ply Composite Panel** ***Ömer Necati CORA***, Muhammed Latif Bekci, Marwan Naaman, Rhys Pullin, Matthew Pearson
14:30	14:50	**A rule-based energy management strategy for hybrid-powered eVTOL** ***Taher Mazouzi***	**Performances of composites made from different recycled carbon fibres semi-products** ***Alexandre Foure***, Olivier Mantaux, Arnaud Gillet		**Analysis of the impact of GNSS disruptions on aircraft capacity** ***Antonia Ivan***, Alexandru Pandele, Bianca Ionescu, Teodor Lucian Grigorie	**Investigation of induction heating capacity of nanocomposite materials for on-demand debonding/re-bonding applications** ***Konstantina Zafeiris***, C. Tsioptsiaris, S. Kosanovic, S. Anagnou, C.A. Charitidis	**Preliminary Design of Next Generation Mach 1.6 Supersonic Business Jets to Investigate Landing & Take-Off (LTO) Noise and Emissions** ***Christos Mouroudis***	**Effects of Sweep on the Flutter of Wraparound Fins** ***Harun Levent Şahin***, Elif Demirel, Vedat Ziya Doğan, Yavuz Yaman	**Piezoresistive sensors of carbon nanotube fibres for structural health monitoring of next generation composite airframe parts** ***Anastasia Miktsichan***, Moisés Zarzoso, Celia Martín-Pérez, Pablo Romero Rodríguez, Meir Hefetz, Carlos González, Juan J. Vilatela
14:50	15:10	**AI approaches for Battery Management of Future Electric Propulsion System** ***Tahminah Raoofi***, Melih Yildiz, Süleyman Talun	**Simplification of requalification procedure of outdated carbon/epoxy prepregs and scenarios of reuse** ***Constance Amark***, Olivier Mantaux, Arnaud Gillet, Mathieu Pedros		**A new empirical analysis of airport capacity evaluation: insights regarding air traffic design hours** ***Alvaro Rodríguez Sanz***, Luis Rubio Andrada	**Research on ThermoPlastic Composite (TPC) repairs. RETPLAR Project** ***Noelia González-Castro***, Francisco Arsedas, Ivette Coto, Adrián Rodríguez, Ricardo Losada, Elena Rodríguez-Senín		**High dielectric breakdown strength of nano- and micrometer-thick magnetron sputtered AlN films probed by conductive atomic force microscopy** ***Z.R. Kudrynskyi***, T.P. Cooper, M.D. Wadge, J. Kerfoot, V.V. Korolkov, D.M. Grant	**Transmission information system for taxiing on the aprons and taxiways using RFID technology** ***D. Kordas***, T. Rogalski, R. Siwa, P. Grzybowski
15:10	15:30		**Implementation of a holistic MCDM approach to assess and compare novel aircraft fuel technologies towards sustainable aviation** ***Dionysios Markatos***, Spiros Pantelakis						**Deep feature extraction from optical AE signals of loading of fiber reinforced composites** Martin Milson, ***Primož Potočnik***, ***Zoran Bergant***, ***Matic Sagerše***, ***Edvard Govekar***, ***Roman Sturm***, ***Tomaž Kek***
15:10	15:40	Coffee Break							

Rooms		Auditori	Sala d'Actes	VS208	VS217	VS218	VS219	VS216	VS201
Session Title		Hybrid-electric flight: Part II	ecoDESIGN and Sustainable Productivity: Part III	Urban Air Mobility (UAM) Workshop III: Circular Aviation System	Design and Manufacture of Smart Materials, Structures & Systems for Energy Harvesting EU FAST-SMART Project session	Nanomaterial-based Devices for Green and Efficient Aviation and Space Applications	Aircraft Testing	Aerostructures Part III	UHURA project session
Session Chair		Prof. Andreas Strohmayer (University of Stuttgart, Germany)	Dipl.-Ing. Torsten Mall (Fraunhofer-Gesellschaft, Germany)	Mrs. Ligeia Palatti (NLR, The Netherlands)	Prof. Yi Qin (University of Strathclyde, UK) & Dr. Sergio Durante (D4S Group, Spain)	Prof. Patrizia Lamberti & Dr. Monica La Porta (Università di Salerno, Italy)	Prof. Ivo Jebacek (BRNO University of Technology, Czech Republic)	Prof. Konstantinos Tserpes (University of Patras, Greece)	Mr. Hans Maseland (NLR, Netherlands)
15:40	16:00	**Application of Model-Based Systems Engineering for the Integration of Electric Engines in Electrified Aircraft** ***Abhisheh Kiran Malayappan***, ***Kamalanathan***, Bahareh Zaghari, Timoleon Kipouros, Ricardo Jose Nunes Dos Reis	**Aircraft Recycling and Circular Economy** ***Thomas Reichert***		**EU FAST-SMART project - Objectives and Approaches for the development of sustainable smart materials, structures and systems for energy harvesting** ***M. Rosiagna***, A. Malagnino, Yi Qin	**Impact of design parameters uncertainty on the performance of graphene-based electronics** ***Monica La Mura***, P. Lamberti, V. Tucci.	**An aeroelastic study of a solar-powered airplane at high altitudes** ***Pamela Bugala***	**A second-generation finite element method for the analysis of multifunctional composite structures** ***Enrica Zappino***, Erasmo Carrera, Matteo Filippi, Alfonso Pagani, Marco Petrolo	**The UHURA project at a glance – motivation and objectives** ***Apurva Hasabnis***, Jochen Wild, Henning Stridser, Frédéric Moëns, Bart van Raoijen, Hans Maseland
16:00	16:20	**Towards Zero Net Emissions: Evaluation of Electrified Aircraft Performance Using CHARM - Cranfield Hybrid electric Aircraft Research Model** ***Evangelia Pantika***, Mehesh Balaghi Enalou, Sandhi Zhou, Bahareh Zaghari, Timos Kipouros, Panagiotis Laskaridis, Hossein Balaghi Enalou, Maria Coufinha, David Bento, Alain Sousa	**Circularity studies on high performance thermoplastic demonstrators for the aircraft industry – End-of-Life concepts for PEEK/carbon fibre composites** ***S. Caskun***, L. A. S. A. Prado, T. S. G. Das, A. Körner, S. Shenk, J. Hahn		**Development, optimisation and testing of a hybrid solar panel concept with energy harvesting enhancement** ***Amrutha Pattath Sasseendran***, Christoph Hartl	**Electromagnetic Shielding with Graphene Nanoplatelets Coatings for Aeronautical Applications** ***Antonio Maffucci***, M. D. Migliore, V. Marfisia, D. Pinchera, F. Schettino, S. Sibilia, F. Bellucci, E. Di Pietz, B. Pastorino, V. Romeo, M. Zippa, D. Cariero, A. Forgione, L. Pace, M. Sansevieri, F. Savoia	**Preliminary feasibility analysis for a "Class I" loitering munition UAV** ***Eleftherios Karatzas***, Vassilis Kostopoulos, Vasos Lappas	**Abstract of Determination and Validation of Low Velocity Impact Behavior of GLARE for Different Energy Levels and Specimen Thicknesses** ***Eren Çağlıç***, Mustafa Yurdakul	**Krueger Design and Motion Requirements** Henning Stridser, Jochen Wild, Antoon Vervliet, ***Frédéric Moëns***
16:20	16:40	**Assessing improvements to enable the feasibility of using fuel cell in a small aircraft** ***Ana Lídia de Almeida Castro***, Carlos Henrique Bellotti Mourão, Pedro Teixeira Lacava	**Sustainable scrapping method of thermoplastic composite materials** ***Rocío Ruiz Gallardo***, Alejandro Sandá, Jon Holm, Senne Shenk, Thomas Reichert	Open Discussion	**Design, manufacturing, assembly and setup of energy harvesters powered hybrid powertrain for energy, automotive and aerospace application** ***Sergio Dorante***, Veronika Stratoulakiene, Luca Marlino	**Robust design of graphene-enhanced absorbing metasurfaces for THz applications** ***M. La Mura***, P. Lamberti, V. Tucci, P. Kushir, et al.	**Sizing Approach with Flight Time Computation of An Electric Multirotor Propulsion Chain with Batteries and Fuel Cells** ***Saad Chahba***, Rabia Sehab, Ahmad Akrad, Guillaume Krebs, Cristina Morel	**Effect of Temperature on Low Velocity Impact Behavior of GLARE Material** ***Burhan Celinkaya***, Ibrahim Oskal	**CFD Methods for Unsteady High-Lift Simulation** ***Frederic Moens***, Stefan Wallin, Hans Maseland
16:40	17:00	**Functional and Safety Challenges of Hydrogen Fuel Cell Systems for Application in Electrified Regional Aircraft** ***Stefan Kazula***, Martin Staggat, Stefanie de Graaf	**New EoL routes of Al-Li aircraft integral LBW and FSW welded panels including new Cr-free coatings** ***Ana Isabel Fernández-Calvo***, Clara Delgado, Philippe Dufour, Egoitz Aldonondo and Belén García		**Pilot-scale mechano-chemical synthesis of newthermoelectric Materials** ***Alvise Bianchin***, Paolo Matteazzi	**Electrical conductivity of 2D filled nanocomposites for aeronautic applications** ***P. Lamberti***, V. Tucci, L. Vertuccio, M. Raimondo, L. Guadagno	**Determination of the Parachute Harness Critical Load based on Load Distribution into Individual Straps with Respect of the Skydiver's Body Position** ***Robert Grim***, M. Horak, I. Jelacovic, R. Popela	**Repairable Aircraft Structures – Multiscale Modelling of Intrinsic Self-Healing Phenomenon in FRP Composites** ***I. Smajver***, D. Brizelić, D. Ivančević	**Validation Experiments** ***Geoffrey Tangy***, Bart van Raoijen, Andreas Schröder, Jochen Wild
17:00	17:20		**Best EOL TEchniques for Biocomposited (ELICT project) Nora Jardim Mazza**, Sjoerd Feijen, Lucie Prins, and Rajesh Mehta		**New Air Systems for MEA** ***Frederic Sanchez***, Joan Bonhora				**CFD method validation & Lessons Learnt** ***Hans Maseland***, G. Andreuttti, A. Prachar, H. Ströber
17:20	17:40		**Chemical Recycling of Carbon Fiber Reinforced Polyurethane for Aviation Applications** ***Ronny Hanich-Spahn***, Peter Brantsch, Carl-Christoph Hönne						
17:30	19:00	13th EASN General Assembly							

End of the 1st Day

12th EASN International Conference on Innovation in Aviation & Space for opening New Horizons

Preliminary Programme in detail

DAY 2 | 19.10.2022

Time (CET)		Room:		Auditori
8:30	17:00			Registration
9:00	9:30	Keynote Lecture	Chaired by Prof. S Pantelakis EASN Honorary Chairman	"Disruptive technologies: the path to take European aviation to climate neutrality" Keynote speech by **Mr. Axel Krein** | Executive Director, **Clean Aviation Joint Undertaking**
9:30	10:00	Keynote Lecture		"Quō vādis Aeronautics?" Keynote speech by **Prof. Dr. Dieter Schmitt** | Independent consultant for aeronautics, Chairman, **Stakeholders Advisory Board, EASN** *Keynote co-authors: Dr. Dietrich Knoerzer | former Senior Officer in the Aviation Unit of DG Research & Innovation, European Commission & Prof. Spiros Pantelakis | EASN Honorary Chairman*
10:00	10:30	Coffee Break		

Rooms		Auditori	Sala d'Actes	VS208	VS217	VS218	VS219	VS216	VS201
Session Title		Clean Sky 2 Special Session on Thematic Topics: Part I	FUTPRINT50 project session: Part I	U-space, digital services for urban air mobility	Way of future orbital and planetary robotics	Small Air Transport (SAT) Technologies	ecoDESIGN and Sustainable Productivity: Part IV	Meteorology and Environment in ATM	AICHAIN project session
Session Chair		Dr. Jean-François Brouckaert (Clean Aviation Joint Undertaking)	Prof. Andreas Strohmayer (University of Stuttgart, Germany)	Dr. Cristina Barrado (Universitat Politècnica de Catalunya, Spain)	Ms. Wiebke Brinkmann (DFKI GmbH, Germany)	Dr. Vittorio Di Vito (CIRA, Italy)	Prof. Manuel Soler (Universidad Carlos III, Spain)	Mr. Javier Busto (SITA FOR AIRCRAFT, Spain).
10:30	10:50	**LEAFINNOX: The Lean Azimuthal flame - a novel low-NOx, low-soot, fuel-flexible combustor concept** ***E. Mastorakos***, F. M. de Oliveira, I. El Helou, L. Miniero, K. Pandey, N. Noiray, G. de Falco, M. Skiganna, A. D'Anna, D. Fredrich, A. Giusti	**Experimental investigation of the Energy-Harvesting Performance of an Existing Aircraft Propeller** ***R. Nederlof***, D. Ragni & T. Sinnige	**On-board performance monitoring and alerting mechanism & navigation specifications for drone flight operations** ***Pablo Hora***	**PERASPERA, Future Space Ecosystem Roadmap, current developments and EOF** ***Javier Rodríguez Gonzalez***	**Hybrid Navigation System Prototype for Small Aircraft Transportation Vehicles** ***Tomas Vaispacher***, Radek Baranek, Pavel Malinak, Matej Kucera	**GENESIS: Aircraft design, technology foresight analyses and life cycle inventory building for regional class hybrid aircraft systems** Alexis Laurent, ***Nils Thonemann***, Karen Saavedra Rubio	**Data-driven uncertainty quantification and propagation for probabilistic trajectory planning** ***Andrés Muñoz Hernández***, Manuel Polaina, Alejandro Gómez, Jordi Pons, Xavier Prats, Emre Koyuncu, Daniel Delahaye, Raimund Zoop, Alex Kuenz, Manuel Soler	**Policies and regulations to promote the use of Sustainable Aviation Fuels (SAFs)** ***Gustavo Alonso***, Arturo Benito, Ana Nieto
10:50	11:10	**CHAIRLIFT: Compact Helical Arranged combustors with lean Lifted flames** ***A. Andreini***, L. Langone, R. Koch, S. Hoffmann, S. Harth, M. Shamma, M. G. De Giorgi, S. Bonuso	**An optimal battery sizing algorithm for future aircraft systems studies** ***Boris Berseneff***, Lionel De Paoli	**BUBBLES: A new Concept of Operations for Separation Management in the U-space** ***Cecilia Claramunt Puchol***, Juan Vicente Balbastre Tejedor, Norberto Viera Vélez, Joan A. Vila Carbó	**Ontology-Driven Robot Design for Future Orbital and Planetary Robotics with Kircut** ***Mehmed Yüksel***, Thomas M. Roehr	**In flight testing of the Flight Reconfiguration System advisory function within the COAST project** ***Piotr Grzybowski***, Tomasz Rogalski	**Building life cycle inventory datasets for a hybrid-electric regional aircraft system in the project GENESIS** Nils Thonemann, ***Karen Saavedra Rubio***, Alexis Laurent	**ATM network modelling, uncertainty propagation with thunderstorm disruptions** ***Emre Koyuncu***, Muhammet Aksoy, Andrés Muñoz, Jordi Pons, Daniel Delahaye, Raimund Zoop, Alex Kuenz, Manuel Soler	**The AICHAIN solution proof-of-concept prototype and demo showcases** Salman Taor, Friedrik Wraale, ***Andre Rungger***
11:10	11:30	**DENOX: Adjustment of numerical and physical experiments for the high activity zone of electrochemical combustion** ***Dmytro Dolmatov***, Andrii Kukurudza, Sergiy Epifanov, Sergii Nyhmyk	**Development and Analyses of a Thermal Management System (TMS) for a Hybrid-Electric Aircraft - FUTPRINT 50** ***Felipe Reyes Barbosa***, Ricardo Gandolfi, Walter Alfonso Jr., Ricardo Jose Nunes dos Reis, Michelle Fernandino Westin, Carlos Roberto Rário da Silva, Higor Fetrin Teixa, Timoleon Kipouros, Panagiotis Laskaridis, Hossein Balaghi Enalou, Maria Coufinha, David Bento, Alain Sousa	**A Drone Operation Plan model to support the effect of uncertainty in advance U-Space Capacity Planning Processes** ***Hugo Eduardo Teamtat***, Jan Kiekkemper, Ian Crook, Yannick Seprey, Michael Büddefeld, Pablo Sanchez Escalonilla	**Outcomes of the PERIOD project on In-Space Manufacturing, Assembly and Refuelling Technologies** ***Stéphane Estable***, M. Jankovic, W. Brinkmann, J. Gancet, A.M. Bailio, A. But, P. Lehier, F.J. Colmenero, A. Ampie, B. Ordaubadian, A. Chamas, G. Ariaton, R. Carjaille, D. Silveira, I. Soto, M. Shilton, T. Vogel, S. Bartsch, M. Maria, I. Ahrns	**Enhancement of the Advanced Weather Awareness System for the development of an Integrated Mission Management System in the COAST project** ***Alessandro Lucio Zollo***, Myriam Montesarchio, Michele Ferrucci, Edoardo Bucchignani, Davide Cinquegrano	**Design Exploration for Sustainable and Innovative Regional Aircraft** ***Valerio Marciello***, Mario Di Stasio, Manuela Ruocco, Fabrizio Nicolosi	**Synthesis and characterization of bulk mechanical properties of a bio-based resin filled by graphene and cellulose nanofibers** ***Konstantina Tserpes***, S. Logiotatidis, E. Tsouvanis	**The AICHAIN research use cases in the ATM domain (for demand and capacity balancing)** Sergio Ruiz, Ignacio Martín, ***Andre Rungger***
11:30	11:50	**RAPTOR: Research of aviation PM technologies, modelling and regulation** ***Ayce Celikel***	**Investigation of the operational flexibility of a regional hybrid-electric aircraft** ***Andrea Spinelli***, Giulio Paolo Krupa, Timoleon Kipouros, Boris Berseneff, Anh-Linh Bui Van, Ricardo Jose Nunes Dos Reis, Felipe Reyes Barbosa, Michelle Fernandino Westin, Ricardo Gandolfi	**A Comparative Study Between Different Parameter Tuning Strategies for PID Altitude Controller of Drones** ***M. Muhsin Casdu***, Burak Han Demirbilek, Mehmet Baskin	**Ground Interaction Models for Increased Autonomy of Planetary Exploration Systems** ***Alexander Dettmann***, Malte Langosz, Jonas Eisenmenger, Marc Otto, Sebastian Kasperski, Malte Wirkus, Wiebke Brinkmann	**Evolution of the Tactical Separation System to support the Integrated Mission Management System in the COAST project** ***Vittorio Di Vito***, Giulia Tartaro, Giovanni Cersausio, Michele Ferrucci	**Battery and fuel cell system design for future hybrid-electric aircrafts** ***Bruno Lemaire***, Priscilla Caliandro, Thomas Wannenacher, Nils Baumann, Alexe gugiemale, Zhangqi Wang, Erdem Aksay and Sergio Turteltaub	**Simulation Exercises for robust Flight dispatching solution under thunderstorm disruptions** ***Alex Kuenz***, Franz Knabe, Yanik Alex, Emre Koyuncu, Muhammet Aksoy, Andrés Muñoz, Manuel Polaina, Alejandro Gómez, Jordi Pons, Xavier Prats, Julien Lavandier, Daniel Delahaye, Raimund Zoop, Alejandro Frías, Javier García, Manuel Soler	**The AICHAIN approach to enable governance and incentives policies in the machine learning collaboration** ***Ignacio Martín***, Sergio Ruiz
11:50	12:10	**UNIREB19: Flight dynamics simulator of a hydrogen-powered distributed electric propulsion aircraft** ***Johannes Salkeld***, David Bräen				**Technologies for Reusable Small Launchers** Mr. Christophe Bonnal (CNES, France) & Prof. Alain Merlen (Lille University) **PANGEA Aerospace technologies, developments, market analysis** ***Xavier Llatra, (PANGEA)***	**Power electronics, electric drives and on-ground energy supply design in hybrid-electric aircraft systems** ***Markus Meindl***	**Artificial Intelligence and Weather Forecasting** Ariel Jardines, ***Iván Martínez***, Javier García, Manuel Soler	**AICHAIN conclusions and directions** ***Sergio Ruiz***, Javier Busto
12:10	12:30	**CATANA: an open test case for future composite tests - first studies before experiment** ***Anne-Lise Piquet***, Alexandra Schneider, Xavier Olitory and Christoph Brandstetter				**Overview of the Small launchers business** ***Christophe Bonnal, (EUCASS & Air & Space Academy)***		**Robust Climate Optimal Aircraft Trajectory Planning within Structured Airspace** ***Abolfazl Simorgh***, Manuel Soler	
12:30	12:50					Open Discussion		**Complexity Assessment of Adopting Climate Optimal Aircraft Trajectories at Network Scale** ***Fateme Bateshi***, Manuel Soler	
12:30	13:30	Lunch Break							

Time (CET)		Room:		Auditori
13:45	14:15	Keynote Lecture	Chaired by Prof. A. Strohmayer EASN Chairman	"Space Debris in a nut shell - Long Term Sustainability of Space Operations" Keynote speech by **Mr. Christophe Bonnal** | Senior expert, **CNES Directorate of Strategy** & Chairman of the Technical Committee, **EUCASS Board**
14:15	14:45	Keynote Lecture		"Surviving on Mars" Keynote speech by **Dr.-Ing. Gisela Detrell** | Research Team Leader, **Institute of Space Systems, University of Stuttgart**

Rooms		Auditori	Sala d'Actes	VS208	VS217	VS218	VS219	VS216	VS201
Session		Clean Sky 2 Special Session on Thematic Topics: Part II	FUTPRINT50 project session: Part II	Single pilot incapacitation (SAFELAND): Part I	Space Technologies: Part I	Systems / Prognostics / Security: Part I	Simulation and experimental validation of aircraft structures: Part I	Aircraft Design: Part I	ATLAS project session
Session Chair		Dr. Jean-François Brouckaert (Clean Aviation Joint Undertaking)	Prof. Andreas Strohmayer (University of Stuttgart, Germany)	Mr. Stefano Bonel