



FINAL PROGRAM

Wednesday, Feb. 6

9.00	Opening, keynote 1, plenary session 1 Organizers' welcome address Local authorities' welcome address Introductory address : The electrical and hybrid aircraft : objectives, orientations and stakes	F. Gérin, M. Scheller Yann Barbaux	SEE , 3AF Toulouse Métropole, Aerospace Valley
KN1	Urban air mobility : scientific and technical challenges	Bruno Sainjon	ONERA
O1-1	Electric propulsion units : design aspects & performance levels	Markus Christmann	Siemens
O1-2	Hybrid propulsion system based on superconducting electrical machines	Konstantin Kovalev, Nicolay Ivanov	MAI - Moscow Aviation Institute
10.40	Coffee break & industrial exhibition opening		
11.10	Keynote 2, plenary session 2		
KN2	The real roadmap to the future of electric air mobility	Sveinn Gudmundsson	Toulouse Business School
O2-1	Exploring the design space for a hybrid-electric regional aircraft with multidisciplinary design optimization methods	Jerome Thauvin, X. Roboam, M. Budinger, B. Sareni, G. Barraud	Airbus, Toulouse University
O2-2	An overview of activities for the design and assessment of regional and short range aircraft with hybrid electric propulsion	Michael Iwanizki, M. Strack, M. Plohr, T. Hecken, M. J. Arzberger	DLR
O2-3	Studies towards a civil transport aircraft based on hybrid electric distributed propulsion	Peter Schmollgruber	ONERA
12.50	Lunch at industrial exhibition		
14.10	Plenary session 3		
O3-1	Research and perspectives for More Electrical Aircraft	Xavier Lamoussiere, F. Salas, M. Todeschi	Airbus
O3-2	Hybrid ECS for turboprop aircraft	Pierpaolo Borrelli, A. Romano, K. Prince, A. Darmandieu	Leonardo, Liebherr
O3-3	Innovative Electrical Wing Ice Protection System: key enabler towards 'More Electrical Aircraft'	Isabelle Fabre, X. Baby, D. Gueuning, G. Fievez	Liebherr, Sonaca
O3-4	Electrical Flight Control for Load Control and Alleviation System	Giuseppe Pozzuto, A. de Martin, G. Pispola, M. Palmieri, F. Gallorini	Leonardo, Polito, Umbra, Viola Consulting,
15.50	Coffee break and poster session 1 (program below)		
17.00	Plenary session 4		
O4-1	Preliminary approach on hybrid aircraft certification	Richard Ambroise	Airbus
O4-2	Evaluating the impact of fleet switching to hybrid-electric aircraft on airport infrastructures	Lorenzo Trainelli, C. Riboldi, A. Rolando, F. Salucci	Politecnico di Milano
17.50	Adjourn - Bus departing for gala dinner 18:15		



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Wednesday, Feb. 6, 15:50 – 17:00

Poster session 1

P1.01	Distributed electric propulsion, a technology requiring multi-disciplinary aircraft design	E. Nguyen Van, C. Döll, P. Pastor, D. Alazard	ISAE-SUPAERO, ONERA
P1.02	Systems design and mission optimization of a more-electric regional aircraft in Pacelab	S.S. Manikar, A. Ramanan, M.Tobar Meneses, J.Jezegou	ISAE-SUPAERO
P1.03	Hybrid propulsion system for commuter airliners	A.Varyukhin, P.Suntsov, M.Gordin, V. Zakharchenko, D.Rakhmankulov	CIAM
P1.04	Preliminary sensitivity study of battery technology evolution over CO2 emissions for HEA	V.Palladino, A. Jordan, A.Tripoli	ATR
P1.05	Recent developments in electric aircraft conceptual design	L.Trainelli, C.Riboldi, A.Rolando	Polimi
P1.06	MAHEPA – A milestone-setting project in Hybrid-Electric Aircraft technology development	Lorenzo Trainelli, I. Perkon	Polimi, Pipistrel
P1.07	The eOpter, a practical tail-sitter concept for passenger eVTOL applications	Arnaud Didey	Neoptera
P1.08	Linear electrical landing gear retraction system for medium rotorcraft	M. Amokrane, S.Robert, T.Sebag, M. Denavaux, J.B. Antoine	Airbus
P1.09	Fully HTS six-phase direct drive turbo generator	R.Ilyasov, K. Kovalev, D. Dezhin	MAI
P1.10	12-phases magneto-electric direct drive turbo generator	R. Ilyasov, D.Dezhin, K.Kovalev, D.Shishov, D.Shevtsov,B.Zechikhin	MAI
P1.11	Dual active bridge DC/DC converter for aircraft application	P.Méline, A. Mahé, A.M'Sir, J.Devautour, S. Gugen	Thales
P1.12	Energy storage: Lithium-Ion battery for aircraft applications	M. Pontrucher, A. Villain, R. Casimir, J. Devautour, L. Garnier, D. Chatroux, S. Fiette	Thales, CEA
P1.13	New standard of aircraft voltages : HVDC	Christian Donadille	Airbus
P1.14	Current measurements on insulating materials used in aeronautic HVDC cables	N.Diaw Elhadji, S.Le Roy, G.Teyssedre, E. Aubert	Toulouse U., Safran
P1.15	HVDC intelligent power switches for aircraft power distribution	J. Domingo Salvany, P.Decroux, S. Frisella C.Degoutte, L. Liggio	Nexter, DTSMNS
P1.16	Addressing space charge issues in aeronautical DC cables.	A.Benyoucef, E.Aubert L.Berquez,G.Teyssedre	IRT St. Exupéry, Safran,Toulouse U
P1.17	Characterization of HVDC contactors in depressurized environment	T. Klonowski, F. Mercier-Calvairac, F. Etchenique, M.Boukhelifa,T.Leb Blanc, R. Landfried, P. Testé	Safran, Centrale Supelec
P1.18	Spatial extension of electric arcs in aeronautical pressure conditions	M.Boukhelifa, J. Andrea, R.Landfried, T.Leb Blanc, P. Testé	Centrale Supelec Esterline
P1.19	Solutions for open and modular HIL test systems	Andreas Himmler	dSPACE
P1.20	Hardware real time solver for high power electric aircraft	J. Pulice, N. Favarcq, F. Colas, O. Gomozov	Spharea, Lille U.



FINAL PROGRAM

Thursday, Feb. 7

9.00	Keynote 3, plenary session 5		
KN3	Perspectives and activities on hybrid/electric propulsion	Stéphane Cueille	Safran
O5-1	Evolution of electrical generators in Aerospace industry	Joël Devautour	Thales
O5-2	Enhanced onboard energy management concepts for future aircraft platforms	Serhiy Bozhko, A. Cavallo, F. Cuomo, B. Guida, S. Rivero	Nottingham U., Campania U., Leonardo, United Tech.
O5-3	Hybrid turboshaft engine for helicopter eco-mode operation	Philippe Lagarde, Fabien Orlandini	Safran
10.40	Coffee break & poster session 2 (program below)		
11.50	Plenary session 6		
O6-1	Electric power system design for aircraft propulsive power applications	Peter Malkin, Jason Hill	Newcastle U. Statkraft
O6-2	SiC and GaN in modern power converters: from characterization to applications in More Electrical Aircraft	Bernardo Cougo	IRT St. Exupéry
12.40	Lunch at industrial exhibition		
14.00	Plenary session 7		
O7-1	Supercapacitors and power hybridization in space applications	Gabriel Beulaguet, B. Samaniego, L. Gajewski, B. Faure	Airbus
O7-2	Emission free electric flight with hydrogen fuel cells propulsion systems	Debjani Ghosh, C. Willich, J. Kallo	Ulm University, DLR
O7-3	Research on fuel cells for aeronautical applications: projects FUCHYA and PIPAA	Christophe Turpin	Toulouse U.
15.15	Coffee break at industrial exhibition		
15.45	Keynote 4 and plenary session 8		
KN4	Challenges and solutions for certified electric aircraft in commercial applications	Rolf Henke	DLR
O8-1	Anvil: a project for the competitiveness of the electrical engineering sector applied to transportation	Ludovic Ybanez, D. Macheto, R. Sutra-Orus, T. Lebey	IRT St. Exupéry, Aerospace Valley, Toulouse U.
O8-2	Future of electrical aircraft : Is there a dichotomy in technology development ?	K.B Akhilesh, C.V Sindhuja, B. Siddappaji	Indian Institute of Science
17.00	Closing - Adjourn 17.10		



FINAL PROGRAM

Thursday, Feb. 7, 10:40 – 11:50

Poster session 2

P2.01	Feature modelling as a new architectural approach for the accelerated integration and early-stage development of Hybrid-Electric Propulsion, MEA and MEE Architectures	M. Szykiel, P. Norman, Stuart Galloway, G. Burt	Strathclyde U.
P2.02	The idea of power circulation between engine shafts for the MEE	H.Balaghi Enalou, S. Bozhko	Nottingham U.
P2.03	Design of electric machine taking into account the partial discharges phenomena for future hybrid propelled aircrafts	P. Collin, S.Touhami, D.Malec, Y.Lefevre, J.F. Libre	Toulouse U.
P2.04	Phase-lag compensation for standstill and low speed sensorless control for brushless synchronous starter generator in the context of the More Electric Aircraft	A.L. Beciu, A. Maalouf	Thales
P2.05	Flight control strategies for More Electric Aircraft	M.A. Hernandez Lopezomoza, S.Aoues, M. Benlahrache	Altran
P2.06	CANCELLED		
P2.07	Electromechanical resonant ice protection systems: analysis of fractures initiation and propagation mechanisms	P. Rousset, V. Pommier-Budinger, M. Budinger	Toulouse U.
P2.08	Spoiler and flap rotary EM actuation (REMA) Implementation on a recently certified business Jet	Errol Zatlhoff	Curtiss-Wright
P2.09	Sizing of aerospace electric drive systems and their associated challenges	P. Xie, G. Vakil, C. Gerada	Nottingham U.
P2.10	Mutualization of electrical power for green taxiing operation and main landing gear extraction/retraction	S. Roques and F. Guillot	Safran
P2.11	Towards a more efficient cooling of electrical components The Pulsating Heat Pipes for Hybrid Propulsion systems project (P(HP)2)	C. Becerril, J. Thome, M. Martinelli, O.Tebar, S.Magnabal, E.Herail, J. Marcinichen, F. Provenziani,	Altran, JJcooling, Provides, Liebherr
P2.12	Effects of more electric systems on fuel tank thermal behaviour	A.Stevan J. van Heerden, D.M.Judt, C.P.Lawson, D. Bosak, P. Walsh	Cranfield U., Meggitt
P2.13	Differential mode input filter design for three-phase inverters used in aircraft applications	H. Hoffmann, B. Cougo and J.P. Carayon	IRT St. Exupéry
P2.14	Modeling a complex harness for technology optimization for an helicopter application	C. Jullien, J.J. Vonfelt, J. Genoulaz, A. Dieudonne, G. Crousier	Safran
P2.15	Impact of power semiconductors reliability on the architecture of aircraft power supply system	A. Chekin, M. Kiselev, N. Selvesuyk,	Gosnias
P2.16	Evaluation of the intrinsic fault tolerance of an EMA landing gear based on a five-phase SM-PMSM	A. Sierra-Gonzalez, E. Ibarra, I. Kortabarria, J. Andreu, J.Lasa	Tecnalia, UPV
P2.17	An innovative short-circuit tolerant machine for an aeronautical electromechanical actuator	A. Giraud, I. Ramos and B. Nogarède	Novatem
P2.18	Deep sub-micron failure rate modeling technique for CFR and EOL prediction of 45 nm, 28 nm and 20 nm technologies based on M-STORM methodology multi-stress experiments	A. Bensoussan, J. Bernstein, F. Coccetti, M. Musil	IRT St. Exupéry, Ariel U.
P2.19	Deterministic networks and network-level system health monitoring for integrated vehicle health management	M. Jakovljevic J. Gatard	TTTech