

# Preliminary Programme



Sixth European Aeronautics Days

# Aerodays 2011

*Innovation for Sustainable Aviation in a  
Global Environment*

Palacio Municipal de Congresos - Madrid / Spain  
30<sup>th</sup> March - 1<sup>st</sup> April 2011



EUROPEAN COMMISSION  
European Research Area



Centro para el Desarrollo  
Tecnológico Industrial



09:00	Hall	Registration and Welcome Coffee							
10:00 - 12:00	Auditorium A	<b>Opening Ceremony and Keynote Session:</b>				<b><i>Innovation for Sustainable Aviation in a Global Environment</i></b>			
		Welcome Addresses:		Cristina Garmendia Siim Kallas Teresa Riera High Level Representative (tbd) Rudolf Strohmeier	Spanish Minister for Science and Innovation Vice-President of the European Commission and Commissioner for Transport Spanish Member of the European Parliament Regional Government Deputy DG of Research Programmes - DG Research and Innovation, European Commission				
		Chair:		Andr�as Siegler	Director Transport Research - DG Reseach and Innovation, European Commission				
		Keynote Addresses:		Antonio V�azquez Thomas Enders Johann-Dietrich W�orner Giuseppe Orsi	President. International Airlines Group (IAG) and Iberia President and CEO. Airbus Chairman of the Executive Board. DLR CEO Augusta Westland				
12:15 - 13:30	Multipurpose room, 3 <sup>rd</sup> floor	Lunch							
13:30 - 14:30	Auditorium A	<b>Plenary Session 1:</b>				<b><i>Sustainable Air Transport</i></b>			
		Chair:		Carmen Librero	Director of Air Navigation. AENA				
		Speakers:		Wolfgang Mayrhuber Michael Kerkloh Patrick Goudou	Chairman & CEO (ret.). Lufthansa Chairman of Board. Airport Munich Executive Director. EASA	<i>Airlines' Requirements and Needs for Greening the Air Transport</i> <i>Airports: the Gate to a Sustainable Air Transport</i> <i>Regulations and Certification in Environmental Protection</i>			
14:35 - 16:05	Parallel Sessions <b>1</b>	Madrid room	Paris room	Bonn-Berlin room	Bruselas room	Amsterdam room	Londres room	Roma room	M�xico-Buenos Aires room
		<b>1A</b> Protection of Aircraft and Passengers <i>Optimising the Airport of the Future - 1</i>	<b>1B</b> Ensuring Customer Satisfaction and Safety <i>Aviation Safety &amp; Environmental Protection Research: the European Regulatory Perspective</i>	<b>1C</b> Greening the Air Transport System <i>Towards Clean Engine Combustors</i>	<b>1D</b> Improving Cost Efficiency <i>Novel Manufacturing Techniques</i>	<b>1E</b> Greening the Air Transport System <i>Advanced Methods in Computational Fluid Dynamics</i>	<b>1F</b> Greening the Air Transport System <i>Climate Aspects on a Sustainable Air Transport System</i>	<b>1G</b> European Research Area <i>Technologies in the European Research Area - Advanced Structures</i>	<b>1H</b> European Research Area <i>National RTD Support for European Aeronautics</i>
16:05 - 16:35	Hall, Exhibition area	Coffee Break							
16:35 - 18:05	Parallel Sessions <b>2</b>	Madrid room	Paris room	Bonn-Berlin room	Bruselas room	Amsterdam room	Londres room	Roma room	M�xico-Buenos Aires room
		<b>2A</b> Protection of Aircraft and Passengers <i>Securing the Air Transport System of the Future</i>	<b>2B</b> Ensuring Customer Satisfaction and Safety <i>Human Centered Avionics</i>	<b>2C</b> Greening the Air Transport System <i>Engine Technology: Towards Very High Temperature Turbines</i>	<b>2D</b> Improving Cost Efficiency <i>Innovative Manufacturing for Magnesium and Titanium Components</i>	<b>2E</b> Greening the Air Transport System <i>Towards a Higher Aerodynamic Performance</i>	<b>2F</b> Greening the Air Transport System <i>Disruptive Climate Events for Air Transport</i>	<b>2G</b> European Research Area <i>Technologies in the European Research Area - Pioneering Aeronautics</i>	<b>2H</b> European Research Area <i>European Networks and Support Initiatives</i>
20:00	Conference Dinner								

Caracas, Bogot , La Paz, Montevideo rooms **Brokerage event**

Hall, Exhibition area **Exhibition**

**08:15 - 09:30 Auditorium A Plenary Session 2: How the Global Scene is Evolving**

Chair: Arturo Azcorra  
Director General. CDTI

Speakers: Michael Ryan, Alessandro Franzoni, Zuoming Lin, Jaiwon Shin  
VicePresident. Bombardier Aerospace  
CEO. Superjet International (inv)  
President. AVIC  
Assoc. Admin. NASA Aeronautics

*The Superjet, an Example of European Collaboration Opportunities & RTD Strategies of Chinese Civil Aviation Ind.*  
*Future of Aviation: Research & Development Needs*

	Madrid room	Paris room	Bonn-Berlin room	Bruselas room	Amsterdam room	Londres room	Roma room	México-Buenos Aires room
<b>09:35 - 11:05</b> Parallel Sessions 3	<b>3A</b> Ensuring Customer Satisfaction and Safety <i>Optimising the Airport of the Future - 2</i>	<b>3B</b> Ensuring Customer Satisfaction and Safety <i>Avionics - Aid to Piloting</i>	<b>3C</b> Greening the Air Transport System <i>Key Engine Technologies</i>	<b>3D</b> Improving Cost Efficiency <i>Numerical Simulation Tools for Aircraft Design and Manufacturing</i>	<b>3E</b> Greening the Air Transport System <i>Aerodynamics for Enhanced Aircraft Design</i>	<b>3F</b> CleanSky Forum (I) <i>CleanSky Contribution to the Future Air Transport System</i>	<b>3G</b> International Cooperation Forum (I) <i>Research Cooperation with Russia and Ukraine</i>	<b>3H</b> Research and Innovation Policy <i>A Visionary Research Policy for the European Aeronautics and Air Transport System</i>

**11:05 - 11:35 Hall, Exhibition area Coffee Break**

	Madrid room	Paris room	Bonn-Berlin room	Bruselas room	Amsterdam room	Londres room	Roma room	México-Buenos Aires room
<b>11:35 - 13:05</b> Parallel Sessions 4	<b>4A</b> Increasing Time Efficiency <i>Air Traffic Operations - 1</i>	<b>4B</b> Ensuring Customer Satisfaction and Safety <i>Avionics Architecture to Support Communication, Navigation and Surveillance</i>	<b>4C</b> Improving Cost Efficiency <i>Advanced Manufacturing Techniques for Engine Components</i>	<b>4D</b> Improving Cost Efficiency <i>Aircraft Structural Health Monitoring</i>	<b>4E</b> Greening the Air Transport System <i>Flow Control and Flow Prediction for Aeronautics</i>	<b>4F</b> CleanSky Forum (II) <i>Key Technologies for Future Aircraft</i>	<b>4G</b> International Cooperation Forum (II) <i>Research Cooperation with Asia and Africa</i>	<b>4H</b> Research and Innovation Policy <i>SMEs: Key Actors for Innovation</i>

**13:05 - 14:20 Multipurpose room, 3<sup>rd</sup> floor Lunch**

**14:20 - 15:20 Auditorium A Plenary Session 3: Mastering the Future in Aeronautics**

Chair: Joachim Szodruch  
President of CEAS and Member of the Executive Board of DLR

Speakers: Charles Champion, John J. Tracy, Eric Dautriat  
Exec. VicePresident Engineering. Airbus  
Chief Technology Officer. Boeing  
Executing Director. JTI Clean Sky

*The Future of Aeronautics: A European Perspective*  
*Future Aviation Developments: US Perspective*  
*Tackling the Environmental Challenges to Aeronautics*

	Madrid room	Paris room	Bonn-Berlin room	Bruselas room	Amsterdam room	Londres room	Roma room	México-Buenos Aires room
<b>15:25 - 16:55</b> Parallel Sessions 5	<b>5A</b> Increasing Time Efficiency <i>Air Traffic Operations - 2</i>	<b>5B</b> Ensuring Customer Satisfaction and Safety <i>Systems for Safer Flight Guidance and Control</i>	<b>5C</b> Greening the Air Transport System <i>Innovative Engine Architectures</i>	<b>5D</b> Improving Cost Efficiency <i>Composite Aerostructures: New Design Principles</i>	<b>5E</b> Pioneering the Air Transport of the Future <i>Rotorcraft of the Future</i>	<b>5F</b> Improving Cost Efficiency <i>Unmanned Aircraft Systems in Future Aviation</i>	<b>5G</b> International Cooperation Forum (III) <i>Research Cooperation with America</i>	<b>5H</b> Research and Innovation Policy <i>Education and Dissemination of Knowledge: Key to Innovation in Aeronautics</i>

**16:55 - 17:25 Hall, Exhibition area Coffee Break**

	Madrid room	Paris room	Bonn-Berlin room	Bruselas room	Amsterdam room	Londres room	Roma room	México-Buenos Aires room
<b>17:25 - 18:55</b> Parallel Sessions 6	<b>6A</b> SESAR Forum (I) <i>SESAR - Technology</i>	<b>6B</b> Improving Cost Efficiency <i>Electro-mechanical Devices and Photonic Systems</i>	<b>6C</b> Greening the Air Transport System <i>Aerodynamics and Heat Transfer of Advanced Engine Components</i>	<b>6D</b> Improving Cost Efficiency <i>Composite Aerostructures: Innovative Maintenance and Repair</i>	<b>6E</b> Greening the Air Transport System <i>Reducing Cabin and Environmental Noise</i>	<b>6F</b> Ensuring Customer Satisfaction and Safety <i>Satellite Navigation: Benefits for Air Transport</i>	<b>6G</b> Pioneering the Air Transport of the Future <i>Pioneering: Innovative Air Transport Systems</i>	<b>6H</b> European Research Area <i>Aeronautics RTD Initiatives in the EU12</i>

Brokerage event  
 Exhibition  
 Caracas, Bogota, La Paz, Montevideo rooms  
 Hall, Exhibition area  
 Technical Visits

Friday, 1<sup>st</sup> April 2011

08:30 - 09:30	Auditorium A	<b>Plenary Session 4:</b>	<b><i>The Future of Air Traffic Management</i></b>
		Chair: Daniel Calleja	Deputy Director General DG Enterprise. European Commission
		Speakers: David McMillan Victoria Cox Patrick Ky Juan Ignacio Lema	Director General. Eurocontrol Sr, VP for NextGen & Ops Plan. FAA Executive Director. SESAR JU President. AENA
			<i>The Single European Sky in a Global Aviation Network</i> <i>NextGen – the ATM Effort of the US</i> <i>The Future of Air Traffic Management: SESAR</i> <i>European ANS Performance Scheme: a New System</i> <i>Fostering the Changes in ATM</i>

09:30 - 10:00	Hall, Exhibition area	<b>Coffee Break</b>						
	Madrid room	Paris room	Bonn-Berlin room	Bruselas room	Amsterdam room	Londres room	Roma room	México-Buenos Aires room
10:00 - 11:30	<b>7A</b> SESAR Forum (II)	<b>7B</b> Ensuring Customer Satisfaction and Safety	<b>7C</b> Greening the Air Transport System	<b>7D</b> Improving Cost Efficiency	<b>7E</b> Students Competition	<b>7F</b> Improving Cost Efficiency	<b>7G</b> Pioneering the Air Transport of the Future	<b>7H</b> European Research Area
Parallel Sessions <b>7</b>	<i>SESAR - Innovations</i>	<i>Towards More Electrical Aircraft and Personalised Cabin Environment</i>	<i>Alternative Fuels for Aviation</i>	<i>Composite Aerostructures: Enhanced Multifunctionality and Safety</i>	<i>Award Winners' Session</i>	<i>Technologies in the European Research Area - Advanced Aerodynamics</i>	<i>Pioneering: Innovative Aircraft Concepts</i>	<i>European Research Area - Aeronautics Scientific Networks</i>

11:35 - 12:35	Auditorium A	<b>Closing Session:</b>	<b><i>Preparing the Future of Aviation. A Joint Effort of Europe</i></b>
		Chair: Francois Quentin	Co-chairman. ACARE
		Closing Addresses: Máire Geoghegan-Quinn Juan Tomás Hernani Domingo Ureña Jean-Paul Herteman Regino Moranchel	European Commissioner for Research and Innovation Secretary General for Innovation. Spanish Ministry of Science and Innovation President. ASD AeroSpace & Defence Industries Association of Europe Chairman of the Board of Directors. SAFRAN CEO. Indra

12:35 - 14:00	Hall, Exhibition area	<b>Cocktail</b>
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14:00 Visit to the Aeronautics & Astronautics Museum (buses leave from the Conference Centre entrance)

Exhibition

Hall, Exhibition area



## Parallel Session 1 14:35 - 16:05

1

### 1A - Madrid room

Protection Aircraft and Passengers  
**Optimising the Airport of the Future - 1**

Chair

Improving Turnaround Predictability: TITAN  
Laura Serrano - INECO

Innovative System for Airport Security  
Roberta Cardinali - SESM

Behavioral Model of Security in Airports  
Alan Kirschenbaum - Technion Israel

Civil Aircraft Security Against WAMPAD  
Jean-Pascal Martinenq - SAGEM Defense Securite

### 1B - Paris room

Ensuring Customer Satisfaction and Safety  
**Aviation Safety & Environmental Protection Research: the European Regulatory Perspective**

Chair

Objectives and Scope of EARPG  
Graham Greene - CAA, UK

EASA Research Activities  
Emmanuel Isambert - EASA

Examples of EASA/NAA/ EUROCONTROL Projects  
Simon Waite - EASA  
Francisco Salabert - Eurocontrol

EARPG Thematic Programme WERNER  
Werner Kleine-Beek - EASA

### 1C - Bonn-Berlin room

Greening the Air Transport System  
**Towards Clean Engine Combustors**

Chair

Integrated Lean Low Emission Combustor Design Methodology  
Ralf von der Bank - Rolls-Royce

Technologies Enhancement for Clean Combustion in Aero-Engines  
Michel Cazalens - SNECMA

Knowledge for Ignition, Acoustics and Instabilities in Combustors  
Sébastien Roux - SNECMA

Toward Innovative Methods for Combustion Prediction in Aero-Engines  
Thomas Lederlin - Turbomeca

### 1D - Bruselas room

Improving Cost Efficiency  
**Novel Manufacturing Techniques**

Chair

Adaptive Control of Manufacturing Processes for a New Generation of Jet Engine Components  
Ignacio Fernández - ITP

The Potential for Aero Engine Component Manufacture using Additive Layer Manufacturing  
Jeffrey Allen - Rolls-Royce

A Technique for the Rapid Production of Large Aerospace Components  
Rosemary Gault - AMRC

A Flexible Process Planning Platform for Flexible Automation  
Fredrik Danielsson - University West, Sweden

### 1E - Amsterdam room

Greening the Air Transport System  
**Advanced Methods in Computational Fluid Dynamics**

Chair

Adaptive Higher-Order CFD Methods for Aerospace Applications  
Norbert Kroll - DLR

Advanced Turbulence Simulation for Aerodynamic Application Challenges - First Results from the Project  
Dieter Schwamborn - DLR

Unsteady Effects of Shock Wave Induced Separation  
Piotr Doerfler - IMP PAN

Non-deterministic Simulation for CFD-based Design Methodologies  
Charles Hirsch - Numeca International

### 1F - Londres room

Greening the Air Transport System  
**Climate Aspects on a Sustainable Air Transport System**

Chair

Current and Future Human Impact on Climate, with Contributions from Different Emission Sectors  
Ivar Isaksen - University of Oslo

ECATS - Challenges of Sustainable Air Transport  
Sigrun Matthes - DLR

ACARE - Environmental Challenges beyond 2020  
Rainer Von Wrede - Airbus Operations

Aviation: Industry Roadmap to Sustainability  
Thomas Roetger - IATA

### 1G - Roma room

European Research Area  
**Technologies in the European Research Area - Advanced Structures**

Chair

The Structural Health Monitoring Systems of Airbus Military  
Javier Gómez - Airbus Operations

The Greening of Aerostructures, Challenges Ahead  
Miguel Angel Castillo - Aernnova

Innovative Principles of Design for Lightweight Composite Compounds in Aeronautical Structures  
Michael Scheerer - Aerospace & Advanced Composites GmbH

Challenges in Production of Carbon-fibre Reinforced Aerostructures  
Heinz Voggenreiter - DLR

### 1H - México-Buenos Aires room

European Research Area  
**National RTD Support for European Aeronautics**

Chair

The French RTD Support Scheme for Aeronautics  
Patrice Desvallées - DGAC

The German National Aeronautics RTD Programme LuFo  
Franz-Josef Mathy - BMWi

Implementation of the UK National Aeronautics Strategy  
Ray Kingcombe - BIS

RTD Support for Aeronautics in Spain  
Juan Carlos Cortés - CDTI

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## Parallel Session 2 16:35 - 18:05

2

### 2A - Madrid room

Protection of Aircraft and Passengers  
**Securing the Air Transport System of the Future**

Chair

Blastworthy Textile-Based Luggage Containers  
Donato Zangani - D'Appolonia SPA

CRISIS - Critical Incident Management Training System using an Interactive Simulation Environment  
William Wong - Middlesex University

Comprehensive European Approach to the Protection of Civil Aviation (COPRA)  
Tobias Leismann- Fraunhofer-Institut

Total Airport Security System (TASS)  
Gideon Hazzani - Verint Systems LTD

### 2B - Paris room

Ensuring Customer Satisfaction and Safety  
**Human Centered Systems**

Chair

A New Platform for Human Factors in the Lifecycle of Aviation Systems  
Nicholas McDonald - Trinity College Dublin

Model-based Analysis of Human Errors during Aircraft Cockpit System Design (HUMAN Project)  
Andreas Lüedike - OFFIS

Large Interactive Single Display for Avionics Applications  
Loïc Becouarn - THALES

Simulation of Upset Recovery in Aviation (The SUPRA Project)  
Eric Groen - TNO

### 2C - Bonn-Berlin room

Greening the Air Transport System  
**Engine Technology: Towards Very High Temperature Turbines**

Chair

Accurate High Temperature Engine Aero-thermal Measurements for Gas-Turbine Life Optimization, Performance and Condition Monitoring  
Patrick Flohr - Siemens

Silicide based Materials for High Performance Aero-Engines  
Stefan Drawin - ONERA

Towards Design and Processing of Advanced, Competitive Thermal Barrier Coating Systems  
Matthias Karger - Forschungszentrum Julich

Main Annulus Gas Path Interactions  
Michael Klingspom - Rolls-Royce GmbH

### 2D - Bruselas room

Improving Cost Efficiency  
**Innovative Manufacturing for Magnesium and Titanium Components**

Chair

Magnesium Suitable for Aeronautic Applications  
Elke Hombergsmeier - EADS

Casting of Large Ti Structures  
Xinhua Wu - University of Birmingham

Digitalized Multi-Point Forming Tooling Technologies  
Su Shizhong - Cardiff University

Development of New Magnesium Forming Technologies for the Aeronautics Industry  
Elke Hombergsmeier - EADS

### 2E - Amsterdam room

Greening the Air Transport System  
**Towards a Higher Aerodynamic Performance**

Chair

Progress in Natural Laminar Flow Wing Design and Wind Tunnel Testing  
David Sawyers - Airbus Operations

Design, Simulation and Flight Reynolds Number Testing for Advanced High-Lift Solutions  
Jochen Wild - DLR

Morphing High-Lift Structures: Smart Leading Edge Device and Smart Single Slotted Flap  
Hans Peter Monner - DLR

Flow Control by Plasma in PlasmAero project  
Daniel Caruana - ONERA

### 2F - Londres room

Greening the Air Transport System  
**Disruptive Climate Events for Air Transport**

Chair

Weather Hazards for Aeronautics - How to best respond to this challenge?  
Fabien Dezitter - Airbus Operations

Scientific Aspects of Weather Hazards for Aviation  
Andreas Petzold - DLR

A 2030 Technical Vision for Sustainable Commercial Air Transport  
Alan Epstein - Pratt & Whitney

Motivation, Status and Perspectives of Innovative On-board Hydrogen Production from Kerosene  
Erich Erdle - EFCECO

### 2G - Roma room

European Research Area  
**Technologies in the European Research Area - Pioneering Aeronautics**

Chair

ENFICA-FC: Realization and Flight Test of All Electric 2-Seat Aircraft Powered By Fuel Cells fuelled by Hydrogen?  
Giulio Romeo - Politecnico di Torino

Development of an Airborne Liquid Hydrogen Storage System for Supplying Fuel Cell  
August Fenz - Magna Steyr Fahrzeugtechnik

Progress in Commercialising Sustainable Aviation Biofuels  
Richard Mills - Boeing

Engineering Challenges of the Solar Impulse Project  
Alfonso Martínez - Altran

### 2H - México-Buenos Aires room

European Research Area  
**European Networks and Support Initiatives**

Chair

The Aeronautics ERA-Net AirTN-FP7  
Friedrich König - DLR-PT LR

ACARE - Coordination of Aeronautics Interest in the Member States  
Javier Romero - CDTI

Austrian R&D - Strategy and Initiatives for the Aeronautics Sector  
Elisabeth Huchler - BMVIT

The Aeronautics Innovation Approach of The Netherlands  
Henk van Leeuwen - AgentschapNL

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## Parallel Session 3 09:35 - 11:05

3

### 3A - Madrid room

Ensuring Customer Satisfaction and Safety  
**Optimising the Airport of the Future - 2**

Chair

Airports of the Future  
Marc Noyelle - Air & Space Academy

Integrated Airport Apron Safety Fleet Management – AAS  
Valentin Konrad - TSB  
Innovationsagentur Berlin GmbH

European Airport Movement Management by A-SMGCS - a Contribution to the vision 2020 and SESAR  
Michael Röder - DLR

Crosswind Reduced Separations for Departure Operations  
Lennaert Speijker - NLR

### 3B - Paris room

Ensuring Customer Satisfaction and Safety  
**Avionics - Aid to Piloting**

Chair

Weather Uplink & Flight Safety, the FLYSAFE Project  
Marc Fabregettes - THALES

All Condition Operations and Innovative Cockpit Infrastructure  
Linda Napoletano - DeepBlue

Real Time 3D-Visualization for Safe Landing of Small-medium Aircrafts  
Marc Bonazountas - EPSILON International

Feasibility of Vision Algorithms Applied on Aircraft Terminal Operation (PEGASE)  
Bruno Patin - Dassault Aviation

### 3C - Bonn-Berlin room

Greening the Air Transport System  
**Key Engine Technologies**

Chair

Flutter-free Turbomachinery Blades  
Torsten Fransson - KTH Royal Institute of Technology

Predictive Methods for Combined Cycle Fatigue in Gas Turbine Blades. Advanced Experimental and Analytical Investigations  
Marta Villasante - Rolls-Royce

Oil Systems for Next Generation Engines - ELUBSYS Project Mid Term Achievements  
Nicolas Raimarckers - Techspace AERO

Automated Design and Simulation Process for Fuel Management Systems  
Jörn Unteutsch - AUTOFLUG

### 3D - Bruselas room

Improving Cost Efficiency  
**Numerical Simulation Tools for Aircraft Design and Manufacturing**

Chair

Developing the Behavioural Digital Aircraft  
Peter Coleman - Airbus Operations

Optimal Structural Design by Free Material Optimization  
Mathias Stolpe - Technical University of Denmark

Virtual HIRF for Design and Certification (HIRF SE)  
Marco Bozzetti - Alenia Aeronautica

Advanced Interface Technologies in Aircraft-related Virtual Products: The VISION Project  
Dimitris Mavrikios - University of Patras

### 3E - Amsterdam room

Greening the Air Transport System  
**Aerodynamics for Enhanced Aircraft Design**

Chair

Aerodynamic Loads Estimation at Extremes of the Flight Envelope  
Henri Moet - Airbus Operations

Future Fast Methods for Loads Calculations: The FFAST Project  
Dorian Jones - University of Bristol

Rear Fuselage and Empennage Flow Investigation (REMFI)  
Daniel Redondo-García - Airbus Operations

European Strategic Wind Tunnels Improved Research Potential  
Georg Eitelberg - DNW

### 3F - Londres room

CleanSky Forum (I)  
**CleanSky Contribution to the Future Air Transport System**

Chair

Clean Sky JU: a Joint Technology Initiative to Reduce the Environmental Impact of Aviation  
Eric Dautriat - CSJU

The Technology Evaluator  
Alf Junior - DLR

Developments on More Electric Aircraft and Rotorcraft  
Sebastien Dubois - CSJU

Avionics - Development to Enable Green Operations of Aircraft and Rotorcraft  
Ruud den Boer - CSJU

### 3G - Roma room

International Cooperation Forum (I)  
**Research Cooperation with Russia and Ukraine**

Chair

Russian Aeronautics Research Programmes  
Liudmila Rostovtseva - Ministry of Industry, Russia

Russian Aeronautics Industrial Programmes  
Vladimir A. Kargopol'tsev - Union of Aviation Industrialists

Russian Research and Innovation Programmes: Access Opportunities and Entry Channels  
Svetlana Klessova - Inno

Ukraine-EU: New Opportunities for Cooperation in Aeronautics  
Igor Rybalchenko - National Aerospace University "KhAI"

### 3H - México-Buenos Aires room

Research and Innovation Policy  
**A Visionary Research Policy for the European Aeronautics and Air Transport System**

Chair

Innovation Union  
Tiit Jurimae - European Commission

Vision 2020, ACARE: What did we achieve?  
Ray Kingcombe - UK Government

A New Vision for Aeronautics  
N.N.

A New Vision for Air Transport  
N.N.

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## Parallel Session 4 11:35 - 13:05

4

### 4A - Madrid room

A Increasing Time Efficiency  
**Air Traffic Operations - 1**

Chair

Clearance of Flight Control Laws using Optimization  
Anders Hansson - Linköping University

Safe Automatic Flight Back and Landing of Aircraft  
Juan Alberto Herreria - ISDEFE

Climate-optimised Flight Planning  
Sigrun Matthes - DLR

4 Dimension Contracts - Guidance and Control  
Antoine Joulia - ONERA

### 4B - Paris room

Ensuring Customer Satisfaction and Safety  
**Avionics Architecture to Support Communication, Navigation and Surveillance**

Chair

Towards the Next Generation of Integrated Modular Avionics  
Didier Hainaut - THALES

Small Aircraft Future Avionics Architecture – How to Learn from Automotive Industry  
Reimund Kueke - Rheinmetall Defence Electronics

Seamless Aeronautical Networks through Integration of Data Links, Radios and Antennas  
Angeloluca Barba - SELEX

Evolution of B-VHF – L-band Digital Aeronautical Communication System  
Michael Schnell - DLR

### 4C - Bonn-Berlin room

Improving Cost Efficiency  
**Advanced Manufacturing Techniques for Engine Components**

Chair

Advanced Manufacturing Processes for Gas-Engine Turbine Components  
Drazen Veselovac - WZL Aachen  
Ignacio Fernández - ITP

Flexible and Near-net-shape Generative Manufacturing Chains and Repair Techniques for Complex Shaped Aeroengine Parts  
Konrad Wissenbach - Fraunhofer-Institut für Lasertechnik

Towards Truly Flexible Automation  
Phil Webb - Cranfield University, UK

### 4D - Bruselas room

Improving Cost Efficiency  
**Aircraft Structural Health Monitoring**

Chair

Project Overview AISHA II and Detection of Corrosive and Hydraulic Liquids by Gauges based on the Collapse of Percolation Conductivity  
Helge Pfeiffer - MTM

PICASSO, a New and Original Concept of "Simulation Supported Probability of Detection (POD)"  
Nancy Maléo - SNECMA

Development of Advanced Sensors and Novel Concepts for the Intelligent Processing in Bonded Repairs  
George Maistros - INASCO

Advanced Technology Building Blocks for Embedded Structural Health Monitoring in Aeronautics  
Vincent Rouet - EADS

### 4E - Amsterdam room

Greening the Air Transport System  
**Flow Control and Flow Prediction for Aeronautics**

Chair

European Coordination Action for Aircraft Wake Turbulence  
Andreas Reinke - Airbus Operations

Aerodynamic technologies for more effective, environmentally friendly air transport system: KATNet Strategy  
Adel Abbas-Bayoumi - Airbus Operations

Boundary-layer Receptivity and its Importance for Transition Prediction  
Ardeshir Hanifi - KTH Royal Institute of Technology

MARS - Manipulation of Reynolds Stress for Separation Control and Drag Reduction  
Ning Qin - University of Sheffield

### 4F - Londres room

CleanSky Forum (II)  
**Key Technologies for Future Aircraft**

Chair

New Wing Concepts  
Jens Koenig - Airbus Operations

Life Cycle Assessment of Materials and Processes  
Bruno Stoufflet - Dassault Aviation

New Structures for New Generation Aircraft  
Alessandro Amendola - Alenia

Engines of the Future  
Michel Goulain - CSJU

### 4G - Roma room

International Cooperation Forum (II)  
**Research Cooperation with Asia and Africa**

Chair

EU-China Cooperation: Innovative Control and Optimization Tools for Greener Multi Physics Design in Aeronautics  
Gabriel Bugeda - CIMNE

Aeronautics Research and Technology Development in China  
Xinguo Zhang - CAE

Technology Development Activities in the Japanese Aeronautics Industry  
Hiroharu Itahara - SJAC

Promoting South African - European Research Cooperation in Aeronautics and Air Transport  
Mmboneni Muofhe - DST

### 4H - México-Buenos Aires room

Research and Innovation Policy  
**SMEs: Key Actors for Innovation**

Chair

SMEs in FP7: Who are They?  
Remy Denos - European Commission

SMEs in Level 1 (CP-FP) Projects: Making the Best out of Framework Programme Research Projects  
Jean-Louis Migeot - FFT

SMEs in Level 2 (CP-IP) Projects: Bringing Key Technologies  
Eugene Kors - SNECMA

Poles of Competitiveness - Getting Together Research Labs, Large Industry and SMEs  
Thilo Schoenfeld - Aerospace Valley

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## Parallel Session 5 15:25 - 16:55

5

### 5A - Madrid room

**Increasing Time Efficiency**  
*Air Traffic Operations - 2*

Chair

ERAT: New Concepts to Improve Planning and Environmental Performance in the TMA  
Michael Portier - To70 B.V.

Development of an Operationally Driven Airspace Traffic Structure for High-Density High-Complexity Areas  
Pablo Sánchez-Escalonilla - ISDEFE

Contract-based Air Transportation System (CATS) - A New Way of Managing 4D Trajectories  
Christoph Rihacek - Frequentis

Setting the Baseline for SWIM (SWIM-SUIT)  
D'Auria Giuliano - SELEX Sistemi Integrati

### 5B - Paris room

**Ensuring Customer Satisfaction and Safety**  
*Systems for Safer Flight Guidance and Control*

Chair

In-flight Demonstration of a LIDAR based Air Data System  
Xavier Lacondemine - THALES

In-flight Investigation of LIDAR based Clear Air Turbulence Detection  
Hervé Barny - THALES

High Stability Vertical Separation Altimeter Instruments  
Ole Henrik Gusland - Memscap AS

Advanced Fault Diagnosis for Sustainable Flight Guidance and Control  
Andrés Marcos - Deimos Space

### 5C - Bonn-Berlin room

**Greening the Air Transport System**  
*Innovative Engine Architectures*

Chair

Final Results of VITAL Project (Environmentally Friendly Aero Engine)  
Marius Goutines - SNECMA

New Aero Engine Core Concepts for an Environmentally Friendly Air Traffic of the Future (NEWAC)  
Stephan Servaty - MTU

Validation of Radical Engine Architecture Systems (DREAM)  
David Bone - Rolls-Royce

Development of a European Research and Technology Strategy for Future Lean Low  
Ralf von der Bank - Rolls-Royce

### 5D - Bruselas room

**Improving Cost Efficiency**  
*Composite Aerostructures: New Design Principles*

Chair

Key Capabilities to Develop Faster and Better Aircraft Composite Structures (MAAXIMUS)  
Jocelyn Gaudin - Airbus Operations

Improved Material Exploitation of Composite Airframe Structures by Accurate Simulation of Collapse - The COCOMAT Project  
Richard Degenhardt - DLR

Dynamics in Aircraft Engineering Design and Analysis for Light Optimized Structures (DAEDALOS)  
Chiara Bisagni - Politecnico di Milano

Composite Fuselage Section Wafer Design Approach for Safety Increasing in Worst Case Situations and Joints Minimizing  
Blanca Araujo - CIDAUT

### 5E - Amsterdam room

**Pioneering the Air Transport of the Future**  
*Rotorcraft of the Future*

Chair

Generation of an Advanced Helicopter Experimental Aerodynamic Database for CFD Code Validation  
Thorsten Schwarz - DLR

The European Tilt Rotor - Status of ERICA Design and Test Activities  
Alessandro Stabellini - AgustaWestland

Aircraft and Rotorcraft Pilot Couplings - Tools and Techniques for Alleviation and Detection (ARISTOTEL)  
Marlena Pavel - Delft University

Enabling Technologies for Personal Aerial Vehicles (myCopter)  
Heinrich Bülthoff - Max Planck Institute, Tuebingen

### 5F - Londres room

**Improving Cost Efficiency**  
*Unmanned Aircraft Systems in Future Aviation*

Chair

Innovative Operational UAS Integration  
Achim Baumann - DFS Deutsche Flugsicherung GmbH (invited)

Opening the Airspace for UAS - ASTRAEA Progress Report  
Nigel Mills - QinetiQ

SMAT - An Italian Research Program for Developing and Advanced Monitoring System  
Bruno Tranchero - Alenia Aeronautica

Opening the European Sky to UAS; from Military to Civil Applications  
Pablo González - Indra

### 5G - Roma room

**International Cooperation Forum (III)**  
*Research Cooperation with Americas*

Chair

US Aeronautics Research Programmes  
N.N.

Canada's Aeronautics Research  
Jerzy Komorowski - NRC

Latin America - EU Cooperation in Aeronautics and Air Transport Research  
Joao Taborda - EMBRAER

Exploring Opportunities and Stimulating Research Cooperation with the United States of America  
Alain Garcia - ACARE

### 5H - México-Buenos Aires room

**Research and Innovation Policy**  
*Education & Dissemination of Knowledge: Key to Innovation in Aeronautics*

Chair

Research and Innovation Challenges and Dissemination Mechanisms for Aeronautics  
Joachim Szodrach - DLR

Trends in Educational Activities and Tools for Aeronautics  
Herman Deconinck - UPC

Raising European Student Awareness in Aeronautical Research through School-Labs  
Patricia Corieri - von Karman Institute

Which Background for Tomorrow's Engineers in the Aeronautical Sector?  
Yves Favennec - Eurocopter

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## Parallel Session 6 17:25 - 18:55

6

### 6A - Madrid room

**SESAR Forum (I)**  
*SESAR: Technology*

Chair

The 4D Trajectory Paradigm  
Patrick Lelievre - Airbus Operations

SWIM: The ATM Interoperability Infrastructure  
Richard Houdebert - Thales

The Human in the Loop  
Theodor Zeh - Frequentis

Optimisation of Communication Technologies  
Angelo Luca Barba - SELEX

### 6B - Paris room

**Improving Cost Efficiency**  
*Electro-mechanical Devices and Photonic Systems*

Chair

Distributed and Redundant Electro-mechanical Nose Wheel Actuator  
Sébastien Grac - Messier Bugati

Compact and Reliable Electronics Integrated in Actuators and Motors  
Paul Vassy - SAGEM  
Conor Slater - EPFL

Ice Detection and Monitoring System (ON-Wing)  
Max Brown - GKN

Developing Aircraft Photonic Networks (DAPHNE)  
Andrew Lee - AVOptics Ltd

### 6C - Bonn-Berlin room

**Greening the Air Transport System**  
*Aerodynamics and Heat Transfer of Advanced Engine Components*

Chair

Aerothermal Research for Turbine Components - An Overview of the Project AITEB-2  
Erik Janke - Rolls-Royce

Advanced Engine Noise Control Based on Plasma Actuators (ORINOCO)  
Franck Cléro - ONERA

World Class Turbine Cooling Technology (ERICKA)  
Peter Ireland - Rolls-Royce

Turbulence and Transition Modelling for Special Turbomachinery Applications  
Andreas Fiala - MTU

### 6D - Bruselas room

**Improving Cost Efficiency**  
*Composite Aerostructures: Innovative Maintenance and Repair*

Chair

Development and Optimization of THZ NDT on Aeronautics Composite Multi-layered Structure  
Marijke Vandewal - Royal Military Academy

Full-field Advanced Non Destructive Technique for On-line Thermo-mechanical Measurements on Aeronautical Structures  
Marc Georges - Université de Liège

Innovative Repair of Aerospace Structures with Curing Optimization and Life Cycle Monitoring Abilities  
Begona Canflanca - INASMET-TECNALIA

Modular Joints for Aircraft Composite Structures  
Llorenç Llopert - Premium AEROTEC

### 6E - Amsterdam room

**Greening the Air Transport System**  
*Reducing Cabin and Environmental Noise*

Chair

European Aviation Noise Research Network  
Dominique Collin - SNECMA

Improving the Accuracy of Airframe Noise Simulation Techniques within VALJANT  
Christophe Schram - von Karman Institute

OPENAIR, New Aircraft Noise Technologies in Preparation  
Eugene Kors - SNECMA

COSMA - Progress in Community Oriented Solutions to Minimise Aircraft Annoyance  
Michael Bauer - EADS

### 6F - Londres room

**Ensuring Customer Satisfaction and Safety**  
*Satellite Navigation: Benefits for Air Transport*

Chair

How does SatNav fit into the Evolution of Aviation? What does Eurocontrol do for Adoption?  
Francisco Salabert - Eurocontrol

Status of European SatNav Programmes; Objectives of ACCEPTA  
Hans de With - European GNSS Supervisory Agency

Regional and Business Aviation Benefiting from EGNOS  
Luis Chocano - Ineco

SatNav for Helicopters - Specific Applications  
Nick McFarlane - Helios

### 6G - Roma room

**Pioneering the Air Transport of the Future**  
*Pioneering: Innovative Air Transport Systems*

Chair

CREATE - A European Initiative for Incubation of Upstream Research Projects  
Romain Muller - ASD

Personal Plane: Assessment and Validation of Pioneering Concepts for Personal Air Transport Systems  
Antoine Joulia - ONERA

European Personal Air Transportation System - Status  
Krzysztof Piwek - Institute of Aviation, Warsaw

First Results of "Future Seaplane Traffic" Study  
Joachim Schömann - Technische Universität München

### 6H - México-Buenos Aires room

**European Research Area**  
*Aeronautics RTD Initiatives in the EU12*

Chair

CEARES - The Support Action for Central-Europe  
Roland Guruly - Slot Consulting

Strategic Initiatives in Aeronautics in Poland  
N.N.

The National Aeronautics RTD Approach of the Czech Republic  
Jiri Kovar - UNIS

New Concepts in Romanian Aeronautics Activities  
Catalin Nae - INCAS

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## Parallel Session 7 10:00 - 11:30

### 7A - Madrid room

SESAR Forum (II)

**SESAR: Innovations**

Chair

From Research to Implementation:  
SESAR Validation Activities  
Cristiano Baldoni - ENAV

New Airport Paradigms  
Alejandro Egido - AENA

Managing Complexity  
David Pérez - ComplexWorld  
(Innaxis)

New Network Solutions  
Francisco Sánchez - Indra

### 7B - Paris room

Ensuring Customer Satisfaction and Safety

**Towards More Electrical Aircraft and Personalised Cabin Environment**

Chair

A Step toward Electrical Aircraft (MOET)  
Etienne Foch - Airbus Operations

Transmissions in Aircraft on Unique Path Wires  
Sébastien Kim - Safran

Smart Technologies for Stress Free Air Travel  
Mohammad Hossien Aliabadi - Imperial College London

Innovative Systems for Personalised Aircraft Cabin Environment  
Andreas Hagen Holm - Fraunhofer-Institut für Bauphysik

### 7C - Bonn-Berlin room

Greening the Air Transport System

**Alternative Fuels for Aviation**

Chair

A Sustainable Way for Alternative Fuels and Energy for Aviation (SWAFEA)  
Philippe Novelli - ONERA

The Commercial Aviation Alternative Fuels Initiative (CAAFI) - Progress Status and Outlook  
Richard Altman - CAAFI

Selection of Alternative Fuels for Aviation and their Impact on Aircraft Systems  
Nicolas Jeuland - IFP

JEC Analysis of Scenarios for Transport Fuels  
Laura Lonza - JRC

### 7D - Bruselas room

Improving Cost Efficiency

**Composite Aerostructures: Enhanced Multifunctionality and Safety**

Chair

Multifunctional Layers for Safer Aircraft Composite Structures  
Cristina Elizetxea - INASMET-TECNALIA

Novel Aeronautical Multifunctional Composite Structures with Bulk Electrical Conductivity and Self-sensing Capabilities  
Sonia Flórez - INASMET-TECNALIA

Prediction of Aircraft Structural Response during Ditching, an Overview of the SMAES Project  
James Campbell - Cranfield University

Vulnerability Analysis for Near Future Composite/Hybrid Air Structures - Hardening via New Materials and Design  
Dimitri Karagiannis - INASCO

### 7E - Amsterdam room

Young Scientists Competition

**Award Winners' Session**

Chair

Presentation of the winner in the category 'Undergraduates'

Presentation of the winner in the category 'Graduates'

Presentation of the winner in the category 'Team Projects'

Presentation of the winner of the special price for the best student exhibition (tbc.)

### 7F - Londres room

European Research Area

**Technologies in the European Research Area: Advanced Aerodynamics**

Chair

Highlift Inflight Validation  
Ralf Rudnik - DLR

Collaborative INTA Activity in the Field of Aerodynamic Design  
Fernando Monge - INTA

Development of Market-driven, Modern and Highly Efficient Travel and Business Aircraft in the General Aviation Class  
Martin Volck - Diamond Aircraft Industries GmbH

Aerodynamics Research Activities at CIRA: Towards and ever Greater Multidisciplinary Approach  
Piergiorgio Renzoni - CIRA

### 7G - Roma room

Pioneering the Air Transport of the Future

**Pioneering: Innovative Aircraft Concepts**

Chair

New Aircraft Concepts Research  
João Frota - Airbus Operations

Active Control for Blended Wing Body Aircraft  
Rudolf Maier - EADS

The Challenges of an Environmentally Compliant Supersonic Transport Aircraft  
Philippe De Saint Martin - Dassault Aviation

Future High-Altitude High-Speed Transport Concepts  
Johan Steelant - ESA

### 7H - México-Buenos Aires room

European Research Area

**European Research Area: Aeronautics Scientific Networks**

Chair

GARTEUR – Collaboration in Aeronautics Research and Technologies in Europe  
Gunnar Hult - FMV

European Aeronautics Science Network – Linking Europe's Universities in Aeronautics  
Spiros Pantelakis - Univ. Patras

IFAR - The International Forum for Aviation Research  
Joachim Szodrich - CEAS

New European Aviation Research Strategy  
Martin Spieck - DLR

The European Transport NCP Alliance ETNA - A Support for Actors in Aeronautics RTD  
Eric Van de Burgwal - TÜV Rheinland Consulting (invited)



# Acronyms of the European Projects

Acronym	Session	Acronym	Session	Acronym	Session
4DCo-GC	4A4	DRESS	6B1	NODESIM-CFD	1E4
AAS	3A2	E-CAERO	5H1	ODICIS	2B3
ACCENT	1D1	E-CAERO (2)	5H2	ON-WINGS	6B3
ACCEPTA	6F2	ECATS	1F2	OPENAIR	4H3, 6E3
ACCESSRU	3G3	ELECT-AE	5C4	ORINOCO	6C2
ACFA2020	7G2	ELECTRICAL	7D2	PEGASE	3B4
ADDSAFE	5B4	ELUBSYS	3C3	PICASSO	4D2
ADIGMA	1E1	EMMA2	3A3	PLASMAERO	2E4
ADMAP-GAS	4C1.1, 4C1.2	ENFICA-FC	2G1	PLATO-N	3D2
AEROAFRICA-EU	4G4	EPATS	6G3	PPLANE	6G2
AEROMAG	2D1	ERAT	5A1	PREMECCY	3C2
AEROPORTAL	4H1	ERICKA	6C3	RAPOLAC	1D3
AERO-UKRAINE	3G4	ESWIRP	3E4	REACT4C	4A3
AirTN - FP7	2H1	FANTASIA	4C2	RECEPT	4E3
AISHA II	4D1	FANTOM	6D2	REMI	3E3
AITEB-2	6C1	FFAST	3E2	RESTARTS	5H3
ALEF	3E1	FLEXA	4C3	SADE	2E3
ALFA-BIRD	7C3	FLY-BAG	2A1	SAFAR	4B2
ALICIA	3B2	FLYSAFE	3B1	SANDRA	4B3
ARISTOTEL	5E3	FSA	7F3	SCARLETT	4B1
ATAAC	1E2	FUSETRA	6G4	SEAT	7B3
ATLLAS/II-FAST20XX	7G4	FUTURE	3C1	SENARIO	4D3
-LAPCAT/II-FLACON		GIANT-2	6F3	SESTAR	6A1, 6A2, 6A3, 6A4, 7A1, 7A2, 7A3, 7A4
ATOM	1A2	GOAHEAD	5E1	SMAES	7D3
BEMOSA	1A3	GRAIN	4G1	SmartfuelADSP	3C4
B-VHF	4B4	HEATTOP	2C1	SOFIA	4A2
CAAFI	7C2	HEDGE	6F4	SUPERHIGHWAY	5A2
CASAM	1A4	HILAS	2B1	SUPRA	2B4
CATS	5A3	HIRF-SE	3D3	SWAFEA	7C1
CEARES-NET	6H1	HISAC	7G3	SWIMSUIT	5A4
CleanSky	3F1, 3F2, 3F3, 3F4, 4F1, 4F2, 4F3, 4F4	HISVESTA	5B3	TASS	2A4
COCOMAT	5D2	HUMAN	2B2	TATMO	6C4
COFCLUO	4A1	IAPETUS	6D3	TAUPE	7B2
COLTS	2D2	ICOA.10.09	3A1	TECC-AE	1C2
COOPAIR-LA-Brazil	5G4	INTELLECT D.M.	1C1	TELFONA	2E2
COOPERATE-US	5G2	iSPACE	7B4	TIMCOP-AE	1C4
COPRA	2A3	JEC	7C4	TITAN	1A1
COSMA	6E4	KATNET	4E2	TOPPCOAT	2C3
CREAM	6B2.1, 6B2.2	KIAI	1C3	TRIADE	4D4
CREATE	6G1	LANDING	3B3	UFAST	1E3
CREDOS	3A4	LAYSA	7D1	ULTMAT	2C2
CRESCENDO	3D1	MAAXIMUS	5D1	VALIANT	6E2
CRISIS	2A2	MAGFORMING	2D4	VISION	3D4
DAEDALOS	5D3	MAGPI	2C4	VITAL	5C1
DANIELA	5B1	MARS	4E4	VULCAN	7D4
DAPHNE	6B4	MERLIN	1D2	WAKENET3-EUROPE	4E1
DATAFORM	2D3	MOET	7B1	WASIS	5D4
DELICAT	5B2	MOJO	6D4	X-NOISE-EV	6E1
DESIREH	2E1	MyCopter	5E4		
DOTNAC	6D1	NACRE	7G1		
DREAM	5C3	NEARS	7H4		
		NEWAC	5C2		
		Nice-Trip	5E2		



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