5th CEAS Air & Space Conference

7-11 Sept 2015 Delft University of Technology (The Netherlands)



1.55





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Welcome at the CEAS Air and Space Conference 2015!

It is a great pleasure to welcome you to this 5th CEAS Air and Space Conference in Delft as the follow-up of the successful CEAS Conferences in Berlin (2007), Manchester (2009), Venice (2011) and Linköping (2013). The theme of this year's CEAS Conference is "Challenges in European Aerospace".

Europe has made large progress in strengthening its aerospace industrial competitiveness, its air transport operations and infrastructure, its military cooperation, its research and research infrastructure and its educational system. Many more steps will have to be made to further enhance cooperation and integration to maintain and increase European Aerospace Competitiveness. I'm glad that distinguished European key-note speakers are willing to share their views and participate to panel discussions.

I'm proud to introduce this conference as organised and hosted by the Netherlands Association of Aeronautical Engineers (NVvL) with a great support and contributions from the Technical University Delft, the Society of Aerospace Students 'Leonardo da Vinci', ESA/ESTEC and the Netherlands National Aerospace Laboratory NLR. The CEAS Programme Committee did a wonderful job in selecting 225 excellent papers from more than 25 countries and in setting up attractive sessions for the conference.

So the CEAS Air and Space Conference 2015 will be a unique opportunity to communicate, share and debate the latest developments, innovative concepts and technical solutions in the aerospace domain and to meet and discuss with the keynote speakers, technical experts and students.



I look forward to welcoming you in Delft and I am certain you will enjoy the presentations and interaction with the many experts as well as the nice venue, technical tours, welcome reception and Conference dinner during a tour through the Rotterdam harbour.

Fred Abbink President of Council of European Aerospace Societies CEAS





Background

CEAS – the Council of European Aerospace Societies – is the organisation bringing European national aerospace societies together for increased international strength. Today, CEAS comprises 12 member organisations and 4 corporate members with an outreach to roughly 35,000 European professionals in aerospace. Since 2007 CEAS hosts biennial conferences about aerospace and on yearly basis various thematic events in Europe.

CEAS 2015 will be a unique opportunity for aerospace industries, academia, organisations and associations to communicate, share and debate innovative concepts and technical solutions in the aerospace domain. CEAS 2015 will promote the establishment of knowledge and technical networks with the aim of increasing European competitiveness in the field of aerospace.

Participation from all major nations involved in aerospace across the world, a wide exhibition area, special sessions on selected topics and specific actions to facilitate student's attendance will make CEAS 2015 one of the major European aerospace events.

CEAS 2015 is hosted by the Netherlands Association of Aerospace engineers NVvL in close cooperation with the Delft University of Technology (TUDelft) and the Society of Aerospace Students – Leonardo da Vinci VSV on behalf of the CEAS community.



Programme at a glance

CHALLENGES IN EUROPEAN

AEROSPACE

The conference will be held in the Aula Conference centre of the Delft University of Technology. The combination of a Technical University, a pleasant old town, good accessibility and perfect equipment, makes the Aula Conference centre an outstanding location for this event.

The conference registration desk is at the ground floor of the building. It will be open on the first day of the conference from 8.00 - 17.00 hours and from 8.00 - 10.00 / 12.30 - 13.30 at all other days.



The opening event and plenary sessions will take place in the Auditorium. Papers will be presented during five parallel sessions in the Auditorium, the Senate room, the Van Hasselt room, Commission room 3 and Commission room 2 (all on the second floor).

A variety of companies, institutions and organisations will present themselves at the very spacious Foyer, where lunches will be served and networking opportunities exist during coffee and tea breaks (first floor).







On Friday 11 September technical tours will be organised to ESA-ESTEC (Noordwijk), NLR (Amsterdam), Fokker Aerostructures (Papendrecht) and TUDelft (Delft). Pre-registration is required.







Welcome Reception

Enjoy snacks and drinks and get to meet with your peers during the reception in the Delft Botanic Gardens (Monday 7 September 18.30 – 20.00 hours). The Gardens are at walking distance from the conference venue (Poortlandplein 6, 2628 BM Delft).



Conference dinner

Romantic boating aboard the largest paddle steamer of Europe "De Majesteit" with its steam engines, giant paddles and cosy saloons. Once welcomed on board of De Majesteit you will enjoy the nostalgic atmosphere and the conference dinner on Wednesday 9 September (18.45 – 23.00 hours), while cruising the impressive Rotterdam harbours. Busses will drive all delegates to Rotterdam (departure at 18.15 hours in front of conference centre) and back to Delft after the dinner.





Conference programme

Inspiring and influential speakers have chosen the CEAS 2015 Air & Space Conference to share perspectives that are relevant to you and your organisation. They will share their knowledge on various themes, give you a breadth of industry insight and provide real implementation stories during plenary sessions.





Plenary sessions

CHALLENGES IN EUROPEAN

AEROSPACE

Every day there will be two plenary sessions kicking off the programme for that part of the day. Each plenary session has a challenging theme. The themes and the speakers are:

Challenges for the European Aeronautical Industry

- Axel Flaig (Head of R&T, Airbus)
- Hans Buethker (Chairman & CEO Fokker Technologies)

Challenges for European Access to Space

- Jan Wörner (Director General ESA)
- Arnaud de Jong (CEO Airbus Defense and Space Netherlands)

Challenges to the European Airlines

- Athar Husain Khan (CEO Association of European Airlines AEA)
- Peter Hartman (Vice-chairman Board of AirFrance/KLM)

Challenges in realizing a Single European Sky

- Florian Guillermet (Director SESAR JU)
- Paul Riemens (CEO LVNL)

Challenges to the European Aerospace Research and Infrastructure

- Eric Dautriat (Executive Director CleanSky)
- Rolf Henke (Member DLR Executive Board)
- Michel Peters (CEO NLR)

Challenges to European Aerospace Education

- Hester Bijl (Dean TUDelft Aerospace Faculty)
- Frithjof Weber (Head of Knowledge and Competence Management Airbus)
- Franco Bernelli (Politecnico di Milano, Aerospace Science and Technology)

Challenges to the European Air Power in Asymmetric Conflicts

- CDRE Peter Round (Director Capability EDA)
- Lt-Gen Sander Schnitger (Commander Royal Netherlands Air Force).





Technical sessions

The CEAS International Programme Committee, with representation of 20 organisations, has reviewed the abstracts handed in.

175 Technical papers have been selected for publication and will be presented by aerospace scientists and engineers from 25 different nations around the world. They will share and disseminate the latest scientific knowledge and research in areas like Air Transport, Airworthiness, Clean Space, Collaborative engineering in system design, Future education and training needs, Virtual hybrid testing in aeronautics, Aircraft noise, Aerodynamics, Aero elasticity and Structural Dynamics, Space Sustainability, Aircraft handling / flight mechanics, Greenhouse gas emissions, Guidance & navigation, Modelling and simulation, Propulsion integration, Structures & Materials and Remotely Piloted aerial vehicles.

Conference panels

Conference panels are being held on subjects like Space Sustainability, the IXV project and the Future of Air Combat systems in Europe.

Future of Air Combat systems in Europe

Many experts in Europe are concerned that, apart from the British-French Future Combat Air System Demonstration Programme FCAS DP, presently no plans are being made to prepare the next generation of air combat systems beyond Eurofighter, Rafale and Gripen. The F35 programme, although serving a number of Air Forces in Europe, is US-led and will not secure the future of the European Air Combat industry. A number of studies have been conducted in recent years on this critical issue, such as the "FAST4Europe" study by an industrial consortium led by SAAB and by the Air and Space Academy's as reflected in the white paper "Recommendations to avoid a strategic downgrading of Europe in the field of Combat Aviation" (published at the end of 2013).





The panel will contain presentations from high level actors in the field of Air Combat systems. The talks will address current reflections in Europe, the status of present and future Air Combat Systems across the world.

The session will be moderated by Gerard Brachet, former President of the Académie de l'Air et de l'Espace/Air and Space Academy (2009-2012), current Chairman of its Defense Commission.

Workshops

The *12th European Workshop on Aircraft Design Education* (EWADE) will be held on 10 September 2015. The workshop aims at enhancing collaboration between European lecturers concerned with aircraft design and discuss Aircraft Design problems from a research and educational perspective (http://ewade.aircraftdesign.org/).

On 10 September 2015, the EU-funded project Active Flow, Loads & Noise control on next generation wing *AFLoNext 2nd generation active wing* will organise a workshop as a partner in the CEAS 2015 conference. AFLoNext is a four-year integrated project (level 2) with the objective of proving and maturing highly promising flow control technologies for novel aircraft configurations (www.aflonext.eu).

The Increasing young women's participation in Science Studies and in the Aeronautic Industry IN2SAI project intends to increase the participation of female students in higher education studies in scientific fields (especially those relevant for aeronautics) and to contribute to their integration into the aeronautic industry. On 9 September 2015 IN2SAI will hold a panel session, interactive discussions and the final project conference (http://www.in2sai.eu/).

PulCheR (Pulsed Chemical Rocket with Green High Performance Propellants) is a three-year research project co-funded by the European Union (<u>http://www.alta-space.com/pulcher/</u>). The project is mainly aimed at demonstrating the feasibility of a pulsed propulsion system in which the propellants are fed in the combustion chamber at low pressure and the thrust is generated by means of high frequency pulses, reproducing the defence





mechanism of a notable insect: the bombardier beetle. As an added value, the new propulsion concept has been investigated using green propellants. The current status of the project, its main achievements and the still open challenges will be discussed on 7 September 2015.

Project

European Strategic Wind tunnels Improved Research Potential ESWIRP achievements will be presented at the CEAS Air & Space Conference 2015.

The EU-ESWIRP project (http://www.eswirp.eu/) has been funded by the European Framework Programme 7 to support the integration of and access to research infrastructure of pan-European interest. It has significantly enhanced the interoperability of 3 key world-class European aeronautical wind tunnels, and harmonised, improved and optimised the scientific access conditions thereto: DNW-LLF, ETW and ONERA S1MA.

A central element of the project, besides networking and joint research activities, has been the transnational access (TNA), which has been provided to 4 consortia with a total of more than 100 scientists from 17 different nations.

Technical visits

CEAS 2015 is pleased to offer 4 technical tours to places of interest like major R&D centers (EAS-ESTEC and NLR), the TUDelft and aerospace industry (Fokker Aerostructures). A pre-registration is needed to attend the tours (max. 50 participants for each tour) and a photo ID is required to enter the premises.

Tour 1: ESA-ESTEC (Keplerlaan 1, 2201 AZ Noordwijk)

ESA has sites in several European countries, but the European Space Research and Technology Centre (<u>ESTEC</u>) is the largest. ESTEC is the technical heart - the incubator of the European space effort - where most ESA projects are born and where they are guided through the various phases of development.





- Developing and managing all types of ESA missions: science, exploration, telecommunication, human spaceflight, satellite navigation and earth observation.
- Providing all the managerial and technical competences and facilities needed to initiate and manage the development of space systems and technologies.
- Operating an environmental test centre for spacecraft, with supporting engineering laboratories specialised in systems engineering, components and materials, and working within a network of other facilities and laboratories.

The technical tour will take you to the Telerobotics & Haptics Laboratory, the Planetary Robotics Laboratory, the Erasmus exhibition area and the Test Centre.

Tour 2: National Aerospace Laboratory NLR (Anthony Fokkerweg 2, 1059 CM Amsterdam)

<u>NLR</u> is the independent knowledge enterprise in the Netherlands on aerospace. The overall mission is making air transport and space exploration safer, more sustainable and more efficient. With its unique expertise and state of the art facilities NLR is bridging the gap between research and application. NLR covers the whole RDT&E (Research, Development, Test & Evaluation) range, including all the essential phases in research, from validation, verification and qualification to evaluation. NLR employs a staff of approx. 650 at the offices in Amsterdam and Marknesse in Flevoland province.

Highlights of the tour will be a visit to the simulation facilities for airport research (NARSIM) and cockpit operations (GRACE).

Tour 3: Delft University of Technology (Kluyverweg 1, 2629 HS Delft)

With 75 academic staff, 200 PhD and 2500 BSc and MSc students, the <u>faculty</u> <u>of Aerospace Engineering</u> at TUDelft is one of the world's largest aerospace engineering communities. Approximately 40% of the student population and 35% of staff has an international background.





The technical tour at the faculty will show the state-of-the-art research facilities such as supersonic, hypersonic and subsonic wind-tunnels, a high-sensitivity navigation simulator, and a materials testing laboratory. It will also give the participants the opportunity to work with them.

Tour 4: Fokker Aerostructures (Industrieweg 4, 3351 LB Papendrecht)

<u>Fokker Aerostructures</u> is a recognised, first-class specialist in the design, development and manufacturing of lightweight structures, modules and landing gear for the aerospace and defense industry. We operate at the forefront of today's technology. Their highly skilled workforce includes professionals in the Netherlands, Romania, Mexico and the United States. Fokker Aerostructures is a Business Unit of Fokker Technologies.





Venue and accommodation

CHALLENGES

AEROSPAC

Delft University of Technology Aula Conference Centre Mekelweg 5, 2628 CC Delft (+31.15 278 9111)

Delft has a lot to offer! The city is well-known for its ties with the Dutch Royal family (tombs of William of Orange and members of the Netherlands Royal family) and the famous painter Vermeer. Delft is also world renowned for its Delft Blue earthenware and its lovely canals. Delft has a pleasant, well-preserved, lively historical centre, with characteristic canals, ancient merchant houses, old churches and the splendid city hall.



Delft is more than 750 years old. The city owes its name to the word 'delving', digging the oldest canal, the Oude Delft. In 1246, Delft received its city franchise from the Dutch Earl Willem II. Delft is nicknamed 'de Prinsenstad' (the Princes' City), because William of Orange, the first in the Dutch royal line, held court in Delft in the 16th century. In 1842 the Royal Academy for Civil Engineers was founded. The Academy used the building vacated by the





artillery school. The Academy of then is the TUDelft of today, which is also the largest employer in Delft.

Delft is synonymous with ceramics – 'Delft Blue' has been produced in this city for many centuries. At the end of the 16th century Flemish potters started to make imitations of southern European pottery. Because of the Spanish occupation, some of them fled from Antwerp to Delft and they provided the origins of the Delftware industry. Between the years 1600 and 1800 Delft was one of the most important ceramics producers in Europe.

General Information

Climate

The Netherlands climate is moderate, with warm but sometimes wet summers and mild winters. Daytime temperature varies between five and twenty degrees in spring and autumn, and between fifteen and thirty degrees during summer. Average rainfall accounts are 750 mm annually.

Electricity

Standard power supply in The Netherlands is 220V/50Hz (two-round-pin power outlet.

Language

English is the official language of the conference. No simultaneous translation will be provided.

<u>Currency</u>

The local currency is Euro (divided into 100 cents). All major credit cards are accepted all over the Netherlands in department stores, museums, hotels, restaurants and most shops.

Emergency telephone number: 112

Health regulations

No vaccinations are required when entering the Netherlands from any other country.

Insurance

The organisers cannot be held responsible for injury to conference attendees or for damage to or loss of their personal belongings, regardless of the cause. Attendees are advised to make their own insurance arrangements.





Liability

The CEAS 2015 Organising Committee cannot accept any responsibility for personal accidents or damage to private property of the participants. Participants are advised to take out insurance, as they consider necessary.

The participant acknowledges that he/she has no right to lodge damage claims against the organisers should the hosting of the conference be hindered or prevented by unforeseen political or economic events or by force majeure, or should nonappearance of speakers or other reasons necessitate Programme changes.

By his/her registration, the participant accepts this provision.

<u>Time</u>

The Netherlands is in the Central European Time Zone. Central European Standard Time (CET) is 1 hour ahead of Greenwich Mean Time (GMT+1). with daylight saving time during the period of the conference.

Taxi services in Delft: www.dtdeltax.nl or call +31 (0)15 2191919.

Mobile phones

Use of GSM mobile phones in frequencybands 900 MHz or 1800 MHz. Use of UMTS mobile phones in the area of the venue is possible but no coverage guarantee can be given.

Passports and Visa

Please consult your local Netherlands Consulate concerning passport or visa requirements well ahead of time.

Telephone

The international dial code for the Netherlands is +31. For international calls: dial 00 followed by the country code and the individual telephone number. For cellular phone: refer to the instruction of your provider.

Travel information

Travelling to Delft by <u>air</u> is relatively easy. Amsterdam Schiphol Airport (http://www.schiphol.nl) services all major airlines. The train connection from Schiphol to Delft is a 40 minute train ride (www.ns.nl) Trains leave from Schiphol airport roughly every quarter of an hour. Road links from Schiphol are equally quick. Follow signs to Rotterdam and it should take you about 35 minutes. You can also fly to the smaller (though equally efficient) Rotterdam airport (http://www.rotterdamthehagueairport.nl) This is a 15-minute taxi ride from Delft.





Within the Delft University campus area <u>parking</u> is free, but there are a limited number of parking spaces. Parking in the City of Delft is not free and limited; there are a few parking garages; see <u>www.delft.nl</u>.

Delft is on the main <u>train</u> line between Paris, Brussels, and Amsterdam. Although the highspeed trains do not stop in Delft, you can get off in either Rotterdam or den Haag HS and get a connecting train to Delft (10 minutes). Trains from Germany come via Utrecht and Amsterdam, both of which are about 50 minutes from Delft on a connecting train. For more information and time tables, see www.ns.nl.

To travel by public transport you need a so called OV chip card, which you can buy at any railway station. Before you can use the card you need to charge a credit onto the card. Staff at the railway stations can assist you.

The best website to plan your trip with public transport in the Netherlands is: <u>http://9292.nl/en/</u> At Delft Central Station <u>buses</u> to Delft University leave roughly every 10 minutes. You can take bus 121 (to Zoetermeer) or bus 69 (to Station) and get out at bus stop 'Aula TU'. This will take about 10 minutes. From there it is a 1 minute walk to the Conference Venue. For more information about bus stops and time tables, see www.9292ov.nl (only available in Dutch, but easy to understand and use).

Wifi

Free WiFi is offered to conference delegates

- wireless network SSID (Service Set Identifier) : Aula-Congress
- Wi-Fi Protected Access (WPA2) key : tudelft2015







Registration

All participants (including chairmen and speakers) have to register (online). Payments have to be made by credit card or bank transfer.

Standard	€ 895,-
Session chairs, speakers, members of CEAS society*	€ 845,-
PhD students	€ 575,-
AFLoNext workshop attendee only	€ 150,-
EWADE workshop attendee only	€ 150,-
Accompanying person	€ 150,-
Dinner ticket	€ 125,-
Reception ticket	€ 25,-

* Council of European Aerospace Societies (3AF, AAAR, AIAE, AIDAA, DGLR, FTF, HAES, NVvL, PSAA, RAeS, SWFV, TsAGI, CzAeS, ESA, EUROAVIA, VKI), AFLoNext project members.

The conference fee includes for delegates:

- Attendance to conference, incl. AFLoNext & EWADE workshops
- Book of abstracts (on USB-stick)
- Conference proceedings (on USB-stick)
- Bag with conference programme and list of attendees
- Welcome reception
- Excursion
- Conference dinner
- Lunches and coffee / tea during breaks

For attendees of AFLoNext or EWADE workshop only:

- Attendance to AFLoNext or EWADE workshop
- Book of abstracts (on USB-stick)
- Bag with conference programme and list of attendees
- Lunch and coffee / tea during breaks





For accompanying persons:

- Welcome reception
- Excursion
- Conference dinner

Cancellation/Refund Policy

- Cancellations made before 15 August will receive a refund less € 50,administration fee.
- No refunds will be granted after 15 August. No-shows will not be eligible for refunds.
- Refunds will be made after the conference.

Payments by direct bank transfer (in EUROs only):

- ABN-AMRO Bank, Rotterdam, the Netherlands
- Account number: 54.44.04.564 of TUDelft, SSC F&C, Delft, the Netherlands
- IBAN: NL 84 ABNA 0544404564, BIC: ABNANL2A

Please mention CEAS2015, GNF 874 and participant name.

Pick-up your registration material at the registration desk. The badge must be worn visibly during the entire conference, incl. social events. If you forget or lose your batch, please contact the conference office.

Hotel accommodation

The organising committee of CEAS 2015 offers special hotel rates, when you book your hotel room together with your registration.

To guarantee your hotel reservation a hotel deposit of ≤ 100 ,- is required and will be charged together with the registration fee. The hotel deposit will be deducted from your hotel bill when checking out.

You will be notified by the CEAS2015 Conference Office in case accommodation in the hotel of your choice is not available anymore.

+ IN EUROPEAN AEROSPACE



Recommended hotels in close vicinity of the conference with reduced rates:

- Hotel Johannes Vermeer: <u>www.hotelvermeer.nl</u>
- Hotel Juliana: www.hoteljuliana.nl
- Hotel Delft Centre: <u>www.hoteldelftcentre.nl</u>
- Westcord hotel: <u>www.westcordhotels.nl</u>
- Hotel Campanille: <u>www.campanile-delft.nl</u>
- Hotel de Plataan: <u>www.hoteldeplataan.nl</u>

Contact the Conference Office directly for questions about the registration and hotel reservation by email: CEAS2015-mc@tudelft.nl.

Contact

Netherlands Association of Aeronautical Engineers NVvL

Anthony Fokkerweg 2 1059 CM Amsterdam The Netherlands E-mail: info@ceas2015.org

Local Organising Committee

- Fred Abbink (Chairman), NVvL
- Christophe Hermans, German-Dutch Wind Tunnels DNW
- Piet Kluit, NVvL
- Joris Melkert, Delft University of Technology TUDelft
- Siggi Pokörn, German-Dutch Wind Tunnels DNW
- Corry van der Drift, Delft University of Technology Conference Office
- Els Bakker, Delft University of Technology Conference Office
- Anouk Scholtes, VSV Leonardo da Vinci.





Programme overview

Monday 7 September 2015

08:00 – 10:00	Registration
10:00 - 11:00	Opening ceremony
11:00 – 11:30	Coffee/tea break
11:30 – 12:30	Keynote 'Challenges for the European Aeronautical Industry' (Auditorium)
12.35	Group picture in Auditorium & outside (aft of conference building, next to TUDelft library)
12:30 – 13:30	Lunch
13:30 – 14:30	Keynote 'Challenges for European Access to Space' (Auditorium)
14:30 – 16:00	Parallel sessions
16:00 – 16:30	Coffee/tea break
16:30 – 18:00	Parallel sessions
18:30 - 20:00	Welcome reception
14:30 – 18:00	PulCheR workshop (Commission room 4)

Tuesday 8 September 2015

08:00 - 09:00	Keynote 'Challenges to the European Airlines' (Auditorium)
09:00 - 10:30	Parallel sessions
10:30 - 11:00	Coffee/tea break
11:00 – 12:30	Parallel sessions
12:30 – 13:30	Lunch
13:30	Keynote 'Challenges in realising a Single European Sky' (Auditorium)
14:30 - 16:00	Parallel sessions
16:00 - 16:30	Coffee/tea break
16:30 - 18:00	Parallel sessions
18:00 - 18:30	Coffee/tea break
18:30 - 20:00	Parallel sessions (tentative)
09:00 – 12:30 14:30 – 17:00	CEAS Trustee Board Meeting (Commission room 4)





Wednesday 9 September 2015

08:00 – 09:30	Keynote 'Challenges to the European Aerospace Research and Infrastructure' (Auditorium)
09:00 – 10:30	Parallel sessions
10:30 – 11:00	Coffee/tea break
11:00 – 12:30	Parallel sessions
12:30 – 13:30	Lunch
13:30 – 14:30	Keynote 'Challenges to European Aerospace Education' (Auditorium)
14:30 – 16:00	Parallel sessions
16:00 – 16:30	Coffee/tea break
16:30 – 18:00	Parallel sessions
18:15	Departure of busses
	Conference dinner (embarkment: Maasboulevard,
18:45 – 22:30	Rotterdam)
	CEAS 2015 award ceremony
22:30 - 23:00	Return trip to Delft by bus

08:00 – 18:00 IN2SAI events

Thursday 10 September 2015

Keynote 'Challenges to the European Air Power in Asymmetric Conflicts' (Auditorium)
Parallel sessions
Coffee/tea break
Parallel sessions
Lunch
Parallel sessions
Coffee/tea break
Parallel sessions
Closing event (Auditorium)
Registration for AFLoNext workshop
AFLoNext workshop (Senate room)
EWADE workshop (Commission room 4)





Friday 11 September 2015

09:15	Departure of busses from Delft
10:00 - 12:00	Technical visits
12:00 - 13:00	Lunch at facility
13:00 - 14:00	Return to Delft and Schiphol airport (by bus)

PulCheR workshop (7 September 2015)



- **14:30 15:00** Brief overview of the PulCheR Project Angelo Pasini¹ (Sitael S.p.A.)
- **15:00 16:00** High frequency pulses: a feasible way of making propulsion? Angelo Pasini (Sitael S.p.A.)
- 16:00 16:30 Coffee/tea break
- 16:30 18:00 Green propellants: alternative to Hydrazine and its derivatives Angelo Pasini (Sitael S.p.A.)





IN2SAI events (9 September 2015)



- 08:00 09:00 Welcome and event registration confirmation
- 09:00 09:30 Opening by session chair Prof. Elisa Giaccardi (Professor of Interactive Media Design, Industrial Design Engineering, TUDelft)
- 09:30 10:00 Keynote speech, incl. Question & Answer Prof. Catholijn Jonker (Professor of Interactive Intelligence Industrial Design Engineering, TUDelft)
- 10:00 10:30 Keynote speech, incl. Question & Answer Prof. Chiara Bisagni (Professor of Aerospace structure & computational mechanics, Aerospace Engineering, TUDelft)
- 10:30 11:00 Coffee / tea break
- 11:00 11:30 Keynote speech, incl. Question & Answer Prof. Sabine Roeser (Professor of Ethics Technology, Policy and Management, TUDelft)
- 11:30 12:00 Keynote speech, incl. Question & Answer Prof. Yvonne Benschop (Professor of Organizational Behavior, Gender Studies, Department of Business Administration, Radbound University Nijmegen)
- 12:00 12:30 Open discussion Moderator: Prof. Elisa Giaccardi
- 12:30 13:30 Lunch
- 14:30 -15:00 General Presentation of IN2SAI project: objectives, activities and outcomes Ana Ribeiro (INOVA+)
- 15:00- 15:30 Female participation in the Aeronautic sector Analysis of current situation Javier Crespo (UPM)





- 15:30 16:00 Bridging Women and Society. Presentation of results Francesca Lucchi (UNIBO)
- 16:00 –16:30 Coffee/tea break
- 16:30 -17:00 Community Outreach. Presentation of results Alisa Harlamova (CESIE)
- 17:00 –17:30 Closure, Questions and answers Candela Bravo (INOVA+)

AFIoNext workshop (10 September 2015)



- **08:30 08:40** Welcome from Coordinator Martin Wahlich (Airbus Operations GmbH) and presentation of AFLoNext video
- **08:40 09:00 Key note lecture no. 1**: Stepless and sustainable research for the aircraft of tomorrow. From AFLoNext to Clean Sky 2 by Markus Fischer (Airbus Operations GmbH)
- **09:00 09:20 Key note lecture no. 2**: On the development of practical active flow control technologies aspirations and realities by Clyde Warsop (BAE Systems)

Technical sessions

09:20 – 10:40 Technology Stream "Hybrid Laminar Flow Control on wing and fin"





Presentations:

- Overview on the HLFC activities in AFLoNext and beyond: Geza Schrauf Airbus Operations GmbH
- Aerodynamic design of an HLFC leading edge for a VTP: Heiko v. Geyr Deutsches Zentrum Fuer Luft - Und Raumfahrt EV, DLR
- Structural design of an HLFC leading edge for a VTP: Stéphane Debaisieux Societe Nationale De Construction Aerospatiale Sonaca SA
- Integrated HLFC design for the leading edge of a wing: James Aldermann Airbus Group Ltd, Alan Mann Airbus Defence and Space GmbH
- Preliminary Krüger design for an HLFC wing: Jochen Wild Deutsches Zentrum Fuer Luft - Und Raumfahrt EV, DLR

10:40 – 11:00 Coffee/tea break

11:00 – 12:15 Technology Streams "Active Flow Control on outer wing" and "Active Flow Control on wing / pylon"

Presentations:

- Strake Vortex Interaction with Active Flow Control Applied at the Engine/Wing Junction : Sebastian Fricke, Vlad Ciobaca, Jochen Wild, Anna Kröhnert Deutsches Zentrum Fuer Luft - Und Raumfahrt EV, DLR and Olivier Blesbois Airbus Defence and Space GmbH
- Aerodynamic Design and System Development of Synthetic Jet Actuation for Flow Control at the Engine/Wing Junction : Harmen Schippers Stichting Nationaal Lucht- En Ruimtevaartlaboratorium, NLR, Martin Schueller Fraunhofer-Gesellschaft Zur Foerderung Der Angewandten Forschung EV , Bruno Stefes Airbus Operations GmbH, Theo ter Meer Stichting Nationaal Lucht- En Ruimtevaartlaboratorium, NLR, Perez Weigel Fraunhofer-Gesellschaft Zur Foerderung Der Angewandten Forschung EV, Petr Vrchota Vyzkumny A Zkusebni Letecky Ustav A.S., VZLU, Stefan Wallin Totalforsvarets Forskningsinstitut, FOI, Michael Meyer Airbus Defence and Space GmbH
- Characterisation of baseline flow on outer wing region for numerical sizing of AFC concepts: Petr Vrchota Vyzkumny A Zkusebni Letecky Ustav A.S., VZLU, Alan Mann Airbus Defence and Space GmbH, Simone Crippa Airbus Operations GmbH, Pierluigi Ianelli Centro Italiano Ricerche Aerospaziali SCPA, CIRA, Vlad Ciobaca, Jochen Wild Deutsches Zentrum Fuer Luft - Und Raumfahrt EV, DLR, Peter Wong Aircraft Research Association Limited, ARA, Jean-Luc. Hantrais-Gervois





Office National D'etudes Et De Recherches Aerospatiales, ONERA, Jean-Pierre Rosenblum Dassault Aviation SA.

 Numerical sizing of Active Flow Control concepts on the outer wing: Jean-Pierre Rosenblum Dassault Aviation SA, Petr Vrchota Vyzkumny A Zkusebni Letecky Ustav A.S., VZLU, Stefan Wallin Totalforsvarets Forskningsinstitut, FOI, Pierluigi Iannelli Centro Italiano Ricerche Aerospaziali SCPA, CIRA, Vlad Ciobaca, Jochen Wild Deutsches Zentrum Fuer Luft - Und Raumfahrt EV, DLR, D. Norman, Jean-Luc. Hantrais-Gervois Office National D'etudes Et De Recherches Aerospatiales, ONERA, Manfred Schneider Airbus Defence and Space GmbH

12:15 – 12:30 Q&A

12:30 – 13:40 Lunch break

Discussion corners for each Technology Stream

13:40– 14:20 Technology Stream "Active Flow Control on wing trailing edge"

Presentations:

- Computational Fluid Dynamics benchmark on the tests of the EUfunded project AVERT: Pert Vrchota Vyzkumny A Zkusebni Letecky Ustav A.S., VZLU
- SaOB/supercritical coanda device, current development and outlook: Avraham Seifert Tel Aviv University

14:20 – 15:00 Technology Streams "and "Vibrations mitigation / control in undercarriage area"

Presentations:

- Computational Fluid Dynamics results and outlook on Flight Test: Arthur Rizzi Kungliga Tekniska Hoegskolan, KTH
- Finite Element Model, Ground Vibration Test and outlook on Flight Test: Pascal Lubrina Office National d'Etudes et de Recherches Aerospatiales, ONERA
- 15:00 15:30 Coffee/tea break

15:30 – 16:30 Technology Streams "Noise reduction on flap and undercarriage"





Presentations:

- Overview of the aeroacoustic activities in AFLoNext and related contributions to flight testing: Michael Bauer Airbus Defence and Space GmbH
- Computational Fluid Dynamics based gear-wake flap flow interaction analysis: Alexander Büscher Airbus Operations GmbH
- Analysis of acoustic wind tunnel test in the NWB for gear-wake flap interaction: Michael Pott-Pollenske Deutsches Zentrum Fuer Luft - Und Raumfahrt EV, DLR
- Experimental results from AWB wind tunnel test on porous flap side edge for an A320 flap geometry: Johann Reichenberger Airbus Defence and Space GmbH

16:30 – 17:15 Q&A, Conclusions by Coordinator Martin Wahlich (Airbus Operations GmbH)

EWADE workshop (10 September 2015)



09:00 – 10:30 Presentations

- An investigation on Aircraft Design education curricula in European and American high education Institutes: Gianfranco La Rocca and Roelof Vos (TUDelft)
- Multidisciplinary Design Optimization supported by Knowledge Based Engineering: Gianfranco La Rocca (TUDelft)
- Transonic Aerodynamics in Conceptual Aircraft Design: Roelof Vos (TUDelft)
- Feasibility study of an hydrogen powered unmanned ultra large cargo aircraft: Gianfranco La Rocca & students (TUDelft)
- Role of concurrent design facilities in aerospace design education: Cees Bil (RMIT)
- Flying Low and Slow Aircraft Design and Flight Operation: Dieter Scholz (TU Hamburg)
- The importance of non-linearities in aircraft preliminary design: Fabrizio Nicolosi (UNI Napoli)
- UAV TURAC project: Ugur Ozdemir (Istanbul Technical University)





- Hybrid propulsion applied to a general aviation aircraft: Perspectives for the future: Aldo Frediani (Pisa University)
- Very large PrandtlPlane aircraft: an application to the freight transportation: Aldo Frediani (Pisa University)
- The Re-Wright project. An HPA in the making: Patrick Berry (Linköping University)
- 11:00 12:30 Presentations (continued)
- 13:30 15:00 Presentations (continued)
- 15:30 17:00 EWADE internal meeting

Publication policy (open access)

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Regional initiative National importance International scope



CEAS 2015: Conference programme Technical sessions



Detailed Programme: technical sessions

	Main	Senate	van Hasselt	Commission	Commission	Commission
Monday 7 S	September 2015	Toom	room	100113	100112	
10:00 - 11:00			Opening	j ceremony		
11:30 - 12:30		Keynot Axel Flaig, Head o	e 'Challenges for the E of R&T Airbus & Hans Bu	European Aeronautical ethker, Chairman & CEO I	Industry' Fokker Technologies	
13:30 - 14:30		Ke Jan Wörner, Director G	eynote 'Challenges for General ESA & Arnaud de	European Access to Sp Jong, CEO Airbus Defens	bace' e and Space Netherlands	
14:30 - 16:00	Eco Design & Space	Aircraft Design Methodology 1	Flight Control	Aerodynamics	Remotely Piloted Aircraft Systems 1	EU-project Pulsed Chemical Rocket with Green High Performance Propellants (PulCheR) workshop
	62	123	87	37	18	
	Ecodesign for space and aerospace: what happens when we make ecodesign relevant for demanding applications?	Design Methodology for Trailing-Edge High- Lift Mechanisms	On the minimization of cruise drag due to pitch trim	Fuselage aerodynamic drag prediction method by cfd	Comparative study of European RPAS regulations	Brief overview of the PulCheR Project
	Pettersen, Johan Berg (Asplan Viak)	Vos, Roelof (Delft University of Technology)	Campos, Luis (Instituto Superior Técnico)	Della Vecchia, Pierluigi (University of Naples Federico II"")	Cuerno-Rejado, Cristina (Technical University of Madrid)	Angelo Pasini (Sitael S.p.A.)
	Bergsdal, H. (Asplan Viak), Bjørnbet, M.M. (Sintef Raufoss Manufacturing), Silva,	Zaccai, D. (Delft University of Technology TUD)	Marques, J.M.G.M. (Instituto Superior Técnico)	Nicolosi, F., Ciliberti, D., Cusati, V. (University of Naples)	Cresto Aleina, S., Viola, N. (Politecnico di Torino)	





Main	Senate	van Hasselt	Commission	Commission	Commission
E.J. (ISQ), Ringen, G. (Sintef Raufoss Manufacturing), Estrela, M.A. (ISQ)	Toom	10011	100113	1001112	1001114
140	211	147	74	21	
Eco-Space Project - Environmental Impact of new technologies	Aircraft Preliminary Design: the Windowless Concept	Feasibility Study for a Tailless Aircraft with Post Stall Maneuvering Capability	Numerical and Experimental Investigations on Subsonic Air Intakes with Serpentine Ducts for UAV Configurations	Design of UAV for photogrammetric mission in Antarctic area	High frequency pulses: a feasible way of making propulsion?
Saint-Amand, Maud (Airbus Defence and Space)	Bagassi, Sara (University of Bologna)	Krus, Petter (Linköping University)	Berens, Thomas (Airbus Defence and Space)	Goetzendorf- Grabowski, Tomasz (Warsaw University of Technology)	Angelo Pasini (Sitael S.p.A.)
Ouziel, J.O. (Airbus Defence & Space)	Lucchi, F., Persiani, F. (University of Bologna)	Staack, Munjulury, R.C., Melin, T (Linköping University)	Delot, A.L. (ONERA), Tormalm, M.M. (Swedish Defence Research Agency (FOI)), Ruiz-Calavera, L.P., Funes-Sebastian, D.E. (AIRBUS Defence and Space), Rein, M. (DLR), Säterskog, M. (SAAB AB, Aeronautics)	Rodzewicz, M.R. (Warsaw University of Technology)	
228	17	163	133	23	
Introducing eco- design to ESA - An overview of the	Design and analysis of the control and stability of a	A semi-empirical methodology for balanced field	Aerodynamic Validation of a Parametric Airfoil	Methods of flight- path planning for UAV	High frequency pulses: a feasible way of making





	Main Auditorium	Senate room	van Hasselt room	Commission room 3	Commission room 2	Commission room 4
	activities towards a coherent eco- design approach	Blended Wing Body aircraft	length estimation of jet-engined aircraft in early design phases	Description	photogrammetry missions with consideration of aircraft dynamic properties	propulsion?
	Huesing, Jakob (European Space Agency)	Merino Martinez, Roberto (Polytechnic University of Madrid UPM)	Angeiras, Tulio (Embraer)	Melin, Tomas (Linköpings Universitet)	Glowacki, Dominik (Warsaw University of Technology)	Angelo Pasini (Sitael S.p.A.)
	Julian Austin, Tiago Soares (European Space Agency)	-	Orra, T.H. (Embraer), Paula, A.A., Mattos, B.S. (Instituto Tecnológico de Aeronáutica - ITA)	Gårdhagen, R. (Linköpings Universitet)	Hajduk, J.H. (Air Force Institute of Technology), Rodzewicz, M.R. (Warsaw University of Technology)	
16:30 - 18:00	Life Cycle Assessment	Aircraft Design Methodology 2		Flow Control	Remotely Piloted Aircraft Systems 2	PulCheR workshop
	145	1		75	69	
	Integrating sustainability in the design of space activities: development of eco-design tools for space projects	Methodology for the Validation of Loads in Rational Turning Analysis		Aerodynamic modelling of an active flow control system for flapless flight control in the preliminary design stages	Decision making for unmanned flight in icing conditions	Green propellants: alternative to Hydrazine and its derivatives
	Chanoine, Augustin (Deloitte)	Chorro Martínez, José Manuel (Airbus Defence and Space)		Stadlberger, Korbinian (Technische Universität München)	Armanini, Sophie (Delft University of Technology)	Angelo Pasini (Sitael S.p.A.)
	Le Guern, Y., Witte, F. (Deloitte)	Parra Adan, S., Martínez Pérez, A.D.,		Hornung, M. (Technische Universität	Polak, M. (Technische Universität München),	





Main	Senate	van Hasselt	Commission	Commission	Commission
Auditorium	room	room	room 3	room 2	room 4
	Gómez Vinas, J.E.,		Munchen)	Gautrey, J.E. (Cranfield	
	Juan Antonio, J.A. (Airbus Group) Tito			(AOS Croup)	
	(All bus Group), Tito Carrillo I (Sertec)			Whidborne IF	
				(Cranfield University)	
237	150		117	71	
Developing a	Development of a		Assessment of		Green propellants:
standardised	certification module		Pulsed-Jet Actuators	RPAS Systems	alternative to
methodology for	tailored to Aircraft		to Increase	Overview and	Hydrazine and its
space-specific Life	Multi Disciplinary		Maximum Lift of a	Configuration Tool	derivatives
Cycle Assessment	Optimization		Mid-Range Aircraft		(continued)
Austin, Julian	Schmollaruber, Peter		Vos, Roelof (Delft	Gruber, Mario (Fach	Angelo Pasini (Sitael
(European Space	(ONERA)		University of	Hochschule Joanneum)	S.p.A.)
Agency)	. ,		l echnology)	Elüha II.E. Koinasth	
Jakob Huesing (Rilea				FIUNI, H.F., Kallialn,	
Agency) Tiago Soares			Bertels, F. G. A., Van	H I (FH Ioannoum)	
(European Space	Bartoli, N. (Onera),		Dijk, R. E. C. (Delft	Fortner R F Ritzinger	
	Gourinat, Y. (ISAE)		University of Technology	M R (AAI – Austrian	
Innocenti (European			TUD)	Aeronautics Industries	
Space Agency)				Group)	
241	41		249	81	
EU environmental regulation and the space sector: an overview	A multidisciplinary design optimization advisory system for aircraft design		Active Flow Control Applied at the Engine-Wing Junction	Progress in Inverted Joined Wing Scaled Demnostrator Programme	Green propellants: alternative to Hydrazine and its derivatives (continued)
Ariaudo, Paolo (PWC)	Hoogreef, Maurice (Delft University of Technology)		Fricke, Sebastian (previously German Aerospace Center DLR)	Galinski, Cezary (Institute of Aviation)	Angelo Pasini (Sitael S.p.A.)





	Main	Senate	van Hasselt	Commission	Commission	Commission
	Auditorium	room	room	room 3	room 2	room 4
	Scatteia, Luigi (PWC)	D'Ippolito,R. (Noesis Solutions), La Rocca, G. (Delft University of Technology)		Vlad Ciobaca, Anna Kröhnert, Jochen Wild (DLR), Olivier Blesbois (Airbus Operations)	Hajduk, J.H. (Air Force Institute of Technology), Adam Sieradzki (Institute of Aviation), Rodzewicz, M.R. (Warsaw University of Technology)	
Tuesday 8	September 2015					
08:00 - 09:00	Athar Hus	ain Khan, CEO Associati	Keynote 'Challenges to on of European Airlines A	b the European Airline EA & Peter Hartman, Vic	e-chairman Board of AirF	France/KLM
00.00 10.20	Air Transport 1	Aircraft Design:	Guidance &	Impact of Rockets	Space Sustainability	CEAS Trustee Board
09.00 - 10.30		Configurations	Navigation	on Atmosphere	panel session	meeting
	67	91	174	154		
	Understanding Fleet Impacts of Formation Flight	Jumbo City Flyer	A High-Precision Position Turn-Table as the Reference for Angular Accelerometer Calibration Experiment	Impact of rocket launches on chemical and aerosol composition of the atmosphere	Panel session with participation of	
	Boling, Bryan (RAND)	Gangoli Rao, Arvind (Delft University of Technology)	Jatiningrum, Dyah (Delft University of Technology)	Sofiev, Mikhail (Finnish Meteoeological Institute)		
	Stumpf, E., Liu, Y. (RWTH Aachen University)	Eitelberg, G (DNW- German-Dutch Wind Tunnels)	Lu, P., De Visser, C.C., van Paassen, M.M., Mulder, M. (Delft University of Technology)	Wood, C (Finnish Meteorological Institute), Vira, J., Kouznetsov, R., Tarvainen, V. (Finnish Meteorological	O. Sanchez (EU Interparliamentary Space), KU. Schrogl (UN COPUOS, Legal), JJ. Tortora (Eurospace),	





Main	Senate	van Hasselt	Commission	Commission	Commission
Auditorium	room	room	room 3	room 2	room 4
			Institute), Grenard, P., Ordonneau, G (ONERA)	Th.Pesquet & H. Posch (ESA)	
257	251	199	213		
Introducing Air to Air Refuelling (AAR) into Civil Aviation	Challenges in Introduction and Certification of Thick- Walled Composite Components in Landing Gear	Implementation of GNSS-based RNAV- flight procedures – quantification of potential benefits for business aviation users	Dispersion and chemical composition of Athena II rocket plumes: Model simulations versus in-situ aircraft measurements	Panel session (continued)	
Nangia, Raj (consultant)	Sijpkens, Tjaard (Fokker Landing Gear)	Böck, Philipp (Intraplan Consult)	Bekki, Slimane (OVSQ)		
-	Smeets, M. (Fokker Landing Gear)	Schubert, M. (Intraplan Consult GmbH)	Cariolle, D.C. (CERFACS), Guenot, L.G. (Herakles), Murray, N.M. (ESA/ESTEC), Toumi, R.T. (Imperial College)		
256	171		233		
Research and Development of Time and Energy Managed Operations (TEMO)	Characteristics of locked and free- wheeling ducted fan based on wind tunnel tests and CFD analyses		Findings and conclusions from the AtILA project	Panel session (continued)	
Bussink, Frank (National Aerospace Laboratory NLR)	Rodzewicz, Miroslaw (Warsaw University of Technology)		Murray (European Space Agency)		





	Main	Senate	van Hasselt	Commission	Commission	Commission
	-	Bogdanski, Krzysztof. (Warsaw University of Technology)	room		room 2	room 4
11:00 - 12:30	Air Transport 2	Aircraft Design: Fundamentals	Handling Qualities	Advanced Manufacturing for Space Applications 1	ESA Reusable Launch Vehicle Program panel session	CEAS Trustee Board meeting
	98	34	52	208		
	Autonomous flying: a must for the future	Analysis Of Aircraft Configurations Including Propagated Uncertainties	Use of simulator motion feedback for different classes of vehicle dynamics in manual control tasks	New green polymer composites processed by Additive Manufacturing for "clean space" applications	IXV project from conception to realization and follow-on	
	Graaff, Adriaan (AD Cuenta)	Pfeiffer, Till (German Aerospace Center DLR)	Lu, Tao (Delft University of Technology)	Rinaldi, Marianna (University of Rome Tor Vergata"")	IXV Project Team	
	-	Moerland, E., Böhnke, D. (German Aerospace Center DLR)	Pool, D.M., Damveld, H.J., van Paassen, M.M., Mulder, M. (Delft University of Technology)	Cacciotti, I. (University of Rome Niccolò Cusano""), Pambaguian, L., Ghidini, T. (European Space Agency ESA- ESTEC), Canala, V., Massarelli, V. (Mecaer Aviation Group), Nanni, F. (University of Rome Tor Vergata"")		
	112	196	58	222		





Main	Senate	van Hasselt	Commission	Commission	Commission
Auditorium	Landing Gear	room Rotorcraft-Pilot	room 3 Additive	room 2 IXV project from	room 4
Economical Assessment of Commercial High- Speed Transport	Conceptual Design and Structural Optimization of a Large Blended Wing Body Aircraft	Coupling Research in Europe: A Success Story in Collaboration	Manufacturing for Space applications on European Space Programs	conception to realization and follow-on (continued)	
Margaretic, Paula (Airbus Operations)	Cumnuantip, Sunpeth (German Aerospace Center DLR)	Dieterich, Oliver (Airbus Helicopters Germany)	Bonvoisin, B. (European Space Agency)		
Steelant, J.S. (Johan Steelant)	-	Pavel, M.D. (Technical University of Delft)	Gumpinger, J., Ghidini, T., Pambaguian, L., Pigliaru, L., Makaya, A., Gerard, R. (ESA)		
127	206	134			
Clusterization of airport cities and cluster dynamics for an air passenger demand network topology forecast based on socio-economic development scenario	Statistical Time and Market Predictive Engineering Design (STAMPED) Techniques for Preliminary Aircraft Sizing	A distributed simulation framework for rapid deployment of research demonstrators		IXV project from conception to realization and follow-on (continued)	
Terekhov, Ivan (German Aerospace	Barrett, Ronald (The	Entz, Ricardo (Airbus			
Center DLR)	University of Kansas)	Defence and Space)			





Main	Senate	van Hasselt	Commission	Commission	Commission
Auditorium	room	room	room 3	room 2	room 4
		Stenzel, Scherer, Schwening (Airbus Defence and Space			
		Kourata (Challangea in real	izing o Cingle Furges	om Claul	
13:30 - 14:30	F	lorian Guillermet, Director SES/	AR JU & Paul Riemens, C	EO LVNL	
14:30 - 16:00 Air Traffic Control 1		Wind Tunnel Wall Interference	Space Technologies 1	Measurement Techniques	CEAS Trustee Board meeting
29		102	229	14	
Developing Generic Flight Schedules for Airport Clusters		Wind tunnel model support and wall interference corrections in DNW- HST- ensuring high data quality standards -	ESA Technology Programmes	Unsteady surface pressures measured at a pitching Lambda wing subjected to vortex dominated flow including transonic effects	
Bießlich, Peter (Hamburg University of Technology)		Wubben, Frenk (German-Dutch Wind Tunnels DNW)	Becker, Udo (European Space Agency)	Wiggen, Stefan (German Aerospace Center DLR)	
Gollnick, V.G. (Hamburg University of Technology)		Takara, E.K. (Embraer)	-	Klein,C. (DLR/ Institute of Aerodynamics and Flow Technology), Sachs, W. (DLR/ Institute of Aerodynamics and Flow Technology), Henne, U. (DLR/ Institute of Aerodynamics and Flow Technology), Nuhn, J.	

Main	Senate	van Hasselt	Commission	Commission	Commission
Auditorium	room	room	room 3	room 2	room 4
				(DLR/Institute of	
				Aeroelasticity)	
100		116	230	220	
Integration of Mission Trajectory Management functions into CleanSky Technology Evaluation Process		Investigations of ETW slotted wall interference using the NASA CRM model	Technology Transfer: The impact os Space Solutions on Terrestrial Applications	Dynamic Measurements on the NASA CRM Model tested in ETW	
Cadot-Burillet, Delphine (Airbus Operations)		Kursakov, Innocentiy (Central Aerohydrodynamic Institute TsAGI)	Diaz, Lluc (European Space Agency)	Hensch, Ann-Katrin (European Transonic Windtunnel ETW)	
Albert, M.A. (Airbus Operations)		Bosnyakov,S.M., Glazkov, S.A., Gorbushin, .A., Lysenkov, A.V., Matyash, S.V., Semenov, A.V. (Central Aerohydrodynamic Institute)	-	Quix, H. (ETW)	
110					
Decision-making inconsistencies in ATC: an empirical investigation into reasons for rejecting decision support					

	Main	Senate	van Hasselt	Commission	Commission	Commission
	Auditorium	room	room	room 3	room 2	room 4
	automation					
	Westin, Carl (Delft					
	University of					
	Technology)					
	Borst, C. (Delft					
	Technical University),					
	Hilburn, (Center for					
	Human Performance					
	Research)					
			EU ESWIRP project	Advanced		
16.30 - 18.00	Air Traffic Control 2	Aircraft Systems 1	- Turbulent /	Manufacturing for	Remotely Piloted	ECAero-2 internal
10.30 - 10.00		Alleran Systems	Laminar Flow	Space Applications	Aircraft Systems 3	meeting
			Testing	2		
	141	138	26	224	109	
	An ecological flow- based decision support tool for future 4D- trajectory management by air	A Methodology to Enable Automatic 3D Routing of Aircraft Electrical Wiring Interconnection Systems	Experimental Investigation of Small Scale Homogeneous Isotropic Turbulence in S1MA	Characterisation of Material Demisability for Spacecraft Components	Visual tracking of ground and air targets	
		7bu 7poyu (Dolft	wind turiner		Cafurov Salimzhan	
	Liniversity of	Liniversity of	Bourgoin, Mickael	Merrifield, Jim (Fluid	(Samara State	
	Technology)	Technology)	(LEGI / CNRS)	Gravity Engineering)	Aerospace University)	
		La Rocca,G. (), J.L. van Tooren, M. (University of South Carolina)	Barois, T, Baudet, C.B., Mordant, N.M. (LEGI / CNRS)	Jams Beck (2Belstead Research Limited), Georg Herdrich Adam S. Pagan (University of Stuttgart), Volker Liedtke (Aerospace &	Zakharov, K. (Samara State Aerospace University)	

Main	Senate	van Hasselt	Commission	Commission	Commission
Auditorium	room	room	room 3	room 2	room 4
			Advanced Composites), Benoit Bonvoisin (ESA)		
142	177	113	225	120	
Solution Space- Based Complexity Metric for ATC	An optional APU for passenger aircraft	Wind Tunnel Test For Breakthrough Laminar Aircraft Demonstrator Europe at DNW-LLF	Impact of additive manufacturing on spacecraft engine design	Autonomous planning and replanning of a single Unmanned Aerial Vehicle: strategies and simulations	
Mercado Velasco, Gustavo (Delft University of Technology)	Scholz, Dieter (Hamburg University of Applied Sciences)	Artois, Koen (German- Dutch Wind Tunnels DNW)	Hyde, S. (European Space Agency)	Fusaro, Roberta (Politecnico di Torino)	
Borst, C. (Delft University of Technology)	-	Postma, J., Philipsen, I. (German-Dutch Wind Tunnels DNW)	-	Boggero, L., Cresto Aleina, S., Viola, N. (Politecnico di Torino)	
179	185	181	221	184	
Air Traffic Flow Optimisation With Trajectory Uncertainty	A methodological approach for the Product Development Process optimization of aircraft components	High-Speed PIV Applied to the Wake of the NASA CRM Model in ETW at High Re-Number Stall Conditions for Sub- and Transonic Speeds	Additive layer manufacturing of monolithic catalyst bed	Design, implementation and evaluation of a system to support Well Clear	
Bil, Cees (RMIT University)	Mulder, Bram (Delft University of Technology)	Konrath, Robert ()	Essa, K. (University of Birmingham)	Theunissen, Erik (Netherlands Defence Academy)	
Assaad, Z., Eberhard,	La Rocca, G. (Delft	-	-	Suarez, B (General	

	Main	Senate	van Hasselt	Commission	Commission	Commission
	A., Moore, M. (RMIT University)	University of Technology), De Jong, H., Van der Elst, S. (KE- works)	Toon	1001110	Atomics Aeronautical Systems Inc.)	10011 4
18:30 - 20:00	Aeroelasticity	CleanSky: Systems for Green Operations	Prognostics and Health Management	Complex Flows	CleanSky	ECAero-2 internal meeting
	96	252	24	50	44	
	Automatic Generation of Aeroelastic Simulation Models Combined with a Knowledge Based Mass Prediction	Model based system assessment and trajectory optimization on aircraft level	Impacts of a Prognostics and Health Management System on Aircraft Fleet Operating Cost during Conceptual Design Phase by using Parametric Estimation	Propeller and inflow vortex interaction: vortex response and impact on the propeller performance	Clean Sky Technology Evaluator – Air Transport System assessments	
	Maierl, Reinhold (Airbus Defence and Space)	Re, Fabrizio (German Aerospace Center DLR)	Fioriti, Marco (Politecnico di Torino)	Yang, Yannian (Delft University of Technology)	Junior, Alf (German Aerospace Center DLR)	
	Petersson, Ö, Daoud, F (Airbus Defence and Space)	Schlabe, D., Müller, R. (German Aerospace Center DLR)	Pavan, G. (Alenia Aermacchi), Corpino, S., Fusaro, R. (Politecnico di Torino)	Zhou, T., Sciacchitano, A., Veldhuis,L., Eitelberg, G. (Delft Univwersity of Technology)	-	
	164	253	168	146	248	
	Aeroelastic Concepts in Civil Aircraft Wings Design	Flight Management System improvement : Optimized Steps in cruise	Conception of service offers: from strategy to technology and the other way around.	Development of Flow Structures in the Near-Field Wake Region of the Common Research	People, Planet, Profit: the Making of the Clean Sky 2 PPP	

	Main	Senate	van Hasselt	Commission	Commission	Commission
	Auditorium	room	The case of Health and Usage Monitoring Systems (HUMS) in the management of missiles stockpiles	Model	room 2	room 4
	Mazidi, Abbas (Yazd university)	Delpy, Patrick (Thales)	Nicolay, Alexis (MBDA France)	Zimmermann, Dina- Marie (University of Stuttgart)	van Manen, Ron (Clean Sky JU)	
	Fazelzadeh, S.A., Ranjbar, A. (Shiraz university)	-	Chiquier, JM. (MBDA)	Waldmann, A., Lutz, T., Krämer, E. (University of Stuttgart)	-	
	217	254		182	250	
	Aerial Delivery	Multi-use 48kW		The influence of the	The CleanSky	
	dynamic model	DC/AC and AC/AC		drag dynamic stall	Experience –	
	validation by Flight	Power Electronic for		in the vawt starting	a Cluster Core	
	Test	unpressurized area		efficiency	Partners Perspective	
	Oliver, Mercedes (Airbus Defence and Space)	Engler, Alfred (Liebherr Elektronik)		Malael, Ion (Romanian Research and Development Institute for Gas Turbines COMOTI)	Kortbeek, Peter (Fokker Technologies)	
	Pérez, A.P., Rodríguez, A.J. (ALTRAN), Climent, H.C. (Airbus Defence and Space)	-		Dragan, V., Gherman, B. (Romanian Research & Development Institute for Gas Turbines COMOTI)	Johan Kos (NLR)	
Wednesda	y 9 September 20)15				
08:00 - 09:00		Keynote 'Challen	ges to the European A	erospace Research a	nd Infrastructure'	
						the second se

	Main Auditorium	Senate room	van Hasselt room	Commission room 3	Commission room 2	Commission room 4
	Eric D	Dautriat, Executive Director	r CleanSky, Rolf Henke,	Member DLR Executive E	Board & Michel Peters, C	EO NLR
09:00 - 10:30	EU ESWIRP project - Wind Tunnel Upgrades	Aircraft Systems 2	Structural Design 1	Advanced Manufacturing for Space Applications 3	International collaboration	EU-project INcreasing young women's participation in Science Studies and in the Aeronautic Industry (IN2SAI) - panel session
	10	27	15	11	40	
	ESWIRP: European Strategic Wind tunnels Improved Research Potential – Program Overview	Thermal Properties of C919X EHAs Operating During Whole Flight Envelope	Development of laser beam welding concepts for fuselage panels	Advanced composite for space applications: Design and Structural Analysis of CFRP Electronics Housing	Overall view of the European Collaboration in Aeronautics Research within GARTEUR	
	Boyet, Guy (ONERA)	Fu, Yongling (Beihang University)	Kashaev, Nikolai (Helmholtz-Zentrum Geesthacht)	Voicu, Raluca (Romanian Research and Development Institute for Gas Turbines COMOTI)	Consigny, Hervé (ONERA)	
	-	Han, X., Qi, X.Y. (Beihang University), Wang, L.J. (COMAC)	Riekehr, S., Falck, R., Enz, J. (Helmholtz- Zentrum Geesthacht), Robson, J., Tian, Y. (The University of Manchester, School of Materials), Karanika, A. (Hellenic Aerospace Industry S.A.,	-	Vasseur, O., Delot, A.L. (ONERA)	

Main	Senate	van Hasselt	Commission	Commission	Commission
Auditorium	room	room	room 3	room 2	room 4
		Research and Product			
		Design)			
53	57	83	223	114	
Mach number control improvement in ONERA s1ma large sonic wind tunnel	Preliminary Design Rules for Electromechanical Actuation Systems – the Effects of Saturation and Compliances	FEM analyses of joined wing aircraft configuration	Additive manufacturing of space propulsion hardware	Future of Aviation	
Crozier, Pascal (ONERA)	Fu, Jian (Institut Clément Ader, INSA)	Mieloszyk, Jacek (Warsaw University of Technology)	Smith (European Space Agency)	Szodruch, Joachim (IFAR)	
Chargy, C., Pichon, R. (ONERA)	Hazyuk, I., Maré, J.C. (Institut Clément Ader, INSA)	MSc Kalinowski, M. (Warsaw University of Technology)	-	Shin, Jai (NASA), Nakahashi, K.N. (Japan Aerospace Exploration Agency)	
118	192			247	
DNW innovations in wind tunnel testing - New moving belt system for Large Low speed Facility -	The implications of aerospace requirements on the design-space of a permanent magnet starter/generator			Future Sky	
Hermans, Christophe (German-Dutch Wind Tunnels DNW)	Brink, Emile (Aeronamic)			Eijssen, Paul (EREA)	
-	Gerber, M. (Aeronamic), Geest, M. (Technische Universiteit Delft),		-	-	

	Main Auditorium	Senate room	van Hasselt room	Commission room 3	Commission room 2	Commission room 4
		Zeilstra, D. (Aeronamic), Boer, A. (NLR)				
11:00 - 12:30	EU ESWIRP project - NASA Common Research Model	Multi-Disciplinary Design	Structural Design 2	Re-entry assessment	Space Technologies 2	IN2SAI panel session
	103	43	3	243	234	
	Validation and Assessment of Turbulence Model Impact for Fluid- Structure Coupled Computations of the NASA CRM	Cooling channel flow characterization using Particle Image Velocimetry and Laser Induced Fluorescence	Ground Test Vibrations as non- conservative mean of compliance for vibration airworthiness requirements of A/C mechanical systems design	A potential framework for the safe and permanent passivation of a LEO battery bus power system	European Space Technology Harmonisation	
	Keye, Stefan (German Aerospace Center DLR)	Rochlitz, Henrik (TU Braunschweig)	Palomares, Angel (Airbus Defence and Space)	Alcindor (SSTL)	Williams, Edmund (European Space Agency)	
	Rudnik, R. (DLR)	Scholz,P.S. (TU Braunschweig)	-	-	-	
	158	95	198		235	
	Using wing modal deformation for improvement of CFD results of ESWIRP project	Multidisciplinary design optimization of flight control system parameters in consideration of aeroelasticity	Citric acid aerospace stainless steel passivation: a green approach		Identifying trends in space technology - an industry perspective & The added values of SME's in Europe's Space R&D programmes	
	Vrchota, Petr	Nussbächer, Daniel	Bragaglia, Mario		Lionnet, Pierre	

Main Auditorium	Senate	van Hasselt	Commission	Commission	Commission
(Aeronautical Research and Test Institute)	(Airbus Defence and Space)	(University of Rome Tor Vergata"")		(Eurospace), Bracquene, Hans (SME4Space)	
Prachar, A.P. (Aeronautical Research and Test Institute)	Hanel, M., Daoud, F. (Airbus Defence and Space), Hornung, M. (Technical University of Munich)	Rinaldi,M. (University of Rome Tor Vergata""), Cacciotti, I. (University of Rome Niccolò Cusano""), Mori, S., Nanni, F., Montesperelli, G. (University of Rome Tor Vergata"")		-	
161	115			236	
Analysis of the NASA Common Research Model European Transon Wind Tunnel Test Data and NASA Test Data	Integrated multidisciplinary ic engineering solutions at Fokker Aerostructures	i		France Space R&D programme & Uncover rough diamonds: Switzerland's National Space initiatives	
Rivers, Melissa (NAS Langley Research Center)	A Berg, Tobie (Fokker Aerostructures)			Blanco, Dampier (CNES - French Space Agency), Richard, Johann (Swiss Space Office)	
Quest, J.Q. (Europea Transonic Windtunnel), Rudnik RR (German Aerospace Center	n Laan, A.H., Hootsmans, , L.M. (Fokker Aerostructures)			-	

	Main	Senate	van Hasselt	Commission	Commission	Commission
	Auditorium	room	room	room 3	room 2	room 4
	DLR)					
		Keynote	Challenges to the Eu	Iropean Aerospace Ec	lucation'	
13:30 - 14:30	Hester Bijl, Dean T	U-Delft Aerospace Faculty	, Frithjof Weber, Head o	f Knowledge and Compe	etence Management Airbu	us & Franco Bernelli,
	Crear have a	Polit Maintananaa Danain	Echico di Milano, Aerosp	ace Science and Techno	юду	
14:30 - 16:00	Greenhouse Gas	and Overbaul	and Training Needs	De-orbiting Technologies	Space Design 1	4th IN2SAI partner
	76	33	25	162	56	meeting
	Aviation – Environmental Threats Simplified methodology of NOx and CO emissions estimation	Accelerating MRO procedures for composite materials using innovative detection techniques	21st Century Skills for the Aerospace Industry Workforce and Their Translation to the Classroom	Analysis of Electric Propulsion for De- Orbiting of Sun- Synchronous Satellites	Time-Efficient and Accurate Performance Prediction and Analysis Method for Planetary Flight Vehicles Design	
	Glowacki, Pawel (Institute of Aviation)	Schoemaker, Christiaan (Hogeschool van Amsterdam)	Lappas, Ilias (South Wales University)	Fromm, Christian (German Aerospace Center DLR)	Jarzabek, Artur A. (Technical University of Madrid UPM)	
	Czyz, S., Kawalec, M.	Pelt, M.M.J.M., Boer, R.J., Borst, M.S. (Hogeschool van Amsterdam), Groves, R.M. (Delft University of Technology)	Kourousis, K.I.K. (University of Limerick)	Herbertz, A. (DLR)	Moreno Lopez, A.I., González Hernández, M.A., Perales Perales, J.M. (Technical University of Madrid UPM)	
	80	197	128	226	131	
	Comparison of the Potential Environmental Impact Improvements of Euture Aircraft	Damage identification in composite panels using acousto- ultrasonic waves	Giving Space to Space: Bachelor Education in Space Engineering at Delft University of Technology	Architectural Design and Testing of a De- orbiting Subsystem	Space Capsule Using Energy of Gravitational Field for Flight Control	

Main	Senate	van Hasselt	Commission	Commission	Commission
Auditorium	room	room	room 3	room 2	room 4
Concepts Using Life					
Cycle Assessment					
Johanning, Andreas (Hamburg University of Applied Sciences)	Loendersloot, Richard (University of Twente)	Cervone, Angelo (Delft University of Technology)	Tiedemann, Lars (HPS)	Sandu, Constantin (Romanian Research and Development Institute for Gas Turbines COMOTI)	
Scholz, D. (Hamburg University of Applied Sciences)	-	Zandbergen, B.T.C., Noomen, R., Gill, E.K.A., Mooij, E., Kamp, A. (Delft University of Technology)	Karl Dietrich Bunte (5etamax space), Tiziana Cardone (ESA), Robert Hahn, Sven Langendorf, Arne Riemer (HTS), Maximilian Klebor (HPS), Sebastian Meyer, Patric Seefeldt, Tom Spröwitz, Marco Straubel, Maciej Sznajder (DLR)	Brasoveanu, D. (Raytheon)	
183		172	227		
Rotorcraft Noise and Emissions Reduction Process for CleanSky – The Measurement of Success		A Multidisciplinary and Practical view in Aeronautical Engineering Education	Development and Testing of Deployable Membrane for De- Orbiting Systems		
D'Ippolito, Roberto (Noesis Solutions)		De Paula, Adson (Technological Institute of	Hahn, Robert (HTS)		

	Main	Senate	van Hasselt	Commission	Commission	Commission
	Auditorium	room	room	room 3	room 2	room 4
			Aeronautics ITA)			
	Smith, C.S. (Agusta Westland), Pachidis, VP (Cranfield University), Stevens, J.S. (National Aerospace Laboratory NLR), Thevenot, L.T. (Airbus Helicopters)		Germano, J.S.E., Morales, M.A., Carvalho, F.C., Passador, F.E (Technological Institute of Aeronautics ITA)	Arne Riemer, Sven Langendorf (HTS), Tom Spröwitz, Patric Seefeldt, Maciej Sznajder (DLR), Maximilian Klebor, Lars Tiedemann (HPS), Tiziana Cardone,		
16:30 - 18:00	Greenhouse Gas Emissions 2	Manufacturing Technology	Aircraft Design Methodology 3	Space Debris Mitigation technologies at system level	Personal Air Transport	IN2SAI final conference session
	189	111	8	207	130	
	Environmental prospects in aviation: a study from the Air & Space Academy FC	Simulation Driven Design and Additive Manufacturing. A new design process to unleash potential of Additive Manufacturing freedom	An automated CFD analysis workflow in overall aircraft design applications	Contributing to Orbital Sustainability with an Independent Decommissioning Device for Satellite and Launcher Space Implementing Space Debris Mitigation Measures	European Personal Aero- Transportation. Using of the Double- Flutter Flight Principle for Manufacturing of Personal Flying-Cars by European Aircraft and Car Manufacturers	
	Joselzon, Alain (Air and Space Academy)	Cervantes Herrera, Alejandro (Altair Engineering)	GU, Xiangyu (German Aerospace Center DLR)	Antonetti, Stefano (D- ORBIT)	Sandu, Constantin (Romanian Research and Development Institute for Gas	

	room /
Auditorium room room room 3 room 2	1001114
Turbines COMOTI)	
B. (German Aerospace Rossettini, LR (D- Center DLR) ORBIT SRL) Brasoveanu, D. (Orbital ATK), Voicu, R., Deaconu, M., Cican, G., Zavodnic, F. (COMOTI)	
<u>190</u> <u>167</u> <u>46</u> <u>238</u> <u>203</u>	
Carbon Dioxide Emissions from Air Traffic Internal to Industrialised States and between them Design and optimisation Additive Layer States and between them Design and optimisation Additive Layer Manufacturing (ALM) Design and optimisation Additive Layer Manufacturing (ALM) Design and optimisation Additive Layer Manufacturing (ALM) Design Atroug Design Method for the Wing Weight Braced Wing Aircraft Debris Mitigation Aircraft Debris Mitigation Aircraft Debris Mitigation Thinking out of the Box: unwrapping the 'Flying Car'. How to combine personal transport in the air and on the road	
Alain Garcia, Alain (Air and Space Academy) Azevedo, José (CEIIA) Chiozzotto, Gabriel Duhamel, Thierry (German Aerospace (Airbus Defence and Jorna, Peter (PAL-V) Center DLR) Space)	
Rigaudias, Jean- Baptiste (Air and Space Academy,Alves, N.A. (Instituto Politécnico de Leiria IPL), Santos, RS (Instituto Superior Técnico IST),Daniel Briot (Airbus Defence and Space)Dingemanse, R.D. Defence and Space)Rigaudias, Jean- Baptiste (Air and Politécnico de Leiria IPL), Superior Técnico IST), Mortágua, JPM (CEIIA)Daniel Briot (Airbus Defence and Space)Dingemanse, R.D. (PAL-V)	
195 215 239	
Micro Laser Sintering capabilities opens the Morphed vertical door for long tailplane endurance flights assessment for supported by light certification weight and precise requirements micro parts	
Winderlich, Matthias (3D Castillo-Acero, Miguel Soares (European	

	Main	Senate	van Hasselt	Commission	Commission	Commission
	Auditorium	room	room	room 3	room 2	room 4
		MicroPrint)	Angel (Aernnova)	Space Agency)		
		Goebner, J.G Blau,	Cuerno-Rejado, C.,			
		M.B.L., Weber, D.W.E.,	Gómez-Tierno, M.A.			
		Starke, T.S.T., Schneck	, (Escuela Técnica	-		
		M.S.C., Lehnhardt, A.L.E	Superior de Ingenieros	5		
		(3D MicroPrint GmbH)	Aeronáuticos, UPM)			
Thursday 1	0 September 20	15				
08:00 - 09:00		Keynote 'Cha	allenges to the Europe	an Air Power in Asym	etric Conflicts'	
	CDRE	Peter Round, Director Ca	apability EDA & Lt-Gen Sa	ander Schnitger, Comma	nder Royal Netherlands A	Air Force
		Active Flow- Loads				
00.00.40.00	Composite	& Noise control on	The Future of Air	Active Debris		European Workshop
09:00 - 10:30	Structures 1	next generation	Combat Systems in	Removal system	Green Propulsion 1	on Aircraft Design
		Wing (AFLONext)	Europe	studies		Education (EWADE)
	27	worksnop	110	150	40	102
	30		117	105	Exporimontal	195
	Crash Concept for				investigations based	
	Composite		Flight_physical		on a demonstrator	
	Transport Aircraft		aspects and	ESA's e.deorbit	unit to analyze the	The Importance Of
	Using Tensile and		methods of future	mission and its	combustion process	Non-Linearities In
	Compressive		military aircraft	roadmap to Active	of a nitrous	Aircraft Preliminary
	Absorption		designs	Debris Removal	oxide/ethene	Design
	Mechanisms		-		premixed green	
					bipropellant	
	Schatrow, Paul		Hitzel, Stephan Maria	Biesbroek, Robin	Werling, Lukas	Nicolosi, Fabrizio
	(German Aerospace		(Airbus Defence and	(European Space	(German Aerospace	(University of Naples
	Center DLR)		Space)	Agency)	Center DLR)	Federico II"")
					Dorokic N	De marco A Della
	Waimer, M. (German				Pelakis, IN.,	De marco, A., Dena
	Waimer, M. (German Aerospace Center		-	-	Hochheimer, B.I.J.,	Vecchia, P (University

Main	Senate	van Hasselt	Commission	Commission	Commission
Auditorium	room	room	room 3	room 2	room 4
				Schlechtriem, S. (German Aerospace Center DLR)	
55			124	139	
Composite laminates simulation using an enhanced peridynamics lamina formulation		Panel discussion	Envisat removal by robotic and net capture means. Results of the Airbus DS led e.Deorbit Phase A ESA study	Pulcher-pulsed chemical rocket with green high performance propellants: second year project overview	
Zaccariotto, Mirco (University of Padua)			Estable, Stéphane (Airbus Defence and Space)	Pasini, Angelo (Alta)	
Dipasquale, D.D., Sarego, S.G., Galvanetto, G.U. (University of Padova)			Bischof, B.B., Oswald, M.O., Soppa, U.S., Axthelm, R.A., Mistritta, M.S., Voigt, P.V. (Airbus Defence & Space)	Torre, L., Pace, G., Pasini, A. (Alta S.p.A.)	
			148	136	
		Panel discussion (continued)	ANDROID Small Active Debris Removal Mission	Propulsive performance of a c3h4/h2o2 rocket prototype for future green bipropellant thrusters	
			Escorial Olmos, Diego (GMV Aerospace and Defence SAU)	Pasini, Angelo (Alta)	
			Peters, T.V.P. (GMV	Pace, G., Torre, L.	

	Main	Senate	van Hasselt	Commission	Commission	Commission
	Auditorium	room	room	room 3	room 2	room 4
				Aerospace and Defence	(Alta S.p.A.)	
				SAU), Naudet, J.		
				(QinetiQ Space), Chitu,		
				C.C. (GMV Romania),		
				Sewerin, J.K., Barcinski,		
				T. (Centrum Badari		
				Kosmicznych Polskiej		
				Akademii Nauk)		
	Composite		Propeller	Technologies for		
11:00 - 12:30	Structures 2	AFLoNext workshop	Interactional	Active Debris	Space design 2	EWADE
	Structures 2		Aerodynamics	Removal 1		
	77		5	31	7	
				Autonomous robotic		
				system for active		
	Multiscale Virtual		Wind tunnel high	debris removal:		
	Testing – The		speed powered	requirements, state-	Thermally Induced	
	roadmap to the		tests of the ERICA	of-the-art and	Vibration Analysis of	
	efficient design of		tilt rotor model in	concept architecture	Flexible Solar Wing	
	composites for		S1MA - NICETRIP	of the rendezvous		
	Damage Tolerance		Project	and capture (RVC)		
				control		
				architecture/system		
				Jankovic, Marko		
	Lopes, Claudio			(German Research	Kong, Xianghong	
	(IMDFA Materials		Lebrun, Frederic	Center for Artifial	(Nanjing University of	
	Institute)		(ONERA)	Intelligence (DFKI	Aeronautics and	
				GmbH) / University of	Astronautics)	
				Bremen)		
	Falcó, O., Naya, F.		_	Kumar, K., (Dinamica	Yang, J. (RMIT	
	(IMDEA Materials		-	Srl) Romero Martin, J.,	University), Wang, Z.	

Main	Senate	van Hasselt	Commission	Commission	Commission
Auditorium	room	room	room 3	room 2	room 4
Institute), Tijs, B.			Vasile, M. (Strathclyde	J. (NUAA)	
(Fokker Aerostructures			University), Ortiz Gómez,		
B.V.), González, C.,			N., Walker, S.J.I.		
Llorca, J. (IMDEA			(Southampton		
Materials Institute)			University), Kirchner, F.		
			(DFKI), Topputo, F.		
			(Politecnico di Milano)		
255		152	135	20	
Automation in Composites: State at NLR and future developments		APIAN-INF: a Low- speed Aerodynamic and Aeroacoustic Investigation of Pylon – Pusher Propeller	COBRA contactless de-tumbling	Interactive 3D Visualization to Support Concurrent Engineering in the Early Space Mission	
		Interaction Effects		Design Phase	
Thuis, Bert (National		Sinnige, Tomas (Delft	Peters, Thomas (GMV	Deshmukh, Meenakshi	
Aerospace Laboratory		University of	Aerospace and Defence	(German Aerospace	
NLR)		Technology)	SAU)	Center DLR)	
-		Malgoezar, A.M.N., Scheper, K.Y.W., Ragni, D., Snellen, M., Eitelberg, G. (Delft University of Technology)	Escorial Olmos, D., Pellacani, A. (GMV)	Wolff, R., Fischer, P.M., Flatken, M., Gerndt, A. (German Aerospace Center DLR)	
82		156	155		
CompoWorld: an innovative		CFD Analysis of a blowing pylon	How many satellites need de-orbit		
approach to		system for the	technologies? Future		
innovation and		APIAN propeller in	scenarios for passive		
economic		pusher	de-orbit devices		

	Main	Senate	van Hasselt	Commission	Commission	Commission
	Auditorium	room	room	room 3	room 2	room 4
	Veldman, Bouke (Stichting CompoWorld)		Sitges de la Sotilla, Oscar (German Aerospace Center DLR)	Palla, Chiara (Cranfield University)		
	-		Márquez Gutiérrez, C.M. (Rolls-Royce Deutschland)	Jennifer Kingston (Cranfield University)		
13:30 - 15:00	Aeroacoustics	AFLoNext workshop	Propulsion Integration 1	Technologies for Active Debris Removal 2	Green Propulsion 2	EWADE
	19		180	132	101	
	Assessment of aircraft noise sources variability using an acoustic camera		Computation of Thermodynamic Cycle for Novel Detonation Aircraft Engine	Special Equipment Which Uses Concentrated Solar Light for Earth Protection Against Asteroids-Advanced Design and Technology	Green Micro- Resistojet Research at Delft University of Technology: the New Frontiers of Cubesat Propulsion	
	Merino Martinez, Roberto (Delft University of Technology)		Cuciumita, Cleopatra (Romanian Research and Development Institute for Gas Turbines COMOTI)	Sandu, Constantin (Romanian Research and Development Institute for Gas Turbines COMOTI)	Cervone, Angelo (Delft University of Technology)	
	Snellen, M.S., Simons, D.G. (Delft University of Technology TUD)		Porumbel,1. (COMOTI Romanian Research and Development Institute for Gas Turbines)	Brasoveanu, D. (Orbital ATK), Anghel, O., Voicu, R., Zavodnic, R. (COMOTI)	Zandbergen, B., Guerrieri, D.C., De Athayde Costa e Silva, M. (Delft University of Technology), van Zeijl,	

	Main	Senate	van Hasselt	Commission	Commission	Commission
	Auditorium	room	room	room 3	room 2	room 4
					H. (Else Kooi	
					Laboratory)	
	88		149	240	232	
	On thermo-acoustic acoustic-vortical- entropy waves and flow stability		The constructal principle and character law, hyperbolic, of natural design, a new paradigm of aerospace systems	Simulating and testing throw-nets for space debris removal	ESA green propulsion progress	
	Campos, Luis (Instituto Superior Técnico)		Stanciu, Virgil (University Politehnica of Bucharest)	Wormnes, K. (European Space Agency)	Valencia-Bel, F. (European Space Agency)	
	Marta, A.C.M. (Instituto Superior Técnico)		Pavel,C. (University Politehnica of Bucharest)	-	D. Greuel, A. Gernoth (ESA)	
	122		· · ·		219	
	A new computational framework for UAV quadrotor noise prediction				Green Solid Propellants for Launchers	
	Vieira, Ana (CEIIA)				Wingborg, Niklas (Swedish Defence Research Agency, FOI)	
	-				-	
15:30 - 17:00	Community Noise	AFLoNext workshop		Space Design 3		EWADE
	38			94		
	Clean Sky Technology			Combined Launch System: a new		(internal meeting)

Main	Senate	van Hasselt	Commission	Commission	Commission
Auditorium	room	room	room 3	room 2	room 4
Evaluator – Noise			concept to reduce the		
assessment and			launch costs for Micro		
experience at			(Cube) Satellites and		
airport ievei			Debris nunting		
Faring Michael			probes		
			Ahmed, Hamed (Cairo		
(National Aerospace			University)		
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			All moving tail plate		
			interaction on an		
Auralization of			aerodynamic		
novel aircraft			characteristic of the		
configurations			rocket plane in		
			tailless configuration		
Arntzen, Michael			Kwiek, Agnieszka		
(National Aerospace			(Warsaw University of		
Laboratory NLR)			Technology)		
Bertsch, L. (DLR),			Figat, M.F., Senenko,		
Simons, D.G. (Delft			K.S. (Warsaw University		
Technical University)			of Technology)		
202			218		
Noise predictions of					
a hypersonic air			Analysis of the flow in		
transport vehicle			a propulsion nozzle		
concept during the			subjected to a fluid		
landing and take-			injection		
off cycle					
Wijntjes, Rik (National			Chellou, Nassir (Hassiba		

	Main	Senate	van Hasselt	Commission	Commission	Commission
	Auditorium	room	room	room 3	room 2	room 4
Aero	space Laboratory			Benbouali University of		
	NLR)			Chlef)		
Tui	Tuinstra, M (NLR),					
Ta	Taguchi, H (Japan Aerospace Exploration		M. (Hassiba Panhauali			
Aero			- IVI. (Hassiba belibouali University of Chlof)			
	Agency)			University Of Chief)		
17:00 - 18:00			Closi	ng event		

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CzAeS **Czech Aeronautical** Society

AAAR

Asociația Aeronautică si Astronautică a României

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FUROAVIA European Association of Aerospace Students

FTF

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FSA European Space Agency

SWFV

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