5th CEAS Air & Space Conference

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

@ NLR Amsterdam, model & designed in framework EU project RECREATE

Contents

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.

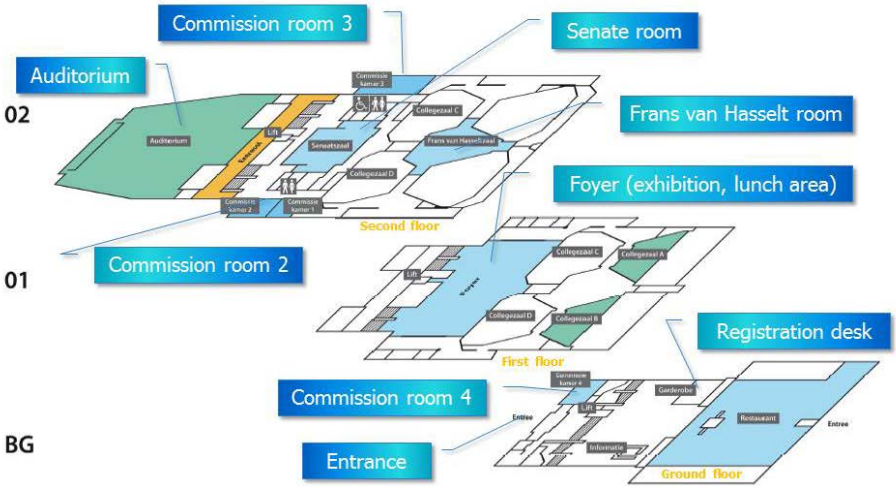
Programme at a glance

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

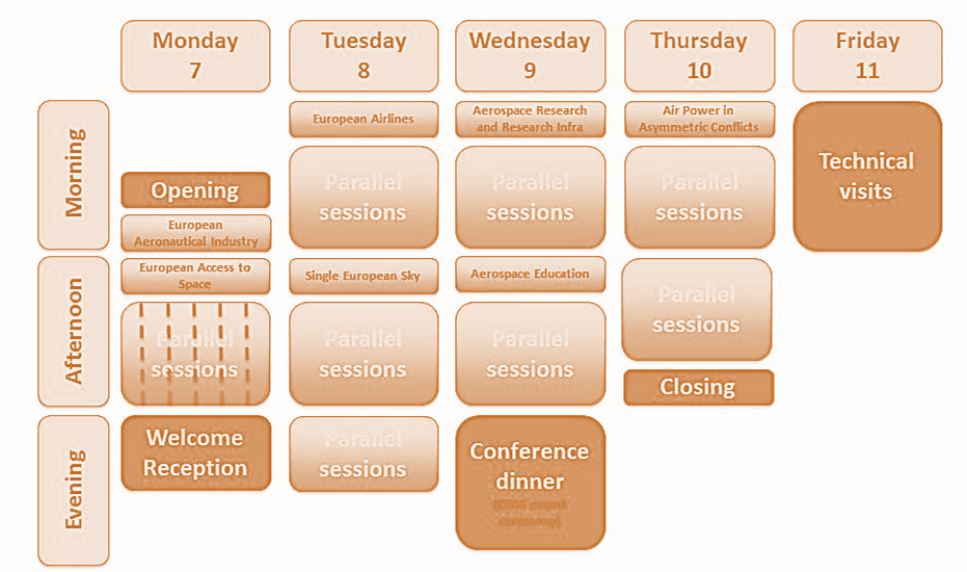
Enjoy snacks and drinks and get to meet with your peers during the reception in the Delft Botanic Gardens (Monday 7 September 18.30 – 20.00 hours). The Gardens are at walking distance from the conference venue (Poortlandplein 6, 2628 BM Delft).

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

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 (http://www.alta-space.com/pulcher/). 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 (ESTEC) 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)

NLR 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 faculty of Aerospace Engineering 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)

Fokker Aerostructures 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

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.

Currency
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 non-appearance of speakers or other reasons necessitate Programme changes.
By his/her registration, the participant accepts this provision.

Time
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 frequency-bands 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 air 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 parking 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 www.delft.nl.

Delft is on the main train line between Paris, Brussels, and Amsterdam. Although the high-speed 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: http://9292.nl/en/

At Delft Central Station buses 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.

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

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

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
18:45 – 22:30	Conference dinner (embarkment: Maasboulevard, 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

08:00 – 09:00	Keynote 'Challenges to the European Air Power in Asymmetric Conflicts' (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 – 15:00	Parallel sessions
15:00 – 15:30	*Coffee/tea break*
15:30 – 17:00	Parallel sessions
17:00 – 18:00	Closing event (Auditorium)
08:00 – 08:45	Registration for AFLoNext workshop
08:45 – 17:45	AFLoNext workshop (Senate room)
09:00 – 17:00	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 Pasini[1] (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.)

[1] Speaker

IN2SAI events (9 September 2015)

in2sai
INcreasing young women's participation in Science Studies and in the Aeronautic Industry

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+)

AFloNext 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 EU-funded 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)

CEAS 2015 best papers, after having passed the CEAS review process of Springer, will be published in the CEAS Aeronautical Journal or CEAS Space Journal.

All papers accepted for presentation at the CEAS Air & Space conference 2015 will be published and distributed in electronic form, a.o. to delegates on a USB-stick. CEAS 2015 proceedings will be published according to the Open Access Spectrum OAS standards (http://www.plos.org/open-access/howopenisit). They will appear Open Access (for free download and with readership rights) on the CEAS website. The upload of the papers to the website will be carried out not earlier than six months after the conference date.

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25 to 30 September 2016
Daejeon, Korea
http://www.icas2016.com/

66th International Astronautical Congress (IAC)

12 - 16 October 2015
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20 – 23 October 2015
London, UK
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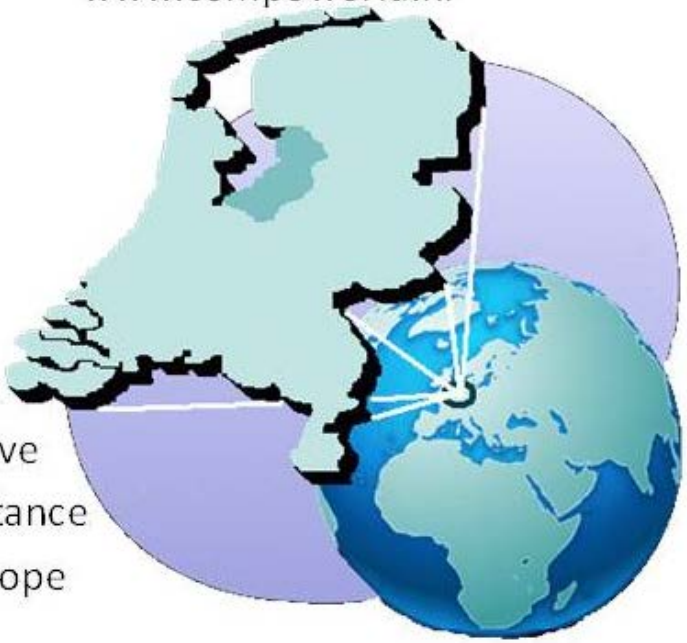

Regional initiative
National importance
International scope

Detailed Programme: technical sessions

	Main Auditorium	Senate room	van Hasselt room	Commission room 3	Commission room 2	Commission room 4
Monday 7 September 2015						
10:00 - 11:00	**Opening ceremony**					
11:30 - 12:30	**Keynote 'Challenges for the European Aeronautical Industry'** Axel Flaig, Head of R&T Airbus & Hans Buethker, Chairman & CEO Fokker Technologies					
13:30 - 14:30	**Keynote 'Challenges for European Access to Space'** Jan Wörner, Director General ESA & Arnaud de Jong, CEO Airbus Defense 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 Auditorium	Senate room	van Hasselt room	Commission room 3	Commission room 2	Commission room 4
E.J. (ISQ), Ringen, G. (Sintef Raufoss Manufacturing), Estrela, M.A. (ISQ)					
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**

CEAS 2015: Conference programme
Technical sessions

	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),	

CEAS 2015: Conference programme
Technical sessions

Main Auditorium	Senate room	van Hasselt room	Commission room 3	Commission room 2	Commission room 4
	Gómez Viñas, J.E., Juan Antonio, J.A. (Airbus Group), Tito Carrillo, J. (Sertec)		München)	Gautrey, J.E. (Cranfield University), Lucas, A. (AOS Group), Whidborne, JF (Cranfield University)	
237	150		117	71	
Developing a standardised methodology for space-specific Life Cycle Assessment	**Development of a certification module tailored to Aircraft Multi Disciplinary Optimization**		**Assessment of Pulsed-Jet Actuators to Increase Maximum Lift of a Mid-Range Aircraft**	**RPAS Systems Overview and Configuration Tool**	**Green propellants: alternative to Hydrazine and its derivatives (continued)**
Austin, Julian (European Space Agency)	Schmollgruber, Peter (ONERA)		Vos, Roelof (Delft University of Technology)	Gruber, Mario (Fach Hochschule Joanneum)	Angelo Pasini (Sitael S.p.A.)
Jakob Huesing (Rhea for European Space Agency), Tiago Soares (European Space Agency), Luisa Innocenti (European Space Agency)	Bartoli, N. (Onera), Gourinat, Y. (ISAE)		Bertels, F. G. A., Van Dijk, R. E. C. (Delft University of Technology TUD)	Flühr, H.F., Kainrath, K.K., Jelinek-Nigitz, H.J. (FH Joanneum), Fortner, R.F., Ritzinger, M.R. (AAI – Austrian Aeronautics Industries 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.)

CEAS 2015: Conference programme
Technical sessions

	Main Auditorium	Senate room	van Hasselt room	Commission room 3	Commission room 2	Commission 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	**Keynote 'Challenges to the European Airlines'** Athar Husain Khan, CEO Association of European Airlines AEA & Peter Hartman, Vice-chairman Board of AirFrance/KLM					
09:00 - 10:30	**Air Transport 1**	**Aircraft Design: Configurations**	**Guidance & Navigation**	**Impact of Rockets on Atmosphere**	**Space Sustainability panel session**	**CEAS Trustee Board 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), K.-U. Schrogl (UN COPUOS, Legal), J.-J. Tortora (Eurospace),	

CEAS 2015: Conference programme
Technical sessions

Main Auditorium	Senate room	van Hasselt room	Commission room 3	Commission room 2	Commission 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)		

CEAS 2015: Conference programme
Technical sessions

	Main Auditorium	Senate room	van Hasselt room	Commission room 3	Commission room 2	Commission room 4
	-	Bogdanski, Krzysztof. (Warsaw University of Technology)		-		
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		

CEAS 2015: Conference programme
Technical sessions

Main Auditorium	Senate room	van Hasselt room	Commission room 3	Commission room 2	Commission room 4
Economical Assessment of Commercial High-Speed Transport	**Landing Gear Conceptual Design and Structural Optimization of a Large Blended Wing Body Aircraft**	**Rotorcraft-Pilot Coupling Research in Europe: A Success Story in Collaboration**	**Additive Manufacturing for Space applications on European Space Programs**	**IXV project from 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 Center DLR)	Barrett, Ronald (The University of Kansas)	Entz, Ricardo (Airbus Defence and Space)			
Gollnick, V G (DLR, Air Transportation Systems)	-	Tressoldi Moreira, Fernandes de Oliveira, Schubert, Dickmanns,			

CEAS 2015: Conference programme
Technical sessions

	Main Auditorium	Senate room	van Hasselt room	Commission room 3	Commission room 2	Commission room 4
			Stenzel, Scherer, Schwening (Airbus Defence and Space GmbH)			
13:30 - 14:30	**Keynote 'Challenges in realizing a Single European Sky'** Florian Guillermet, Director SESAR JU & Paul Riemens, CEO 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.	

CEAS 2015: Conference programme
Technical sessions

Main Auditorium	Senate room	van Hasselt room	Commission room 3	Commission room 2	Commission 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					

CEAS 2015: Conference programme
Technical sessions

	Main Auditorium	Senate room	van Hasselt room	Commission room 3	Commission room 2	Commission room 4
	automation					
	Westin, Carl (Delft University of Technology)					
	Borst, C. (Delft Technical University), Hilburn, (Center for Human Performance Research)					
16:30 - 18:00	**Air Traffic Control 2**	**Aircraft Systems 1**	**EU ESWIRP project - Turbulent / Laminar Flow Testing**	**Advanced Manufacturing for Space Applications 2**	**Remotely Piloted Aircraft Systems 3**	**ECAero-2 internal meeting**
	141	138	26	224	109	
	An ecological flow-based decision support tool for future 4D-trajectory management by air traffic control	**A Methodology to Enable Automatic 3D Routing of Aircraft Electrical Wiring Interconnection Systems**	**Experimental Investigation of Small Scale Homogeneous Isotropic Turbulence in S1MA wind tunnel**	**Characterisation of Material Demisability for Spacecraft Components**	**Visual tracking of ground and air targets**	
	Klomp, Rolf (Delft University of Technology)	Zhu, Zaoxu (Delft University of Technology)	Bourgoin, Mickael (LEGI / CNRS)	Merrifield, Jim (Fluid Gravity Engineering)	Gafurov, Salimzhan (Samara State 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)	

CEAS 2015: Conference programme
Technical sessions

Main Auditorium	Senate room	van Hasselt room	Commission room 3	Commission room 2	Commission 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	

CEAS 2015: Conference programme
Technical sessions

	Main Auditorium	Senate room	van Hasselt room	Commission room 3	Commission room 2	Commission room 4
	A., Moore, M. (RMIT University)	University of Technology), De Jong, H., Van der Elst, S. (KE-works)			Atomics Aeronautical Systems Inc.)	
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**	

CEAS 2015: Conference programme
Technical sessions

	Main Auditorium	Senate room	van Hasselt room	Commission room 3	Commission room 2	Commission room 4
			The case of Health and Usage Monitoring Systems (HUMS) in the management of missiles stockpiles	**Model**		
	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, J.-M. (MBDA)	Waldmann, A., Lutz, T., Krämer, E. (University of Stuttgart)	-	
	217	254		182	250	
	Aerial Delivery dynamic model validation by Flight Test	**Multi-use 48kW DC/AC and AC/AC Power Electronic for unpressurized area**		**The influence of the drag dynamic stall in the vawt starting efficiency**	**The CleanSky Experience – a Cluster Core 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)	
Wednesday 9 September 2015						
08:00 - 09:00	**Keynote 'Challenges to the European Aerospace Research and Infrastructure'**					

CEAS 2015: Conference programme
Technical sessions

	Main Auditorium	Senate room	van Hasselt room	Commission room 3	Commission room 2	Commission room 4
	Eric Dautriat, Executive Director CleanSky, Rolf Henke, Member DLR Executive Board & Michel Peters, CEO 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)	

CEAS 2015: Conference programme
Technical sessions

Main Auditorium	Senate room	van Hasselt room	Commission room 3	Commission room 2	Commission 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),		-	-	

CEAS 2015: Conference programme
Technical sessions

	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	

CEAS 2015: Conference programme
Technical sessions

Main Auditorium	Senate room	van Hasselt room	Commission room 3	Commission room 2	Commission room 4
(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 Transonic Wind Tunnel Test Data and NASA Test Data	**Integrated multidisciplinary engineering solutions at Fokker Aerostructures**			**France Space R&D programme & Uncover rough diamonds: Switzerland's National Space initiatives**	
Rivers, Melissa (NASA Langley Research Center)	Berg, Tobie (Fokker Aerostructures)			Blanco, Dampier (CNES - French Space Agency), Richard, Johann (Swiss Space Office)	
Quest, J.Q. (European Transonic Windtunnel), Rudnik, RR (German Aerospace Center	Laan, A.H., Hootsmans, L.M. (Fokker Aerostructures)			-	

CEAS 2015: Conference programme
Technical sessions

	Main Auditorium	Senate room	van Hasselt room	Commission room 3	Commission room 2	Commission room 4
	DLR)					
13:30 - 14:30	**Keynote 'Challenges to the European Aerospace Education'** Hester Bijl, Dean TU-Delft Aerospace Faculty, Frithjof Weber, Head of Knowledge and Competence Management Airbus & Franco Bernelli, Politecnico di Milano, Aerospace Science and Technology					
14:30 - 16:00	**Greenhouse Gas Emissions 1**	**Maintenance Repair and Overhaul**	**Future Education and Training Needs**	**De-orbiting Technologies**	**Space Design 1**	**4th IN2SAI partner meeting**
	76	33	25	162	56	
	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 Future 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**	

CEAS 2015: Conference programme
Technical sessions

Main Auditorium	Senate room	van Hasselt room	Commission room 3	Commission room 2	Commission 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)		

CEAS 2015: Conference programme
Technical sessions

	Main Auditorium	Senate room	van Hasselt room	Commission room 3	Commission room 2	Commission 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, ESA/ESTEC		
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	

CEAS 2015: Conference programme
Technical sessions

Main Auditorium	Senate room	van Hasselt room	Commission room 3	Commission room 2	Commission room 4
				Turbines COMOTI)	
-	-	Ciampa, P.D., Nagel, B. (German Aerospace Center DLR)	Ferrario, L.F., Rossettini, LR (D-ORBIT SRL)	Brasoveanu, D. (Orbital ATK), Voicu, R., Deaconu, M., Cican, G., Zavodnic, F. (COMOTI)	
190	167	46	238	203	
Carbon Dioxide Emissions from Air Traffic Internal to Industrialised States and between them	**Design and optimisation methodologies for Additive Layer Manufacturing (ALM) considering uncertainties**	**Conceptual Design Method for the Wing Weight Estimation of Strut Braced Wing Aircraft**	**Airbus Defence and Space Global Approach to Space 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 (German Aerospace Center DLR)	Duhamel, Thierry (Airbus Defence and Space)	Jorna, Peter (PAL-V)	
Rigaudias, Jean-Baptiste (Air and Space Academy, retired Air France VP Environment)	Alves, N.A. (Instituto Politécnico de Leiria IPL), Santos, RS (Instituto 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 door for long endurance flights supported by light weight and precise micro parts	**Morphed vertical tailplane assessment for certification requirements**	**CleanSat: the Clean Space's response to the space debris situation**		
	Winderlich, Matthias (3D	Castillo-Acero, Miguel	Soares (European		

CEAS 2015: Conference programme
Technical sessions

	Main Auditorium	Senate room	van Hasselt room	Commission room 3	Commission room 2	Commission room 4
		MicroPrint)	Angel (Aernnova)	Space Agency)		
		Goebner, J.G.. Blau, M.B.L., Weber, D.W.E., Starke, T.S.T., Schneck, M.S.C., Lehnhardt, A.L.E. (3D MicroPrint GmbH)	Cuerno-Rejado, C., Gómez-Tierno, M.A. (Escuela Técnica Superior de Ingenieros Aeronáuticos, UPM)	-		
Thursday 10 September 2015						
08:00 - 09:00	**Keynote 'Challenges to the European Air Power in Asymetric Conflicts'** CDRE Peter Round, Director Capability EDA & Lt-Gen Sander Schnitger, Commander Royal Netherlands Air Force					
09:00 - 10:30	**Composite Structures 1**	**Active Flow- Loads & Noise control on next generation wing (AFLoNext) workshop**	**The Future of Air Combat Systems in Europe**	**Active Debris Removal system studies**	**Green Propulsion 1**	**European Workshop on Aircraft Design Education (EWADE)**
	36		119	153	68	193
	Crash Concept for Composite Transport Aircraft Using Tensile and Compressive Absorption Mechanisms		**Flight-physical aspects and methods of future military aircraft designs**	**ESA's e.deorbit mission and its roadmap to Active Debris Removal**	**Experimental investigations based on a demonstrator unit to analyze the combustion process of a nitrous oxide/ethene premixed green bipropellant**	**The Importance Of Non-Linearities In Aircraft Preliminary Design**
	Schatrow, Paul (German Aerospace Center DLR)		Hitzel, Stephan Maria (Airbus Defence and Space)	Biesbroek, Robin (European Space Agency)	Werling, Lukas (German Aerospace Center DLR)	Nicolosi, Fabrizio (University of Naples Federico II"")
	Waimer, M. (German Aerospace Center DLR)		-	-	Perakis, N., Hochheimer, B.I.J., Gernoth, A.,	De marco, A., Della Vecchia, P (University of Naples Federico II"")

CEAS 2015: Conference programme
Technical sessions

Main Auditorium	Senate room	van Hasselt room	Commission room 3	Commission room 2	Commission 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.	

CEAS 2015: Conference programme
Technical sessions

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

Main Auditorium	Senate room	van Hasselt room	Commission room 3	Commission room 2	Commission room 4
Institute), Tijs, B. (Fokker Aerostructures B.V.), González, C., Llorca, J. (IMDEA Materials Institute)			Vasile, M. (Strathclyde University), Ortiz Gómez, N., Walker, S.J.I. (Southampton University), Kirchner, F. (DFKI), Topputo, F. (Politecnico di Milano)	J. (NUAA)	
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 Interaction Effects**	**COBRA contactless de-tumbling**	**Interactive 3D Visualization to Support Concurrent Engineering in the Early Space Mission Design Phase**	
Thuis, Bert (National Aerospace Laboratory NLR)		Sinnige, Tomas (Delft University of Technology)	Peters, Thomas (GMV Aerospace and Defence SAU)	Deshmukh, Meenakshi (German Aerospace 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 approach to innovation and economic		**CFD Analysis of a blowing pylon system for the APIAN propeller in pusher**	**How many satellites need de-orbit technologies? Future scenarios for passive de-orbit devices**		

CEAS 2015: Conference programme
Technical sessions

	Main Auditorium	Senate room	van Hasselt room	Commission room 3	Commission room 2	Commission room 4
	development		**configuration**			
	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,I. (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,	

CEAS 2015: Conference programme
Technical sessions

	Main Auditorium	Senate room	van Hasselt room	Commission room 3	Commission room 2	Commission 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)**

CEAS 2015: Conference programme
Technical sessions

Main Auditorium	Senate room	van Hasselt room	Commission room 3	Commission room 2	Commission room 4
Evaluator – Noise assessment and experience at airport level			**concept to reduce the launch costs for Micro (Cube) Satellites and Debris hunting probes**		
Eenige, Michel (National Aerospace Laboratory NLR)			Ahmed, Hamed (Cairo University)		
-			-		
39			157		
Auralization of novel aircraft configurations			**All moving tail plate interaction on an aerodynamic characteristic of the rocket plane in tailless configuration**		
Arntzen, Michael (National Aerospace Laboratory NLR)			Kwiek, Agnieszka (Warsaw University of Technology)		
Bertsch, L. (DLR), Simons, D.G. (Delft Technical University)			Figat, M.F., Senenko, K.S. (Warsaw University of Technology)		
202			218		
Noise predictions of a hypersonic air transport vehicle concept during the landing and take-off cycle			**Analysis of the flow in a propulsion nozzle subjected to a fluid injection**		
Wijntjes, Rik (National			Chellou, Nassir (Hassiba		

	Main Auditorium	Senate room	van Hasselt room	Commission room 3	Commission room 2	Commission room 4
	Aerospace Laboratory NLR)			Benbouali University of Chlef)		
	Tuinstra, M (NLR), Taguchi, H (Japan Aerospace Exploration Agency)		-	Benarous, A, Guendez, M. (Hassiba Benbouali University of Chlef)		
17:00 - 18:00	**Closing event**					

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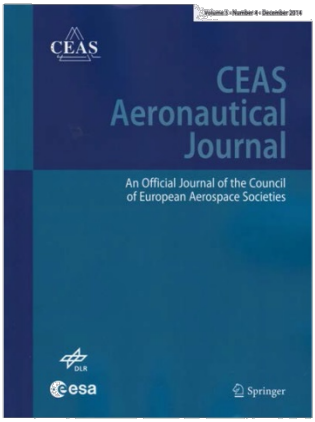

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