

Air & Space Europe

THE QUARTERLY NEWSLETTER OF THE CEAS

editorial

THE CEAS, IN SHORT

As CEAS Vice President for Awards and Publications, I am proud to present this second issue of the CEAS Quarterly Newsletter to our readers. All of you may not be so familiar with CEAS, so I would like to take this opportunity to introduce you to the Confederation and what it stands for.

Aerospace in Europe has in the past two decades transitioned from national activities into a predominantly European co-operation. Transnational companies like Airbus are emerging and the aeronautics research programmes of the European Union have grown in scale and importance. Already in the mid 1980s Europe's main professional aerospace societies, having managed bilateral exchanges for a long time, recognized the increasingly international nature of the European aerospace business and began to develop closer working relationships.

This culminated in the formation of the Confederation of European Aerospace Societies (CEAS) during the 1992 Farnborough Airshow and the official signing of the CEAS Constitution at the 1993 Paris Airshow. Today CEAS comprises eight member Societies with about 25,000 individual members. These societies represent the leading learned societies in the field of aeronautics and astronautics in France, Germany, Italy, The Netherlands, Spain, Sweden, Switzerland and the United Kingdom. The purpose of the Confederation is to jointly promote the interests of the constituent societies on a European scale.

The Confederation is governed by a Council which has the legal status of an unregistered association. The CEAS Council is composed of the Presidents and Executive Officers of each society and it meets at least twice a year. The Presidency of the Confederation rotates each year between the Societies. The present President is Ir. Fedde Holwerda from the Netherlands and you will find an interview with him in page 2. The Society in charge of the Presidency also undertakes the administrative



work for the Confederation during the twelve months of the Presidents term.

To assist the President, the Council decided in 2002 to establish three Vice Presidents elected by the Council for three years. I am in charge of Awards and Publications. The

Award takes the form of a gold medal and is presented annually. Mr Jean-Michel Contant is responsible for External Relations that is identifying and expressing common positions in areas where we can be more influential as a Confederation than as individual societies. Lastly, Professor Ian Poll handles the Technical Programmes with the aim to coordinate events among the Societies through the Programme Co-ordination Committee (PCC) and Special

Committees in different areas. The PCC under the Chairmanship of Roland Fairfield is responsible for the organization and coordination of joint programmes, the CEAS European Fora and the European Aerospace Conferences (EAC) organised by the CEAS in conjunction with other national and international events.

The CEAS has no resources of its own, no secretariat, no buildings, no permanent staff others than those provided by the Member Societies. Member societies retain all their individuality and independence. Our aim is to create a confederation through which each Society can benefit, and through this any individual member.



Ulf Olsson

CEAS Vice President, Awards and Publications

Dr Ulf Olsson, born in 1941, received his PhD in mechanical engineering from the Chalmers University of Technology in Gothenburg, Sweden, in 1971. His doctoral thesis concerned vibrations in thin-walled heated shells.

In 1969 he was employed by the Volvo Aero Corporation as a research engineer and in 1974 he was made responsible for the research programmes on military engines. In 1981 he was appointed as Manager for Space Division where he was responsible for the company's entry into the Ariane 5 programme. In 1986 he left the Space Division to take up a position as Manager for Business Development Commercial Engines and in 1992, he was appointed as Director for Advanced Programmes. In this position he was responsible for all research programmes of the company including the par-

ticipation in the EU research programmes. In 1996 he took up his present position as Vice President for Technology of Volvo Aero Corporation. He reports to the Executive Management on all research and development activities of the company. He is scheduled to retire from VOLVO on 1 September 2003.

Dr Ulf Olsson is a member of the Technology Management Board of the Volvo Group and of the Board for Mechanical Engineering at Chalmers University of Technology. He is the former chairman of the European Commission Advisory Group for Aeronautics.

Besides his PhD in mechanical sciences, **Dr Ulf Olsson** also holds a Master of Business Administration from the School of Business Administration in Gothenburg.

PERSONALITY INTERVIEW

The Editorial Coordinators of Air & Space Europe have interviewed Ir. Fedde Holwerda, Director General of the Netherlands Aerospace Laboratory, Chairman of the CEAS Council since April 2003



A&SE

In a few words, which were the points that you regarded as most significant during the last meeting of the CEAS Council?

Fedde Holwerda

The discussion on the future structure of CEAS, introduced by the initiative of Dr. Stavrinidis to integrate the space sections of the CEAS-societies. It really illustrated the differences between the Societies and

the difficulty over the past ten years for CEAS to do more than just «co-ordinate» on subjects where no real national interests are playing a dominant role.

A&SE

What are the main objectives that you have in mind for the CEAS during the year of your chairmanship?

Fedde Holwerda

To bring the above-mentioned discussion about the «Space Group» to an implementation phase.

A&SE

A few years ago, the intention was expressed to build up a «strategic plan» for the CEAS. What is the current status of this idea?

Fedde Holwerda

To my knowledge, until now there is no such «plan». However, it was for this matter, among others, that the positions of Vice-President, with a much more permanent character than the President, were established. Already, the role of Vice-President for Awards and Publications has developed significantly; those of the Vice-Presidents for Technical Programmes and External Relations are at a less advanced stage but I look forward to their impact being visible outside the Board quite soon.

A&SE

The European Association of Aerospace Industries has 16 national members. The European Union will embrace 25 member states in 2004. Is the CEAS taking any steps to enlarge its number of member societies or, if not, should it do so?

Fedde Holwerda

This is typically a question that should be answered in such a Strategic Plan. I personally think that instead of enlarging CEAS as a confederation, CEAS should in the future transform itself into a Society in its own right, limiting its geographic boundaries to the European Union whose citizens, if fulfilling certain criteria in aeronautics, space or defence, could become direct members. The national societies would then become «Regional Branches» (perhaps defined by real region and not by «today-nation»). In my view this is the only way to overcome all the differences in the statutes of the present day Societies.

A&SE

Would you be in favour of the CEAS extending its membership to include the Russian Federation?

Fedde Holwerda

My previous answer also responds to this question. If Russia becomes a member of the EU eventually then yes; if not, which is the more probable case, no!

A&SE

Do you think it would be valuable to establish closer links with the European institutions and organisations such as the European Commission, OCCAR, WEAO, AECMA, EREA, ESA, etc?

Fedde Holwerda

In my view, we as CEAS should do the maximum possible within the present structures. However, it seems clear to me that today this is to a certain degree only possible with AECMA, EREA and ESA (and it depends strongly on the personal network of the Board members and Vice-Presidents).

A&SE

What are your views on the proposal, put forward at the last Council meeting, to establish a ninth transnational entity which would gather together all CEAS space related activities?

Fedde Holwerda

As you can understand from my reaction to earlier questions, I view this as a test case and pilot-project for the first step to achieve a European Union-wide «AeroSpace & Defence (ASD) Society» which can really place itself on the same footing as the American Institute of Aeronautics and Astronautics.

A&SE

How do you see the balance in CEAS activities and aspirations between practical questions (research, technology, operations) and questions of strategy and public policy; and between civil and military aspects?

Fedde Holwerda

The «power» of CEAS as a known and meaningful organisation is not very strong in my view. So the first priority is to do the practical things well and on time, which will help us to increase this power.

A&SE

Is it your intention that, before the end of your chairmanship, CEAS should publish a new Position Paper? If so, on what subject?

Fedde Holwerda

If any.... I would work on a roadmap for the next ten years for CEAS as a European (Union) organisation, addressing such questions as: Is there a need for a «European ASD Society»? If so, should that be CEAS or do we start from a brand new initiative alongside CEAS and the national societies?... (I hope not!). What will CEAS be in ten years from now and how will that affect the national societies? Which societies will join and which will step out ??

A&SE

Thank you very much, dear chairman.



2003 CEAS AEROSPACE AERODYNAMICS RESEARCH CONFERENCE 10TH - 12TH JUNE 2003

By Clyde Warsop (BAE SYSTEMS)

THE 2003 CEAS AEROSPACE AERODYNAMICS RESEARCH CONFERENCE WAS HELD IN LONDON BETWEEN THE 10TH AND 12TH OF JUNE. THE EVENT WAS ORGANISED BY THE ROYAL AERONAUTICAL SOCIETY (RAES) THROUGH AN ORGANISING COMMITTEE CHAIRED BY DR CLYDE WARSOP OF THE BAE SYSTEMS ADVANCED TECHNOLOGY CENTRE IN BRISTOL.

HISTORY

The annual Aerospace Aerodynamics Research Conference is becoming an established event within the European conference calendar. Until about four years ago the event was an entirely UK affair aiming to bring together representatives from universities and industry. During 2000 the conference was re-oriented with a view to establishing an annual European conference that could achieve some of what the AIAA annual Applied Aerodynamics Conference does in the United States. To this end it was decided to theme the event, invite a broader involvement from non-UK participants and introduce a peer review scheme to improve the quality of papers to attract greater participation from both the academic and industrial communities.

Last year's conference had a very strong civil aeronautics theme (fixed wing and rotorcraft). This year's conference was strongly slanted towards military aeronautics research. Papers focused on the aerodynamic aspects of a wide range of military aviation platforms including Unmanned Air Vehicles (UAV's), Unmanned Combat Air Vehicles (UCAVs), Micro-UAVs, weapons, and stores carriage and release.

THE CONFERENCE

Of the 120 delegates drawn from academic, industrial, military and government organisations more than one third came from outside the UK (Europe, USA, Canada, Russia, India, Israel and Australia). In the opening keynote session invited papers were given on «the future aerodynamics, stability and control requirements and issues related to UCAVs» by Paul Flux of BAE SYSTEMS; «the aerodynamics issues associated with future weapon systems» by 'Kit' Eaton of MBDA and on «the issues associated with the operation of UAVs from a naval perspective» by Terry Ghee of US Naval Air Systems Command. This was followed by a further 47 papers in 15 sessions covering a broad range of topics including vortical flows, novel configurations, high lift, propulsion integration, weapon and store aerodynamics, computational fluid dynamics, micro air-vehicles, flow control and advanced experimental techniques. Many of the sessions opened with an invited paper by an acknowledged expert in the field and all included time for questions and discussion.

Of particular note were two sessions comprising six «best of conference» papers selected by the AIAA from their June 2002 applied Aerodynamics Conference. This is the first year that this bilateral arrangement between the RAES and the AIAA has been in effect. The two sessions were on the topics of "Aerodynamic Test and Simulation" and "Micro Air Vehicles". The papers and presentations were to a very high standard and were greatly enjoyed by all. Six new papers from this conference have been selected for presentation to the AIAA conference in Reno in January 2004.

The conference concluded with a successful podium led discussion attended by over three-quarters of the delegates.

CONCLUSIONS

The general reaction of delegates to the Conference was very positive in respect of both organisation and content. The following areas were identified as key drivers for future research activity:

- ▶ Need for methods for concept design involving non-aerodynamic shapes.
- ▶ Flows associated with future military vehicles are complex.
- ▶ Potential of efficient and effective active flow control.
- ▶ Need to better understand applicability of particular CFD methods.
- ▶ Need for reliable unsteady experimental data for CFD validation.
- ▶ CFD can give understanding of the aerodynamics of manoeuvring aircraft.
- ▶ Need to better understand non-linear fluid/structure interactions.
- ▶ Greater interdisciplinary collaboration required.
- ▶ Need to focus on key areas of the design space to control problem enlargement.
- ▶ Need to exploit aeroelasticity for weight saving
- ▶ Advanced test and measurement techniques and facilities are still required.

Full proceedings of the conference, including refereed papers, were published on CDROM and distributed at the conference. Copies are available from the point of contact given below.

The Aerodynamics Committee of the RAES looks forward to planning the 2004 CEAS aerodynamics research conference, which is expected to take place in Manchester, UK and have the theme of experimental aerodynamics, facilities and techniques.

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NVvL HELD THE 2003 CEAS/AIAA INTERNATIONAL FORUM ON AEROELASTICITY AND STRUCTURAL DYNAMICS IN AMSTERDAM FROM JUNE 4 THROUGH JUNE 6

by Bas Oskam (NLR)



The CEAS/AIAA/NVvL International Forum on Aeroelasticity and Structural Dynamics (IFASD) is a major international event in aeroelasticity and structural

dynamics. It provides an international forum for scientists and engineers from industry, government departments, research laboratories and universities to exchange knowledge and results of current investigations and to discuss directions for future research. The Confederation of European Aerospace Societies (CEAS) and the American Institute of Aeronautics and Astronautics (AIAA) jointly sponsored this 2003 event. The IFASD 2003 has been organized by the Netherlands Society of Aeronautical Engineering (Nederlandse Vereniging voor Luchtvaarttechniek, NVvL) and was held in Amsterdam, the Netherlands, from June 4 through June 6, 2003. Dr. B. Oskam (NLR/NVvL) was responsible for the forum as Chairman of the organizing committee; he shared this responsibility with Mr. P. Kluit (NLR/NVvL) as Administrative Chairman and with Mr. H.J.M. van Leeuwen (NIVR/NVvL) as Treasurer.

HISTORY OF IFASD

The IFASD is an international event that is being held every other year. The forum started originally in Germany in the 80's. The most recent meetings were held in Strasbourg (Luxembourg, 1993), Manchester (United Kingdom, 1995), Rome (Italy, 1997), Williamsburg (Virginia, USA, 1999), Madrid (Spain, 2001) and Amsterdam (Netherlands, 2003). Events have been and are being planned by the IFASD Program Committee that consists of a coherent group of approximately twenty top specialists in Aeroelasticity and Structural Dynamics from eight nations: France, Germany, Italy, Netherlands, Spain, Sweden, United Kingdom and United States of America. This program committee is in charge of the scientific content of the forum program, and forms the heart of the concerted action to bring this IFASD community together every other year.

SCOPE OF THE 2003 IFASD

Looking to the program of the 2003 Forum, the international character is striking: specialists representing 20 nations have presented 112 papers. The Forum attendance consisted of 150 participants from nations in Europe, America, Asia, Africa and Oceania. Papers covering all aspects of aeroelasticity and structural dynamics were presented. The technical content included theoretical, numerical, and experimental contributions describing original research results and innovative design concepts. The topics of the forum included among other items: Linear Methods, Structural Dynamics, Aero-servo-elasticity, Wind Tunnel Testing, Rotorcraft, Computational Methods, Non-linear Aeroelasticity, Ground Testing, European Aeroelastic Research Projects, and Aircraft Applications.

INVITED CONTRIBUTIONS TO IFASD 2003

The opening session started with the official inauguration by Mr. F. Holwerda, General Director of NLR, Chairman of the NVvL and President of CEAS, who drew attention to current relevance and importance of aeroelasticity and structural dynamics for future aerospace vehicles. The first keynote lecture was entitled European Aeronautics into the 21st Century: A RTD Perspective. M. Martin-Hernandez (European Commission) presented this lecture; he has been head of structural dynamics and aeroelasticity at EADS-CASA, in Madrid, from 1976 through 1990 before joining the EC. The second keynote speaker was Professor E. Livne (University of Washington, Seattle) who gave a wide-ranging and enthusiastic exposition on The Future of Airplane Aeroelasticity.

The first keynote speaker on the second day of the Forum was Dr. A. M. Cunningham, Jr. (Lockheed Martin Aeronautics Company, Fort Worth). He spent 37 years on the subject matter and kindly shared his vast experience with future specialists by presenting Buzz, Buffet and LCO on Military Aircraft - The Aeroelastician's Nightmares. The second keynote speaker on the second day was Mr. C. Petiau (Dassault Aviation, St. Cloud). Mr. Petiau is director of the Research & Future Business Directorate in St. Cloud and presented Progress in Aeroelasticity & Structural Dynamics during the last Decade at Dassault Aviation.

CONCLUSION IFASD 2003

The Romans invented this meeting format some 2000 years ago. IFASD 2003 proved that the Forum Format has stood the test of time. A forum is indeed an effective format for information and knowledge exchange. IFASD 2003 has been a fruitful meeting with many new contributions to the development of knowledge in the area of aeroelasticity and structural dynamics. IFASD 2003 witnessed unabated attendance until the last papers on Friday afternoon. Informal exchange of ideas and personal ties were amplified at the Forum Dinner on board of a 17th century galleon and at the Forum Reception in the West Indies House in Amsterdam. In 1625 the decision was made to establish New Amsterdam on the Manhattan Island in that historic house; this is why the West Indies House is also known as the cradle of New York City. In 2003 Chairman of IFASD 2003 called upon the participants to reconvene in two years time for IFASD 2005 in Germany, to be initiated by German aeroelasticity specialists on the IFASD Program Committee.



Forum Chairman at West Indies House

SOME NEWS FROM EUROPEAN INSTITUTIONS

ABOUT THE ADVISORY COUNCIL FOR AERONAUTICAL RESEARCH IN EUROPE (ACARE)

10 March 2003

German ACARE SRA Dissemination Event

The German ACARE Strategic Research Agenda (SRA) dissemination event took place on 10 March 2003 in Berlin. More than 80 participants representing the German parliament, the German Länder, the European Commission, the German aeronautical industry and research community attended the presentation.

12 March 2003

ACARE appoints new Vice Chairman

On 12 March, François Quentin, CEO of THALES Avionics took over from Jean-Marc Thomas, VP Research and Technology at EADS, who stepped down due changing roles within the company. Before leaving Jean-Marc said *«I firmly believe that we have all done an excellent job in which we can all feel proud. The SRA has been well received throughout Europe and is increasingly being seen and used at the reference for aeronautics research in Europe.»*

8 May 2003

ACARE future scenarios defined

A selected group of ACARE members and stakeholders successfully completed the final scenario workshop aimed at assessing the robustness of the published Strategic Research Agenda to different views of the future. The results, which inform and guide the second edition of the SRA, also provide a framework thereby facilitating assessment on an individual stakeholders level.

25 June 2003

ACARE plenary held in Brussels

On 25 June, the ACARE members unveiled their new Chairman, Bengt Halse – Chairman and CEO of SAAB AB. The new Chairman promised *«to build on the excellent foundations»* laid down by his predecessor Prof. Dr Walter Kröll and *«looked forward to the stimulating challenge that lay ahead»*. In addition the Council members also established a framework, focus and timeline for the second release of its SRA.

EUROPEAN SPACE AGENCY FINALLY BREAKS GALILEO DEADLOCK

On 26 May, the member countries of the European Space Agency (ESA) have clinched a deal on the level of financial participation required for Galileo, the European satellite navigation programme, which is set to rival the American GPS. Thanks to this breakthrough, officials will be able to launch the activities of the Galileo Joint Undertaking, the ESA/EU joint legal entity assigned to develop the programme. The International Telecommunication Union (ITU) wants the first satellite launched before 13 February 2006, which

means lift-off for an experimental satellite in early 2004. This is why it is so urgent for the Joint Undertaking activities to get under way. The venture will now move quickly to open the invitations to tender to use to appoint the private concessionary company to take up the torch in 2006. The invitation to tender will be opened before the end of September. The selection procedure should be completed roughly 12 months later.

(Source: European Report Daily, 28 May 2003)

THE ESA COUNCIL AT MINISTERIAL LEVEL MET ON 27 MAY 2003

Ministers in charge of space affairs in Europe, meeting in Paris on 27 May, agreed on steps to put Ariane 5 back on track and set up development of future launchers within a reorganised launcher sector, free funds for the International Space Station and strengthen relations between ESA (European Space Agency) and the European Union, while Galileo has become a reality for Europe.

In particular, the Ministers decided to support Europe's commercial launch operator, Arianespace, in the resumption of production of the "generic" version of Ariane 5 in order to guarantee continuity in launcher operations. At the same time they decided to support the qualification of the new and more powerful version (ECA, for a 10t lift-off capacity) by means of two flights in 2004 and to reduce production costs further. In order to sustain Europe's guaranteed access to space, the Ministers also agreed on a specific programme over the period 2005-2009 aimed at intensifying the institutional use of Ariane 5.

€ 13 MILLION SCHEME TO BOOST CANDIDATE COUNTRIES' PARTICIPATION IN EU AEROSPACE RESEARCH

On 4 April, the Commission launched € 13 million worth of «specific support actions» to stimulate, encourage and facilitate the participation of the 13 Associated Candidate Countries in the EU's € 17.5 billion 6th Research Framework Programme (FP6) (2002-2006). The call for project proposals was open until 26 June 2003. Candidate countries enjoy the same rights and obligations as EU Member States. They can be project leaders and even create research consortia made up exclusively of partners from Candidate Countries. Research is therefore the first area in which EU enlargement has become a reality. Candidate Countries associated with FP6 and eligible to apply for funding are Bulgaria, Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, Slovenia and Turkey. Among others, the Commission will also finance specific actions in the FP6 priority thematic areas of Aeronautics and space, Sustainable energy systems and Sustainable surface transport.

(Source: EC Press Release - IP/03/498, 4 April 2003)

THE LIFE OF THE CEAS

CEAS COUNCIL MEETING IN BARCELONA

The 33rd CEAS Council meeting well organised by the Spanish Society took place in the beautiful city of Barcelona on 25 April 2003. It was preceded by a meeting of the Programme Co-ordination Committee the day before.

- At this Council meeting the presidency of CEAS passed from Dr Joachim Szodrich, Chairman of the DGLR, to Ir. Fedde Howerda, Chairman of the NVvL. Ir. Holwerda thanked Dr Szodrich for his contributions during his tenure as President of CEAS involving a reorganisation of the Council with three Vice Presidents and the establishment of a CEAS Quarterly Newsletter.
- A lively debate was caused by a presentation from Dr Stavrinidis, ESA/ESTEC, about his proposal for a European Space Society, which ESA would be willing to support. It was decided that CEAS should welcome the initiative from Dr Stavrinidis and that this new Entity should be part of the collaborative structure of CEAS to avoid a split between Space and Aeronautics. This proposal

will be analysed and the CEAS position should be expressed on the occasion of the next Council meeting.

- It was also agreed that actions were needed to activate the CEAS Specialist Committees and that a letter should be sent to the chairmen of those groups from the Chairman of the CEAS Programme Co-ordination Committee. Presently there are CEAS specialist committees for Space, Avionics, Aeroacoustics, Air Transport, Propulsion and Structures & Materials, History.
- The situation as regards conferences organised by the CEAS was also reviewed. It was agreed that in view of the positive experiences from the European Air and Space Conference held in Brussels in May 2002, the AAAF would run this event again in 2004 and that a strong international panel should be formed. It was confirmed that the next Propulsion Forum would take place in Rome 16-17 October 2003 and the next joint AIAA/CEAS Aeroacoustics Conference would be held in Manchester on 10-12 May 2004.
- The next Council meeting will be held in Rome on 17 October.

CEAS EVENT CALENDAR

Date	Location	Organising society	Event and theme
16-18 Sept. 2003	FRIEDRICHSHAFEN	DGLR	Forum 29 th European Rotorcraft Forum
15-17 Oct. 2003	ROME	AIDAA	Forum 9 th European Propulsion Forum
12-14 Nov. 2003	PARIS-NORD Villepinte	AAAF	International Conference 1 st STIC-AERO Conference. Information Technologies - IT - at the Heart of Aeronautical Systems
2003 Last quarter	-	AIDAA	Forum CEAS International Forum Icing Problems
2003 Last quarter	-	DGLR	Forum Future ATM Concepts
10-12 May 2004	MANCHESTER	AIAA/CEAS	Forum Aeroacoustics Conference
14-16 Sept. 2004	MARSEILLE	AAAF	Forum 30 th European Rotorcraft Forum
24-25 Nov. 2004	BRUSSELS Sheraton Hotel	AAAF	Conference 2 nd European Air and Space Conference - EASC

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