



WORKSHOP PROGRAMME

Date of workshop: 10 September 2015
Venue: Delft, the Netherlands

Grant Agreement number: 604013
Project acronym: AFLoNext
Project title: Active Flow- Loads & Noise control on next generation wing
Funding Scheme: Large scale Integrated Project
Start date of the project: 01/06/2013
Duration: 48 months
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- 8:30 – 8:40 Welcome from Coordinator **Martin Wahlich** *Airbus Operations GmbH* and presentation of AFLoNext video
- 8:40 – 9:00 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*
- 9:00 – 9:20 Key note lecture no. 2: On the development of practical active flow control technologies – aspirations and realities by **Clyde Warsop** *BAE Systems*

Technical sessions

9:20 – 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 Iannelli *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

¹ The speakers are indicated in bold characters.

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 – 15h Technology Streams “and “Vibrations mitigation / control in undercarriage area” –

Presentations:

- Computational Fluid Dynamics results and outlook on Flight Test: **Arthur Rizzi** *Kungliga Tekniska Hogskolan, 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 – 16h30 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