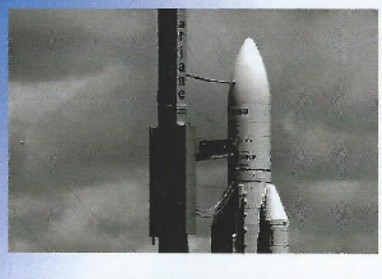

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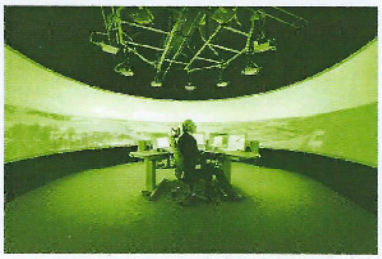

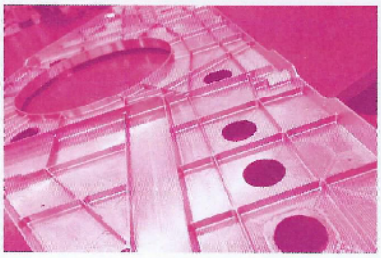

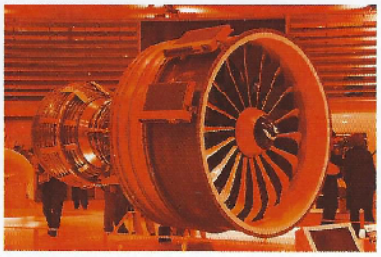

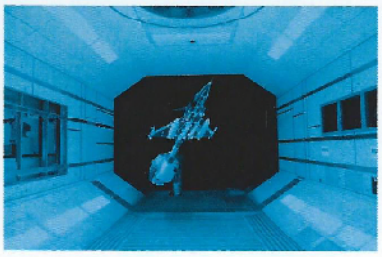

Program

for the CEAS2013 conference in Linköping

September 16-19

2013

CEAS2013 Program

CEAS2013 Program

CEAS2013	Crusellhallen	Duetten	Verdefoajén	Operetten	Sonaten	Studion	Musikalen	Solot	Operan
Sunday Sept 15									
12:00 -22:00	Exhibition hall build up								
Monday Sept 16	**Air Power Day**								
08:00-09:15	Registration								
9:15:00	Welcome address	Roland Karlsson (Chairman FTF), David Marshall (CEAS President), Petter Krus (Chairman Program Committee) Paul Lindvall, Linköping Municipality Helen Dannetun, Vice Chancelor, Linköping University Dan Jangblad, Vice President, Saab AB							
	Chairperson	David Marshall							
10:00:00	Keynote 1	Rudolph. Strohmeier, EC presentation							
10:40:00	Keynote 2	Guiseppe Pagnano, Clean Sky							
11:20:00	Keynote 3	Jean-Jacques Dordain, ESA DG							
12:00-13:00	Lunch								
	Chairperson	Jean Pierre Sanfourche							
13:00:00	Keynote 4	Johan Svensson, Swedish Air Force.							
13:30:00	Keynote 5	Philippe Koffi, Armament Engineer-in-Chief (Col.) European future combat aviation preparation.							
14:15-16:00	Technical session 1	**1.1 CEAS Air Power**	**1.2 Green Technology Ultra low emissions**	**1.3 R3ASC Recent Advances in Aircraft Actuation Systems and Components**	**1.4 Flight Operations: ATM**	**1.5 Manufacturing & Hot Temperature materials**	**1.6 Environment & Aerospace (Dedicated KeyNotes Session)**	**1.7 Aircraft Design Methods and Tools I**	**1.8 Aeronautics: Stability and Control**	**1.9 E-CAERO (CEAS, ECCOMAS, EUROMECH,ERCOFTAC, EUCASS, EUROTURBO) Computational Methods in Aerospace Engineering**
	Chairperson	Jean Pierre Sanfourche	Askin Isikveren, Bauhaus Luftfahrt	Petter Krus, LiU	Vijay Sharan, Furum	Christina Alfkvist, SAAB AB	Constantinos Stavrinidis, ESA	Scholz, HAW Hamburg	Nina Andersson, SAAB AB	Charles Hirsch
	Paper 1	David Marshall: "Safeguarding the european combat Aircraft Industry Future, what must be done now?" 14:15 – 14:45 M. Thierry Prunier (Dassault Aviation): The nEUROn UCAV.	301, Hannes Ross Invited presentation Around the World with a Solar Powered Aircraft	Jean-Charles Maré. Invited speaker.	38, A. Popov, GosNIIAS, ATM simulation	152, A. Myrelid, GKN, Studies on manufacturing-related management accounting	N. Hedman, Office for Outer Space, United Nations: The UN process in long-term sustainability of outer space activities, Space debris Mitigation Guidelines of COPUOS and the function of the UN Register of Objects Launched into Outer Space	174: A. Rizzi, KTH, Collaborative Aircraft Design using AAA and CEASIOM linked by CPACS Namespace	109, M. Kamii, Kanagawa Institute of Technology Experimental Analysis on Dynamic Characteristics of an Ornithopter	Juliet Ryan. Space Time Discontinuous Galerkin and Domain Decomposition: Tools for Multi-modeling Coupling
	Paper 2	14:45 - 15:30 Dr Guido Kurth - MBDA missiles Systems, Meteor – European Air dominance missile, Powered by High Energy Throttleable Ducted Rocket 15:30 – 16:00	166, C. Jeßberger, Bauhaus Luftfahrt e. V, Sustainable Alternative Fuels for Aviation: International Emission Targets vs. Sustainability Aspiration	127, V. Alarotu, Tampere University of Technology Aircraft Hydraulic Fluid On-Line Condition Monitoring System for Maintenance and Troubleshooting Purposes	90, K.Straube, DLR, A new safety net for tower runway controllers	214, T. M. Green, Swerea SICOMP, A cost efficient 3d permeability measurement method for composite manufacturing.	L. Innocenti, ESA Clean Space: Environmental impacts of space activities - Guaranteeing the future of space activities by protecting the environment	223: G. La Rocca, TUD, Investigation of multi-fidelity and variable-fidelity optimization approaches for collaborative aircraft design	57, D. Simon, LiU optimal control for flight control law design	Domenico Quagliarella. Robust and Reliability-based Optimization using the Generalized Inverse Distribution Function
	Paper 3		33, O. Hultgren, FMV, Bio Jet Fuels for Military Applications & Space Plug-and-Play Avionics.	158, L.C. Akoto, German Aerospace Center e.V. on the estimations of backlash in high-lift drivetrains	142, H.H. Hesselink, NLR, Innovative airport and ATM concept (operating an endless runway)	215, D. Ramantani, Swerea SICOMP, Development of heat resistant composite structures within collaborative project SHEFAE	T. Masson, International Institute fo Air and Space Law: Legal aspects of space debris mitigation and remediation	182: R.M.V. Chaitanya, LiU, RAPID - Robust Aircraft Parametric Interactive Design	190, Goetzendorf-Grabowski, Warzaw university of Technology, Comparison of traditionally calculated stability characteristics with flight test data of PW-6U sailplane	Ugo Galvanetto. Developments in Structural Reliability Analysis and Multidisciplinary Design Optimization for Aerospace Vehicles
	Paper 4		263, R. Mori, Electronic Navigation Research Institute, Optimal Spot-out Time – Taxi-out Time Saving and Corresponding Delay	171, R. DENIS, AIRCELLE PRESAGE : VIRTUAL TESTING PLATFORM APPLICATION TO THRUST REVERSER ACTUATION SYSTEM	221, F. Matares, SESM, DORATHEA: AN INNOVATIVE SECURITY RISK ASSESSMENT METHODOLOGY TO ENHANCE SECURITY AWARENESS IN ATM.	125, J. Jakobsson, GKN, GKN weldability	D. Alary, Innovation and Advanced Concepts, Astrium Satellites:	164: K. Risse, RWTH Aachen, Conceptual aircraft design with hybrid laminar flow control	256, M. Oliver, Airbus Military, A400M Aeroelastics and Dynamic Tests	
16:00-16:30	Coffee break									
16:30-17:00	Keynote 7	Jan Palmkvist, SAAB AB: Gripen – Next Generation Fighter								
17:00-18:30	Technical session 2	**2.1 CEAS Air Power**	**2.2 Space Avionics Sensing and Navigation**	**2.3 R3ASC Recent Advances in Aircraft Actuation Systems and Components.**	**2.4 Flight Operations: UAS traffic insertion and UAS Operation**	**2.5 Structural design: analysis, materials and manufacturing**	**2.6 Clean Space: Green Rocket Propellant**	**2.7 Propulsion in Aircraft Design**	**2.8 Aeronautics: Experimental Aero., Wind Tunnel and Flight Testing**	2.9 Stealth (By invitation only)
	Chairperson	Jean Pierre Sanfourche	Marc Scheper, OHB	Jean-Charles Maré	Knut Övrebö, Saab	Hampus Gavel, SAAB,	Emil Vinterhav, SSC ECAPS	V.A. Komarov, SSAU	Arthur Rizzi, KTH	
	Paper 1	Luc Dini (Thales Air System SA): Missile Defence, Challenges in Europe. 17:00 – 17:30	180, D.R. Schmitt, AT-One, Demonstration of Satellites Enabling the Insertion of Remotely Piloted Aircraft Systems in Europe	129, V. Alarotu, Combined Virtual Iron Bird and Hardware-in-the-Loop Simulation Research Environment	45, L. Rundqwist, SAAB AB, Unmanned collaborating autonomous aircraft	43, E. Holmberg, SAAB AB, Topology optimization w.r.t. stress and fatigue	254, M.Smith, ESA-ESTEC, ESA Green Propulsion Activity - Abstract for Presentation in Clean Space Sessions	275, S. Bagassi, University of Bologna, DEVELOPMENT OF A PRELIMINARY DESIGN METHOD FOR HYBRID PROPULSION	179, C. Schmidt, University of Limerick, A Simple Laboratory Approach to Investigate Boundary Layer Transition due to Free Stream Particles	
	Paper 2	Pawel Ziencik: ITWL, the Air Force Institute of technology of Poland. 17:30 – 18:00	243, T. Karlsson, OHB Sweden, The Attitude and Orbit Control System on Solar Orbiter	27, M.Carlsson, SAAB AB, Enabling Uncertainty Quantification of Large Aircraft System Simulation Models	303, J. Pellebergs, SAAB AB, MIDCAS: The European Detect & Avoid project	70, E. Villarreal, Buckling and modal analysis of rotationally restrained orthotropic plates	260, U. Gotzig, Astrium Space Transportation, Non-Toxic Propellants for Space Propulsion	21: P. Vratny, Bauhaus, BATTERY PACK MODELING METHODS FOR UNIVERSALLY-ELECTRIC AIRCRAFT	84, S. Wiggen, DLR, Development of an unsteady wind-tunnel experiment for vortex dominated flow at a Lambda – wing	
	Paper 3		203, D. Juliusson, RUAG Space, Time-Triggered Ethernet communication in launcher avionics	225, H. Andersson, Saab Aeronautics Gripen Core; an aircraft simulator family based on model reuse and customer adaptation	92, C. Grillo, University of Palermo, Automatic Landing System for Civil Unmanned Aerial System	139, R. Olsson, Swerea SICOMP, Strength of non-crimp fabric composites under multiaxial loads – modelling and testing	100, N.Wingborg. FOI, High performance green propellants	257: A. Seitz, Bauhaus, Parametric Design Studies for Propulsive Fuselage Aircraft Concepts	41, R. Putzu, Hepia, Design and construction of a silent wind tunnel for aeroacoustic research	
	Paper 4		267, N. Petre, University of Craiova, Modeling and numerical simulation of an open-loop miniature capacitive accelerometer for inertial navigation applications	130, J. Aaltonen, Tampere University of Technology, Process for Evaluation and Validation of Non-Original Components for Aircraft Hydraulic Systems		39, Johan Vallhagen, Chalmers University of Technology, Uncertainties in Early Phases of Aerostructure Design	101, M.Persson. ECAPS, Increased Propellant Throughput for 1N Green Rocket Engine	217: R. Avellán, GKN, Boxprop, a forward swept joined-blade propeller	12, C.Hermans, German Dutch Wind tunnels DNW, Innovations in wind tunnel testing to ensure competitiveness at DNW	
19:00:00	Welcome Dinner at the conference venue,									

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CEAS2013		Crusellhallen	Duetten	Verdefoajén	Operetten	Sonaten	Studion	Musikalen	Solot	Operan
Tuesday Sept 17		Education Day								
8:00:00		Introduction, David Marshall, CEAS President								
8:20:00	Keynote 9	Dietrich Knoerzer, EC, Research and Innovation, DDG3.H.3:Aeronautics								
8:40:00	Keynote 10	Aldert Kamp TU-Delft								
9:00-09:30	Coffee break									
09:30-11:30 (2 h)	Technical session 3	3.1 Outreach, careers advice and skills training Patricia Colieri & Simon Witts	3.2 Workshop on Space Engineering Competences and academic Education David Robinson	3.3 EWADE 1 Presentations from EWADE Founders and Hosts	3.4 EREA session		3.5 Structural design: Analysis, materials and manufacturing	3.6 Clean Space: De-orbiting of Space Debris 1	3.7 Design Engineering: Collaborative Design, Modelling & Simulation	3.8 Aeronautics: Aeroacoustics, Aeroelasticity, Unsteady Aerodynamics	3.9 Avionics: Sensing and Navigation
	Chairperson	Patricia Corieri	David Robinson	Dieter Scholz, HAW Hamburg.			Johan Vallhagen, GKN	Luisa Innocenti, ESA	Henrik Runnemalm, GKN	Askin Isikveren, Bauhaus Luftfahrt	Nina Andersson, SAAB
	Paper 1	The Schools experience, Moderator Patricia Corieri VKI 4 X 20min presentations (tbc) * The JCB Academy(tbc) * Volker Kratzenburg-Annies DLR School Labs * Maarten Taas, Patricia Corieri Restarts project * Joanna Soares Flyhigher A personal experience of outreach, Olivier Hamande 30 minute discussion with the above speakers plus Moderator with aim of identifying issues for final Plenary	Welcome and motivations for ESA initiative for the pilot study to review space mechanical engineering education in Europe – C. Stavrinidis Overview of ESA academic engineering pilot study – D Robinson Industry views on future requirements for space/aerospace engineering education a) HR view –harmonization of competence approaches b) Space engineering view c) SME view – requirements and challenges to recruit skilled engineers Regulators and professional bodies view – requirements for engineering education harmonization	EWADE 1: E. Torenbeek, TUD (em.) The New Textbook: "Advanced Aircraft Design - Conceptual Design, Technology and Optimization of Subsonic Civil Airplanes"	Rolf Henke, DLR, EREA chairman - From invention to innovation: How EREA helps achieving the goals of flightpath 2050.		40,R. Pederson, GKN, The relationship between alloying elements and properties for titanium alloys Ti-6Al-4V and Ti-6Al-2Sn-4Zr-2Mo	181, J. Jain, Sri Sairam engineering college. Risk Assessment and Analysis of Disposal and Reentry of Space Debris	227, C. Johansson, SAAB AB Cost optimization with focus on reliability and system safety	28, T.Brråmå, SAAB AB, The role of optimization tools in a real-life wing design with aeroelastic contraints	186, Rongbing Li, Nanjing University of Aeronautics and Astronautics, design of a small air data and MEMS INS/GPS integrated navigation system for wing-in-ground effect vehicles
	Paper 2			EWADE 2: M. Fioriti, PoliTo Contributions from Educational Activities to Researches about Hybrid Propulsion Opportunities for Light Aircaft	Muriel Brunet, ONERA - From a vision on the air transport system in 2050 to a roadmap for research.		52, E. Lundström, LiU, High temperature hold time fatigue crack growth behaviour of Inconel 718	245, P. Voigt, Astrium GmbH, Astrium perspective on space debris mitigation & remediation	198, D. Seider, DLR, Ad hoc Collaborative Design with Focus on Iterative Multidisciplinary Process Chain Development applied to Thermal Management of Spacecraft	37, M. Cagnoni, University of Pisa, FLUID-STRUCTURE INTERACTION ANALYSES OF WINGS WITH CURVED PLANFORM: PRELIMINARY AEROELASTIC RESULTS	56, H. Hellsten, SAAB AB, Miniaturized Foliage Penetration Radar: Technology, Testing and New Developments
	Paper 3			230: C. Jouannet, LiU, Personal jet, a student project	Henk Hesselink,NLR, - Scoping and prioritisation of topics for launching a European programme on UAS.		88, R. Brommesson, Chalmers University of Technology Modelling of the cyclic behaviour of superalloys	116, B. B. Virgili, ESA Space Debris Office, ESOC/ESA, Criteria for the Selection of Targets for Active Debris Removal	304, S Nyström, SAAB AB, Cost Efficient Advanced Leading Edge Structures,Structural design, analysis, materials, manufacturing	64: Deinert, Cassidian, Aeroelastic Tailoring Through Combined Sizing and Shape Optimization Considering Induced Drag	19, Zoran Sjanic, SAAB AB, Fusion of Information from SAR and Optical Map Images for Aided Navigation
	Paper 4			11: V.A. Komarov, SSAU, Multidisciplinary Aircraft Design Software in Aeronautical Education	Rolf Henke, DLR - Future Sky: A joint research initiative by Europe's leading aviation research centres.		117, E.-L. Odenberger, Forming Group, OSAS Direct-hit development of manufacturing processes: Thermo-mechanical forming of Titanium aero engine structures	242 ,T. Karlsson, OHB Sweden, The PRISMA Formation Flying Mission	51, J. Wallin,GKN, The Servitisation of the Aerospace Industry and the Affect on its Product Development	167, M. Billson, GKN, Aeroacoustic research at GKN Aerospace Engine Systems	15, P. Dammert, SAAB AB, Autofocus and adaptivity for wavelength-resolution airborne SAR systems
	Paper 5			EWADE 3: F. Nicolosi, Uni Naples A New Vertical Tail Design Procedure for General Aviation and Turboprop Aircraft					272, H.A. Moser, Luxspace Fostering the Evolution of Systems Thinking in Space Systems Engineering Teams	23, M. C. Leijonhufvud, SAAB AB, Confident aircraft design and development using robust aeroelastic analysis	61 C. Palster,SAAB AB , AIRTRACER – an airborne SIGINT solution
11:30-12:30	Lunch									
12:30-13:00	Keynote 11	Miguel Angel Morell Fuentes, Airbus Military								
13:00-15:00 (2 h)	Technical session 4	4.1 Outreach, careers advice and skills training Patricia Colieri & Simon Witts	4.2 Workshop on Space Engineering Competences and academic Education continued.	4.3 EWADE 2 Teaching and Research Activities in Aircraft Design	4.4 Flight Operations: Trajectory and flight optimization		4.5 Structural design: Analysis, materials and manufacturing	4.6 Clean Space: De-orbiting of Space Debris 2	4.7 Design Engineering: Collaborative Design, Modelling & Simulation	4.8 Aeronautics: Active flow control	4.9 Propulsion: Gas Turbine Modelling and Simulation
	Chairperson	Simon Witts	David Robinson	Petter Krus, LiU	Knut Övrebö, Saab		Vijay Sharan, Furum	Tiago Soares, ESA	Hans Falk, GKN	Matts Karlsson, LiU	Richard Avellan, GKN,
	Paper 1	5 X 20min presentations e.g. – An airline view from KLM – Providing careers advice, Ros Azouzi, RAeS, – The Student view, Euroavia – The Hamburg Centre of Aviation Training , Ingrid Schilling-Kaletsch – The Flybe training Academy Hayley Bentley 20 minute discussion with above speakers plus Moderator with aim of identifying issues for final Plenary	– Academic views on space/mechanical engineering education x 4 presentations – Student view-point (choices and challenges for entering the space industry) –Methodology and results of ESA academic space engineering competence study - Jean-Francois Imbert. – Discussion and conclusions:	210: A. de Paula, Uni Sao Paulo, A Case Study in Aeronautical Engineering Education	4, G.A. Di Meo, PoliTo, SESAR and Military Aircraft: Human Machine Interface definition for 4D Trajectory Management and ASAS Spacing functionalities		50, A. Rosell, GKN, Swedish and European research collaboration in simulation supported POD	178, M.Scheper, OHB System AG, Space Debris Removal from LEO – Controlled Re-Entry using an OTV / Space-Tug vs. De-Orbit Packs	264, D. Zafirov, Technical University Sofia, UAV Joined Wing Testbed	44, A. Krzysiak, Instytut Lotnictwa - Institute of Aviation (IoA), An Experimental Study of a Separation Control on the Wing Flap Controlled by Close Loop System	91, R. Larusson, Chalmers University of Technology, Sel-based compressor design method accounting for efficiency and stability.
	Paper 2			EWADE 4: E. Stumpf, RWTH Aachen. Aircraft Design Lectures at RWTH Aachen University	18, M.Micallef, University of Malta, Towards Optimised Profile Descents at Malta International Airport through Revised Approach Procedures		59, K. Thörnblad, GKN, Efficient production of aircraft engine components using an innovative scheduling procedure	259, W. Welland, Aerospace Propulsion Products BV, De-orbit motor for nanosatellites based on solid propulsion	148, E.H. Baalbergen, NLR, Collaborative multi-partner modelling & simulation processes to improve aeronautical product design	111, W. Stalewski, Instytut Lotnictwa - Institute of Aviation (IoA), Computational design and investigations of closed-loop, active flow control systems.	168, G. Popov, Samara State Aerospace University, Efficiency improvement of a multistage compressor by optimization stagger angles of blade rows
	Paper 3			EWADE 5: S. Satorius, TUM, Developing a New Aircraft Design Course at the Technical University of Munich	85, L.Larsson, Chalmers University of Technology, Effect on fuel consumption when flying to avoid formation of persistent contrails		66, A. Rosell, Chalmers University of Technology, System for lifetime assessment of laser welded titanium component	47, R. Mantellato, University of Padova, Deorbiting of spacecraft at the end of life with electrodynamic tethers stabilized by passive oscillation dampers	302, A.Abdalla, USP/Sao Carlos, The effect of Engine Dimensions on Supersonic Aircraft Performance.	136, M. Zhang, KTH, Aerodynamic Shape Design for a Morphing Wing with Wingtip of a Regional Jetliner	94, A. C.PETCU,National Research and Development Institute for Gas Turbines COMOTI, numerical simulations of two-phase turbulent reactive flows
	Paper 4			EWADE 8: D. Zafirov, Uni Sofia UAV Research and Development in the Plovdiv Branch of Technical University-Sofia	Automatic Landing System for Civil Unmanned Aerial System		87, J.Vallhagen, GKN, Robust Design and DFM-methodology for aerospace engine components		197, Markus Kunde, DLR, Advantages of an Integrated Simulation Environment	176, M.S. O'Regan, University of Limerick, Experimental/Numerical Investigation of the Mean and Turbulent Characteristics of a Wingtip Vortex in the Near-Field	145, H. Mårtensson, GKN, Transonic compressor flutter research within the FUTURE project
	Paper 5			236: D. Scholz, HAW Hamburg, Open Access Publishing in Aerospace – Opportunities and Pitfalls	92, C. Grillo, University of Palermo, Automatic Landing System for Civil Unmanned Aerial System		500, G.Aglietti, University of Southampton, Validation of finite element models of satellite structures		173, A. Junior, DLR, Clean Sky Technology Evaluator (TE)	229, Gopalakrishnan K SRINIVASAN, SYSTEMATIC ANALYSIS ON THE ASPECTS OF ACTIVE FLOW CONTROL TECHNOLOGY FOR FUTURE COMMERCIAL AIRCRAFTS	53,G. Popov, Samara State Aerospace University, Coupled CFD simulation of gas turbine engine core.
15.00-15:30	Coffee break									
15:30-17:00	Technical session 5	5.1 Plenary roundtable discussion "How do we make a difference at European level?"	5.2 Collaborative engineering, research and programmes	5.3 EWADE 3 Aircraft Design Studies	5.4 Flight Operations: Operational Value & Trajectories		5.5 Structural design: Analysis, materials and manufacturing Cracks and Damage	5.6 Clean Space: Life Cycle Assessment	5.7 Aircraft Design Methods and Tools II	5.8 Aeronautics: Aerodynamic Modelling & Simulation, Computational methods	5.9 Propulsion: Cores, Combustion Chambers Modelling and Simulation
	Chairperson	David Marshall	Christina Altkvist, Saab	Adson Agrico de Paula, Uni Sao Paulo	Vijay Sharan, Furum		Johan Ölvander, LiU	Mathew Smith, ESA	Christopher Jouannet, LiU	Hans Mårtensson, GKN.	Richard Avellan, GKN.
	Paper 1	– Patricia Corieri, VKI – Simon Witts, Aviation skills partnership – David Robinson, Psi-tran Ltd – Constantinos Stavrinidis, ESA – Paula Gwinnett, JCB Academy(tbc) – Ingrid Schilling-Kaletsch,HCAT	30, M.Weiland, SAAB AB, Challenges in national and international R&T collaboration projects.	EWADE 6: G. La Rocca, TUD Design Study of a Passenger Aircraft for In-Flight Refueling	175, J Jeppson, SAAB AB, Early assurance of Gripen E combat performance ?		218, M. Zaccariotto, University of Padova, Fatigue Crack Propagation with Peridynamics: a sensitivity study of Paris law parameters	252, Y. Le Guern, BIO Intelligence Service, LCA for Environmental Impact Assessment of Space	49, M.K. Jung, Korea Advanced Institute of Science and Technology(KAIST), Numerical Investigation of Aerodynamic Interaction for a Quad-Rotor UAV Configuration	46, T. Berglind, FOI, Navier-Stokes Simulations of Store Separation	79, S. Zietarski, Military University of Technology (WAT), A unified method of identification and optimization of airfoils for aircrafts, turbine and compressor blades.
	Paper 2		102, H.Runnemalm, GKN, GKN Aerospace in the Clean Sky demonstrator programme	187: Staack, LiU, Integration of On-Board Power Systems Simulation in Conceptual Aircraft Design	237, J. Linde, SAAB AB, field service of the swedish reconnaissance capability in operation unified protector		108, M. REMBECK, A combined numerical and statistcal approach to crack propagation modeling and prediction of crack propagation rates	134, M. De Santis, D'Appolonia S.p.A, environmental impact assessment of space sector_28022013	200: P.D. Ciampa, DLR, Modeling for Physics Based Aircraft Predesign in a Collaborative Environment	137, M. Tomac, KTH, Steps towards automated robust rans meshing.	35, I. Porumbel, Romanian National Institute Research and Development Institute for Gas Turbines, UF experiments in a turbulent reactive flow using an afterburner
	Paper 3		140, P. Johansson, GKN, Military demonstrator projects at GKN Aerospace	EWADE 9:G.A. Di Meo, PoliTo, MARGARET: A Personal Transportation Aircraft of Tomorrow used Today for Collaboration among Universities	207, S Hartjes, Delft University of Technology, Terminal Route Optimization for Cumulative Noise Exposure		78, R. Liepelt, DLR, Variable Fidelity Loads Process in a Multidisciplinary Aircraft Design Environment	253, Y. Le Guern, BIO Intelligence Service, LCA for Environmental Impact Assessment of Space	EWADE 13: D. Scholz, HAW Hamburg. OpenVSP Connect - Visualize Your Aircraft Sizing Results with NASA's Vehicle Sketch Pad	163, A. Persson, Creo Dynamics, An Investigation into Shock Oscillation Noise Reduction	204, Constantin Rotaru, Military Technical Academy, Numerical evaluation of combustion chamber performances for an aircraft engine
	Paper 4		196, Katarina Bjorklund, SAAB AB, FAS4Europe, what happened then	224, G. La Rocca, TU Delft, Feasibility study of a nuclear powered blended wing body aircraft for the Cruiser/Feeder concept	201, X. Sun, DLR, Concept Assessment for Remotely Piloted Commercial Aircraft using Multi-Attribute Nonlinear Utility Theory		153, T. Sjöberg, Luleå University of Technology, Calibration and validation of material models for containment simulation and design	240, A. Bettella.HIT09 s.r.l. Hybrid Rockets as a green replacement of solid rocket boosters for UAV assisted take off	205, B.Nagel, DLR Virtual Aircraft Multidisciplinary Analysis and Design Processes - Lessons Learned from the Collaborative Design Project VAMP	161, P.D. Vecchia, University of Naples, Wind tunnel tests of a new commuter aircraft	270, C. R. D'cruz, Emirates Aviation College, Numerical Criterion to Optimize the Performance of a Gas Turbine Combustor
	Paper 5		155, A Malm, LiU, Challenges with the transfer of aircraft production in an offset business	EWADE 7: R. De Roo, KHBO, Development of an Unmanned Aerial System (UAS) for Scientific Monitoring	114, T. Melin, LiU, Validation of a numerical simulation tool for aircraft formation flight.		71, S. Kachel, Military University of Technology Application of CAD/CAM/CAE Systems to the Process of Aircraft Structures Analysis ...	266, M. Nikulainen, ESA, The ESA Clean Space Materials, Processes and EEE Components	211: G.S. Schwening, University of Sao Paulo, An Application of AHP, TOPSIS-Fuzzy and Genetic Algorithm in Conceptual Aircraft Design	138, E. Otero, KTH, Increasing the Efficiency of the CFD code Edge by LU-SGS.	
18:00:00		**Bus departure at 18.00 - Sharp - from the conference venue Linköping Konsert & Kongress.**									
19:00:00	Dinner	Conference Dinner at the Swedish Air Force Museum.									

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Wednesday, Sept 18

8,00-9:00	Plenary panel	E-Caero panel session, David Marshall
09:00-09:30	Keynote 12	Mike McCann, GKN
09:30-10:00	Keynote 13	Christer Fuglesang
10:00-10:30	Coffee break	

08:00-09:00 ASTRIUM Green Propellant Tutorial

10:30-12:30 — Technical session 6

	Crusellhallen	Duetten	Verdefoajén	Operetten	Sonaten	Studion	Musikalen	Solot	Operan
	6.1 GARTEUR session	6.2 Space Systems	6.3 EWADE 4 Collaboration, Methods and Tools	6.4 Flight Operations: Human Machine Interface		6.5 Advanced Studies I	6.6 Clean Space: Rockets & Environment	6.7 Novel Concepts	6.8 Aeronautics: Architecture, Sensors & Other	6.9 Applied Physics I
Chairperson	Anders Blom, FOI	José Longo, ESA	Egbert Torenbeek, TUD (em.)	Knut Övrebö, Saab		Emmet Brown	Neil Murray, ESA	Hans Falk, GKN	Christina Ahremark, FMV	Emmet Brown
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13:30-14:00	Keynote 14	Olle Norberg, The Swedish National Space Board
14:00-14:30	Keynote 15	Fred Wilson, Aerojet International

14:30-16:00 — Technical session 7

	Crusellhallen	Duetten	Verdefoajén	Operetten	Sonaten	Studion	Musikalen	Solot	Operan
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Chairperson	Matts Karlsson	José Longo, ESA	Dieter Scholz, HAW Hamburg.	Christina Ahremark, FMV		Emmet Brown	Hans Mårtensson, GKN	Eike Stumpf, RWTH Aachen	Hans Falk, GKN	Emmet Brown
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Conference close.
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and welcome you all to the CEAS2015 Air & Space Conference.

Conference close.
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16:00:00

Thursday Sept 19

Technical visits

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