

The International Space System Engineering Conference

Technologies and methodologies for development and operation of systems, software and hardware components related to computer-based data retrieval, processing and exploitation in aerospace, telecommunication and other areas of high reliability and complexity

DASIA 2010 **Data Systems In Aerospace**

organised by



Final Programme

1st - 4th June 2010

**Intercontinental Hotel
Budapest, Hungary**

In co-ordination with

**CANADIAN SPACE AGENCY – CNES
ESA – EUMETSAT**

Tuesday 1st June 2010

08:30	REGISTRATION
09:30	WELCOME COFFEE
10:00	WELCOME BY CHAIRMAN
10:10	KEYNOTE SPEECH BY DR. E. BOTH - DIRECTOR - HUNGARIAN SPACE OFFICE

ROOM A

SESSION 1A S/W DEVELOPMENT TOOLS WITH DOMAIN TAYLORING CHAIRPERSON: R. SZCZEPANIAK, CORTIM

- 10:45** A Generic Scheme for Managing Equipment-Dependent On-Board Functions and Rules for the Code Automatic Generation
S. Candia, G. Lisio – Thales Alenia Space Italia
- 11:15** Tool-Guided Domain-Specific, Systematic Requirements Management
Rainer Gerlich, Ralf Gerlich – BSSE System and Software Engineering, Germany
- 11:45** ECLIPSE, an emerging, standardized, modular, secure and affordable software toolset in support of product assurance, quality assurance and project management for the entire European Space Industry (from innovative SMEs to Primes and Institutions)
A. Bennetti, L. Haley, G. Catanese – Sapienza Consulting, UK
S. Ansari – ESA
- 12:15** DataRocket: Interactive Visualisation of Data Structures
S. Parkes - University of Dundee Ltd., UK
R. Kay, C. Ramsay – Rapid Quality Systems Ltd., UK
- 13:00** **Lunch**
- 14:00** Risk mitigation for the development of the new Ariane 5 On-Board Computer
F. Dubuc, A. Stransky – Astrium SAS ST, France
A. Conde-Reis – ESA/ESTEC, The Netherlands
A. Ledoux, P. Miramont – CNES, France
L. Johansson – RUAG

SESSION 2A FORMAL METHODS AND MODELING CHAIRPERSON: B. MULLET, EUMETSAT

- 14:30** Formal Methods in Space Systems: Lessons Learnt and Way Forward
A.-E. Rugina, J.-P. Blanquart – Astrium Satellites, France
R. Soumagne – CNES, France
- 15:00** Evaluating a control system architecture based on a formally derived AOCS model
D. Ilić, T. Latvala, K. Varpaaniemi, P. Väisänen – Space Systems Finland, Finland
E. Troubitsyna, L. Laibinis - Åbo Akademi University, Finland
- 15:30** **Coffee Break**
- 16:00** Why you should not go to model based process (without some precautions)
G. Garcia, M. Le Coroller, A. Vionnet - Thales Alenia Space France
- 16:30** Process based on SysML for new launchers System and Software developments
E. Hiron – Astrium SAS ST, France
P. Miramont – CNES, France

SESSION 3A REQUIREMENTS, TEST AND VALIDATION OF SAFETY CRITICAL S/W CHAIRPERSON: P. LACAN, ASTRIUM SPACE TRANSPORTATION

- 17:00** Requirements-based Conformance Testing of ARINC 653 Real-Time Operating Systems
A. Maksimov – Institute for System Programming of the Russian Academy of Sciences, Russia
- 17:30** MODSARE-V: Validation of Dependability and Safety Critical Software Components with Model Based Requirements
D. Silveira, T. Schoofs – GMV-SKYSOFT, Portugal
A.I. Rodríguez, E. Alaña – GMV-AD, Spain
M.-O. Devic – ESA/ESTEC, The Netherlands
- 18:00** A practical method to allocate software criticality categories
J.-P. Blanquart – Astrium SAS Satellites, France

19:30 **BUFFET DINNER AND ENTERTAINMENT HOSTED BY EUROSPACE**

ROOM B

SESSION 1B ON BOARD PROCESSORS CHAIRPERSON: J.SCHNEEGANS, ASTRIUM SPACE TRANSPORTATION GMBH	
10:45	Next Generation Multi-Purpose Microprocessor <i>J. Andersson, M. Sjölander, J. Gaisler – Aeroflex Gaisler, Sweden R. Weigand – ESA/ESTEC, The Netherlands</i>
11:15	GR712RC – The Dual-core LEON3FT System-on-Chip Avionics Solution <i>K. Glembo, S. Habinc, J. Gaisler – Aeroflex Gaisler, Sweden</i>
11:45	Real-time Multiprocessing on LEON <i>D. Hellström, K. Glembo, K. Eisele – Aeroflex Gaisler, Sweden</i>
SESSION 2B SOC, FPGA AND MEMORY CHAIRPERSON: G. MOURY, CNES	
12:15	Dynamically Reconfigurable Processing Module for Future Space Applications <i>P. Norridge, M. Collin, G. Montano, W. Sullivan, C. Topping, A. Wishart – Astrium Ltd., UK F. Bubenhausen, B. Fiethe, H. Michalik, B. Osterloh – IDA TU Braunschweig, Germany J. Ilstad – ESA/ESTEC, The Netherlands</i>
13:00	Lunch
14:00	Development of New IP Cores for Spacecraft Avionics <i>M. Isomäki, J. Ekergharn, M. Hjorth, N.-J. Wessman, S. Habinc – Aeroflex Gaisler, Sweden</i>
14:30	Next Generation Mass Memory Architecture <i>H.-J. Herpel, M. Staehle, U. Lonsdorfer, N. Binzer - Astrium GmbH, Germany</i>
15:00	SCOC3: Spacecraft Controller on a Chip with LEON3FT <i>F. Koebel, J.F. Coldefy – Astrium SAS Satellites, France</i>
15:30	Coffee Break
SESSION 3B RADIATION HARDENING CHAIRPERSON: J-L. POUPAT, ASTRIUM SATELLITES	
16:00	JPIC – Rad-Hard JPEG2000 Image Compression ASIC <i>N. Zervas – Alma Technologies S.A., Greece R. Ginosar, D. Alon – Ramon Chips Ltd., Israel A. Broyde – MBT/IAI Ltd., Israel</i>
16:30	A Radiation-Hardened Design for Advanced SoC <i>T. Liran, R. Ginosar, D. Alon – Ramon-Chips Ltd., Israel</i>
17:00	Creation of a Radiation Hard 0.13 micron CMOS Library at IHP <i>U. Jagdhold – IHP, Germany</i>
SESSION 4B O.B. CONTROLLERS INCL. CO-DESIGN CHAIRPERSON: H-V. HEYER, KAYSER-THREDE	
17:30	(Spacecraft BusController)+(Automotive ECU) / 2 = UltimateController <i>S. Montenegro, F. Dannemann, L. Dittrich, B. Vogel– DLR Institute for Space Systems, Germany U. Noyer, J. Gacnik, M. Hannibal, A. Richter, F. Köster – DLR Institute of Transportation Systems, Germany</i>
18:00	Codesign of Hardware, BasicSoftware and Software – The IO of the LISA-Pathfinder OBC as an example <i>U. Hoch – Astrium GmbH Satellites, Germany</i>
19:30	BUFFET DINNER AND ENTERTAINMENT HOSTED BY EUROSPACE

Tuesday to Friday:

Tool demonstrations/Vendor exhibition **at** any time

Wednesday 2nd June 2010

ROOM A

SESSION 4A EFFICIENT SAFETY & RECOVERY CHAIRPERSON : K. HJORTNAES, ESA/ESTEC

- 09:00** Ultra Fast Recovery
S. Montenegro – DLR-RY, Germany
Computer Centric versus Network Centric Concepts
S. Montenegro, B. Vogel – DLR-RY, Germany
G. Schoof, V. Petrovic – IHP GmbH, Germany
- 09:30** Rational approaches to building a secure system don't scale in today's ever more space constrained systems. Using MILS to rigorously isolate multiple software components, it's possible to guarantee the required resources for each component
J. Hampp – Wind River GmbH, Germany
- 10:00** Safe and Efficient Support for Embedded Multi-Processors in Ada
J.F. Ruiz – AdaCore, France
- 10:30** **Coffee Break**

SESSION 5A OBDH BUILDING BLOCKS & OPEN ARCHITECTURE CHAIRPERSON: C. JOERGENSEN, TERMA A/S

- 11:00** An approach for on-board SW building blocks cooperation and interfaces definition
D. Pascucci, G. Campolo – Thales Alenia Space Italia

SESSION 6A SOIS & TSP CHAIRPERSON: P. ARBERET, CNES

- 11:30** A View on the use of SOIS in a TSP-Based Architecture
S.D. Fowell, Dr. P. Mendham – SciSys Ltd., UK
- 13:00** **Lunch**
- 14:00** Technology Requirements and Selection for Securely Partitioning OBSW
Dr. P. Mendham – Scisys UK Ltd.
J. Windsor, K. Eckstein – ESA/ESTEC, The Netherlands
- 14:30** Configuration and Scheduling tools for TSP systems based on XtratuM
I. Ripoll, A. Crespo, M. Masmano, V. Brocal, P. Balbastre, S. Peiró – Universidad Politécnica de Valencia, Spain
P. Arberet, J.J. Metge – CNES, France
- 15:00** Securely Partitioning Spacecraft Computing Resources
G. Herrgott, T. Pareaud, L. Planche – Astrium SAS Satellites, France
V. Kollias, N. Pogkas – Teletel, Greece
A. Crespo, I. Ripoll, M. Masmano – Universidad Politecnica de Valencia, Spain
J. Windsor – ESA/ESTEC, The Netherlands
- 15:30** **Coffee Break**

PANEL SESSION EVOLUTION OF OBDH CHAIRPERSON: A. ROSSIGNOL, ASTRIUM SATELLITES

- 16:00** Evolution of on-Board Computers, Data Handling and Data Systems
G. Magistrati, Ph. Armbruster – ESA/ESTEC, The Netherlands
- 16:30** Safe and Secure Virtualization: Answers for IMA next Generation and beyond
J. Almeida, F. Vatrinet – SYSGO, France
- 17:00** Space on-board software reference architecture
Savoir-Faire Working Group

Wednesday 2nd June 2010

ROOM B

SESSION 5B	BUSES AND DECENTRALISATION CHAIRPERSON: G. MOURY, CNES
09:00	AFDX Based Data Infrastructures in Space <i>T. Vogel – Astrium GmbH Space Transportation, Germany</i>
09:30	Optical and Electrical Sensor Busses for the Heinrich Hertz Satellite <i>H.-V. Heyer, Dr. T. Zeh, A. Reutlinger – Kayser-Threde GmbH, Germany</i> <i>Dr. S. Voigt – DLR, Germany</i>
10:00	Decentralised TM/TC Architecture for next Generation Satcoms <i>S. Gunes-Lasnet, O. Vidaud, J.-F. Coldefy, J. Dalenq, M. Malagoli, O. Notebaert – Astrium SAS, France</i> <i>G. Furano – ESA/ESTEC, The Netherlands</i> <i>M. Melicher – ACRA Control</i> <i>J. O’Callaghan – Roving Ireland Ltd.</i>
10:30	Coffee Break
11:00	CANOPE Controller IP Core <i>M. Caramia, M. Montagna – Thales Alenia Space Italia</i> <i>G. Furano, A. Winton – ESA/ESTEC, The Netherlands</i>
11:30	New Spacewire Protocols and Tools <i>S. Parkes – University of Dundee Ltd., UK</i> <i>S. Mills, C. McClements, A. Mason, P. McKechnie, P. Scott, B. Yu, D. Roberts – STAR-Dundee Ltd., UK</i>
SESSION 6B	S/W BASED GNSS & RADIO TOOLS CHAIRPERSON: G. MAGISTRATI, ESA/ESTEC
12:00	gLAB – A fully software tool to generate, process and analyze GNSS signals <i>C. Dionisio, D. Citterico, G. Pirazzi, N. De Quattro, R. Marracci, L. Cucchi, N. Valdanbrini, I. Formaioni – Intecs SpA, Italy</i>
13:00	Lunch
14:00	Software defined radio Payload for Microsatellites <i>C. McLaren, A. Nash, J. Wells – COM DEV Europe Ltd. UK</i>
SESSION 7B	SMALL S/C’s CHAIRPERSON: C. JOERGENSEN, TERMA A/S
14:30	PROMETEO: A small satellite with Electric Propulsion for IR / Optical High Resolution Images <i>L. Gagliardi, C. Tuninetti, C. Dionisio, M. Noce, B. Morelli – Rheinmetall Italia SpA, Italy</i> <i>C. Casaregola – Alta SpA, Italy</i> <i>G. Saccoccia, D. Di Cara – ESA/ESTEC, The Netherlands</i>
15:00	The ADPMS flight heritage and new developments – An Advanced Data & Power Management System for Small Satellites and Missions <i>K. Puimege, N. Fleurinck – Verhaert Space, Belgium</i>
15:30	Coffee Break
PANEL SESSION (ROOM A)	EVOLUTION OF OBDH CHAIRPERSON: A. ROSSIGNOL, ASTRIUM SATELLITES

Thursday 3rd June 2010

ROOM A

SESSION 7A	FDIR CHAIRPERSON: A. ROSSIGNOL, ASTRION SATELLITES
09:00	Taxonomy of Space SW FDIR Systems M. Ferraguto, V. Sylvius – Space Systems Finland Ltd., Finland D. Torette, P. Creten – Spacebel, Belgium E. Conquet, M. Perrotin – ESA/ESTEC, The Netherlands J.-P. Blanquart – Astrium SAS, France
09:30	A Fault Detection, Isolation and Recovery (FDIR) strategy based on a Message Exchange Approach to implement Autonomous FDIR Management on the MARC System O. Emam, G. Willson, R. Knowelden, T. Jordan – Astrium Ltd., UK S. Fowell, S. Wheeler – Scisys UK Ltd., UK W. Gasti – ESA/ESTEC, The Netherlands A. Senior – Systems Engineering & Assessment Ltd., UK
SESSION 8A	JAVA CHAIRPERSON: F. HASS, DANSENIOR
10:00	Using JAVATM for Numerical Computation: A Space Flight Dynamics Operational Example L. Maisonobe – CS Communications & Systèmes, France
10:30	Coffee Break
SESSION 9A	OBSW MAINTENANCE CHAIRPERSON: G. LAUTENSCHLAEGER, ASTRION SATELLITES GMBH
11:00	On-board Software Maintenance for GOCE, ESA's Gravity Mission C. Steiger, P.P. Emanuelli – ESA/ESOC, Germany G. Lautenschläger, A. Weigl, R. Eilenberger – EADS Astrium GmbH, Germany P. Väisänen – Space Systems Finland Ltd., Finland E. Maestroni – Rhea A. da Costa – Vitrociset
13:00	Lunch
14:00	RTEMS CENTRE – RTEMS Improvement H. Silva, A. Constantino, D. Freitas, M. Coutinho, S. Faustino, J. Sousa, L. Dias – EDISOFT S.A., Portugal M. Zulianello – ESA/ESTEC, The Netherlands
14:30	Advanced Software Maintenance Approach for the Complex Columbus Flight Software System T. Ignatova, U. Westerholt, M. Brandt – Astrium ST GmbH, Germany
SESSION 10A	SIMULATORS & TEST BENCH CHAIRPERSON: G. LAUTENSCHLAEGER, ASTRION SATELLITES GMBH
15:00	The LISA Pathfinder Simulator for the Science and Technology Operations Center: Simulator reuse across the Project Life-cycle: practical experiences and Lessons Learned P. van der Plas – ESA/ESTEC, The Netherlands C. Leorato – Rhea System SA
15:30	Coffee Break
16:00	CSI L2 – Reconstructing Herschel/Planck Anomalies on the Avionics Bench A. Bacchetta, A. Cocito – Thales Alenia Space Italia M. Oort – Dutch Space B.V., The Netherlands D. Procopio – Selex Galileo, Italy
PANEL SESSION	COST AND OPTIMIZATION OF STANDARDS CHAIRPERSON: P. LACAN, ASTRION SPACE TRANSPORTATION
16:30	Analyzing the Cost of Complying to the ECSS Standards for Software Development R. Feldt – Computer Science & Engineering Chalmers University of Technology, Sweden N. Torstensson – Blekinge Institute of Technology E. Hult, L.-G. Green – Ruag Space AB, Sweden
17:00	Optimizing Verification and Validation Activities for Software in the Space Industry R. Feldt, B. Marculescu – Chalmers University of Technology, Sweden J. Schulte, R. Torkar – Blekinge Institute of Technology, Sweden P. Preissing, E. Hult – RUAG Space AB

ROOM B

SESSION 8B	O. B. SYSTEMS CHAIRPERSON: C. PLEVIER, DUTCH SPACE
09:00	Experience of Data Handling with IPPM Payload <i>J. Iltad, D. Jameux – ESA/ESTEC, The Netherlands</i> <i>W. Errico, P. Tosi – CAEN AURELIA SPACE srl, Italy</i> <i>R. Viviani, D. Collantoni – ABSTRAQT srl, Italy</i>
09:30	Advancement in automatic monitoring and detection of archaeological sites using a hybrid process of Remote Sensing, Gis techniques and a shape detection algorithm <i>A. Di Iorio – Rovsing A/S</i> <i>N. Straccia – ALMA Sistemi SAS, Italy</i> <i>R. Carlucci – A&C2000 s.r.l., Italy</i>
10:00	University Satellite featuring latest OBC Core & Payload Data Processing Technologies <i>J. Eickhoff – Astrium GmbH Satellites, Germany</i> <i>H.-P. Röser – Institute of Space Systems, Germany</i>
10:30	Coffee Break
11:00	Reconfigurable Architecture for On-Board Data Processing Applications <i>M. Syed, T. Helfers – Astrium GmbH, Germany</i> <i>G. Acher – Technische Universität München, Germany</i> <i>E. Schueler – PACT XPP Technologies AG, Germany</i>
SESSION 9B	ROBOTICS & AUTONOMY CHAIRPERSON: R. WARD, SciSYS LTD
11:30	The ExoMars Rover Vehicle OBC <i>T. Hult, A. Petersén – Ruag Space AB, Sweden</i> <i>B. Dean – Astrium Ltd., UK</i> <i>A. Winton – ESA/ESTEC, The Netherlands</i>
13:00	Lunch
14:00	Distributed Agents for Autonomy <i>R. Blake – Scisys UK Ltd., UK</i>
14:30	Eurobot Ground Prototype Control System overview & tests results <i>A. Merlo, A. Martelli, S. Ferraris, E. Pensavalle – Thales Alenia Space Italia</i> <i>F. Didot – ESA/ESTEC, The Netherlands</i>
SESSION 10B	GROUND SEGMENT CHAIRPERSON: H. PASQUIER, CNES
15:00	Evolution of Satellite Operations Support at ESOC Operations Control Centre <i>T. Bru – ESA/ESOC, Germany</i> <i>M. Thompson - Tyco/Thorn, Germany</i> <i>C. Scheler – VEGA, Germany</i>
15:30	Coffee Break
16:00	Schedule execution and health monitoring of the ESA ground stations: The ESTRACK Coordination System <i>P. Pissias – ESA/ESOC, Germany</i>
PANEL SESSION (ROOM A)	COST AND OPTIMIZATION OF STANDARDS CHAIRPERSON: P. LACAN, ASTRIUM SPACE TRANSPORTATION

Friday 4th June 2010

ROOM A

SESSION 11A	TEST SYSTEMS CHAIRPERSON: R. GERLICH, BSSE SYSTEM AND SOFTWARE ENGINEERING
09:00	The Architecture and Application of RAMSES, a CCSDS and ECSS PUS compliant test and Control System <i>M. Battelino, C. Svärd, A. Carlsson, T. Carlstedt-Duke, M. Törnqvist - Swedish Space Corporation, Sweden</i>
09:30	Reference Architecture Test-bed for Avionics (RASTA). A software Building Blocks Overview <i>A. Viana Sanchez, C. Taylor – ESA/ESTEC, The Netherlands</i>
10:00	Using Standard PC's and Linux for Building Hard real-Time Distributed test Systems <i>F. Quartier – Spacebel S.A., Belgium</i> <i>F. Manon – CNES, France</i> <i>M. Joubert – Spacebel SAS, France</i>
10:30	Coffee Break
SESSION 12A	SPACE COMMUNICATION & NAVIGATION SYSTEMS CHAIRPERSON: A. MARTELLI, THALES ALENIA SPACE ITALIA
11:00	Spaceborne Mobile Ad-Hoc Networks <i>Dr. I. Forcada, A. Strauss – Berner & Mattner Systemtechnik GmbH, Germany</i>
12:00	CONCLUSIONS BY THE CONFERENCE CHAIRMAN – END OF THE CONFERENCE
12:30	Lunch

ROOM B

SESSION 11B OVERALL SPACE SYSTEMS CHAIRPERSON: P. ARMBRUSTER, ESA/ESTEC

- 09:00** FFIORD experiment system architecture and operational concepts
T. Chapuis, P.Y. Guidotti, M. Delpech, O. Queyruat, J. Harr – CNES, France
T. Karlsson, A. Carlsson, R. Larsson – Swedish Space Corporation, Sweden
- 09:30** Study into the Use of CFDP and DTN for Future ESA Mission
S.D. Fowell, O. Page – SciSys UK Ltd., UK
D. Stanton – Keltik Ltd., UK
S. Farrell – Trinity College Dublin, Ireland
N. Peccia, F. Flentge – ESA/ESOC, Germany
- 10:00** Advanced Technologies and Satellite Services for Enhancing Space Surveillance
Dr.-Ing. W. Griethe – Tesat Spacecom GmbH & Co KG, Germany
Prof. Dr. H. Suess – DLR, Germany
Dipl.-Ing. W. Dürr – Astrium GmbH, Germany
- 10:30** **Coffee Break**
- 11:00** CNES Spacecraft Operations System Roadmap
M.L. Anadon, N. Champsavoir, P. Gelie, E. Poupart, H. Pasquier – CNES, France
- 11:30** The Meteosat Third Generation: System and Ground Segment Key design Features
B. Mullet, C. Keppenre – Eumetsat, Germany
- 12:00** **CONCLUSIONS - IN ROOM A - AND END OF THE CONFERENCE**
- 12:30** **Lunch**

GENERAL INFORMATION

LOCATION

Hotel Intercontinental
Apáczai Csere J.u. 12-14
H-1052 Budapest
Hungary
Tel.: +36 1 327 6333 - Fax: +36 1 327 6357
www.intercontinental.com

REGISTRATION

- Advance: Please complete the enclosed Conference Registration Form and send it to Eurospace before **16 May 2010**.
- On-site: The Conference Secretariat will open on Tuesday, 1st June at 8:30 for late registration, documentation and information, and will remain in operation throughout the Conference.

CONFERENCE FEES

A Conference fee of 900€ is requested from all participants, including speakers and chairmen. This fee will include lunches, coffee breaks, reception and proceedings.

Fee for vendor and tool exhibitions:

- 9 m²: 3400€, incl. one attendance fee for the Conference
12 m²: 4100€, incl. one attendance fee for the Conference
15 m²: 5000€, incl. one attendance fee for the Conference.

PAYMENT

Before the Conference:

- By **cheque** in Euro to the order of EUROSPACE payable in a French Bank to be sent to:
EUROSPACE – 15/17, avenue de Ségur – 75007 PARIS, France.
- By **bank transfer** in Euro to:
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Charges on bank orders shall be borne by the sender.

At the Conference: by cash in Euro only.

CANCELLATIONS

Refunds of 50% will be made if a written request is received **before 18 May 2010**.
No refunds will be made for cancellations received after this date, but substitutions are possible.

HOTEL RESERVATIONS

A block reservation has been made at special Conference rates at the Intercontinental Hotel.

It is recommended to reserve hotel accommodation very rapidly and at the latest before **16th May 2010** sending the attached Room Reservation Form directly to the Hotel.

LANGUAGE

English will be the working language of the Conference. Each presentation will be followed by a 10 mn discussion.

PRESENTATION FACILITIES

Video projectors are available in each room. Any other presentation facility (Video Cassette Recorder/Player) can also be supplied by applying to the Conference Manager before 18 May 2010.

TRAVEL AND BANK FACILITIES

Travel and exchange arrangements can be made by the Concierge of the Hotel.

PROCEEDINGS

The Proceedings will be published after the Conference on a CD-ROM containing the PDF files of final papers.

Authors are requested to deliver their final paper by ftp to ESTEC (following the instructions already provided to them) **by 4th June 2010 at the latest**, if they are to be included in the CD.

Editor of the Proceedings:

Ms. Leny Ouwehand

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TOOL DEMONSTRATIONS / VENDOR PRESENTATION

A special show room next to the Conference room is allocated to present vendor profiles and tools.

This room can be visited at any time during the Conference. In particular, coffee breaks will take place there and time slots in the flow of presentations are allocated before lunch as well as late in the afternoon. Tool presentations can be organised in the Conference room as well during these special periods. The preliminary list of exhibitors is as follows:

ADACORE

AEROFLEX GAISLER

STAR DUNDEE

CHAIRMAN AND PROGRAMME COMMITTEE

Chairman: F. Hass, Dansenior – Head of the Eurospace S/W Engineering Panel

P. Arberet, CNES
P. Armbruster, ESA/ESTEC
C. Brunet, Canadian Space Agency
K. Hjortnaes, ESA/ESTEC
G. Magistrati, ESA/ESTEC
G. Moury, CNES
B. Mullet, Eumetsat
H. Pasquier, CNES

N. Alepton, Eurospace
D. Baudoux, Spacebel
A. Canals, CS Communication & Systèmes, France
A. Christen, Astrium Satellites GmbH
P. Davies, Surrey Satellite Technology Ltd.
C. Dionisio, Intecs
G. Estaves, Thales Alenia Space
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M. Richard-Foy, Aonix
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J. Schneegans, Astrium Space Transportation GmbH
M. Symonds, Vega UK
R. Szczepaniak, Cortim
R. Ward, SciSys Ltd.

ORGANISING COMMITTEE

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