



ADCSS 2015

9th ESA Workshop on Avionics, Data, Control and Software Systems



AVIONICS TECHNOLOGY TREND

Wednesday, 21st October 2015 – from 9:00 to 13:00

Convenor

Davide Oddenino (TEC-ECC)

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Coordinator

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BACKGROUND

Industry has come with innovative solutions where for instance more processing functions are executed by higher performance CPUs while some AOCs sensors can be miniaturized to the point of being introduced fully or partially in the central computer. A high degree of integration between data handling, AOCs and power distribution might become soon possible and compatible with reliable missions implemented on small spacecraft.

Many other trends exist as well this is why the ADCSS 2015 organizing committee decided to make an open call for papers, without imposing a priori predefined topics.



OBJECTIVE

The objective of the session is to present and discuss innovations in the field of Avionics and trends including development processes spun in from other domains.

- 09:15** **On-Board Computer System Architecture (OBC-SA)**
Speaker: Mr. Andreas Schüttauf (Airbus DS Bremen)
- 09:45** **Avionics technology trends**
Speaker: Mr. Brice Dellandrea (TAS France)
- 10:15** **Lessons Learned in the Development of Avionics for Modern Microsatellites**
Speaker: Mr. Jiang Lianxiang (Shandong Aerospace Electronics Technology Institute)
- 10:45 – 11:15** **Coffee (Einstein – exhibition)**
- 11:15** **Research & Technology activities in on-board data processing domain**
Speaker: Mr. Olivier Notebaert (Airbus DS Toulouse)
- 11:45** **Simplifying System Design Through Hybrid Dependability Measures**
Speaker: Mr. Christian M. Fuchs (Technische Universität München)
- 12:15** **Deterministic ETHERNET for Space Applications**
Speaker: Mr. Bülent Altan (TTTech Wien)
- 12:45** **Round Table discussion – conclusions and way forward**

All the presentations will be available for download on the ADCSS website
All presentations lasts 25min followed by 5min Q&A at the end

Avionics Technology Trend - Exhibition



TTEthernet is used as single data network on the NASA MPCV and there are currently several studies going on under the auspices of ESA leading to the selection of TTEthernet as single data network in the new Ariane 6 launcher



Presentation of PoL



Texas Instruments supports space applications by providing MIL-PRF-38535 QML Class V and Radiation Hardness Assured (RHA) components. The TI Space Products portfolio is very extensive and includes: Data Converters, Power Components, Digital Signal Processors, Logic, Op Amps, Memory, Clocking, as well as interface components. Our goal is to be a one stop solution for our customers Space design needs.



ATmegaS128 and more generally microcontrollers are targeted to be used in space applications like for example RTU. Microcontroller is part of building of blocks of RTU architecture



Cobham Semiconductor Solutions will have information on CAN Transceiver and other products



Cobham Gaisler wishes to promote the GR740 (ESA Next Generation Microprocessor) and AMICSA/ESA DSP day conference



SOC's have an increasing amount of functional units making the job of debugging more difficult for application and IP developers. OCE in cooperation with ESA has developed a debug tool with unique features to address the needs of today's application developers for Space and Aerospace applications