

# Summary SAVOIR4Cubesat Workshop

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Joachim Fuchs

ESA ESTEC

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- SAVOIR has mainly been on medium-large size space projects involving the Large System Integrators in Europe. So far, SAVOIR has not been applied to small missions involving CubeSats, and the CubeSat community has had little exposure to/involvement in the initiative.
- In order to establish the potential benefit of SAVOIR to the increasing market of CubeSats, the workshop was intended to foster discussion between the two communities for mutual benefit.
- Discussions helped to identifying overlapping interests and areas worth pursuing for further collaboration.

**13:30** → 13:45 **Basic introduction to SAVOIR**  
Speakers: Jean-Loup TERRAILLON (ESA), Joachim Fuchs (ESA/ESTEC)

**13:45** → 14:05 **The SAVOIR Functional Reference Architecture**  
Speaker: Kostas Marinis (ESA)

**14:05** → 14:15 **Advanced Data Handling Architecture (ADHA)**  
Speaker: Kostas Marinis (ESA)

**14:15** → 14:35 **Model-based avionics**  
Speaker: Mr David Peña Hidalgo (n/a)

**14:35** → 14:45 **Towards standardization of an execution platform (CoRA)**  
Speaker: Christophe HONVAULT (ESA)

**14:45** → 15:15 **Model-based functional design and implementation (TASTE)**  
Speaker: Mr Maxime Perrotin (ESA/ESTEC)

**15:15** → 15:25 **On-board SW reference architecture (OSRA)**  
Speaker: Andreas Jung (ESA/ESTEC)

**15:25** → 15:50 **The Packet Utilisation Standard and support for implementation**  
Speaker: Mr Maxime Perrotin (ESA/ESTEC)

**15:50** → 16:10

Coffee Break

**16:10** → 16:30 **Considerations and guidelines for the use of the SAVOIR FDIR Handbook for Cubesats**  
Speaker: Silvana Radu (ESA)

**16:30** → 16:50 **Functional Verification benches**  
Speaker: Mr Quirien Wijnands (ESA/ESTEC)

**16:50** → 17:30 **Experience and feedback**

**16:50** → 17:05 **GOMSpace experience of SAVOIR with the Juventas and other CubeSats using a test-driven development approach**  
Speaker: Piotr Perczynski (GomSpace)

**17:05** → 17:20 **Bright Ascension experience with SAVOIR OSRA in the context of software products for CubeSats**  
Speaker: Peter Mendham (Bright Ascension Ltd)

**17:30** → 18:00 **Round Table Discussion: Collaboration possibilities**

The Initial mapping of Cubesat function implementations to the SAVOIR Functional Reference Architecture and existing implementation has been appreciated

For the execution platform (HW/SW co-engineering) interest has been expressed for evolution towards different targets

High interest has been expressed in TASTE (tools and associated toolchain)

- Some discussion to address differences between PUS services vs. CSP (Cubesat Space Protocol)

The presentation on FDIR highlighted on elements which can be applied in Cubesat context

- Discussion returned to required functions of SAVOIR architecture not yet present in current Cubesat implementations (e.g. observability)

Evolution of Cubesat architectures has been presented (GOMSpace)

Confirmation of importance of SW for capability driven cubesat missions (Bright Ascension)

**Good moment for dialogue**, but stay pragmatic (Cubesats may fail), needs to be part of system level trade-off

How to get the Cubesat community involved in SAVOIR

- Follow-up workshops on specific technical areas
- Potential participation in SAVOIR AG / Working Groups (to be discussed in SAG taking into account diversity of community)
- Tailoring of existing (modular) architectures and requirements for cubesat missions