

# **Abstract IMA & Autosar deployment for space domain**

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Integrated Modular Avionics (IMA) refers to an avionic architecture where generic computing platforms are used to run multiple types of applications (including applications with various safety criticality levels) and, in some cases, to run multiple applications concurrently. IMA has successfully been used in the aeronautics field, particularly for the Airbus A380, and it is currently evaluated for a utilization in spacecraft. It is important to notice that so far IMA is not used for the most critical functionalities

The AUTOSAR initiative will define standards, on which the implementation of future automotive applications will be based. By following these standards, it will be possible to manage the growing electronics complexity of the development of automotive functionalities. This will also result in greater flexibility for product maintenance, enhancements and updates. The solutions based on the AUTOSAR approach will be scalable in and across product lines. In addition, the exchange of functions between constructors and suppliers will be possible. All domain areas in automotive will be addressed: Powertrain, Chassis, Safety, Multimedia/Telematics, Body/Comfort and Human Machine Interface. The automotive customer will therefore get cars of higher quality with more reliable electronic components.

Three main topics have been defined:

- A basic software core
- Standardized functional interfaces and
- Methods for software integration.

The presentation should give the point of view of TAS-F with regard to these approaches and how they could be deployed in the space domain .

This point of view would be illustrated by :

- the TAS-F understanding of the IMA and AUTOSAR main concepts ,
- the advantages and drawbacks (if any) of each one
- analysing of the reasons of these success stories ,
- and which concepts could be reused/adapted in the space domain .

Technical aspects , but also the business market organisation will be taken into account to elaborate the presentation.