

## ***Standardisation of Platform/Payload management Interfaces and deployment of common building blocks***

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Payload command, control and management may be implemented differently depending on the mission and on the organisation of a space programme. In multiple payload spacecraft (e.g. institutional Earth Observation or Exploration), payloads are often “intelligent” and feature their own data handling resources. In other more compact solutions (e.g. mono instrument satellites for export Earth Observation customers), the payload management is merged with the on-board platform data management and performed in the main computer of the spacecraft.

In case of multiple intelligent payloads, the parallel development of several payload computers which are designed to meet similar platform interface requirements is potentially costly and prone to delivery delays. Hence, deploying standard data handling hardware and software to be used by all payloads within a programme is a solution to mitigate such risks and enable payload developers to focus on the specific aspects of the mission. The presentation uses MetOp Second Generation as an example and reviews the trade-off performed between several possible levels of standardisation leading ultimately to the recommendation to use a common standard processing module (including software execution platform and PUS services) in MetOp SG Instrument Control Units.

Then, technologies which would be required to enable extending this approach to other types of missions with tighter mass and power consumption constraints are discussed : either using more compact electronics or implementing a modular scheme for multiple payload management from a single payload computer thanks to time & space partitioning.