



Contribution ID: 45

Type: **Poster presentation**

OPAZ: an advanced COTS based payload processing on High Altitude Pseudo-Satellite

Tuesday, 26 February 2019 16:30 (1 hour)

OPAZ is a new generation of Earth observation system with an embedded optical payload designed to fly on Zephyr-S, the stratospheric UAV developed by Airbus Defence and Space. The OPAZ prototype has been used several times in operational context. First, tests flights of few hours on stratospheric balloons have been done. Then a long duration successful demonstration has been made with a flight at 20km altitude during over 25 days on the Zephyr-S in July 2018, thus establishing a world endurance record. This flight was just the first one of many others scheduled.

The OPAZ payload avionics and data processing chain is built around COTS components (HW and SW) and common state of the art industrial standards. The coupling of the avionics and data processing chains on-board enables advanced users functionalities such as enhanced high resolution pictures or stream live video with active stabilization and an excellent agility to rapidly select the field of view. The OPAZ payload also acquires and process AIS signal and other sensors could be added. Focusing the rich software environment available on the chosen on-board processing devices, this development demonstrates the benefit of using commercial standards to get high quality and added-value services on-board together with a limited development effort. Such project shows the possible innovations and benefits that can be enabled through usage of COTS components and standards for payload data processing and avionics on Earth-Observation satellites for instance.

Summary

OPAZ is a new generation of Earth observation system with an embedded optical payload designed to fly on Zephyr-S, the stratospheric UAV developed by Airbus Defence and Space. The presentation provides an overview of the Data Handling System with a feedback from the first flights and highlights the benefit of the technical approach.

Paper submission

No

Primary authors: Mr CERTAIN, Antoine (Airbus defence and Space); Mr HYOUNET, Philippe (Airbus Defence and Space)

Co-authors: Mr ARMAND, Simon (Airbus Defence and Space); Mr LE ROY, Marc (Airbus Defence and Space); NOTEBAERT, Olivier (Airbus Defence and Space)

Presenter: Mr CERTAIN, Antoine (Airbus defence and Space)

Session Classification: Poster Session and Exhibit

Track Classification: On-Board Data Processing Systems and Architectures