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## **Cheops Mission: A Low Cost Platform for Science**

*Borges, A., Space Systems - Airbus Defence and Space; Montes, T., Space Systems - Airbus Defence and Space; Cortes, D., Space Systems - Airbus Defence and Space*

The CHEOPS (CHAracterizing ExoPlanet Satellite) mission is dedicated to searching for planet transits by means of ultrahigh precision photometry on bright stars already known to host planets. The mission was selected by the Science Programme Committee as the first small mission in the ESA Science Programme for a nominal launch in 2017. AIRBUS DS Spain in competition with other satellite suppliers was awarded with the contract to manufacture and integrate the satellite platform, the integration of the scientific instrument, the realization of the satellite functional and environmental campaigns, the launch campaign and the LEOP and IOC phases. AIRBUS DS Spain proposes a modification of the successful LEO platform AstroBus-S to both perform the mission goals and to become a low cost development. The CHEOPS platform combines AstroBus-S heritage with flexibility for customization.

This paper describes the adaptations of the platform satellite from mechanical, thermal, electrical, SW and operations views. Special emphasis is paid to explain the flexibility of the Astrobus platform design to cope with new mission goals while keeping a high re-use of HW equipment and SW modules to achieve a high TRL with outstanding quality. The platform adaptation is challenging due the need to compact the platform mechanical bus in a co-passenger launcher room, while optimizing the performances without impacting on satellite operability. The platform baseline AstroBus-S offers a powerful platform avionics kernel (AS-250), which is highly re-use, helping to reduce program risk, to achieve reliable schedule and cost commitments and ensures high quality and robustness due to continuous application of proven solutions. At present, AS250 is flying on AstroTerra (SPOT-6/-7) and the Kazakhstan HR imaging satellite of KGS, which adds the flight proven stamp to the solution. With CHEOPS platform bus AIRBUS DS is pursuing to create a full ECSS complaint low-cost powerful platform for future institutional and commercial markets.