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PLATINO MULTI-MISSION PLATFORM: APPLICATIONS

**Abstract**

PLATiNO platform is a multi-mission platform in the class 300-400 kg launch mass, designed and developed in the frame of ASI National project, for which the first model, PLT-1, is a SAR satellite currently in satellite PFM AIT campaign and due to launch beginning 2025. The paper describes the main features of this platform, which has been designed to allow for a broad range of LEO applications, while aiming at high level performance in terms of multi-orbit configurability, payload volume/mass/power accommodation, pointing, data management throughput. A focus on the platform multi-mission critical elements (same platform for different P/L-Missions) is provided, with the technical challenges and constraints faced to allow that. Subsequently, the current development status and main highlights of the main practical applications of this multi-mission platform are described: PLT-1 SAR satellite (ASI) in Satellite Integration and Environmental test campaign; PLT-2 MAIA Satellite (accommodating a Multi-Angle Imager for Aerosols payload from JPL to study air pollution – ASI/JPL) in PDR phase; EAGLE-1 QKD Satellite (a Quantum Key distribution demonstrator with optical terminal - SES) in CDR phase; Hyperspectral Constellation (5 satellites with a high resolution Hyperspectral camera for ESA IRIDE constellation, Italian PNRR) in CDR phase. A final overview of other PLATiNO multi-mission platform LEO and Non-LEO potential applications under study is given.