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PLATINO PLATFORM: A HIGH PERFORMANCE EO MULTI-MISSION SMALL SATELLITE
PLATFORM

Abstract

An Italian Consortium (SITAEL, Thales Alenia Space, Leonardo Company, Airbus Italia) is developing a new small satellite-class cost effective platform in the frame of the PLATiNO Project for the Italian Space Agency (ASI). The PLATiNO platform is a brand new all-electric small platform product in the mini-satellites class, deployable in constellation and suitable for a wide range of multi-mission applications (e.g. Optical, SAR, Telecom, etc.), compatible with different launchers. The platform design requirements and technological solutions are strictly linked to the multi-purpose high level requirement for this product, aimed to serve different mission scenarios in LEO orbit, offering high operational availability over 3-5 years mission lifetime. The PLATiNO platform is ideal for EO multi-payload integrated constellations (i.e SAR-Optical), thanks to the flexible platform-payload I/F and the key features (SITAEL's HT100 electric propulsion for constellation deployment, state-of-the-art and integrated avionics subsystem with mini-CMGs for agile re-pointing, ISL for formation flying, high data rate active antenna for EO Data management). The platform is also suitable for series production for Telecom mega-constellation, by implementing available H/W options (SADA, PLIU) and taking benefit of low recurrent costs. In order to be fully multi-application, the platform presents a high level of reconfigurability and scalability, e.g. multiple solar array configurations (body mounted/deployable/steerable), structural modular approach, compatibility with optional equipments to be utilized on the basis of the mission requirements, multi-purpose payload interface design. The platform design has passed the System-CDR and a representative Structural Model (SM) has been successfully tested versus mechanical loads in 2021. The launch of first PLATiNO platform (PLT-1 SAR mission) is planned in 2023 with VEGA.