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Vortragstitel	A Modular Satellite Platform for Earth Observation Missions in the Low Earth Orbit
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Abstract

The LEOBUS-1000 is a generic satellite platform developed by OHB-System for low Earth orbit missions using small launchers. It is a development based upon the company's heritage from SAR-Lupe and Galileo. The LEOBUS-1000 platform has accumulated over 17 years of in-orbit heritage through the five successful SAR-Lupe satellites.

One of the main objectives of LEOBUS-1000 is to realise a modular and flexible platform designed for various Earth observation missions. In order to achieve this goal, the platform has been designed with separated payload and platform modules in order to increase the flexibility of the platform. This reduces the cost due to partial Assembly, Integration and Test (AIT) process parallelization.

The modular design makes the platform a perfect solution for a wide range of Earth observation missions. The total spacecraft mass for satellites using the LEOBUS-1000 is in the range of 600 to 1300 kg, including up to 450 kg of payload. The platform supports payloads with an average power demand of up to 1.5 kW but offers as well flexible and cost effective options for less power demanding payloads. The design lifetime of the platform is 5 or 7 years and it provides agility and high precision pointing capabilities for high performance Earth observation payloads. This, combined with the platforms high rate payload data on-board processing and downlink system (up to 640 Mbit/s Xband downlink and 2 Tb payload mass memory), provides a good foundation for all kinds of earth observation payloads.

The LEOBUS-1000 platform is compatible with most small sized launchers including VEGA, PSLV and ROCKOT. Due to its ability to accommodate various payloads and the platforms heritage, it has been used for several ESA satellites studies like the ESA Earth Explorer 7 candidate missions, GMES Sentinel-5 Precursor and a radar altimetry satellite constellation.