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OHB SMALL SATELLITES

Abstract

The commercial and institutional interest in inexpensive satellites is growing since years. The deployed small satellites for the requested solutions span from Pico / Nano Satellites (CubeSats) up to mini satellites of 500 kg. While CubeSats are established as a "satellite kit"-type solution mainly built by universities in the past, customized platforms are available as commercial spacecraft. The trend is driven by commercial constellations with requirements on the platforms for low-cost but larger spacecraft than CubeSats.

Applications, where satellites can provide better or even the only feasible solutions cover Ecosystem Sustainability, Agriculture, Land Use, Food Security, Air and Water Quality and Monitoring, Hydrology, Fishery Monitoring and Control, Disaster Monitoring, Energy, Reconnaissance and Security.

As one of the three European Large Systems Integrators, OHB offer reliable and cost-effective turnkey solutions for the full range of spacecraft sizes from large spacecraft to micro satellites. The modular and scalable design of the platforms offers a broad spectrum of possible configurations to fulfil various mission objectives.

The upper edge of the smaller satellites is marked by the SmartMEO platform with about 700 kg launch mass. It is a highly reliable and space-proven solution that derives directly from the platform built for the satellites of the Galileo FOC (Full Operational Capability) satellite constellation.

The SmartLEO platform family is a space-proven solution that relies on more than 45 flawless years in orbit. SmartLEO, with a launch mass starting at 600 kg, was designed for small series production and represents the solution for satellite constellations requiring high reliability and high performance.

For missions with smaller satellites OHB offer the Prisma EO, Triton-X and Innosat EO platforms. Prisma EO is built in Sweden. It has a dry platform mass of 150 kg and a payload capability of 100 kg. Triton-X is the platform evolution of the Luxembourgian Triton-2. It is smaller with its typical 50 kg platform plus 30 kg payload masses. Innosat EO is built also in Sweden. The platform, with a mass of less than 40 kg, can carry payloads of up to 25 kg.

Starting with an overview of the application for small satellites, the paper provides a summary of

the current small satellites and platform of the OHB group, the locations, where the platforms are being designed and integrated, and how the various mission needs are addressed with these satellites.