Paper ID: 102474
oral

32nd IAA SYMPOSIUM ON SMALL SATELLITE MISSIONS (B4)
Small Spacecraft for Deep-Space Exploration (8)

Author: Mr. Francesco Ferrari
Argotec, Italy

HAWK HEAVY - A MULTI-MISSION SPACECRAFT PLATFORM FOR BEYOND-LEO MISSIONS AND SERVICES

Abstract

The space sector is undergoing a shift towards commercial provision of services, missions, or spacecraft. For spacecraft providers, this results in the need for standard platforms that are easily adaptable to different scenarios, in order to minimize delta developments for a wide variety of customer needs and provide cost-effective solutions with minimal lead time.

Hawk Heavy is the latest platform developed by Argotec, targeting beyond-LEO missions and the Small Spacecraft class ($180\,\mathrm{kg} < m < 500\,\mathrm{kg}$). In order to offer competitive solutions for this growing market segment, the developed platform is characterized by: (i) multi-mission and multi-payload compatibility by design; (ii) streamlined and parallelized process for assembly, integration, and testing; (iii) minimal lead time and non-recurring engineering required from customer request to delivery. Hawk Heavy is tailored for conditions encountered beyond Low Earth Orbit, including geostationary orbit, lunar, martian, and deep space environments; it is compatible with high-performance propulsion system options, allowing to provide a significant amount of ΔV. The platform is thus suited for a wide variety of missions, from lunar and martian observation/telecommunication services to near-Earth asteroid science missions or geostationary telecommunication satellites.

This paper describes the characteristics and features of Hawk Heavy, including payload allocations. Examples of implementation of the platform in different missions are provided, highlighting its versality and showcasing its capabilities.