26th IAA SYMPOSIUM ON SMALL SATELLITE MISSIONS (B4)
Access to Space for Small Satellite Missions (5)

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ACCESS TO SPACE FOR TELECOMMUNICATION NANOSATELLITES: ALL THE CHALLENGES OF THE LAUNCH CAMPAIGN

Abstract

Nanosatellites are a new opportunity for future businesses such as IoT, remote sensing and others. Despite the new technology and the new emerging companies that provide launches and interfaces with several piggy-back opportunities, a company that wants to deploy its nano-assets encounters several technical and programmatic/management issues related to the launch. Launch providers for Cubesats are the key interfaces between the private company and the launcher. Depending on the agreement and on the launcher, the support may change leaving with the customers the final iteration to provide all the necessary technical details with consequent undiscovered issues on the way. Astrocast SA has successfully launched in December 2018 its first nanosatellite that will demonstrate the technical capability of its IoT-M2M telecommunication service; a second satellite has been deployed in March 2019. This paper will show all the lessons learned from the process of "accessing space" for a startup that wants to reach global coverage in the next years through piggy-back launches. Issues related with licensing, transportation, customs declaration and other management details are most of the time hidden or unknown. These issues generate delays directly impacting the campaign driven by the prime payload of the launch with the risks of missing the flight opportunity. Having a clear view of the challenges expected from the nanosatellite piggy-back launches can save delays or worst risks for the private companies. Particular focus is given to lessons learned from topics such as: management of resources, technical interfaces, transportation and shipment, dangerous goods, integration and hazardous operations at range.