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Entrepreneurship and Innovation: The Practitioners' Perspectives (1)

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STELLARSTATION: EXPANDING MISSION POSSIBILITIES THROUGH GROUND STATION
SHARING

Abstract

Ever since the 2003 launches of the first CubeSat missions, satellite developers have been attempting even more innovative missions. However, now that hundreds of academic and business projects worldwide are currently in progress, standing out in the CubeSat and smallsat development world is no easy task. With academic budgets and business investment hinging on the appeal of the project, satellite developers need to create new, more interesting mission proposals.

There are two common requirements for such a mission: large volumes of data and immediacy of telemetry/commanding. In order to achieve these, operators must be able to access from ground stations as much as possible, especially in the case of immediate telemetry/commanding. On the ground station side, it is often difficult for a single operator to own and maintain dozens of ground stations due to the costs involved. One effective solution to address this is collaboration between ground station owners to develop an integrated ground station network.

In this presentation, we will introduce and discuss the satellite antenna sharing platform, StellarStation. It sits between antenna holders and satellite operators, managing the complex processes required to connect both sides in a shared network and provide opportunities for revenue. In addition, StellarStation is equipped with a number of built-in functions to facilitate antenna matching and the easy uplink/downlink of data.

This easy-to-use sharing platform is poised to create a paradigm shift in satellite operation. In addition to reviewing the platform itself, this presentation will also include analysis of operation data from the first few months of activity.