SPACE TRANSPORTATION SOLUTIONS AND INNOVATIONS SYMPOSIUM (D2)
Launch Services, Missions, Operations, and Facilities (2)

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SPACEFLIGHT SHERPA MISSION Q3 2015; COST EFFECTIVE RIDESHARE ACCESS TO SPACE FOR THE GROWING SMALLSAT INDUSTRY

Abstract

With the growth of the small satellite industry, demand for small satellite launch service has followed suit. Because most small satellites "rideshare" as auxiliary payloads on launch vehicles, finding exact launches to the optimal orbit can be difficult. Getting a seat at the table with a launch service provider more accustomed to launching satellites much larger than a CubeSat, nanosatellite, or microsatellite can be equally daunting. With good reason, the launch service provider's primary focus is on payloads that will generate significant revenue toward the cost of the entire launch vehicle.

With this purchasing power dynamic in mind, Spaceflight has developed SHERPA, a hosted payload and in space transportation system that can maneuver to an optimal orbit for payload deployment rather than accept deployment in the orbital destination of the primary payload. SHERPA supports up to 1,500 kilograms of rideshare small satellite payload and enables cost effective smallsat launch access while producing a substantial amount of additional revenue for the launch service provider. SHERPA utilizes launch vehicle excess capacity and enables multi-manifest missions for small satellite customers while securing additional payload revenue for the launch service provider.

Spaceflight has signed a launch service agreement to orbit SHERPA, in Q3 2015 on an undisclosed launch vehicle.

This paper describes the current small satellite market growth and segmentation (based upon Spaceflight Inc.'s customer relationship database), details the challenges of finding launch options to specific orbits, and concludes with a summary of the SHERPA vehicle and the first SHERPA mission.