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Safe Transportation Systems for Sustainable Commercial Human Spaceflight / Small Launchers: Concepts
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A CRITICAL ASSESSMENT OF THE SMALL LAUNCH VEHICLE MARKET

Abstract

Space launch is a complex and dynamic market; this paper will critically analyze the growth of dedicated small satellite launch vehicles in context of the existing launch industry.

The small satellite revolution is dramatically changing how we think about space utilization. Advances such as the cubesat standard have enabled the growth and success of new space ventures and provided access to new space-based data sources. The revolution has also generated increasing interest in miniature and small dedicated launch vehicles. With as many as 70 new small launch vehicles in planning, development, and testing, many believe a market bubble is forming.

Traditional industry players familiar with the difficulties and pitfalls of space launch view the interest in small launch vehicles with skepticism. Furthermore, this growth and interest in small satellite launch has not gone unnoticed by the traditional space launch providers with several offering enhanced small satellite rideshare solutions. Success of the small launch vehicle market remains an open question.

The paper will review the burgeoning market for small launch vehicles in comparison to the rideshare capabilities offered by traditional large launch vehicles such as the United Launch Alliance (ULA) Atlas V, SpaceX Falcon 9, Soyuz, and Indian PSLV.