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REQUIREMENT TO THRIVE: EMBRACING THE NEW ERA IN NEW SPACE - A
DIGITALIZATION APPROACH TO LAUNCH PROCESSES AND MANAGEMENT

Abstract

Requirement to Thrive: Embracing the New Era in New Space - A Digitalization Approach to Launch Processes and Management

Compared to other sectors, the new space industry has been slower to adopt software-based digitalization, despite its rapid advancements within its domain, which is evident globally as the new space sector significantly lags behind in embracing digitalization. Lessons learned from past experiences highlight the risks of industry giants falling behind in this aspect.

Although the new space sector is relatively nascent, the emergence of new companies and increased activity among existing firms are undeniable. The surge in demand for launches has necessitated rapid digital integration for various stakeholders such as Launch Operators (LO), Launch Service Providers (LSP), deployer and separation system providers, in-orbit logistics companies, and others. Without such integration, the industry risks being dominated by a few monopolistic structures, making product and service selections and management challenging both between companies and within them. While some established launch operators have addressed this internally, the evolving landscape demands continuous adaptation and updating, requiring a digital transformation that is not only a tool but also easily accessible, addressable, and checkable at any given hour due to the globalization effect of the world. Access barriers due to time zone differences among launch operators, their customers, or internal teams at launch sites need to be eliminated through digital means.

In this context, the persistence of issues such as time zone differences across the globe necessitates ongoing efforts to find digital solutions. Moreover, the recent marketplace has shown increased reliance on digitalization in other sectors, with the rise in remote connectivity and accessibility. Many meetings and conferences for launch service agreements, as well as discussions for LSPs and deployers, are still being scheduled based on time synchronizations. Especially for new space, where meeting tight launch windows leaves no room for error, rapid adaptation to digital solutions is imperative.

This paper outlines the algorithm for implementing digitalization in the launch sector and presents optional use cases. It offers a novel solution for stakeholders in the launch sector. Furthermore, it encourages further exploration into additional use cases to expand the scope of digitalization within the industry.