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REDUCING THE COST OF LAUNCHERS AND LAUNCH RANGES OPERATIONS WITH A NEW  
PAY-PER-USE END-TO-END PLATFORM

**Abstract**

NewSpace has disrupted the industry with new offerings reducing cost drastically. Particularly visible on the launch segment, this cost reduction enabled new business models to appear, thus fostering the emergence of hundreds of other private companies (a market), which in turn encouraged growth of the launcher industry. We today have tens of companies, with funding, actively developing small launchers to serve this market. However, for these companies operational aspects are often considered last when designing a new launch service or when looking at optimising the cost of launch. Traditionally, the cost of the launcher largely outweighs the cost of operations, so this issue is less visible; but in the era of low-cost and high-frequency launches and increased competition, an inefficient ground operations, planning and mission control infrastructure becomes much more visible.

This paper discusses a proposed solution to reduce costs and improve efficiency in the operations of launchers and launch ranges. To address the needs of the emerging commercial space industry, Telespazio VEGA is developing a disruptive new offering called ENABLE. On one hand, it is the world's first end-to-end platform for operations and is accessible to the NewSpace market in a pay-per-use model. On the other hand, it is an Operations-as-a-Service offering to take over entire space operations on behalf of clients, by using the ENABLE platform. ENABLE will drastically simplify, reduce cost, and accelerate the development of ground segments and the operation of space missions.

While the platform was initially developed for NewSpace satellites and constellations operators, this paper will explore the suitability of its concepts and value propositions to the launcher environment. The paper will offer a comparative analysis of the similarities between the operations of satellites, constellations, launchers and launch ranges; and will explain how we envision addressing the differences from a conceptual and technical point of view in ENABLE. For this, it will outline the disruptive concepts, technologies and benefits of the platform and show their applicability; indeed ENABLE uniquely centralises in one product the capabilities a space venture needs to design, plan, operate and optimise its assets and operational concepts. The paper will also describe the proposed disruptive pay-per-use model – a strongly enabling innovation made possible by the business model and architecture of this offering – and which appears particularly well suited to the launcher segment considering that the usage of ground systems is largely intermittent.