

BUSINESS INNOVATION SYMPOSIUM (E6)
New Space and New Science (3)

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**MARKET ASSESSMENT FOR MICROSATELLITES AND SMALL SATELLITES (10 TO 500 KG) TO
LEO AND THE NEED FOR DEDICATED LAUNCHERS****Abstract**

Microsatellite and small satellites performances are rapidly improving. Key performance indicators such as resolution and downlink rate have improved by more than an order of magnitude in the past decades. Ten years ago, a 1-ton satellite was necessary to achieve 1 m resolution, whereas today, a mission of these characteristics could be performed by a 100 kg satellite. This has enabled Microsatellites and small satellites to perform increasingly challenging missions beyond technological demonstrations. In particular, satellite operators of the remote sensing market have begun to adopt this approach. Prominent commercial projects such as Skybox, PlanetLabs or Dauria are currently under development based on platforms in this category. At this stage, there has been a lack of reliable and consistent launch service for this particular satellite segment. Therefore, this has led to majority of the 10 to 500 kg satellites being launched as secondary payloads where scheduling conflicts and limited orbital selection have become a main concern. Indeed, dedicated launch vehicles are being explored by commercial space companies for the near future. This paper focuses on the evolution of Microsatellites and Small satellites market by examining data from historical and future projected launches, especially for commercial projects. Moreover, it explores the commercial impact of Micro and small satellites through the potential development of key technologies. A cross-platform study will be conducted to investigate the feasibility of a dedicated launch service in terms of project cost and other key factors, such as launch schedule and orbit selection.