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Access to Space for Small Satellite Missions (5)

Author: Mr. Matteo Tugnoli
European Space Policy Institute (ESPI), Austria, matteo.tugnoli@espi.or.at

Mr. Marco Aliberti
European Space Policy Institute (ESPI), Austria, marco.aliberti@espi.or.at

Mr. Martin Sarret
European Space Policy Institute (ESPI), Austria, martin.sarret@espi.or.at

EUROPEAN ACCESS TO SPACE: BUSINESS AND POLICY PERSPECTIVES ON MICRO
LAUNCHERS

Abstract

One of the most striking features of the worldwide space launch sector is the dramatic increase in the number of small satellites missions (under 500 Kg), particularly since 2013. Hitherto, the primary strategy for placing the majority of these satellites into Low Earth Orbit (LEO) has relied on opportunities to ride alongside main payloads (piggyback), or deployment from resupply capsules and dispensers from the ISS, this being of specific relevance for CubeSats. This said, in a parallel and unprecedented development, a great number of new space launch systems, mostly private-led, are being developed today and offer a payload capacity that varies from a dozen to a few hundred kg to LEO. Their declared objective is to capture the demand for quick and dedicated access to space from the booming small satellite market. However, many questions still hover over these ventures, including on the ones that have just recently achieved their first successful orbital tests. From the size and shape of the actual small satellite market they will be able to capture, to the feasibility of their business cases and the level of competition with both existing small-to-medium launch solutions and other micro launchers, the prospects of this growing segment of the space transportation industry still remain unclear.

Drawing on a year-long research integrating macroscopic level analysis and actual case studies, this paper provides a comprehensive assessment of the commercial and institutional landscape surrounding micro launchers initiatives at both a global level, as well as specifically within the European context. This paper first offers an analysis of the dynamics which serve to shape the global launch service market for small satellites, moving on to disentangle its unfolding trends and future growth trajectory. From a business perspective, the paper then identifies the key features of this market by characterising customers' expectations and providing a competitive analysis of the different launch solutions for small satellites. Finally, from a policy perspective, the study provides reflections on whether such market could, and ought to, be handled on a purely private basis in the European context, or on the contrary generates inherent stakes which compel European institutional actors to become more actively involved. The originality of character within this paper comes in that it combines technical, business and policy approaches to provide executives with a clear-eyed view on the real potential and future prospects for micro launchers initiatives.