

NEW APPROACHES TOWARDS LAUNCHES IN THE NEWSPACE ECONOMY

THE EXAMPLE OF AUSTRALIAN BASED LAUNCH SITES

Walter PEETERS¹

Lloyd DAMP²

Walter.Peeters@isunet.edu

A number of debates have taken place on the difference between 'Commercial Space' and 'New Space'. It is the opinion of the authors that there is a sufficiently significant difference that we can talk about a real paradigm shift (Ref. 1).

Indeed, if we compare the New Space aspects with traditional space (see Ref. 2) we note that, besides important business philosophy differences, there is an effect of the constellation concept on the launcher markets linked to the fact that New Space companies accept business risks.

In order to develop a systematic approach on this, a study was performed in ISU which was based upon an expert survey on ranking the parameters in order of importance for the smallsat operators. The results of this survey are shown in Table 1 and have led to the proposal of a decision chart, whereby a preferred launch option (micro-launcher/piggyback launch/shared launch) can be proposed in relation to the parameters for each case. The results of this study are accepted for publication (Ref. 2) and can be shown at symposium.

Table 1. Ranking of importance of Launch parameters based on an expert survey (Ref. 2)

Ranking	Parameter
1	Orbit selection
2	Launch Price
3	Reliability of the launcher
4	Timing of the launcher
5	Location of the launchpad

As a result of these considerations, and in particular the orbit selection, a number of launch site opportunities are now examined by the different micro-launcher companies in order to optimize the orbital injection. At the same time, important peripheral conditions such as interference with air traffic, shipping, and fishing, play a paramount role in view of flexibility of the launches. Several potential launch sites have therefore been proposed recently.

As an illustration, launching from Australia, with special emphasis on Polar Orbits for LEO constellations has been described earlier (Ref. 3) and will be more detailed at the symposium. It will be shown that the location is very well suited for direct orbit injections with a minimal interference of the aforementioned constraints.

References

1. Peeters, W., Is NewSpace a paradigm shift? *Aerospace Europe Bulletin* (CEAS, January 2022), pp. 16-19.
2. Falduto, M. and Peeters, W. Trade-off approach for launching Smallsats. Accepted for publication in *New Space* (2022)
3. Peeters, W., Damp, L. and Williams, P., Launching Smallsats. The Example of Southern launch, *New Space* Vol. 8(4) (2020), pp. 201-212.

¹ Professor in Space Business and Management, International Space University, Strasbourg, France

² CEO, Southern launch, Adelaide, Australia.