

SPACE TRANSPORTATION SOLUTIONS AND INNOVATIONS SYMPOSIUM (D2)
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IMPORTING A SMALL CHINESE LAUNCHER TO OPERATE FROM THE UK

Abstract

The UK has recently announced a desire to once more become an independent launching nation, by 2020, as part of a larger national strategy to grow the UK's share of the world's space economy from 6.5 per cent to 10 per cent by 2030. Prior trajectory analysis has shown that a UK launch site, for vertically launched vehicles, can only operate from the North of Scotland and is limited to SSO and polar orbits. Furthermore, because of the immediacy of the requirement and the necessity for a wholly commercial self-sustaining business case, the launching operation would have to be small enough to be quickly established, cheap enough to efficiently recover development costs and targeted at a market that can offer strong business prospects for the present and future. CST has surmised that such a launching capability should be aimed at the small and nano-satellite markets and the chosen launcher would therefore ideally be able to inject no more than 500 kg of payload into a 500 km altitude SSO. The focus on this market is because it is internationally well established, offers a strong domestic customer base from companies like SSTL and ClydeSpace, has promising prospects for the future from emerging mega-constellations and lastly, SSO/Polar to LEO are the most demanded orbits. It is therefore accepted in the UK that a small launch vehicle, dedicated to the above-mentioned market, would be the most appropriate to operate from the UK. When compared to larger vehicles; the site, operations and development costs would be smaller and quicker to establish. CST believes that the importation of a pre-existing launch vehicle is the most assured way for the UK to have cheap and timely access to space, as opposed to the expensive and slow-paced alternative of a national launcher development programme. From its own review of the international launcher manifest, CST has concluded that a small Chinese launch vehicle is the only available option that satisfies all of the criteria. In this paper CST will review which small launcher options from China most appropriately fit the UK's requirements and why, and summarise the technical, commercial and legislative points that need to be considered for their importation and operation from the UK.