

IAF SYMPOSIUM ON COMMERCIAL SPACEFLIGHT SAFETY ISSUES (D6)
Enabling safe commercial spaceflight: vehicles and spaceports (3)

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SMALL SATELLITE VERTICAL LAUNCH SERVICES AT THE SUTHERLAND SCOTTISH
SPACEPORT – UPDATE FROM LAUNCHUK

Abstract

The UK's aspirations to add small satellite launch to its value chain of space capabilities was first reported at the IAC in Daejeon, Korea in 2009 . Since then, the UK has initiated its commercial spaceflight programme as part of a wider 'prosperity from space' national space strategy, supporting its growth ambitions to capture 10% of all commercial global space activity by 2030.

The commencement of the LaunchUK programme, its requirements and the driving factors for commercially sustainable satellite launch from the UK were reported at the IAC 2018 in Bremen in papers from Deimos Space UK Ltd , UK Launch Services Ltd and the UK Space Agency . This paper reports on progress of the three critical elements of the programme, towards the national objective of a first launch by the end of 2021.

1. The development of at least one small satellite launch vehicle, which, for our consortium, is the Orbex 'Prime' vehicle being built in the UK, and incorporating a number of new technologies which are key to enabling cost-effective launch services. Prime and its launch service, being developed by a consortium of Orbex, HIE, Deimos Space UK Ltd and UKLSL is mainly commercially financed but also benefits from some UK government funding announced at the 2018 Farnborough International Airshow.
2. A new, dedicated, launch site will be constructed under the direction of the regional economic development agency for the north of Scotland "Highlands and Islands Enterprise". The spaceport, located on the Moine peninsular, is presently being designed and planned and the foundations will be laid in 2019.
3. Launch range service provision will ensure safe flight from the UK to orbit, taking account of the constraints imposed by the territories of a number of the UK's downrange neighbours. Commercial range service provision is currently being assessed for the UK government by UKLSL, Deimos Space UK and a number of other partners, and the opportunities therein will be reported on in this paper.

Finally, the impact of the developing commercial spaceflight regulations, triggered by the UK Space Industry Act 2018 will be described, along with their impact on proposed commercial launch services. Novel approaches to managing individual risk, management of flight safety to balance risk and mission assurance, and development of the regulator as a streamlined efficient body able to attract some of the many aspiring launch service providers to the UK will be reported on.