UK Launch Site and Service Development

Company: UK Launch Services Ltd

Location: London, UK

Code: 18/61

Company Description:

UK Launch Services Ltd was formed in March 2017 with the aim of supporting cost effective space launch from the UK and offering the founders' experience of small satellite launch and rocket operations to UK commercial spaceflight consortia. We bring specialist, but often forgotten services required to ensure that a launch vehicle can deliver a commercially competitive launch service alongside a launch site. These services include:

- Programme and stakeholder Management, balancing the diverse needs of government regulatory stakeholders, launch site developers and launch service providers, while balancing cost schedule and risk.
- Licensing and regulation: facilitating launch operator, launch vehicle provider and range operator license application,
- Supply chain definition, including weather and insurance services,
- Range requirements and specification,
- Spaceport operations planning as well as air and seaspace management.

UKLSL also has significant technical knowledge of launch vehicles, their technology and launch sites, and is able to offer technical advisory and analysis services to entities seeking insight into market opportunities in this area of the space sector.

UKLSL's two founders Adam Baker and Andy Bradford have many years of experience in the UK small satellite mission value chain. They have been involved in many satellite programmes including Galileo, have managed engineering programmes and technology developments at a senior level and have hands-on experience of several rocket and launch vehicle systems, as well as understanding business cases for commercial spaceflight.

Project Description:

The intern is to initially develop their working knowledge of the UK vertical launch site and potential launch operators, through a review of:

1. Functioning of current spaceports (referencing CSG, Kourou, Mahia, Vandenberg, Wallops and Alaska, plus literature on other non Europe / US spaceports)
2. Operational aspects of spaceport elements and potential safe operating practices
3. Safety Critical Systems used in other relevant industries such as nuclear & transport .

4. Operations plans for a small launch vehicle launching from A'Mhoine in Sutherland.

The intern will work with UKLSL, Orbex, Deimos Space UK plus Highlands & Islands Enterprise and their defined civil engineering contractor team to

- Define spaceport elements and support development of an overall design layout, working to capture requirements and draft a preliminary set of interface documents between the main site elements.
- Build knowledge of external partner procured services needed to support the existing launch provider (Orbex) and spaceport developer (HIE, Highlands & Islands Enterprise) in particular transportation to / from site, launch site facility management including security, storage, power / water / other, range safety and meteorology, and payload support functions, listing potential contractors and suppliers.
- Define the contents of a spaceport operations plan, emergency response plans and a flight site safety manual.

The output of the project will be will be (1) List of key elements of a launch site and a preliminary interface control document for each. (2) An initial supply chain list, (3) An outline of spaceport functions summarised in a launch site safety manual.

The successful intern will be supported to prepare a paper and poster summarising the placement for the 2019 UK Space conference.

Applicant Specification:

<u>Technical attributes – understanding of</u>
Launch Vehicles and systems operations and process flows
Spacecraft systems engineering
Spaceport layout and concept design, plus operations flow.
Launch operations planning

<u>Other desirable attributes</u>
Project management & Planning : self motivated and confident,
Safety management planning & Operations planning experience ,
Knowledgeable about Hazard identification and mitigation approaches,
Supply chain and launch operations evaluation & resourcing.
Experienced with Multidisciplinary teamwork over a number of distributed sites

Minimum Requirements:

A first class or 2.1 undergraduate degree in STEM discipline preferably engineering or physics. This is an important role so the applicant's technical and interpersonal abilities must be high;

Preferred Additional Requirements:

MSc space engineering preferred and demonstrable project experience considering the problem of spaceport design in the constraints of UK.

Further details:

8 weeks minimum fixed term contract to be agreed with successful candidate but nominally with a start date around Dec 01, 2018, with a completion at latest by 28 Feb, 2019. Salary is £300 / week plus reasonable travel expenses

Closing Date for Applications: 5pm on 28th November, 2018

Applications should be made through the online form attaching a CV, before the closing date. Please note that elements of the form left incomplete will be deemed to render the application ineligible. They will be checked for eligibility and forwarded to the employer.