

Orbital 500R Orbital Variant Market Case, Mission Profile and Technical Requirements

Company: Orbital Access Ltd

Location: Prestwick

Code: 18/64

Company Description:

Orbital Access was founded in 2015 by Stuart McIntyre, an aeronautical engineer whose experience includes aero-engines, civil aircraft manufacturing, military aircraft sales, strategic international industrial development and military facilities management. Since then, Orbital Access has worked with the UK Space Agency to outline a technology roadmap for horizontal spaceplanes operating within the UK. After designing the Orbital 500R as the first step on this roadmap, OAL gained support from the European Space Agency to advance the launch system technical portfolio. Currently, the Orbital Development Team are developing a preliminary Systems Engineering Plan, in parallel to an initial subscale testing plan, leading to drop tests in addition to the full scale test programme. OAL has also recently started work on two projects that will identify risks and develop mitigation strategies for these in connection with the Orbital 500R high-speed aerodynamics and control systems respectively, again with ESA and UKSA support. OAL now actively negotiates a number of potential projects that are supported by both agencies, other government organisations as well as private investment.

Project Description:

Orbital Access are currently defining the roadmap for the further development of its Orbital 500R launch vehicle. Several variants are under consideration, including hypersonic atmospheric, orbital and subsonic heavy lift variants. A selection of one of these variants will be made at the start of the project, which will be objective of the study.

The intern will be based primary in Orbital Access Ltd and will work closely with the University of Glasgow (Aerospace Sciences Division) to facilitate knowledge transfer and training activities. She/he will engage in the following three activities related to the variant selected during the initial variant selection meeting:

1. Market Case
2. Mission Profile
3. Tech Requirements

It is envisaged that during her/his engagement with the University of Glasgow the intern will address certain elements of their training specifically related to mission profile and technical requirements definition. He/she will have the opportunity to utilise the state of the art facilities of the University and bridge the know-how between industry and academia.

The intern will during the course of the internship derive an understanding of the integrated engineering process from market needs to technical requirements. The intern will have access to the software tools and modelling and simulation solvers available at the University of Glasgow to facilitate knowledge transfer and training activities. The company through the interns will be exposed to a research-intensive university environment with world-leading expertise in launch related activities.

Applicant Specification:

The intern will need to have some background in Aerospace engineering, Simulation and modelling, Aerodynamics, Computational analysis and Market analysis. The internship is highly suitable to Master's year aerospace engineering undergraduate students wishing to conduct their placement in Orbital Access Ltd as part of their university degree requirements. It is an excellent opportunity to utilise their knowledge in a practical way, accumulate skills to enhance their employability, receive training and facilitate knowledge transfer activities between the company and University of Glasgow.

Minimum Requirements:

Bachelor's Degree in Aerospace, aeronautical or industrial engineering, business management or equivalent degree.

Preferred Additional Requirements:

Mathematical modelling, market analysis.

Further details:

8 weeks minimum fixed term contract to be agreed with successful candidate but nominally with a start date around 15 December 2018, with a completion (at latest) by 28 Feb, 2019. Salary is £1,500 per calendar month for two months.

Closing Date for Applications: 5pm on the 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.