

Mobile Small Satellite Payload Processing Facility

Code: 20/42

Company: KISPE Space Systems Limited

Location: Farnborough

Company Description:

KISPE was established in 2016 as a programme and systems engineering company working in the electronics, telecommunications and space sectors. The goal of the company is to work with its customers on the execution or implementation of their business ideas, from the early inception and business planning activities, through the design, manufacture, integration, test and operations. In addition to the programme and systems engineering activities, the company is also active in the generation and delivery of specialist training and development and the provision of consultancy services.

KISPE's vision is to advance the responsible and sustainable use and utilisation of space and to stimulate the development of space-based applications and services. The company strives to find innovative engineering, programmatic and business solutions to address challenging programme requirements, drawing on significant experience in the design, development and operation of space systems, and leveraging cutting edge and disruptive technologies and techniques developed in other fields.

The KISPE team have significant small-satellite engineering and launch-related experience, having been responsible for the design, development, manufacture, launch and operation of over 50 satellite programmes, working with launch providers around the world for delivery of the missions to orbit.

KISPE are involved in a number of spaceport and launch-related activities within the UK, supporting Virgin Orbit and Spaceport Cornwall in establishing Horizontal launch from Cornwall Airport Newquay in 2021/2022 and working with MOOG on the development and UK manufacture of the Orbital Manoeuvring Vehicle.

Project Description:

The development of UK spaceports and the provision of small satellite launch services will enable greater access to space, helping stimulate the growth of space-based applications and services.

To reduce costs further, and lower the barriers to entry, KISPE are exploring alternative approaches to key stages of a satellite programme, in this case the satellite integration, test and launch vehicle integration activities.

Traditionally, a satellite would be integrated in a cleanroom at the manufacturer's premises, then together with its ground support and test equipment, packed and unpacked several times as it travels for environmental test and then onto the spaceport for integration to the launcher.

An alternative approach, and one to be developed further through this project, is to have a mobile payload processing facility. A facility that can be deployed to a manufacturer's premises for satellite integration and test, then travel to the environmental test facilities and launch site, with the satellite, ground support and test equipment in-situ, rather than being packed away.

The objective of this project is to develop the baseline design for the mobile payload processing facility, validating the feasibility, and estimating the implementation cost and schedule. The work will entail:

1. Capturing the requirements for the mobile payload processing facility.
2. Developing a concept of operations for the use of the facility.
3. Developing and agreeing the preliminary design concept.
4. Generating a baseline design for the mobile payload processing facility.
5. Identifying potential subsystem and component suppliers.
6. Determining implementation costs and schedule.

Applicant Specification:

KISPE are looking for candidates that are enthusiastic, inquisitive, motivated, and self-starting to come and join our team for the summer. The company blends the knowledge and experience of a highly skilled team who have designed, build and operated many satellite missions, with a small company environment, a collaborative and disruptive ethos, and a desire to stimulate the utility and application of space, and to do things differently.

Assuming lockdown restrictions are relaxed prior to commencement of the internship, the work placement will be at the KISPE facilities in Farnborough, Hampshire. Alternatively, this project may be achieved while observing lockdown restrictions, employing a range of appropriate remote working tools and applications.

Minimum Requirements:

The candidate must

- Be a UK passport holder*
- Be older than 18*
- Be a quick learner, curious and creative
- Be able to work independently and as part of a team
- Be open to new challenges

- Have knowledge of electronics, electronics assembly and test
- Have knowledge of satellite systems and subsystem engineering

(* Site access requirement)

Preferred Additional Requirements:

To be undertaking further education in the following disciplines
Engineering, Computer Science, Physics / Maths or similar

Further details:

8 weeks minimum fixed-term contract to be agreed with successful candidate but nominally with a start date around 20th July, 2020 to attend the SPIN Induction day at the Satellite Applications Catapult, and completion before 20th September for the Showcase the following week. Salary is £1,500 per calendar month gross.

Closing Date for Applications: 5pm Thursday 9 July

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.