

## Small Satellite Power System Development

**Code:** 21/23

**Company:** KISPE Space Systems Ltd.

**Location:** Farnborough, Hampshire

### **Company Description:**

KISPE was established in 2016 as a programme, technology and systems engineering company working in the electronics, telecommunications and space sectors, working with its customers on the execution or implementation of their business ideas; from early inception and business planning activities, through to design, manufacture, integration, test and operations. KISPE 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 exploitation of space and to stimulate the development of space-based applications and services. The company identifies 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, disruptive technologies developed in other fields.

In addition to its client programmes, including several to develop small satellite systems and services, the company invests into its own research and development. KISPE initiated the Open Source Satellite Programme to develop a fully open source, next generation, 25-250kg class microsatellite platform and community. The aim is to significantly reduce the price:performance point of highly capable small satellite systems, to stimulate and nurture a community of like-minded parties, and to provide a solid small satellite design foundation on which others can build.

KISPE actively provides early careers opportunities to school age and university students and has provided over 15 work experience and internships, including SPINternships in the past two academic years, in disciplines ranging from engineering to space law.

### **Project Description:**

The objective of this project is to review microsatellite power system architectures and prototype and test elements to enable evaluation and performance assessment. The output from the project will aid in the power system and thermal trade-offs and wider spacecraft modelling and development activities for the KISPE Next Generation Microsatellite and Open Source Satellite developments. The work will entail:

1. Assessment and definition of the Next Generation Microsatellite Platform power system functional and performance requirements.
2. Review of satellite power system architectures and designs.
3. Selection of candidate power system architecture and design
4. Identification of key power system elements for evaluation and performance assessment.
5. Procurement, prototyping and testing of elements of the power system design and components
6. Documenting the architecture design, power system element selection, prototyping and testing so that the information can be shared with the wider community.

The aim is to prototype and test elements of a spacecraft power system design, evaluating and assessing performance to aid the wider satellite development programme. The successful applicant will gain industrial experience in the space sector, acquire scarce skills, strengthen their knowledge of spacecraft engineering, gain real-life design lifecycle experience in the design and test of elements of a spacecraft subsystem and aid the trade-off and risk mitigation activities of the satellite development programme.

If time permits the work can be extended to include other elements of the power system design or alternative solutions for particular subsystems or components, with comparative performance assessments then made.

### **Applicant Specification:**

KISPE is seeking candidates that are enthusiastic, inquisitive, motivated, and self-starting to come and join our team during summer 2021. 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. The work placement will be at the KISPE facilities in Farnborough, Hampshire and via remote working as appropriate.

### **Minimum Requirements:**

- To be undertaking further education in the following disciplines: Engineering, Computer Science, Physics, Maths or similar.
- Ideally have prior experience in the design, build and testing of electronic circuits.
- UK passport holder.\*
- Older than 18 years of age.\*
- Quick learner, curious and creative
- Able to work independently and as part of a team, in company facilities and remotely if required.
- Be open to new challenges

[\* Site access requirement]

**Preferred Additional Requirements:**

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

**Further details:**

8 weeks minimum fixed term contract to be agreed with successful candidate. Virtual Induction Event to be held on 21 June, 2021. Ideally to complete before the start of the next academic year. Salary is £1,500 per calendar month gross.

**Closing Date for Applications: 5pm Wednesday 12 May**

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.