

Job Title: Payload Systems & Operations Engineer

Req ID 8862 - Posted 20/11/2019



EUROPEAN SPACE AGENCY

Vacancy in the Directorate of Technology, Engineering and Quality.

ESA is an equal opportunity employer, committed to achieving diversity within the workforce and creating an inclusive working environment. Applications from women are encouraged.

Post

Payload Systems & Operations Engineer

This post is classified A2-A4 on the Coordinated Organisations' salary scale.

Location

ESTEC, Noordwijk, The Netherlands

Description

Payload System Engineer in the Systems and Concurrent Engineering Section, Systems Engineering Division, Systems Department, Directorate of Technology, Engineering & Quality (TEC), assigned as Integrated Support to the Payload Section, JUICE project, Projects Department, Directorate of Science.

You will report functionally to the JUICE Payload manager, who has delegated technical authority.

Duties

You will initially be assigned as Integrated Support to provide payload systems engineering support to the ESA JUICE project. The duties include overall responsibility for the definition, development, qualification, integration, testing, commissioning and operations planning of the payloads.

You will first take responsibility for the ultraviolet spectrograph, plasma, electric and magnetic field instruments.

Training and familiarisation with the parent Department's mandate, processes and procedures will be provided at the start of this assignment.

Specific duties include:

- analysing instrument design, requirements and resources to ensure technical compatibility with the scientific objectives and the overall mission design;
- monitoring and controlling interface documents which define all interfaces between instruments and the spacecraft, including ground support equipment and flight operations;
- reviewing instrument user manuals which define all operational aspects and constraints for each instrument;
- reviewing instrument test requirements and plans for qualification, acceptance and calibration. Supervising test programme implementation at instrument level;
- participating in integration of the instruments onto the spacecraft and satellite-level testing, in close cooperation with AIT and operation teams, including launch campaign, flight operations and execution;
- monitoring and controlling progress of the payload definition, manufacturing and tests, including critical reviewing of instrument system and sub-system schedules to ensure compatibility with the overall spacecraft schedule. Monitoring of parts procurement, soldering verification, acceptance of processes;
- supporting, after delivery of the instruments, mission analysis at the Mission Operations Centre (MOC) and Science Operations Centre (SOC) with respect to payload scientific operations, pointing, mission coverage and trajectory optimisation;
- participating in reviews at instrument and spacecraft level;
- supporting the preparation of the satellite system validation tests, flight operation manuals, commissioning and LEOP procedures.
- supporting the in-orbit commissioning.
- performing other project tasks as requested;

- selecting and coordinating the necessary engineering support from the Directorate of Technology, Engineering and Quality & PRODEX.
- participating in periodic meetings with the parent Section, contributing to the transfer of technical knowledge and lessons learned across the Agency.

Technical competencies

Experience in the development of complex space scientific payloads, space instrumentation and/or space science technology development

Background in technical disciplines involved in science payload engineering, including thermal control, mechanical accommodation, optical interfaces, power interfaces and data handling

Automation of test equipment

Experience in scientific mission operations and calibrations planning

Experience with mission analysis and relevant tools to assess payload operation performance (pointing, moon's surface coverage, etc.) and trajectory optimisation

Ground segment to ensure compatibility for commissioning, calibration and operations of the scientific instruments and the spacecraft with the MOC and the SOC

Experience working with other international space agencies

Behavioural competencies

Results Orientation

Problem Solving

Planning & Organisation

Teamwork

Communication

Education

Applicants shall have a Master's degree or equivalent degree in applied physics or engineering.

Additional requirements

- Experience in the development of the following scientific instruments: ultraviolet spectograph, plasma and electric field, radio waves, couple dark state scalar magnetometer, search coil magnetometer and fluxgate magnetometer.
- Experience with deployment mechanisms, electromagnetic compatibility, radiation and charging analyses, and FDIR is an asset.
- Mission operations and analysis tools to assess mission resources and payload operation performance, include SPICE kernels (e.g. Instrument specific, orbit / attitude, pointing, moon's surface coverage, etc.), MAPPS and STK.
- Programming and scripting skills, knowledge of Python, IDL and C/C++.

Other information

For behavioural competencies expected from ESA staff in general, please refer to the ESA Competency Framework.

The working languages of the Agency are English and French. A good knowledge of one of these is required. Knowledge of another Member State language would be an asset.

The Agency may require applicants to undergo selection tests.

The closing date for applications is 18 December 2019.

If you require support with your application due to a disability, please email contact.human.resources@esa.int.

Please note that applications are only considered from nationals of one of the following States: Austria, Belgium, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Norway, Poland, Portugal, Romania, Spain, Sweden, Switzerland, the United Kingdom and Canada and Slovenia.

According to the ESA Convention the recruitment of staff must take into account an adequate distribution of posts among nationals of the ESA Member States. When short-listing for an interview, priority will first be given to internal candidates and secondly to external candidates from under-represented Member States. (<http://esamultimedia.esa.int/docs/careers/NationalityTargets.pdf>)

In accordance with the European Space Agency's security procedures and as part of the selection process, successful candidates will be required to undergo basic screening before appointment.

Recruitment will normally be at the first grade in the band (A2); however, if the candidate selected has little or no experience, the position may be filled at A1 level.