

Ground System Engineer

Job Req ID: 15261

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Publication: Internal & External

Vacancy Type: Permanent

Date Posted: 18 May 2022

Vacancy in the Directorate of Earth Observation Programmes.

ESA is an equal opportunity employer, committed to achieving diversity within the workforce and creating an inclusive working environment. We therefore welcome applications from all qualified candidates irrespective of gender, sexual orientation, ethnicity, beliefs, age, disability or other characteristics. Applications from women are encouraged.

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

Location

ESTEC, Noordwijk, Netherlands

Description

The System Support Division in the Earth Observation Programme Department is in charge of providing support for all system matters. This covers satellite to ground segment interfaces, definition of ground segment requirements, overall system integration and pre-launch verification, definition and execution of Launch and Early Operations Phase (LEOP) and commissioning phase, either as centralised support (e.g. orbit dynamics) or in association with the individual projects (e.g. commissioning preparation and execution). In addition, it provides post-launch support, including regular monitoring of spacecraft long-term health evolution, and spacecraft anomaly investigation support, as well as the definition and implementation of any necessary spacecraft operations changes to deal with the aforementioned.

Duties

You will be responsible for the ground systems definition and verification activities for one or more ESA Earth observation missions in phase C/D/E1 (implementation and inflight commissioning phases) in the Earth Observation Projects Department. You will report functionally to the management of the relevant Space Segment team for the allocated mission or missions. You will also coordinate with the Head of the Ground System Definition and Verification Office to ensure usage of common standards and methods, and access to the necessary resources on system support issues.

Note: the post is initially allocated to the EarthCARE mission. Depending on the schedule status of the mission, some of the tasks described below may already have been partially or entirely executed. The tasks will however apply fully to any new mission allocated to you at a later stage.

Specifically, the tasks include:

- Coordinating the definition of the mission operations concept and of the ground system architecture and interfaces;
- Preparing and maintaining the requirements for the Flight Operations Segment (FOS) and the Payload Data Ground Segment (PDGS), and monitoring their implementation;

- Ensuring there is coherency between the space segment and ground segment developments;
- Monitoring the definition and implementation of the spacecraft-to-ground interfaces, and performing their verification;
- In close cooperation with the dedicated staff responsible, monitoring the Level-1 and Level-2 data and calibration processor implementation and ensuring their seamless integration in the ground system;
- Supporting the definition and ensuring end-to-end coordination of the activities related to Payload Mission Planning as needed by users, implemented on-board in the space segment and on-ground in the Mission Planning System facility;
- In close cooperation with the dedicated staff responsible, monitoring the implementation of the instrument simulator(s) and ensuring direct simulator usability within and for the activities of the ground system verification and validation;
- Defining and executing the ground system validation activities, including interfaces with the spacecraft while on ground, and coordinating the generation of relevant and suitable test data sets;
- Supporting the definition and execution of the in-orbit system validation during the Commissioning Phase (including pre- and post-launch L1 and L2 calibration/validation activities);
- Providing support for the handover of the system to the Mission Manager for phase E2 (routine operations phase);
- Organising ESA-level ground system reviews, and supporting other Project reviews as necessary;
- Helping the Space Segment Manager with reporting (e.g. to Mission Advisory Group, DOSTAG);
- Supporting the Head of the Ground System Definition and Verification Office in terms of providing senior advice and coordinating activities across other missions as needed.

Duties continued

In carrying out your duties, you will be required to:

- report to the management of the assigned Space Segment team on a daily basis regarding the general execution of the mission-related tasks;
- interface with the FOS, PDGS and any third-party** ground segment teams regarding interface definition and the coordination of verification activities;
- interface with the dedicated staff concerning Level-1 and Level-2 data processor implementation and instrument simulator(s) for ground system integration and validation activities;
- coordinate with the space segment management for the preparation and execution of the inflight commissioning phase and the subsequent handover to the mission management team;
- coordinate with the Head of the Ground System Definition and Verification Office to ensure usage of common standards and methods, and access to the necessary resources on system support issues, and to provide support for other mission-related issues, as needed.

You will be supported by a specialist engineer for system verification and validation activities.

Technical competencies

Experience with end-to-end development and verification of Earth Observation systems, including Space components (in particular on-board operation, Communication and TT&C) and Ground elements (Flight Operation Segments, Mission Planning systems, S, X and Ka-Band ground stations, baseband equipment, data processing archival and dissemination)

Experience in requirements definition of a large Ground System

Experience in integration and testing of such a Ground System

Familiarity with implementation of satellite on-board components (satellite command and control, data handling, space-ground communications)

Familiarity with implementation of Ground System components (flight operations segments, mission planning systems, ground stations (S-, X- and Ka-band), data processing, archiving and dissemination)

Experience with in-flight testing/commissioning of a large satellite and ground system

Experience in handling multiple interfaces and organising tasks

Behavioural competencies

Result Orientation

Operational Efficiency

Fostering Cooperation

Relationship Management

Continuous Improvement

Forward Thinking

Education

A master's degree in an engineering field or related subject.

Additional requirements

Previous experience of coordinating people and teams within an international environment is an asset, as is industrial experience in various functional areas relevant to ESA activities.

Other information

For behavioural competencies expected from ESA staff in general, please refer to the [ESA Competency Framework](#).

For further information please visit: [Professionals](#), [What we offer](#) and [FAQ](#)

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.

At the Agency we value diversity and we welcome people with disabilities. Whenever possible, we seek to accommodate individuals with disabilities by providing the necessary support at the workplace. The Human Resources Department can also provide assistance during the recruitment process. If you would like to discuss this further please contact us 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, Latvia, Lithuania 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 or balanced Member States*.

(<https://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 conducted by an external background screening service.

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.

*Member States, Associate Members or Cooperating States.