

TT&C Communications Systems Engineer

Job Req ID: 10062

Closing Date: 09 September 2021

Publication: Internal & External

Vacancy Type: Permanent

Date Posted: 29 July 2021

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. 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, The Netherlands

Description

TT&C Communications Systems Engineer in the TT&C & PDT Systems & Techniques Section, RF Systems Division, Electrical Department, Directorate of Technology, Engineering and Quality.

The TT&C & PDT Systems & Techniques Section handles both spacecraft Telemetry, Tracking and Command (TT&C) and Payload Data Transmission (PDT) techniques and technologies, space link communications (RF, hybrid RF/optical systems, signal coding/modulation, ranging techniques, radio science experiments) and proximity links, providing support to ESA projects and performing related research and development.

Duties

Reporting to the Head of Section within the technical fields described above, your main tasks and responsibilities will include:

- assessing the techniques and technologies for present and future spacecraft communication systems, necessary for the development of TT&C subsystems and their related equipment (e.g. receivers, transmitters, transponders), and in particular: modulation, signal synchronisation, digital signal processing, error control coding, RF/microwave technologies;
- assessing techniques and technologies for PDT subsystems and their related equipment (e.g. very high data rate transmitters), and in particular: modulation, error correction coding, combined (adaptive) modulation/coding, digital signal processing, RF/microwave technologies;
- assessing end-to-end TT&C and PDT systems including system level design, (dynamic) link budget assessment, and data flow analysis including interaction between different link layers and between transponder/transmitter and avionics equipment; assessment of related encryption and authentication functions;
- generating technical requirements and Statements of Work for the tasks to be performed by industry from early conceptual studies through to full development of hardware, in the field of TT&C;

- technical follow-up and monitoring of contracts with industry for the development of TT&C equipment and subsystems;
- supporting ESA projects in TT&C communications from early conceptual phase to launch and operations;
- contributing to ESA reviews and meetings concerning all topics related to TT&C activities;
- participating in the preparation of relevant standards in the frame of ECSS and CCSDS;
- mission analysis and participation in Concurrent Design Facility work;
- supporting the above, as required, with internal activities involving signal/data processing and software-based analytical, design, and validation tools;
- monitoring applicable scientific and technological trends and maintaining a state-of-the-art expertise;
- contributing to the dissemination of the results of the activities performed and the transfer of knowledge across the Agency.

Your duties may also include supporting other activities within your field of competence.

Technical competencies

General background and specific experience in the technical domains covered by the position

Understanding of related technologies, R&D trends and the industrial landscape

Project support experience in a relevant domain

Experience with laboratory testing of relevant technical equipment

Experience in the preparation of procurement activities for technology development and innovation (statements of work, proposal evaluation, etc)

Experience in the management and monitoring of industrial activities, including participation in reviews

Behavioural competencies

Result Orientation

Operational Efficiency

Fostering Cooperation

Relationship Management

Continuous Improvement

Forward Thinking

Education

A Master's degree in telecommunication engineering is required for this post.

Additional requirements

A good background in communication system engineering applied to space is required.

A solid experience and expertise with TT&C spaceflight hardware development and testing is desirable.

You must be eligible for security clearance by your national security administration.

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.

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 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.

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.