

# Radio Navigation Engineer

**Job Req ID:** 12976

**Closing Date:** 07 March 2022

**Publication:** Internal & External

**Vacancy Type:** Permanent

**Date Posted:** 07 February 2022

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, Netherlands

## Description

Radio Navigation Engineer in the Commercial User Segment and Navigation System Validation Section, Radio Frequency Systems Division, Electrical Department, Directorate of Technology, Engineering and Quality.

The Commercial User Segment and Navigation System Validation Section provides functional support for ESA projects and carries out technological research (R&D) in Satellite Radio Navigation. The Section covers the design, development and testing of pre-commercial and commercial ground (user and infrastructure) equipment, through the technical management of industrial projects in the frame of the GSTP, NAVISP and InCubed programmes.

The Section provides support for the implementation and testing of satellite navigation systems falling within the Division's terms of reference, and is responsible for the development of dedicated test facilities. The Section is responsible for the Navigation Laboratory at ESTEC, including facilities for laboratory and field testing, described at: [https://www.esa.int/Enabling\\_Support/Space\\_Engineering\\_Technology/Radio\\_Frequency\\_Systems/Navigation\\_Laboratc](https://www.esa.int/Enabling_Support/Space_Engineering_Technology/Radio_Frequency_Systems/Navigation_Laboratc)

## Duties

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

- providing expert technical support and consultancy to ESA projects, programmes and general studies in the area of ground and user segments for satellite radio navigation systems throughout all project phases;
- participating in feasibility studies, project reviews and the evaluation of procurement proposals;
- identifying critical development problems and assisting in their resolution;
- contributing to the definition of technology development requirements and work plans for the Agency's technology programmes;
- defining, initiating and managing R&D activities covering both long- and short-term needs;
- fostering new application areas for multidisciplinary activities, with the emphasis on innovative concepts, cutting-edge technologies and system architectures;
- laboratory activities as required;
- monitoring applicable scientific and technological trends and maintaining state-of-the-art expertise;
- contributing to dissemination of the results of activities performed and the transfer of knowledge across the Agency.

Your duties may also include providing support to other activities within your area of competence.

Experience with laboratory or field 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 audits and reviews.

### **Behavioural competencies**

Result Orientation  
Operational Efficiency  
Fostering Cooperation  
Relationship Management  
Continuous Improvement  
Forward Thinking

### **Education**

A master's degree in telecommunications, navigation, computer science or aerospace is required.

### **Additional requirements**

Specific, in-depth knowledge is required in:

- satellite radio navigation systems (including but not limited to GNSS), ranging and positioning techniques and technologies, including the latest trends in position, navigation and timing (PNT) algorithms;
- the design, development and testing of radio navigation receivers, including signal processing, positioning algorithms, radio frequency, and multi-antenna and sensor hybridisation aspects;
- advanced signal processing techniques and user equipment architectures for robust, resilient, secure GNSS systems.

At least 4 years' experience is required in areas relevant to GNSS and Galileo systems and equipment, including demonstrated knowledge of GNSS receivers and of radio navigation simulation and testing systems.

The following would be considered an asset:

- Direct experience in the integration, verification and qualification activities of a complex system (e.g. GNSS), including the definition and preparation of test cases and on-field test campaigns;
- Knowledge of the EGNOS overlay system, including the extension to Galileo support and associated integrity functions;
- Familiarity with authentication and encryption techniques that could be relevant to expected Galileo OS/CS evolutions in those areas;
- Knowledge of signal processing and user segment technologies, such as multi-antenna processing based on Radio Frequency spatial and polarisation diversity;
- Direct experience in the application of artificial intelligence to position, navigation and timing (PNT) use cases;
- Knowledge of Agile software engineering techniques, in particular SAFe methodology.

You must be eligible for security clearance from 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](mailto:contact.human.resources@esa.int).

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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,

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.