

Radio Frequency and Microwave Payload Engineer

Job Req ID: 11838

Closing Date: 17 January 2022

Publication: Internal & External

Vacancy Type: Permanent

Date Posted: 13 December 2021

Vacancy in the Directorate of Technology, Engineering & Quality.

ESA is an equal opportunity employer, committed to achieving diversity within the workforce and creating an inclusive working environment. For this purpose, we 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 Frequency and Microwave Payload Engineer in the Payload Engineering Section, RF Payloads & Technology Division, Electrical Department, Directorate of Technology, Engineering and Quality.

The Payload Engineering Section provides functional support to ESA projects and carries out technological research (R&D) in telecommunication payloads and subsystems, microwave and millimetre wave remote-sensing instruments and navigation payloads exploiting analog, digital and optical on-board technologies.

Duties

You will report to the Head of Section and your main tasks and responsibilities will include:

- providing expert technical support and consultancy to ESA projects, programmes and general studies in the area of RF and microwave payloads throughout all project phases, in particular for RF and microwave remote-sensing instruments and payloads for Earth observation, including satcom and navigation payloads;
- contributing to the overall architectural definition, specification, development and verification of future radio frequency and microwave instruments/payloads for Earth observation, as well as satcom and navigation payloads, including the assessment of new concepts, signal processing techniques and applications of new technologies;
- assessing new concepts, architectures, technologies and processing techniques to be applied to the next generation of radio frequency and microwave instruments/payloads for Earth observation, as well as for satcom and navigation payloads;
- defining the technological requirements, technology breadboarding and predevelopment activities of radio frequency and microwave instruments/payloads for Earth observation, as well as of satcom and navigation payloads, in cooperation with ESA's specialists in the different domains;
- 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 in the area of RF and microwave payloads for Earth observation, as well as for satcom and navigation payloads;
- defining, developing and maintaining radio frequency and microwave payload dimensioning and performance models and simulation tools;
- 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 supporting other activities within your area of competence.

Technical competencies

- General background and specific experience in the technical domains covered by the position
- Hands-on hardware experience
- Experience in the development and verification of space hardware
- Experience with the design, development and application of relevant tools and methods
- Understanding of related technologies, R&D trends and the industrial landscape
- 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
- Experience in technology roadmap definition and harmonisation

Behavioural competencies

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

Education

A Master's degree in telecommunications, electronics or RF/microwave engineering for this post is required.

Additional requirements

- Experience in the design, technology development and verification of one of more of the following microwave instruments/payloads for Earth observation is required: radar scatterometers, radar altimeters, synthetic aperture radars (SAR), subsurface sounders and atmospheric radars, passive microwave radiometers (imagers/sounders) for ocean, land and atmospheric sensing.
- A very good knowledge of radio frequency and microwave payload technologies based on active phased array antennas and of Transmit/Receive Modules for microwave payloads.
- A very good knowledge of modern computer systems, simulation and modelling tools, programming languages, signal processing techniques and technologies.

The following will be considered assets:

- Experience in the design, development and verification of satcom and/or navigation payloads
- A very good knowledge of on-board digital signal processing techniques and technologies for radio frequency and microwave payloads
- Some years of professional experience in the technical domains required for this position.

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 at 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.