Job Title: Earth Observation Frequency Management and Technology Engineer

Req ID **8947** - Posted **20/12/2019**

EUROPEAN SPACE AGENCY

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. Applications from women are encouraged.

Post
Earth Observation Frequency Management and Technology Engineer

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

Location
ESTEC, Noordwijk, The Netherlands

Description
Earth Observation Frequency Management and Technology Engineer in the Future Missions and Instruments Division of the Future Systems Department, Directorate of Earth Observation Programmes (D/EOP).

Duties
If recruited to this post, you will:

- report to the Head of the Technology Coordination and Frequency Management Section
- in the execution of the tasks, work in close cooperation with other staff of the Future Missions and Instruments Division, of the Future Systems Department, of the Projects Department and of the Mission Management and Ground Segment Department.
- liaise with the Directorate of Technology, Engineering and Quality (D/TEC) and with the Agency's Frequency Management Office.

Duties include responsibility for the following tasks related to frequency management:

- Analysing requirements and constraints of EO missions in preparation, including early concepts, with respect to frequency allocation and interference
- Providing specific support to preparatory activities and to projects in development or in operation phase, in areas related to Radio Frequency Interference (RFI) analysis, spectrum utilisation and interference protection to an extent to be determined case by case,
- Monitoring the evolution of frequency needs of future EO missions, including early concepts, and potential conflicts with competing areas
- Participating in the work of technical committees in the framework of the International Telecommunication Union (ITU), the European Conference of Postal and Telecommunications Administrations (CEPT) and the Space Frequency Coordination Group (SFGG)
- Conducting studies to support the ESA position in the above-mentioned committees
- Performing technical studies and analyses related to frequency spectrum management and interference assessment
- Development of software tools to conduct sharing bands and compatibility analysis between services (typically based on STK, Excel with VBA and Matlab), in line with ITU radio regulations and recommendations
- Reporting on frequency management matters and contributing to reports to Delegate Bodies
- Closely cooperating with the ESA Frequency Management Office in the areas of WRC preparatory activities, frequency filing of ESA EO missions and conducting interference analysis as necessary.

While taking account of the inherent variability of workload involved in performing the above tasks, you will also support the Section in the following areas:

- Supporting the identification of technology needs, mainly for interference detection and mitigation methods, microwave remote sensing techniques as well as microwave communication technologies for EO missions
- Supporting missions in preparation through, e.g. participation in reviews, assessment of industrial results, evaluation of proposals in reply to Calls.

In executing these tasks, you will have close contacts with representatives of industry and of other space agencies.

Technical competencies

Experience in frequency management for EO
Familiarity with ITU, CEPT and the WRC process
Knowledge of Radio Regulations
Background in space engineering with systems orientation and end-to-end view of Earth Observation missions
Knowledge of microwave remote sensing techniques for EO and of communication systems for EO missions
Experience in analysis and simulation of complex systems
Experience in implementing and driving R&D and/or industr. activities for space technology development

Behavioural competencies

Results Orientation
Teamwork
Innovation & Creativity
Ability to conduct research autonomously
Communication

Education

Applicants should have a Master’s or PhD degree in electronics, telecommunications engineering or applied physics.

Additional requirements

At least 5 years’ experience in frequency management and space technology development.

This position requires frequent travel to participate in frequency management international forums, technical committees and working groups (e.g. ITU WRC, CEPT, SFCG), including meetings spanning several weeks.

Candidates are expected to be able to contribute to a dynamic and creative environment in preparatory phases of EO missions. They should have good interpersonal skills and be able to work and interact within small teams as well as autonomously. Experience working in team/project environment is desirable. Candidates should be thorough in their approach and open to innovation, should be able to work independently and have good communication skills.

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 24 January 2020.

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.