

Digital Payload Engineer

Job Req ID: 12873

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Publication: Internal & External

Vacancy Type: Permanent

Date Posted: 27 June 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

Digital Payload Engineer in the RF Payload Engineering and Digital Equipment Section, RF Payloads & Technology Division, Electrical Department, Directorate of Technology, Engineering and Quality.

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

Additionally, the section covers the research, design, development and testing of Radio Frequency Digital equipment as well as Payload Signal and Data Processing techniques for RF Payloads and microwave remote sensing instruments.

Duties

If appointed to this position 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 field of RF payloads throughout all project phases, in particular for RF payloads based on digital on-board (signal) processing equipment for navigation, telecom and Earth observation;
- contributing to the overall architectural definition, specification and development of future navigation, telecom and Earth observation payloads based on on-board digital processing equipment, including the assessment of new concepts, signal processing techniques and applications of new technologies;
- assessing new concepts and signal processing and data processing techniques as well as new technologies to be applied to the next generation of on-board processors and digital (signal) processing payload equipment;
- defining and specifying on-board processors and digital (signal) processing payload equipment for RF payloads;

- defining the technological requirements of processors and digital processing equipment for navigation, satcom and Earth observation payloads, in cooperation with ESA's specialists in microelectronics and other relevant domains;
- participating in feasibility studies, project reviews and 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, placing 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 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

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

Project support experience in a relevant domain

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 telecommunications or electronics engineering is required for this post.

Additional requirements

Good understanding of navigation, telecom and Earth observation payload functionality, architectures and key performance parameters specification and evaluation is required.

A solid background in digital signal processing techniques and digital and mixed-signal technologies for on-board payload applications is required.

Very good knowledge of payload signal processing on-board systems and architectures.

Very good knowledge of on-board processing technologies and experience of design and development of on-board digital processing systems is required.

Very good knowledge of modern computer systems, simulation and modelling tools, programming languages, signal processing techniques and technologies is required.

Experience on Machine Learning and Artificial Intelligence applied to on-board processing equipment will be considered an asset.

A number of years of professional experience in the technical domains required for this position will be considered an asset.

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.