

Microelectronics Engineer

Job Req ID: 12170

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Vacancy Type: Permanent

Date Posted: 16 April 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. 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, The Netherlands

Description

Microelectronics Engineer in the Microelectronics Section, Data Systems, Microelectronics and Components Technology Division, Electrical Department, Directorate of Technology, Engineering and Quality.

The Microelectronics Section provides functional support to ESA projects and carries out technology research (R&D) in the field of VLSI integrated circuits (e.g. ASICs, ASSPs, FPGAs, microprocessors, microcontrollers).

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 FPGAs, microprocessors and IP cores 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 the activities performed and the transfer of knowledge across the Agency.

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

Technical competencies

- General background and specific experience in the technical domains covered by the position
- Experience in the development and verification of space hardware
- Experience with the design, development and application of relevant tools and methods
- Project support experience in a relevant domain
- Hands-on laboratory experience
- 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 electronic engineering or physics, with specialisation in microelectronics, for this post is required.

Additional requirements

You should have at least five years' experience in end-to-end design, system integration and testing of FPGAs and microprocessors for space applications. In particular, experience with the following devices, IC design and programming tools is required:

- MICROCHIP, XILINX and NanoXplore FPGAs and design tools
- RISC-V, SPARC and ARM devices, architectures, operating systems and tools
- VHDL, Verilog, System-C hardware description languages.

Some experience in the following areas is also required:

- development, licensing and re-use of Intellectual Property (IP) cores
- HW-SW co-design and Electronic System Level design of System-on-ChipFPGA and microprocessor functional, electrical and environmental testing
- quality standards applicable to VLSI ICs for space
- the space environment and its effects on microelectronics devices, and radiation effect mitigation techniques.

Some experience in the following areas would be desirable:

- Processing devices and/or IP Cores, and their tool ecosystems for artificial intelligence / machine learning / neural networks.
- Digital and/or mixed-signal ASIC design.

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 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.