

Solar Cell and Solar Generator Engineer

Job Req ID: 11019

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Vacancy Type: Permanent

Date Posted: 26 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

Solar Cell and Solar Generator Engineer in the Solar Generators Section, Power Systems, EMC and Space Environments Division, Electrical Department, Directorate of Technology, Engineering and Quality.

The Solar Generators Section provides functional support to ESA projects and carries out technological research (R&D) on space solar cells, space photovoltaics and space solar generators.

The scope includes parts, materials, processes and technologies, electrical and mechanical design, development, manufacturing, integration, testing and in-orbit performance evaluation. Within this domain of competence, the Section also runs laboratory activities for characterisation and qualification of solar cells, photovoltaic assemblies and solar panels, including problem investigation. In addition, it contributes to the definition of standards on solar cells, photovoltaic assemblies and solar generators.

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 solar cell and solar generator technologies throughout all project phases, including design, development, manufacturing, integration, testing and in-orbit performance evaluation;
- 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, with the emphasis on innovative concepts, cutting-edge technologies and system architectures;
- coordinating laboratory activities and conducting tests and characterisation as required;
- monitoring applicable scientific and technological trends and maintaining state-of-the-art expertise;
- contributing to the 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 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

Project support experience in a relevant domain

Understanding of related technologies, R&D trends and the industrial landscape

Experience in laboratory activities and management

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 with Space Engineering Standards and their preparation and implementation

Behavioural competencies

Communication

Teamwork

Customer Focus

Innovation & Creativity

Problem Solving

Results Orientation

Planning & Organisation

Education

A Master's degree in physics or electrical engineering is required. Preference will be given to applicants with a PhD on space photovoltaic topics.

Additional requirements

- Overall, at least 10 years' experience of solar cells and solar generators for space applications;
- Experience in technology, process development and manufacturing at part level of space solar cells and related components (e.g. Ge wafers, solar cell shunt diodes), and at sub-system level of space photovoltaic assemblies and solar generators;
- Experience in the definition of specifications and test plans for space solar generators, photovoltaic assemblies, solar panel substrates and solar cell assemblies;
- Experience in the electrical design and evaluation of the in-orbit performance of space solar generators;
- Experience in conducting characterisation, testing, qualification and failure investigation of solar cells, photovoltaic assemblies and solar generators.

The following are considered assets:

- Knowledge of the mechanical design and thermo-mechanical properties of space solar generators and their components;

- Knowledge of space environment effects on solar generators.

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.