

Power Management Engineer

Job Req ID: 12859

Closing Date: 21 October 2021

Publication: Internal & External

Vacancy Type: Permanent

Date Posted: 23 September 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. 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

Power Management Engineer in the Power Management and Distribution Section, Power Systems, EMC & Space Environments Division, Electrical Department, Directorate of Technology, Engineering and Quality.

The Power Management and Distribution Section provides functional support to ESA projects and carries out technological research (R&D) in power management and distribution for space applications, both primary or secondary, platform or payload. In particular, the Section covers power system design, power and energy budget assessment, power conditioning and distribution design and technology, analogue electronics for power systems, control of power systems, digital control of power systems, sensing techniques and high-voltage technology and design. Within this domain of competence, the Section is also responsible for coordinating the Section's laboratory activities in the ESA Space Power Laboratory, together with the Energy Storage Section

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 power management and power distribution throughout all project phases;
- 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;
- 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 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

Project support experience in a relevant domain

Spacecraft systems knowledge

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 audits and reviews.

Behavioural competencies

Communication

Teamwork

Innovation and Creativity

Problem Solving

Continuous Learning

Planning & Organisation

Education

A Master's degree in electrical engineering for this post is required.

Additional requirements

- Experience in the design of power systems at early phase stages of space missions, and the use of relevant tools;
- Experience in power system analysis, including power and energy budget assessment;
- Knowledge of analysis and verification for the distribution system and secondary power system;
- Experience in DC/DC converter design and verification;
- Experience in power converter control;
- Experience in the use of electrical simulation tools;
- Experience in the power system support for Launch and Early Phase Operations (LEOPS) of space missions.

The following are considered assets:

- Experience in digital control and FPGA programming;
- Experience in the use of GaN and SiC switches for power conversion;
- Knowledge of power processing units (PPU) for propulsion systems.

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.