



HE Space is a successful international space company. For nearly 40 years, we have been supporting our customers with qualified experts in the field of engineering, science and administration. We are currently looking for a Power Conditioning Engineer to support our customer ESA in the Netherlands.

Power Conditioning Engineer

Key Tasks and Responsibilities

As part of the Power Management & Distribution Section, you will have the following responsibilities:

- The design, development and test of spacecraft power systems for on-board applications. This work encompasses the definition of centralised power systems having overall power levels up to 25 kilowatts, together with their interfaces with respect to solar arrays and batteries, the attendant power distribution/protection equipment and pyrotechnic activation functions;
- Detailed tasks include the overall system design necessary for the development of fault-tolerant power control and distribution concepts, the detailed design of the power regulators and the identification/use of tools and methods for ensuring dependable design and verification;
- The development of simulation blocks for system analysis (batteries, solar cells & arrays, power control and distribution units) useful for the independent evaluation of critical power and energy budgets (in support to running projects of the Agency);
- Support to laboratory activities concerning design and development or verification of circuits for power management and distribution (solar array and battery conversion electronics, power distribution and protection electronics, power conversion for generic and specific purposes, including redundancy and protections);
- Active involvement in critical R&D activities support (by simulation, worst case analysis and laboratory testing of the overall system or of the most critical sub-units);
- Assisting to the development and validation of worst-case simulation blocks for electrical equipment analysis (converters, shunt regulators, current limiters, protections, critical telemetry or telecommand functions) useful for the independent check of the most critical equipment functionality and performances, in support to all programmes reviews where the power conditioning section is involved;
- The development and verification of high voltage design technologies and associated power converters, suitable for application as Electronic Power Conditioners (EPCs) for specialised spacecraft payloads such as Travelling Wave Tube Assemblies (TWTA's) and Electric Propulsion Concepts.

Skills & Experience

You will have the following qualifications and relevant experience:

- A Master's Degree or higher in Electronic Engineering or another relevant discipline;
- Experience in the Digital Control of power converters;
- Proven FPGA experience and microcontroller programming;
- Working knowledge with the design of power converters with GaN semiconductors;
- Electrical power processing background, together with a good experience of digital and analogue electronics and control theory;
- Proven experience in the domain of power conditioning electronics together, with 'hands on' knowledge of the circuit design of such systems;
- Experience in the development of computer models, especially with SPICE-based simulators;
- Knowledge and the experience on High Voltage power conditioning for space application constitute is an asset;
- Knowledge on space power conversion systems is an asset;
- Fluency in English is mandatory; knowledge of another European language is an advantage.

This job is located in Noordwijk. We welcome applicants who are available from May 2020 (or as soon as possible thereafter).

If you think you have what it takes for this job, please send your CV together with a letter of motivation (both in English and in Word) to **Ms Sabrina Kracke**, by clicking on the button "Apply for this job" quoting job **NL-HP-4464** before **12-Mar-21**.

An exciting and dynamic international working environment awaits you!



HE Space recruiting for ESA