

R&D Engineer - Power Electronics

At Hitachi Energy our purpose is advancing a sustainable energy future for all. We bring power to our homes, schools, hospitals and factories. Join us and work with fantastic people, while learning and developing yourself on projects that have a real impact to our communities and society. Bring your passion, bring your energy, and be part of a global team that appreciates a simple truth: Diversity + Collaboration = Great Innovation

Basic Info	
Location	Krakow, Lesser Poland, Poland
Job type	Full time
Experience	Experienced

Job function	Engineering & Science
Contract	Regular
Publication date	2023-04-20
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Our R&D engineers and scientists develop breakthrough technologies that change the way the world works, and industries do business. We constantly push the limits of convention, while retaining our focus on delivering quality products and solutions to our customers.

Power Electronics in Hitachi Energy has over 100 years of history, it's started from development and manufacturing of Mercury-Arc Valves; introduction of breakthrough technologies like HVDC; pioneering power semiconductor manufacturing; bringing electricity to transportation; and enabling Smarter, Stronger and Greener Power Grids.

Hitachi Energy has committed to Net-Zero in the 2050 strategy, focusing R&D development to deliver technologies which support achieving The Carbon-Neutral Future. The backbone for the grid transformation is Power Electronics, where we are developing new efficient solutions for: integrating renewables, providing energy storage, improving power quality, and enabling green transportation & eMobility solutions.

The Power Electronics team has being established in Krakow in 2021, as part of this team, you will be working in a small, cross-functional team of highly skilled engineers consisting of Power Electronics, Control Engineers, HW Electronics and Mechanical Engineers. You will develop a new breakthrough modular converter platform based on wide bandgap semiconductors (e.g. SiC) for a range of grid and DC applications. You are expected to push the technology boundaries in terms of efficiency, size and operational performance. If you are ready for the challenge, then join us.

Reporting to Lukas Ramming Technology Manager Valve Development and supported by Daniel Szary Head of Research Center, you will cooperate with global R&D teams, in case of technical questions you will get direct support from Simon Round Corporate Executive Engineer – Power Electronics & Digital. A creative environment allows you to utilize your knowledge and skills in technology and product development to identify and implement innovative solutions for a new Product Platform.

prototyping and verification of new converter products.

- Take responsibility for specification, selection, qualification and verification of semiconductors, passive components and protection concepts.
- Contribute to feasibility studies on converter topologies; while gaining knowledge on Power Grids applications and requirements.
- Support a fast, iterative design process in a cross-functional, dedicated team. Use fast prototyping and lab mockups to close learning loops and achieve results quickly.
- Build up and maintain measurement test setups to verify performance, efficiency and robustness.
- Contribute to solving technical challenges related with EMC/EMI, thermal management & safety.
- Working in modern laboratories; bringing up prototypes; evaluating designs limits.
- We offer an exciting job in an international environment where you will get great possibilities to develop further within Hitachi Energy.
- Living Hitachi Energy's core values of safety and integrity, which means taking responsibility for your own actions while caring for your colleagues and the business.

Your background:

- BSc/MSc degree in Electronics/Electrical Engineering or related field.
- Experience with power electronic converters/power supplies development process.
- Experience with simulation tools (Spice, SIMetrix, Simulink, PLECS...).
- Understanding of control theory for Power Electronics applications.
- Experience with specification, selection and qualification of power devices, and passive components like DC capacitors and filter components.
- Experience with working with laboratory equipment and converter prototyping and testing.
- Strong commitment to safe work practices and dedication to following all relevant workplace safety guidelines.
- A high level of self-motivation, curiosity and desire to learn about new technologies.
- A collaborative, solutions-oriented approach and strong communication skills.
- As you will be part of a global business, fluency in written and spoken English is required.

More about us

Hitachi Energy is a global technology leader that is advancing a sustainable energy future for all. We serve customers in the utility, industry and infrastructure sectors with innovative solutions and services across the value chain. Together with customers and partners, we pioneer technologies and enable the digital transformation required to accelerate the energy transition towards a carbon-neutral future. We are advancing the world's energy system to become more sustainable, flexible and secure whilst balancing social, environmental and economic value. Hitachi Energy has a proven track record and unparalleled installed base in more than 140 countries. Headquartered in Switzerland, we employ around 40,000 people in 90 countries and generate business volumes of approximately \$10 billion USD.

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