



## **Master Thesis - Process Data Analysis in E-Mobility Power Semiconductor Manufacturing**

**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**

Hitachi Energy Semiconductors supplies high-performance semiconductor modules for inverters and motor drives in traction and industrial applications. Currently, novel power semiconductors for electric drivetrains are being developed at the Lenzburg site. For the further development of the existing prototype line to higher production capacities and quality, the opportunity is offered to gain a deep insight into an exciting production development project within the scope of a thesis and to make a significant contribution to the success of the next project phases. For the developing production, it is necessary, within the framework of the advertised master thesis, to analyze and collect production process data, gain insights into interactions and impacts of different processes and their impact to the product quality.

Duration of employment: 6 Months, Start: 01.12.2021

### **Your responsibilities**

- Familiarization with the semiconductor backend production processes and the project
- State-of-art method investigation on the topic of manufacturing process control and data analysis
- Exploration of the interactions between process data of different processes
- Assessment of the process` impact towards quality and throughput as well as interactions through process steps
- In-depth process monitoring system development (control charts, CPKs)
- Analysis and improvement of existing workflows
- Presentation and documentation of the results

### **Your background**

- Bachelor graduate of an engineering studies or related field (mechanical engineering, process engineering, physics or similar)
- Knowledge of DoE and production processes of electronic components is an advantage

Basic data analysis software skills (Minitab, Power BI, Cornerstone).  
Strong interest in data analysis and production management  
Distinct planning skills  
Conceptual way of thinking and creativity  
High level of self-motivation and willingness to perform  
Independent, proactive way of working and good self-organization  
German and English spoken and written (level B2)

## 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 38,000 people in 90 countries and generate business volumes of approximately \$10 billion USD. [www.hitachienergy.com](http://www.hitachienergy.com)

Interested in joining our team? If so, we look forward to receiving your full application (motivation letter, CV, references) only via our online careers tool.

Hitachi Energy Switzerland Ltd.  
Peter Pankaczi  
Talent Acquisition

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