



Bachelor/Master Thesis - E-Mobility Power Semiconductor Process Development (f/md)

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 supplies high-performance semiconductor modules for inverters in traction and industrial applications. Currently, novel power semiconductors for the drive train in electric vehicles are being developed at the Lenzburg site. For the further development of an already existing small production line to one with higher production capacities and a higher degree of automation, a 6-month thesis offers the opportunity to gain a deep insight into an exciting production development project and to make a significant contribution to the success of the next project phases.

The thesis is about the benchmarking of the existing process for sinter paste application and especially the analysis after printing, so called Sinter Paste Inspection (SPI). After analyzing the existing process and already generated data, the phase of improvement starts. In this phase, based on historical data and several DoE's, the improvement of the Sinter Paste Analysis step can start, as well as the optimization of the paste application process itself. In depth understanding of the process and setup is needed to review and challenge the preliminary process parameters. The underlying project proposal will have a real-life application and will be an important contribution to the overall production development.

Duration of the thesis: 6 months, start 1th of December 2021.

Your responsibilities

- Familiarization with the Phase of production development, equipment, and production sequence in detail
- Literature research: stencil printing and stencil printing inspection (SPI), especially for sinter paste inspection
- Stencil printing and SPI data analysis
- Set up and run additional experiments (DoE) to find relevant input-output correlations
- Set up control charts
- Create and test new versions of programs with new parameter and validate in production
- Generate suggestions for predictive maintenance
- Presentation and documentation of results

Your background

Applicant of a technical bachelor or master's degree (mechanical engineering, industrial engineering, process/production engineering, or similar)

Knowledge of production processes of electronic components is advantageous

Know-how in "Design of Experiments" (DoE) is a plus

Interest in production-optimizing issues

Distinctive planning skills

Conceptual thinking and creativity

Interest in electric mobility and transition to sustainable mobility

High self-motivation and willingness to perform

Independent, proactive way of working and good self-organization

Good command of spoken and written English (Level C1). German knowledge is a plus

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

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

Location	Lenzburg,Aargau,Switzerland
Business Unit	Grid Integration
Publication Start Date	15.11.2021
Job Function	Production and Manufacturing
Publication ID	CH52306774_E1