KWK
Kompetenzzentrum für Kraft-Wärme-Kopplung

OTH Amberg-Weiden

We are looking for committed applicants for the following bachelor´s thesis

Development of a Mini Energy Management System for PV-Based Wallbox Control

Energy Technology, Electrical- and Information Technology, Industry 4.0 or comparable

The “Centre of Excellence for Combined Heat and Power” (KoKWK) bundles the research activities of the OTH Amberg-Weiden in the field of sector coupling technologies with an interdisciplinary team of engineers and scientists. The implementation of the energy transition affects all areas of research and development at KoKWK. Innovative energy supply strategies, the increasing integration of renewable energies and the associated sector coupling require flexible energy systems, which we deal with as part of our research work. In your research project Campus-Grid we are looking for a motivated bachelor student.

Topic Description

- **Integration of PV Data**: Retrieve and process campus PV generation data via Revolution Pi and connect to OpenEMS.
- **Test System for Wallbox Control**: Set up a gateway (RevPi) to control a real or simulated wallbox.
- **Implementation of Control Strategies**: Develop simple logics for surplus charging and load limitation based on PV generation.
- **Simulation and Analysis**: Perform tests with real PV data, compare different control strategies, and evaluate system performance.
- **Documentation & Outlook**: Provide technical documentation, recommendations for integration into the Opti-Camp system, and explore extension potential (e.g., battery, heat pump).

Basic Qualifications

- Studying in the field of Energy Technology, Mechanical Engineering, Electrical- and Informationtechnology, Industry 4.0 or similar
- Interest in the field of energy
- Enthusiasm for software applications
- Initial experience in OpenEMS or Python would be desirable
- High degree of independent working, commitment & flexibility

What we offer

As part of your bachelor's thesis, you will gain valuable practical experience in the field of applied research. Within our team, you will be individually supervised as part of your thesis and receive a comprehensive introduction to the topic.

If you are interested please send us an application to: ph.streit@oth-aw.de

If you have any questions on the topic, please contact Philipp Streit