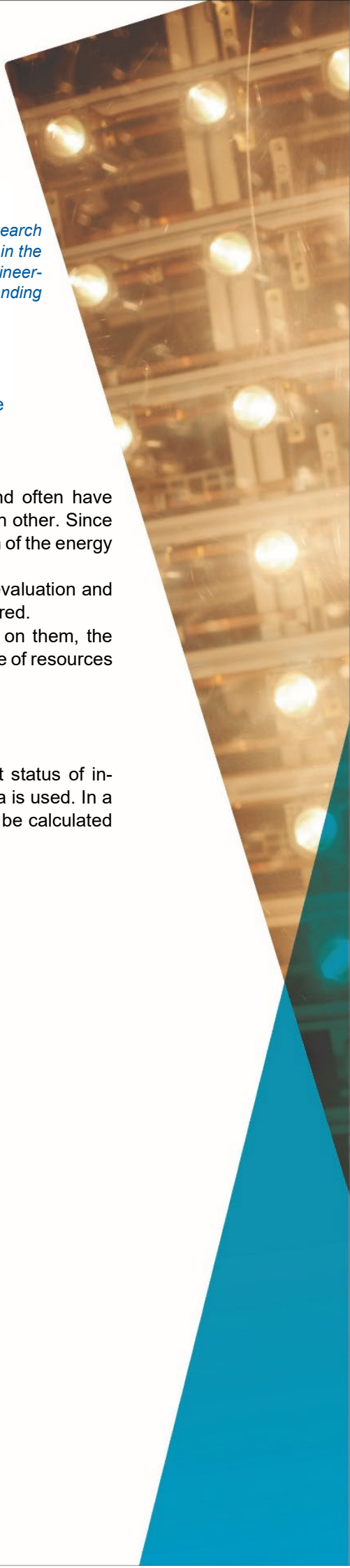
Technische Hochschule Ingolstadt
Institut für neue Energie-Systeme

Zukunft in Bewegung



Innovative. Cosmopolitan. Responsible.

The Institute for New Energy Systems (InES) is one of three institutes for applied research at Ingolstadt University of Applied Sciences (THI). It bundles the research activities in the fields of Building Energy Systems, Industrial Energy Systems, Energy Systems Engineering, Geoenergy and Technology Transfer & International Projects within THI. Outstanding bachelor and master students have the best development opportunities at InES.

Bachelor / Master thesis

Energy management system for the digital farm of the future

Background:

Agricultural businesses often generate electrical energy themselves and often have larger consumers themselves, which are, however, not coupled with each other. Since the consumers would all have to be measured individually, an optimization of the energy flow is not directly possible.

Therefore, the project deals with the development of algorithms for the evaluation and optimization of energy flow on farms, for which a broad database is required.

Thus, with the help of the developed algorithms and the results based on them, the performance of agriculture can be optimized in terms of energy and the use of resources in agriculture can be ensured sustainably in the future.

Aim of the work:

Comparison of the flexibilization potential of farms between the current status of installed equipment compared to flexible hardware, for which recorded data is used. In a master's thesis, the amortization for corresponding investments will also be calculated on the basis of previous research.

Tasks:

- Familiarization with the topic
- Literature research
- Evaluating measurement data
- Demonstrating the potential for flexibilization of
    - the existing hardware
    - alternative hardware
- Documentation, presentation

Requirement Profile:

- Students in technical programs
- Reliable and independent way of working
- Experience in one or more of the following:
    - Power Engineering
    - Agriculture
    - Programming skills
    - Literature research

Supervision: *Julian Braun*

Contact: abschlussarbeiten_ines@thi.de