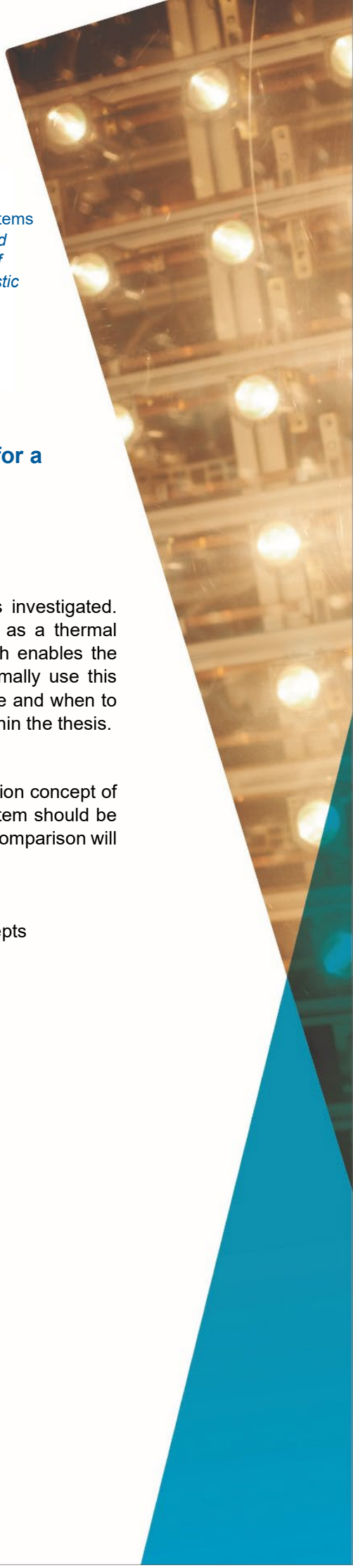
Technische Hochschule Ingolstadt
Institute of new Energy Systems



Institute of New Energy Systems (InES)
As research institution for applied energy research, the Institute of new Energy Systems *(InES) forms part of* Technische Hochschule Ingolstadt*. At InES, five professors and more than 40 researchers are working on future-oriented technologies in the field of renewable energies and rational use of energy. They focus on industrial and domestic energy systems, energy systems technology as well as on technology transfer and international projects. Bachelor and master students will find excellent career opportunities with InES. For more details about our research activities please visit https://www.thi.de/energie.*

Bachelor/Master Thesis
Development of a storage management concept for a novel thermally activated building

Research project and background:
Within a research project, a thermally activated single-family home is investigated. Thermally activated means, that the concrete of the building is used as a thermal storage. The building was build using a novel activation concept which enables the active "charging" and "discharging" of the building's concrete. To optimally use this option, a storage management is needed which decides when to charge and when to discharge the concrete, which should be developed and investigated within the thesis.

Description of the task:
The goal of the thesis is to develop a charging logic for the novel activation concept of the building. Using the developed algorithm, the benefits of such a system should be investigated in comparison to a typically activated building system. This comparison will be done within a simulative investigation.

Tasks:
- Research on thermally activated building and existing charging concepts
- Develop a charging logic for the novel activation concept
- Implement the charging logic into system simulation
- Analyze the benefits of the novel activation concept
- Document the results

Target Group:
Students of the subject areas/study courses:
- (mechanical/electrical) Engineering
- (Renewable) Energy Technologies
- Computational/Simulative Engineering
- …

Period of time:

From October 2023
Bachelor Thesis ~3 months
Master Thesis ~6 months

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