PTW TU DARMSTADT ETA

JOB OFFERING M/F/D

APPLICATION OF MATHEMATICAL PROGRAMMING FOR ENERGY SYSTEM OPTIMIZATION OF PRODUCTION SITES

The goal of our research at the ETA research group is to enable the energy transition of production sites. Therefore, we develop models of production sites, including models for:

- Production processes (e.g. continuous production processes of the process industry)
- Production machines (e.g. discrete production processes of the metalworking industry)
- Utilities systems (e.g. energy converters for heating, cooling and electrical energy supply)
- Storages (e.g. latent and sensitive thermal energy storages or batteries for storing electrical energy)

With these models we develop different strategies for the energy transition. The evaluation of the transition strategy is based on a comparison against an optimal benchmark.

The optimal benchmark is based on rigorous synthesis and operational optimization of the energy infrastructure and the related processes. Brownfield infrastructure is considered via specific constraints.

For these benchmark models of production sites and for the experimental validation of the modeling and optimization outcome we need support by skilled co-workers.

YOUR POTENTIAL TASKS

- Modeling of energy infrastructure in Python/ Pyomo
- Modeling of continuous production processes in Python/ Pyomo
- Preprocessing of raw data originating from measurements on site
- Validation of optimization outcome by conducting experiments at the ETA research factory

WHAT YOUT CAN OFFER

- Knowledge in modeling of energy systems in Python/ Pyomo

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START
immediate

PAYMENT
12,48 €/h

HOURS
20-40 h/Month

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ENERGY EFFICIENCY. ENERGY FLEXIBILITY. RESOURCE EFFICIENCY.

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ENERGIETECHNOLOGIEN UND ANWENDUNGEN IN DER PRODUKTION
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