

Data Management in Automated Production Systems

Semester Thesis/Master's Thesis (SA/MA)

Lehrstuhl für Automatisierung und
Informationssysteme
Technische Universität München
Prof. Dr.-Ing. Birgit Vogel-Heuser



Research Gap:

A new technological framework for production should enable the KI.FABRIK to manufacture various mechatronic products using fully modular, reconfigurable, highly automated, and integrated technologies. A significant difference from previous concepts is the direct physical interaction with the factory environment through robots and similar systems and the intuitive and transparent connection between humans and machines through wearable technology.

Research Goal:

Heterogeneous data from different data sources from engineering and operation data should be managed. Data sources, e.g., the Wittenstein gearbox use case, the BMW front panel use case, and the xPPU (AIS lab plant) provide a various amount of engineering and operational data. The existing framework for extracting and organizing data into the Asset Administration Shell (AAS) needs to be extended. Inconsistencies among the data should be managed. A concept of information backflow needs to be proposed and applied.

Requirement:

- A precise and structured approach to work
- Creativity and reliability
- Experienced in Python, capability of learning new tools and methods (e.g., AAS)
- Good German/English skills

In case of interest, please send your curriculum vitae and current grade transcripts to the contact below.

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