

Production-as-a-Service (PaaS) in an automated factory environment

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, as well as the intuitive and transparent connection between humans and machines through wearable technology. In the long term, this will enable competitive automated production in Bavaria from batch size 1 for complex, individual products, i.e., Production-as-a-Service (PaaS).

Research Goal:

This thesis aims to investigate tasks, skills, and primitives in a factory by elaborating on the Wittenstein Use Case. A value chain concept from the customer to the factory's supermarket cell and production needs to be designed, implemented, and evaluated. The generalization of the use case also needs to be investigated.

Requirement:

- A precise and structured approach to work
- Creativity and reliability
- Experienced in Python
- Good German/English skills

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

Fandi Bi, M.Sc.; Jingyun Zhao, M.Sc.
KI.Fabrik

Tel.: +49 (0) 89 / 289 16445
E-Mail: fandi.bi@tum.de; jingyun.zhao@tum.de