



Development of Modular Software for Automated Production Systems (SA/MA)

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



Task Description:

As part of this thesis, you will directly help to solve one of the biggest current pain points in automated Production System (aPS) development for one of our industry partners Dücker Conveyor Solutions.

Commonly current large-scale, complex aPS software was developed over many years from a much smaller, more simple code basis where hardly any thought was given into the reusability, testability or maintainability of the code, which in recent years has become more and more of a problem.

High modularity is the key to mitigate this problem and accommodate the growing non-functional requirements posed on aPS software. However the nature of the production system is highly influential on how modularity is enforced inside the software.

Therefore **your task** will be to develop and implement a modularity concept based on generic state machines for and with our partner company Dücker. You will be on-site at Dücker as part of your thesis to gain valuable insight into their software and product development, which allows you to gather important knowledge and experience for your thesis and beyond.

Preliminaries:

- Experience in industrial automation and IEC 61131-3 programming
- Fluent in German
- Independent and self-reliant work ethic



Source: <https://alt.duecker.biz/en.html>



Luis Steuter

Tel.: +49 (0) 89 / 289 165 80
E-Mail: luis.steuter@tum.de