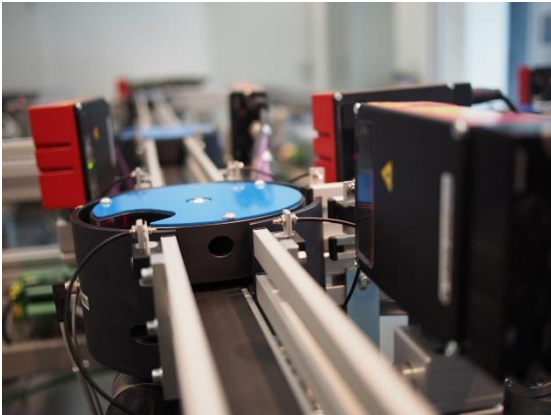




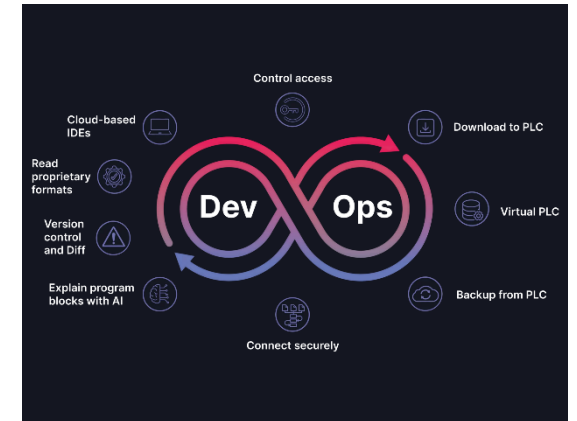
Industrial DevOps for PLC Software Engineering (BA/SA/MA)

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



Task Description:

Agile development processes, including DevOps, help ensure short times-to-market of highly variable products. Pioneered by software developers, they are increasingly adopted in industry, e.g., factory automation. Thereby, the interdisciplinarity and rigid compliance requirements of mechatronic systems pose additional challenges. One area where Industrial DevOps are beneficial are Continuous Integration and Continuous Delivery (CI/CD) pipelines, including automated metrics evaluation and quality gates. However, tool-support for such systems is not established for PLCs yet, which typically control industrial automated production systems.



Source: Software Defined Automation (SDA)

In your thesis, you will build upon the institute's previous work in automated PLC software analysis to develop a prototypical CI/CD pipeline. You will integrate your work into a partner company's (SDA) existing Industrial DevOps toolchain and evaluate it with feedback and use cases provided by KUKA.

Preliminaries:

- Experience with agile development, working in teams, and/or large software projects
- Knowledge about industrial automation and IEC 61131-3 programming
- Independent and self-reliant work ethic



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