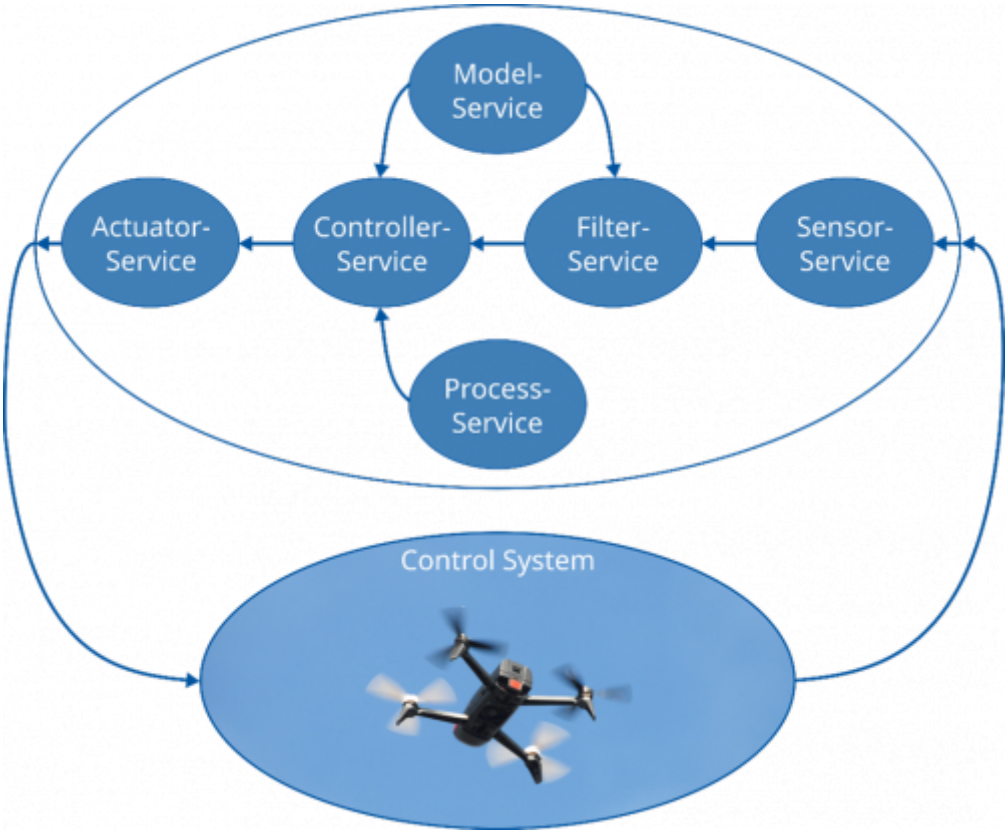
SOMC: Dynamic software for dynamic systems



The Chair of Computer Science 11 - Embedded Software (i11) collaborates with the Institute of Automatic Control (IRT, Faculty of Mechanical Engineering) on the new project Service-Oriented Model-based Control (SOMC) funded by the German Research Foundation (Deutsche Forschungsgemeinschaft, DFG). By tightly coupling software engineering and control theory, a service-oriented architecture (SOA) should improve the flexibility and maintainability of control systems. This architecture enables the control system to adapt to situations not foreseen at design time by exchanging control components dynamically at runtime.

The i11 explores a SOA fit for the requirements of real-time, embedded control systems while enabling the necessary flexibility. The IRT develops the required models and investigates stability conditions for switching between control components.

The proposal was submitted by Dr.-Ing. Bassam Alrifaee (head of the Cyber-Physical Mobility Group at i11) and Dr.-Ing. Lorenz Dörschel (IRT). The research associates Ole Greß, M. Sc. (i11) and Markus Zimmer, M. Sc. (IRT) are working on the project.

More information about the Cyber-Physical Mobility Group: CPM Group
More information about the Institute of Automatic Control: Website
More Information about the project: Project page