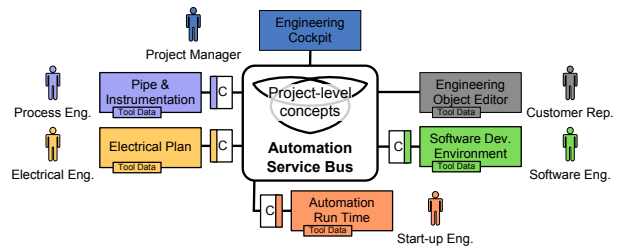


# Framework for Simulation Integration



## Goal

Simulations and models of processes can be utilized in all phases of the control system life cycle. This project is more focused on simulations and models of industrial processes. Their simulator and models can be used in a wide range of applications - operator training, decision support, estimation of unmeasured variables, fault detection, job planning etc.

The main goal of the simulation framework is to provide an integrated environment for simulators and SCADA systems in order to design and test simulations, then to run and control them from the SCADA systems.

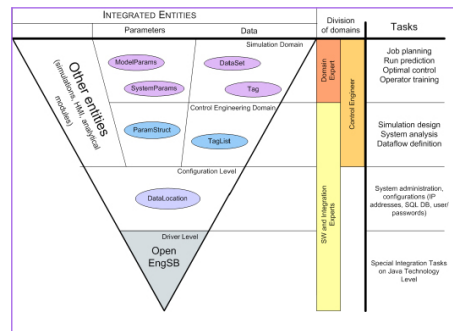
## Implementation

Based on the Open Engineering Service Bus, developed by logi.cals and the CDL-Flex research laboratory at TU Wien, the technical integration application for Certicon is built in layered domains. Domain functionality is designed in order to provide the capability to describe the simulation task in the language of the domain user. The simulation framework expects two main groups of users – the domain expert (e.g., a chemical engineer or line operator) and the control engineer.

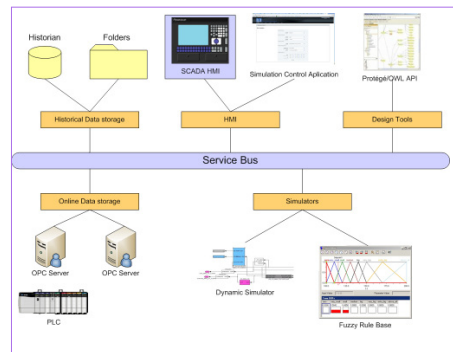
One of the most important tools integrated in the environment are tools for knowledge formalization and utilization. The techniques of so-called „semantic integration” are applied in order to simplify the system configuration and to help with design and verification phases, and reconfigurations.



## Layer Domains



## Bus Concept



## Benefits for customers

- The simulation framework will significantly simplify the overall process of simulation design and operation.
- Semantic integration reduces the manual effort and the risk of potential errors.

## Technical Specification:

- Automation Service Bus®
- Service-oriented architecture/ Layered Domains
- Semantic Integration

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