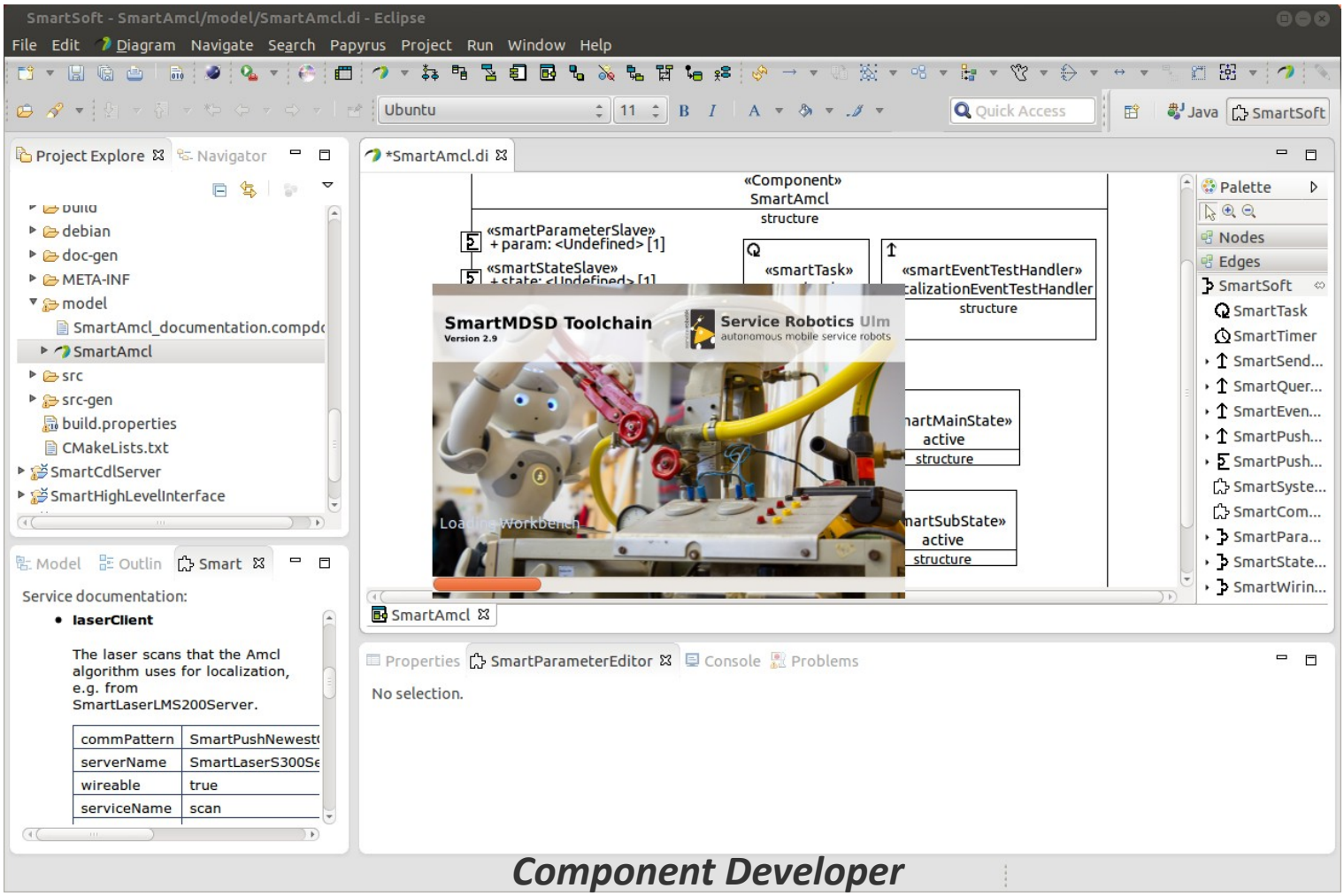
Service Robotics Ulm
autonomous mobile service robots

Hochschule Ulm

SmartSoft
SmartMDSD

Open Source Integrated Model-Driven Development Environment for Robotics Software



Component Developer

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- A **structured approach** (separation of roles) to manage software efforts and system complexity in building your real world robotic applications
  (The SmartSoft Approach)
- An **integrated toolchain** (model driven software development) that realizes this approach and supports your system development
  (The SmartMDSD Toolchain)
- A **set of reusable software components** for localisation, navigation, mobile manipulation, task coordination, human robot interaction, object recognition and many more for immediate reuse in your applications
  (Components)

http://www.servicerobotik-ulm.de/

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SmartMDSD
(service oriented component model)
- Meta-Model
- Toolchain

SmartSoft
(implementation)
- CORBA / SmartSoft
- ACE / SmartSoft
- Linux, Windows, etc.

SmartTCL
(Task Coordination Language)

VML
(Variability Modeling Language)

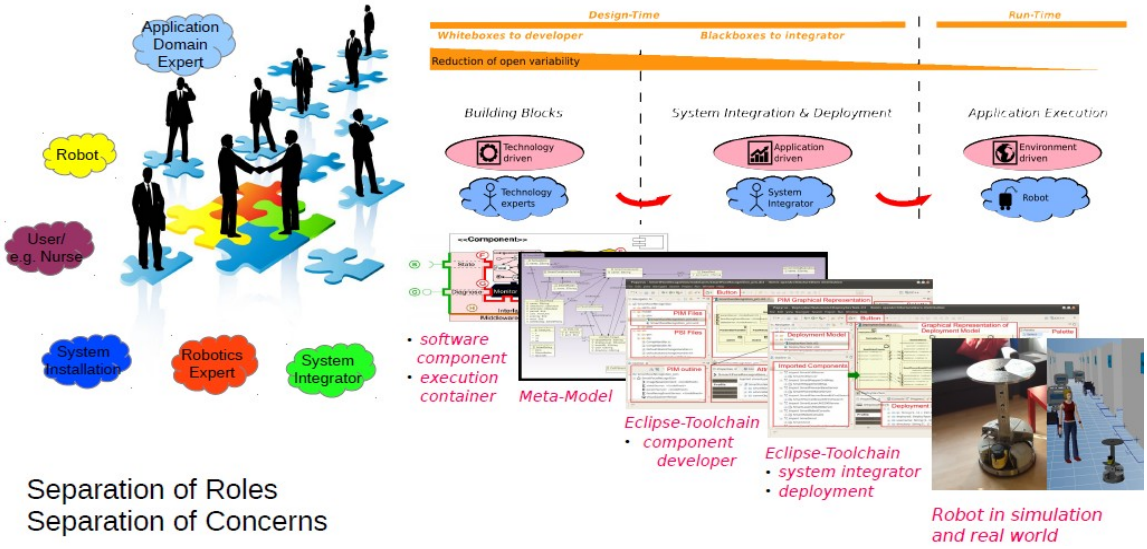
Domain Specific Languages

DSL *Communication Object*

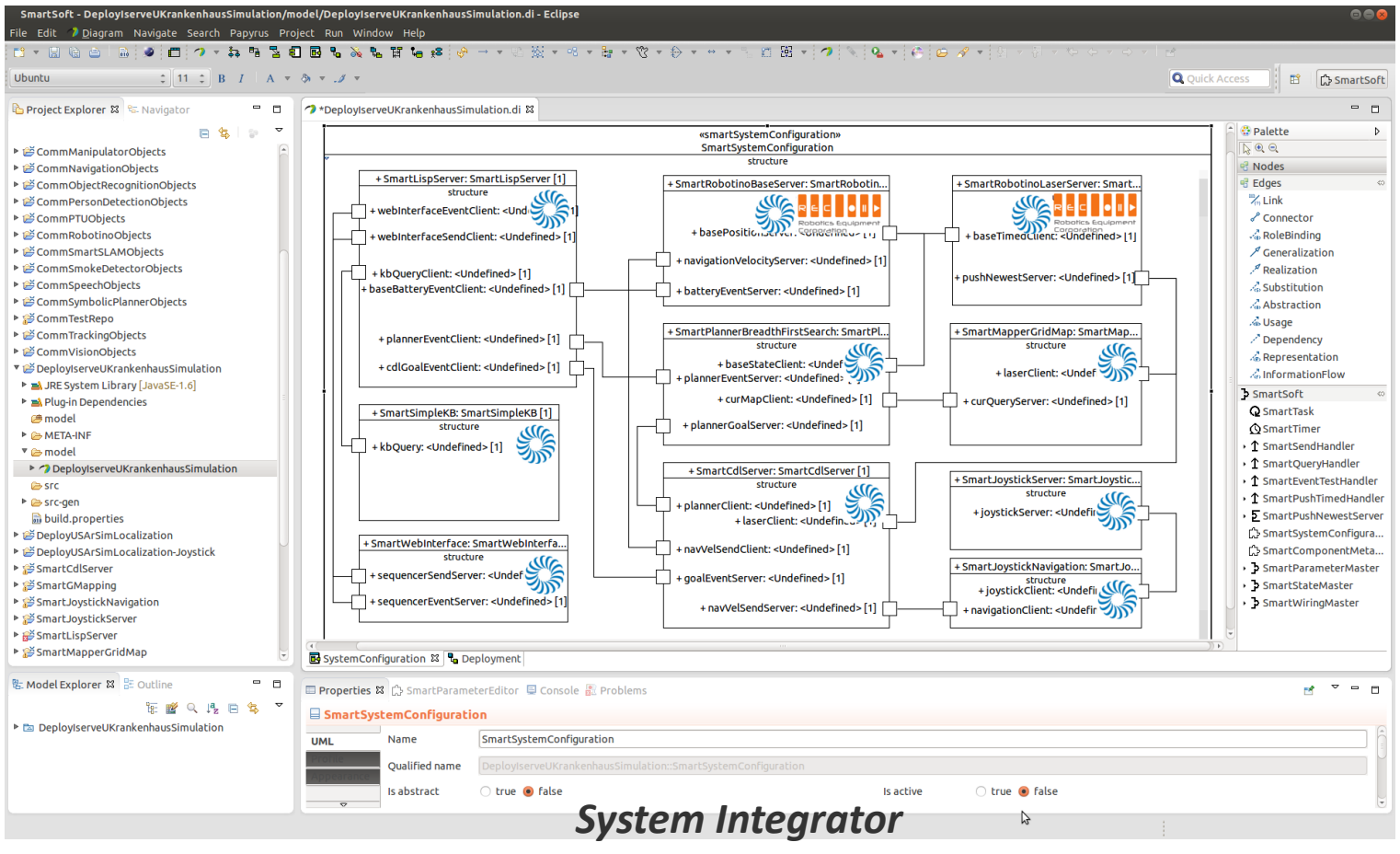
DSL *Parameter*

DSL *Documentation of Components*

MDSD (SmartMDSD) / SmartMARS (Meta-Model) / SmartSoft (Execution Platform) / SmartTCL (DSL)



Separation of Roles
Separation of Concerns



System Integrator