

Development of Chassis Software

Development of chassis software with virtual prototypes

6 AUDI AG Andreas Schmidt Development of Chassis Software Components with Virtual Prototypes IPG Apply & Innovate, Sept. 20-21, 2022

Integration of the Vehicle Components with IPG CarMaker

The vehicle model must provide all sensors signals and actors for the (v)ECU in sufficient quality

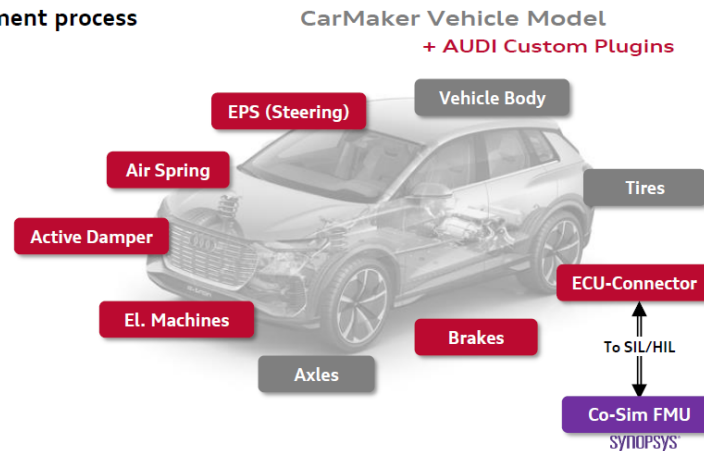
- > Development of custom Plug-Ins from existing high-fidelity models
- > Models used on HIL and SIL

Modelling process is linked to the vehicle development process

- > Each “virtual” vehicle model has a “physical” twin
- > Standardized model parametrization process
- > Delivery of vehicle models is part of the development process

Challenges in CarMaker

- > Vehicle Control from HIL/SIL
- > Model compatibility with “standard” CarMaker
- > Build process with static libraries



Challenge:

- Reaching a higher degree of virtual development and reducing the amount of real vehicle prototypes

Solution:

- A SIL simulation environment using CarMaker consisting of a co-simulation toolchain with Synopsys Silver

Source: Apply & Innovate, 2022

Successful and validated vehicle modeling process embedded as an integral part of the development process