

Early Verification and Testing of a Mechatronic Active Roll Control

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1 Background and Motivation

# intelligent Active Roll Control (iARC)



1 Background and Motivation

System Functional Test: Status and Challenges

#### Test Environment

Target signals: Test profiles

External disturbances at coupling rods: 2x

hydraulic pulser system

Vehicle/Chassis communication: Restbus

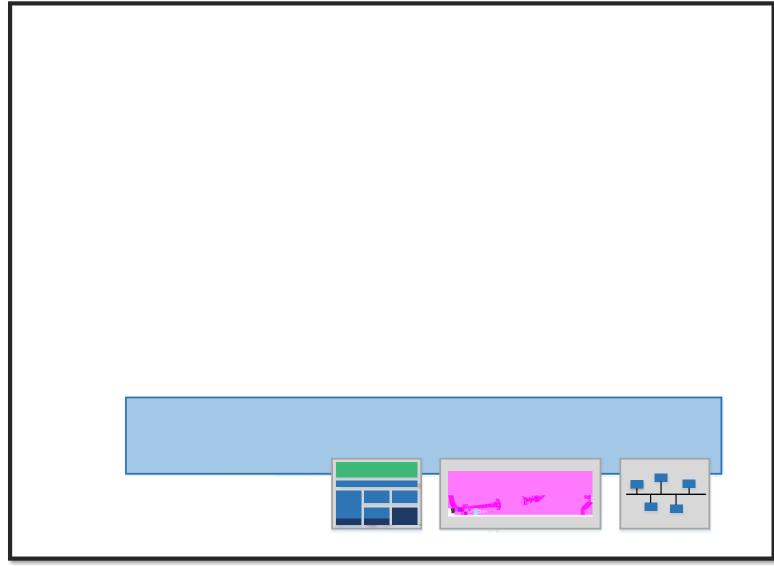
simulation

Supply voltage: 36V / 48V / 52V

# Agenda

- Background and Motivation
- 2 Virtual Testing with Silver
- 3 Use Case @Schaeffler

## Workflow of Virtual Testing

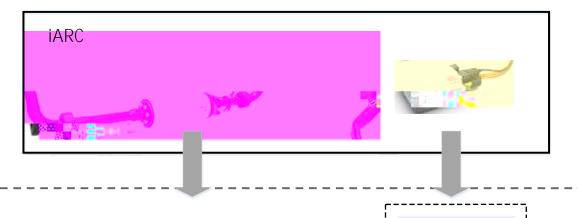


Virtual simulation platform in Slver
Test assignments are synchronized with
database, i.e. PTC Integrity
Virtual simulation platform is
parameterized by software release,
parameter container, actuator type and
so on

Post-processing: e.g. boundary values
Test report shown in the end with

Virtualization

Real object



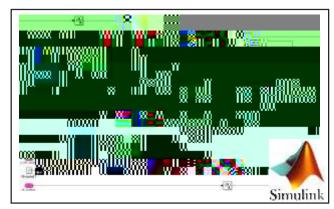
Modelling

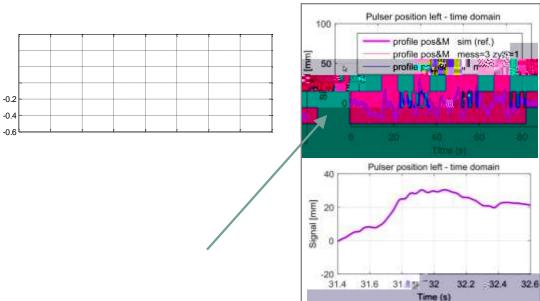
Simulation

## Virtualization of Physical Models

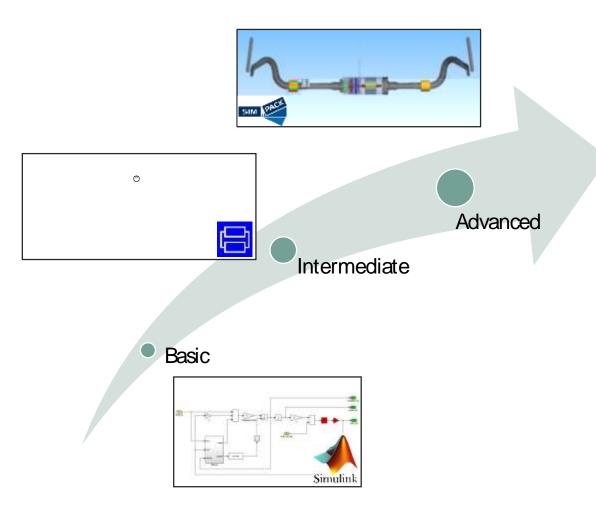
### Hydraulic pulser system







### iARC (actuator component)

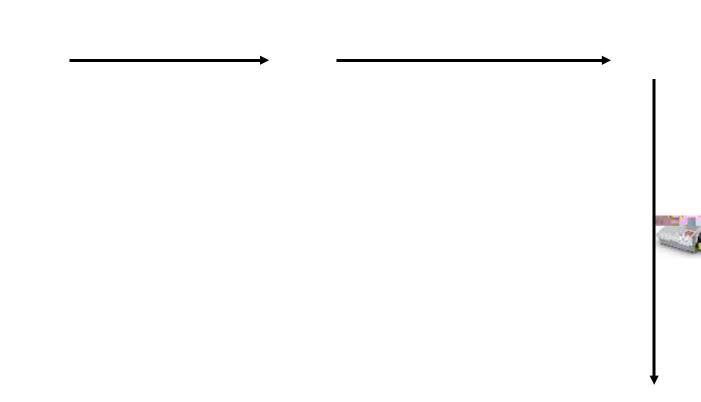


Virtualization of ECU-SW

## Options

MATLAB/Smulink modules in MiL (Model-in-the-Loop)
Ccode in SL

# Early Software Verification and System Testing



1. Early system testing

Functional testing in system context

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