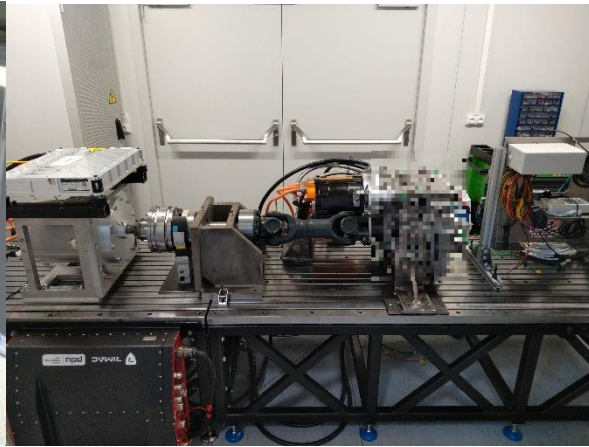


## Master Thesis



Source: Renk



Source: FTG

### Digital Twins for Wheel-Suspension and E-Drive Testbench

Wheel suspension and e-drive test stand load drive components and wheel suspensions under inclusion of real driving load spectra. The measured vehicle load spectra must be converted to the component test rigs and iterated. This process is time consuming and therefore costly. The goal of this work is to develop sufficiently good models of the test benches based on Matlab/Simulink to support the iteration processes.

#### Tasks:

- Literature research of digital twins
- Modeling system suspension test bench
- Modeling system powertrain test bench
- Parameter identification
- Simulation comparison with measured data
- Evaluation and documentation of results

#### Requirements:

- Interest in simulation of mechanical systems
- Basic knowledge of Matlab advantageous
- Basic knowledge of control techniques

**Duration:** 6 months  
**Start:** now  
**Workplace:** Institute of Automotive Engineering or at home

An expense allowance is offered for the completion of the master's thesis.

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