

# ESTABLISHING HiL TESTBENCH FOR TRACTION DRIVE OF HEAVY MOBILE MACHINERY



TECHNISCHE  
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## Motivation

The establishment of a Hardware-in-the-Loop (HiL) testbench for the traction drive of heavy mobile machinery represents a significant step forward in the development and validation of traction drive systems. This thesis topic explores the comprehensive process of implementing such a HiL testbench, which facilitates real-time simulation and testing of traction drives.

## Tasks

- Literature review regarding HiL for traction drive
- Connect the inputs and outputs of the testbench and simulation software
- Develop control system and drive test cycles
- Extra: Comparison with a simulated electric motor

## Requirements

- Basic knowledge of control systems and dynamic simulations
- Experience on electric motors
- Independent and structured work style

## Condition

Conducted at Aalto University (travel and living allowance paid by Aalto University)

More info: [www.aalto.fi/en/departement-of-energy-and-mechanical-engineering/fluid-power-laboratory](http://www.aalto.fi/en/departement-of-energy-and-mechanical-engineering/fluid-power-laboratory)



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