



Virtual Vehicle is a leading international R&D center for the automotive and rail industries. The center focuses on advanced virtualization of vehicle development. This linking of numerical simulations and hardware testing leads to a powerful HW-SW system design.

Master Thesis

“Functional analysis and integration of a XCP client stack in an FMU”

Ref.Nr. E_113

Master Thesis

Simulation as a method of early validation of software functions and so-called virtual ECUs is becoming increasingly important. Two standards, one from the world of simulation and one from the ECU calibration/measurement are to be investigated and brought together.

To do this, we want you to create a concept for the integration and implement it as a proof of concept. Furthermore, we would like you to address the problems and limitations.

TASKS

- Understand the XCP (eXtended Calibration Protocol or Universal Measurement and Calibration Protocol) <https://www.asam.net/standards/detail/mcd-1-xcp/>
- Understand the FMI Standard (Functional Mockup Interface) and FMU (Functional Mockup Unit) <https://fmi-standard.org/>
- Develop a concept for the integration of a XCP client stack into an FMU with support for different communication protocols e.g. Ethernet, CAN, ...
- Proof of concept implementation
- Documentation

PROFILE

- Ongoing technical studies (Technical Mathematics, Computer Science, Electrical Engineering or similar)
- Knowledge in C/C++, Matlab/Simulink and Networking
- Interest in Embedded Systems und Simulation topics

OFFER

- Collaboration in a dedicated, dynamic team
- Work together and learn from experts of one of the leading automotive suppliers worldwide
- Paid Master Thesis
- Diverse sports and health activities regularly
- Corporate Events

For technical questions, please contact

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APPLY NOW and JOIN OUR TEAM

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