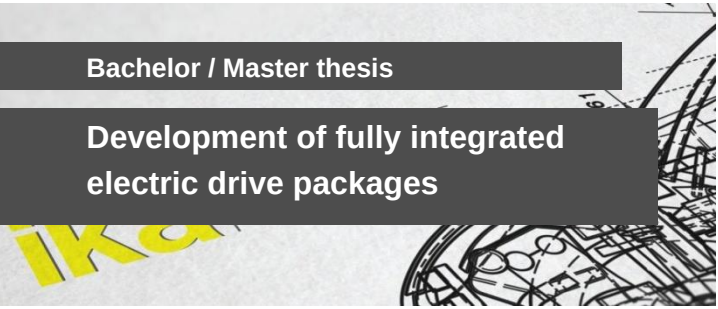
## Student thesis



### Bachelor / Master thesis

# Development of fully integrated electric drive packages

## Topic and Goal of the Thesis

The electrification of vehicle powertrains opens up a number of fundamentally new development possibilities, but also new system boundaries. A number of system manufacturers are currently focusing on the development of fully integrated electric drive units, which places additional demands on the associated package and housing design. The integration of the electric motor into the drive package, for example, results in additional heat input into the system. In the case of fully electric drive concepts for heavy-duty traffic in particular, high torque requirements have to be taken into account so that high forces can be transmitted within a few and compact transmission stages.

## Working Points

- Literature research on the design of fully integrated electric drive systems and their components
- Expansion of already existing approaches to housing dimensioning and implementation of an automated optimization process
- Validation of the results within the ELV² research project

## Requirements

- Good reading and writing skills in English and German
- Reliability, commitment and enjoyment of working independently
- Interest in the development of future electrified drive technologies

## Department

Drivetrain

## Contact

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## Language

German or English

## Entry Date

Earliest possible date

## Prior knowledge

Matlab

Projekt "Concept ELV²"