Chair of Production Engineering of E-Mobility Components
RWTH AACHEN UNIVERSITY

Lehrstuhlleitung: Prof. Dr.-Ing. Günther Schuh
Besuchen Sie uns: www.pem.rwth-aachen.de

NEXTGEN Powertrain

Bachelor/Master thesis

Analysis of the potential of design-for-recycling for assemblies in the electric powertrain

Initial situation:

The Electric Powertrain group of the PEM Institute of the RWTH Aachen University deals with the construction of prototypes and the start-up planning of electric traction machine production.
The use of new materials and alternative manufacturing methods poses challenges which have to be considered in the course of prototype construction and start-up planning for series production. In addition, the last part of the life cycle is of particular interest due to the nature of the materials used in electric and hybrid drive systems. In particular, recyclability must be taken into account when introducing electric vehicles onto the market. The reuse of permanent magnets and copper is a priority in current research projects, but this can be expanded.

Your task:

Your task is to characterize the main construction groups of traction motors. Subsequently, their recyclability potential via manufacturing process or geometry optimization should be analyzed on factors like cost, disposal effort and recovered material share. Finally, this analysis is used to develop a methodology under the keyword "Design-for-recycling".

Your profile:

- Studies in mechanical engineering or industrial engineering (or comparable)
- Motivation and commitment
- Very good knowledge of German and English
- Ability to communicate & work in a team
- High level of commitment and initiative
- Good Excel and CAD knowledge are an advantage

Our offer:

- Comprehensive support
- Delimited tasks
- Close cooperation with an industrial company
- Collaboration in a young, dynamic project team

Are you interested?

Please send a current transcript of grades, curriculum vitae and certificates together with a letter of motivation to the email address below.

Your contact at PEM:

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