



Masterthesis

Circular flow of lithium ion batteries

Unser Profil:

The Topic e-mobility gains a lot of importance und has the potential to create a disruptive change in the automotive industry. For this reason especially OEMs have a lot of new tasks. They need to face the challenge to manage the transitional period from conventional combustion engines to electrified mobility and think about sustainability of the concepts during the development with foresight. Therefore a consideration of disassembly, recycling, remanufacturing and second-life topics during early stages of concept selection is crucial and important. However the connections and effects of the process chains and the interactions between the stakeholders are not established and fully researched. There lies a fundamental insecurity regarding the efficiency of such approaches. Particularly the battery as the most expansive component and critical factor for quality, offers a huge potential to raise the sustainability und lower costs by using recycled material or Second-Life applications.

Your task:

A functioning closed-loop economy is characterized by the cooperation between all companies that take part in the value chain with a special focus on disassembly, preparation and reverse-supply-chain processes. Your task is to identify the companies and stakeholders that take part in the circle-loop process, to analyze them und link them in a model, so a figure of a perfect circular economy is the main topic of your work. The focus is put on the analysis of the stakeholders and the deduction of suitable evaluation criteria in efficiency, sustainability and quality. Since you have an international background, your focus is the economy in your home region (e.g. China, India, South-America).

Your profile:

- Motivation and commitment
- Very good communication skills
- Interest in e-mobility & sustainability
- Independent & accurate way of working

What we offer:

- Future topics of sustainability and e-mobility
- Interesting new research fields with many development and design possibilities
- Comprehensive support
- Fast processing time
- Expert insight in automotive production and e-mobility concepts
- Independent execution of an exciting project

Re-xxx



Re-Use

Remanufacturing

Recycling

Burning

Waste



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