

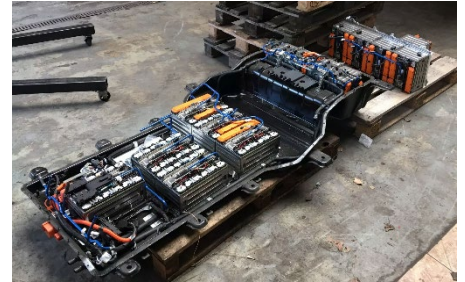
Master thesis



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Handling of end-of-life automotive high-voltage battery systems

Manipulation of used, worn out or damaged high-voltage battery system represents a risky task because of danger that comes with electric shocks and the high reactivity of lithium-ion battery technology. Various legislative prescriptions and industrial guidelines of battery handling exist, but there is no comprehensive process described that supports involved emergency-, wreck transportation- and service forces. In this way, broken down electric cars often have to be treated with extensive rescue systems and specified experts, which leads to high risks, increased costs and long processing durations. In this context, the present master thesis project aims to an analysis of existing regulations and guidelines, the identification of requirements for improvements and the definition of new measures and procedures with the target to support safe and effective handling of damaged automotive high-voltage battery systems.

Working tasks

- Study of literature, legislative requirements and guidelines for used, worn out and damaged high voltage battery - treatment.
- Analysis of related procedures and guidelines defined by car manufacturers, battery supplier and waste management industry.
- Summarization of the state-of-the art of damaged battery system handling. Definition of additional requirements and needs for achieving safe and robust treatment processes.
- Creation of innovative solutions that support safe handling of damaged battery systems including battery identification, data processing, and protection of manipulating staff.
- Documentation and presentation of the work.

Duration: ca. 6 months

Remuneration: € 3.000,-

Language: German and / or English

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