

# Topic: Business models and its underlying analyses for 2nd-life Li-ion traction batteries from multiple perspectives

**Start:** Immediately (duration approx. 6 months)

**Location:** flexible

**Supervisor:** Florian Ratz



## Problem definition / goal:

The market share of battery electric vehicles (BEVs) is growing rapidly worldwide. Powerful Li-ion traction batteries are crucial for the performance and range of BEVs, but also a significant cost factor – as they account for about one-third of the total value of a BEV. Therefore, it is important not to simply dispose of or recycle these batteries after their use in the vehicle (1st-life), but to put them to further use (2nd-life) if possible. The focus of the international project SafeLIB is on increasing the safety and reliability of Li-ion batteries used in mobile and stationary applications but also analyzing the key business aspects. The goal of this thesis is to investigate the utilization of these batteries guided by the following list of tasks:

## Tasks:

- Definition und description of the taken perspectives (car-operator, refurbisher, 2nd-life-operator) within the battery life cycle
- Identification of necessities for a successful business with 2nd-life traction batteries (for AGVs and ESSs)
- Analysis of market situation/business requirements for the usage of these batteries applying pre-evaluated BM patterns
- Investigation of the products' value proposition from multiple perspectives

**Requirements:** Courses General Management and Organisation, Business Model Management, and Technology Management desired but not mandatory

**Field of study:** preferably Mechanical Engineering and Business Economics, Production Science and Management, or Software Engineering and Management

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**Payment:** currently being clarified

**Have I aroused your curiosity?** Then please send me your detailed application (CV & Transcript of records). I am looking forward to your submission!