

SUSTAINABILITY IN VEHICLE REPAIR PROJECT STUDY



Transition to sustainable development brought the automotive industry to the adoption of battery-based vehicle technologies. While research on the benefits of switching from internal combustion engines (ICE) to electrified vehicles (EV) focused on fuelling is growing, the analysis comparing EVs with ICEs in terms of use and the end-of-life phase has been limited. To fill in this gap, we propose to apply the **Life Cycle Assessment (LCA)** and study how vehicle **repairs** captured in insurance claims translate into EVs sustainability.

OBJECTIVE

- checking repair and replace practices, you will identify analogues to compare EVs with ICE vehicles
- looking into the details about materials and practices of repairs, you will characterize their main ecological impacts
- considering a particular battery type, you will determine how different operational regimes (e. g. vehicle-to-grid operation) and end-of-life treatments (e. g. second-life approaches, material recycling or waste disposal) influence LCA results.

You will be guided by the practitioners and benefit from hands-on collaboration with one of the world's leading insurers during this project study. You will get insights into the **globally oriented sustainability work** within Allianz SE and learn about **technology and repair- oriented approaches** of the Allianz Center for Technology.

If interested in participating in this project study at the TUM School of Management, Center for Energy Markets in collaboration with Allianz SE and Allianz Center for Technology, please send your application including a **CV**, **Transcript of Records**, and a **Letter of Motivation** exclusively by e-mail to niclas.kurzmann@tum.de.

YOUR PROFILE

- interest in sustainability topics and familiarity with life cycle assessment concept
- knowledge about EV technology, automotive challenges, and the insurance sector *is a plus*
- have good communication skills, eager to work independently, appreciate flexibility
- study focus is Management and/or Engineering (or similar fields)
- proficiency in written and spoken English, German *is a plus*

The application **deadline is May 5th** and the project will **start in mid-May** in a team of **two to five students**. The following mandatory elements are considered when grading: a **final report** about the project study (approximately 20 pages), a **final presentation** (including a brief Q&A part) and the quality of the **project outcome**.

Smaller individual changes to the specifications are possible after consultation.

