

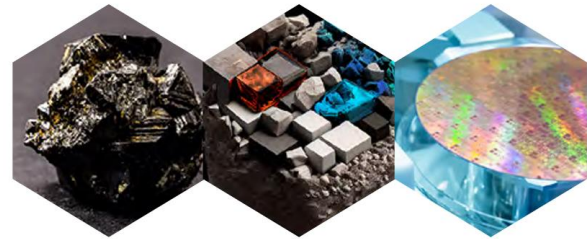
Critical raw materials and their implications for the commercial vehicle sector

Initial situation

Uncertain and volatile market conditions, legislative influences and the integration of circular economy approaches are creating new challenges in the development of commercial vehicles with regard to the use of resources. To meet these challenges, the consideration of critical raw materials is of increasing importance. Within the research project "Application Potentials of the Circular Economy in the Commercial Vehicle Sector", the topic of critical raw materials will be investigated in regards to the material composition of trucks and buses.

Objectives and procedure

- Thematic familiarization with critical raw materials, the (commercial) vehicle industry and material compositions of commercial vehicles (literature research).
- Research on multi-criteria evaluation methods
- Categorization of critical raw materials, analysis and classification of relevant evaluation criteria and future scenarios
- Development of a methodology to evaluate different risk levels and risk scenarios
- Application of the methodology to materials used in commercial vehicles (list of materials will be provided)
- Documentation and writing of a scientific thesis with possibility of publication



Picture: Rare earths, lithium, cobalt, nickel and silicon as examples of critical raw materials

Requirements

- Interest in methodology development
- If possible, experience in the vehicle sector, circular economy, risk management
- Independent and structured way of working
- German is not specifically required but is seen as a plus

Ideally, the work is to be completed as a master's thesis. The expected start date is 15.09.2023 or 01.10.2023 . The supervising chair is the Chair of Materials Handling, Material Flow, Logistics under Prof. Fottner and the according research project is called "Application potentials of the circular economy in the commercial vehicle industry".

Contact

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