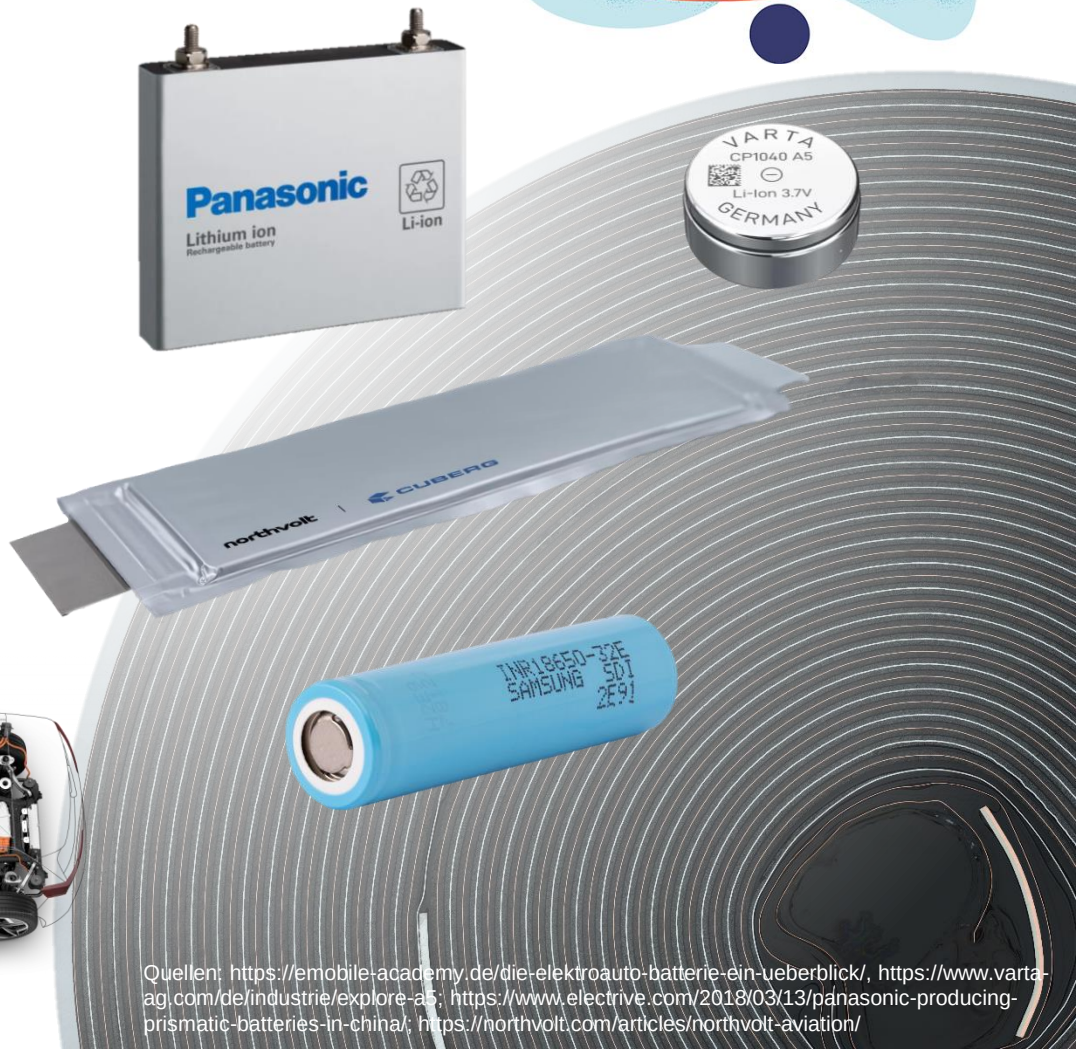
Research topic Lithium ion batteries

Microstructure analysis of Li-ion batteries

Goals and your tasks:

The energy transition is currently one of the biggest challenges facing our society. Efficient battery systems for storing energy from renewable sources and using it in e-mobility are a fundamental component for success. The manufacturing quality and ageing behaviour are particularly relevant for the safety of these battery systems. Lithium-ion batteries are currently widely used, but there is still a significant need for research and development.

You will investigate the microstructure of lithium-ion batteries and their components and analyse the effects on cell performance and safety. In doing so, you will use various microscopic analysis methods such as computed tomography, x-ray microscopy, light microscopy and scanning electron microscopy.



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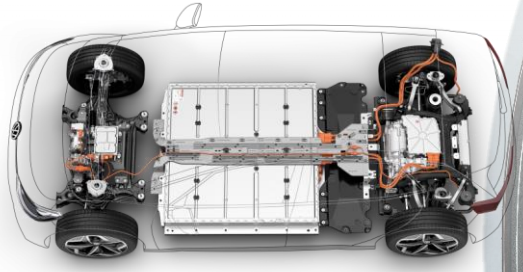

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Quellen: https://emobile-academy.de/die-elektroauto-batterie-ein-ueberblick/, https://www.varta-ag.com/de/industrie/explore-a5; https://www.electrive.com/2018/03/13/panasonic-producing-prismatic-batteries-in-china/; https://northvolt.com/articles/northvolt-aviation/