

## Development, analysis, and optimization of high-performance ASSBs

### Battery storage - key technology for electromobility

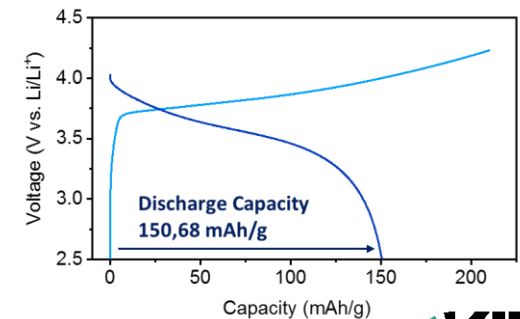
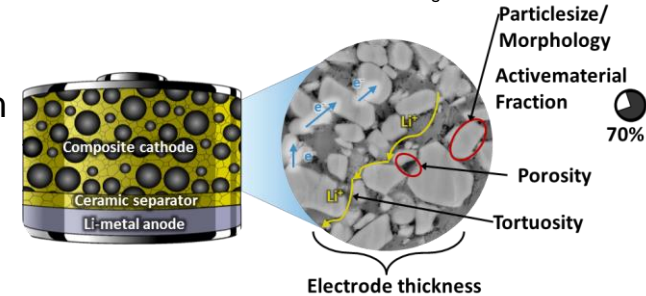
The development of all solid state batteries (ASSBs) which would help in overcoming the main problems of conventional batteries containing liquid electrolytes, i.e. (i) safety concerns- explosion or fire due to leakage, (ii) low energy density- impossible to use Li as anode.

In recent years, the IMFAA at Aalen University of Applied Sciences has set up an excellently equipped battery laboratory in which conventional LiB and ASSB materials can be analyzed, electrodes manufactured, built into batteries and then performance tests conducted. In research projects with well-known partners, following topics are of interest;

- Synthesis of solid electrolyte powders (e.g.  $\text{Li}_6\text{PS}_5\text{Cl}$ ,  $\text{Li}_{6.4}\text{La}_3\text{Zr}_{1.4}\text{Ta}_{0.6}\text{O}_{12}$ ).
- Manufacturing of ceramic separators and composite cathodes.
- Electrochemical characterization of electrolytes, electrodes and cell
- Microstructure-property relationship investigations and innovative manufacturing processes for composite cathodes.



Der neue VW ID.4 Quelle: Volkswagen



Zukunftsweisende Forschung in den Batterielaboren am IMFAA

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