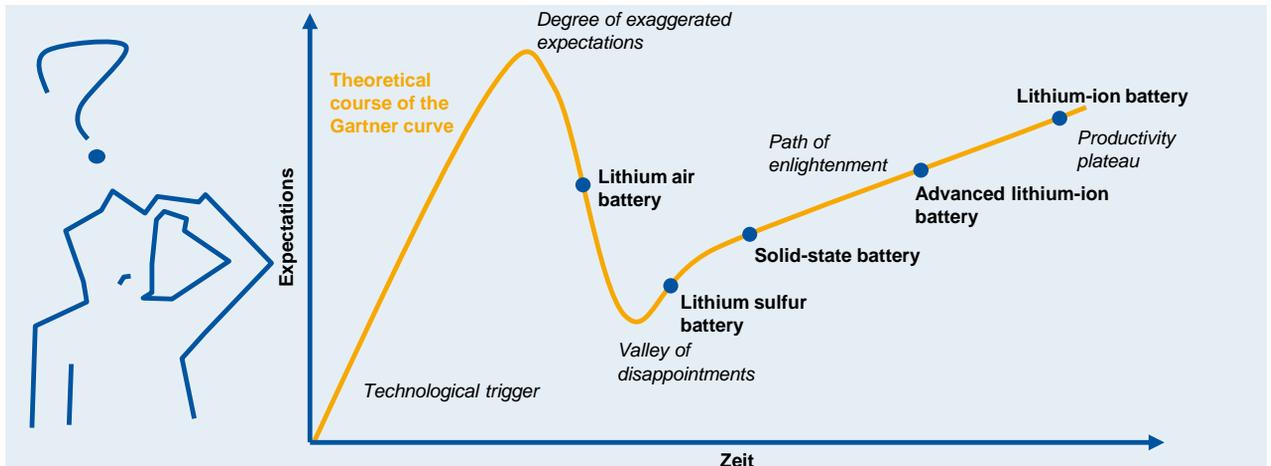


Master thesis / Bachelor thesis

Investigation of product and process interdependencies of solid-state batteries.



Source: PEM

Initial situation:

Battery technology will be one of the key technologies for sustainable mobility and energy storage in the coming decade. The current focus is on the lithium-ion battery (LIB), in which liquid electrolytes are used. A promising future battery system is represented by the solid-state battery. The liquid electrolyte can be substituted by a solid state electrolyte. Research is currently focusing on the product properties on the one hand and on the production technology of the solid-state battery on the other. However, adequate consideration of product and process interdependencies has hardly been considered in detail. This investigation is imperative if the market breakthrough for the solid-state battery is to be achieved.

Your task:

In the context of this thesis, the overall task is to investigate the product and process interdependencies of the solid-state battery. The quantification of interactions and uncertainties between product and process allow far-reaching conclusions regarding the expectations towards the solid state battery. For this purpose, a detailed research on the state of the art will be conducted as a first step. Based on the research, a model is to be built, with the help of which various influencing factors and interactions between product and process can be revealed. The created model shall deepen the product and process understanding. Finally, an outlook on the further development of the solid-state battery will be given.

Your prerequisites:

- Degree in (industrial) engineering (or comparable)
- Ability to structure and develop content independently
- Very high motivation
- Commitment and willingness to learn

We offer:

- Professional and intensive support
- Flexibility in the formulation of topics
- Insights into future technologies of battery production
- Independent execution with meetings via MS Teams

Interested?

Please send a current transcript of grades as well as your resume and references to the e-mail address below.

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