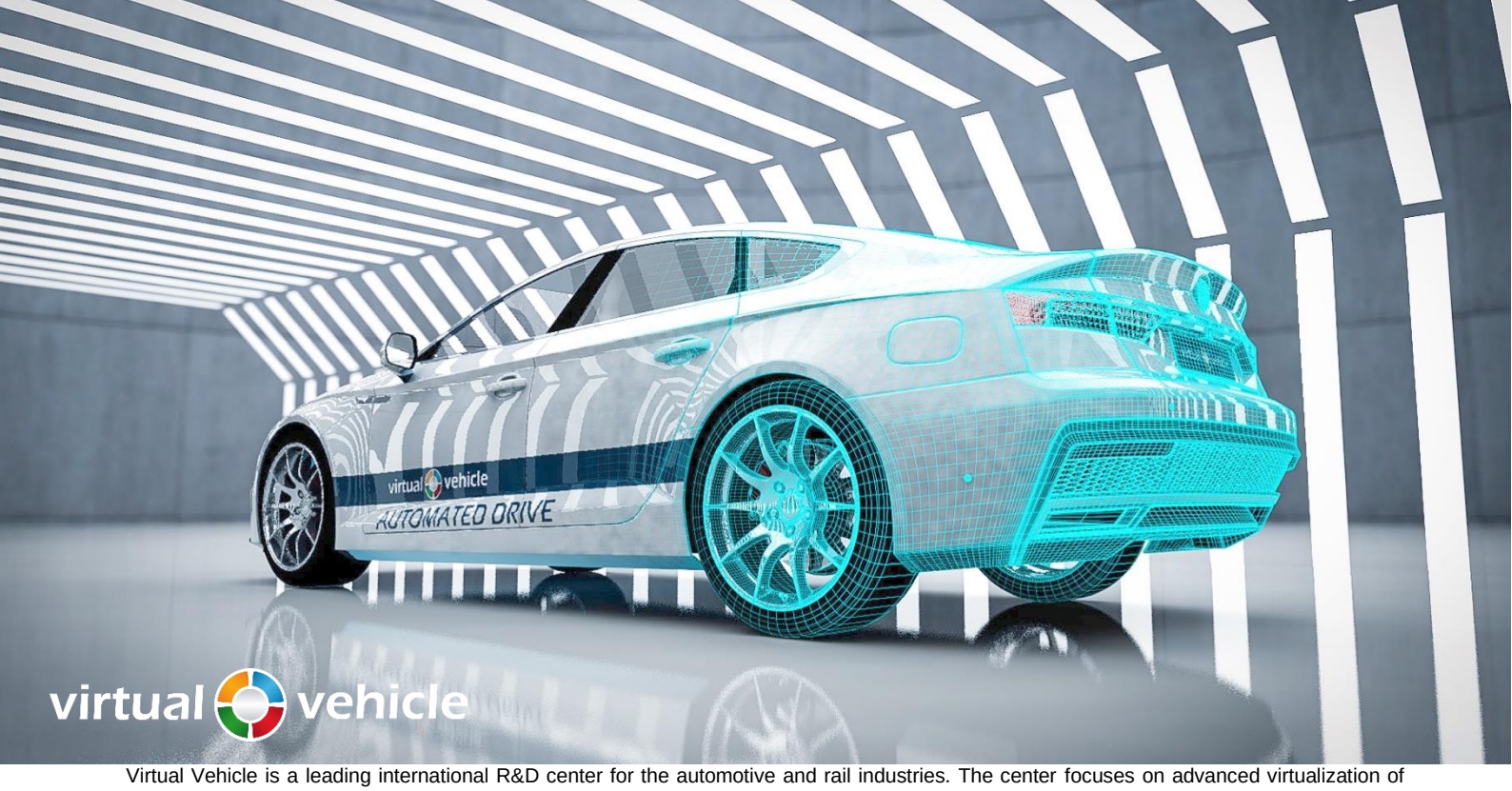


Virtual Vehicle is a leading international R&D center for the automotive and rail industries. The center focuses on advanced virtualization of vehicle development. This linking of numerical simulations and hardware testing leads to a powerful HW-SW system design.

Master Thesis

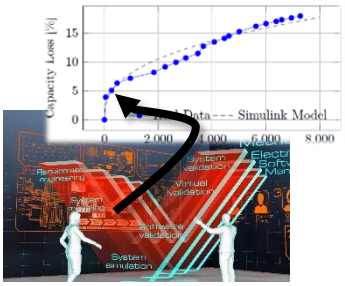
"Design Stage Prediction of Ageing Behavior of Li-Ion Automotive Batteries"

Ref.Nr. E_130

Master Thesis

In the field of E-mobility and hybrid technology, exact simulation and prediction of lithium-ion cell behavior is paramount. To determine this behavior, ageing experiments have been conducted on many different cell technologies.

Within this thesis, a composite battery model of quasi-stationary and dynamic behavior, as well as long term ageing behavior shall be devised utilizing available measurements. Finally, the model shall enable the prediction of ageing behavior during early design phase.



TASKS

- Familiarize with Li-Ion battery systems
- Research Literature and existing models
- Design/Implement the system in Matlab Simulink or Python
- Validate approach using available data

PROFILE

- Study
  - Electrical Engineering,
  - Information & Computer Engineering,
  - Computer Science, or similar
- Experience in Matlab Simulink and/or Python
- Initiative, independent work in subtasks

OFFER

- Collaboration and contribution in an engaged, dynamic team
- Interesting work in an international research center
- **Paid** Thesis
- Mentoring program for new employees
- Diverse sports and health activities regularly
- Corporate Events

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