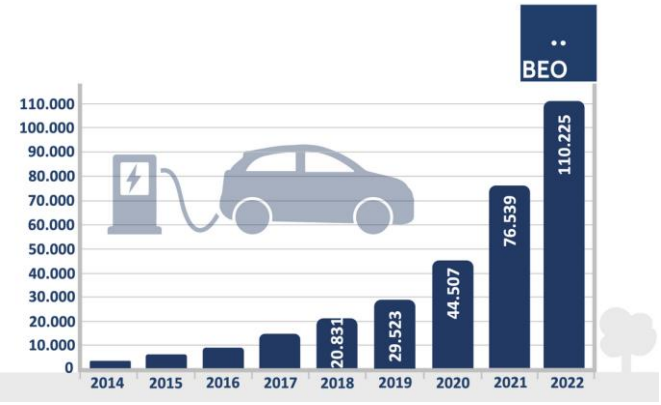
Graz University of Technology
Erzherzog-Johann-Universität

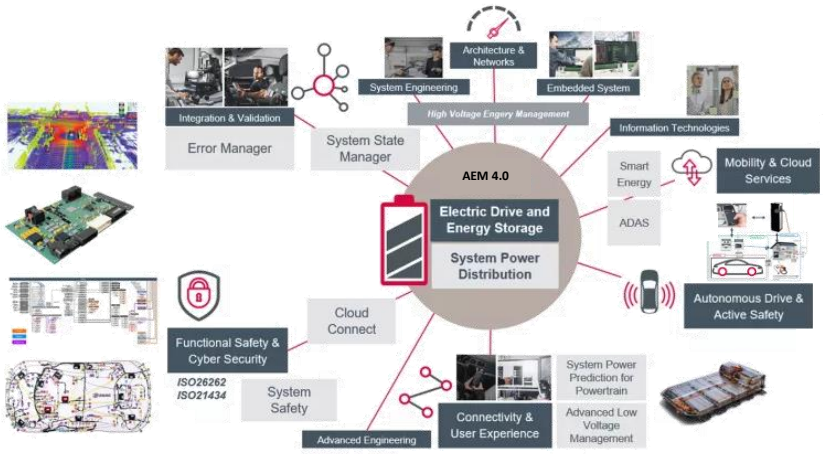
Institute of Automotive Engineering

Open Position – Ph.D. Project

Optimizing energy management for battery electric vehicles: A key to greater range and higher efficiency



source: beoe.at/bestand/



source: all-electronics.de

Motivation & Goals:

From 2035, no new vehicles with internal combustion engines will be allowed in the EU. For this reason, development efforts are focusing on battery electric vehicles (BEVs). A major disadvantage of BEVs compared to internal combustion engines is their range. To improve the range of BEVs, optimal energy management is an important prerequisite. This will be developed in the Ph.D. project in collaboration with an industrial partner.

Work packages:

- Increasing the range while at the same time reducing energy consumption
- Improving energy efficiency through suitable optimization measures and optimized operating strategies, taking into account all consumers in the vehicle
- Concept development “energy management of the future”, e.g.:
  - Development of learning algorithms for eco-tips
  - Connection of smartphone and connectivity interfaces
  - Optimized route planning
- Optimization of vehicle & system operation strategy
- Implementation of the results in industrial development and engineering processes

Requirements:

- Completed Master's degree in the field of mechanical/mechanical/industrial engineering, computer science, electrical engineering, telematics, or similar).
- **Very good knowledge in the field of mechatronic components** (e.g., sensor-actuator-lines, µC)
- Advantageous: **Programming skills** (VB.NET, VBA, Java, Python, MATLAB, or similar)
- Structured and independent way of working and interest in the **complete vehicle**, **vehicle development** and **future technologies**

Salary: € 3.277,30 gross
Start: From now
Duration: 3 years

Contact: Research Group Virtual Product Development
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