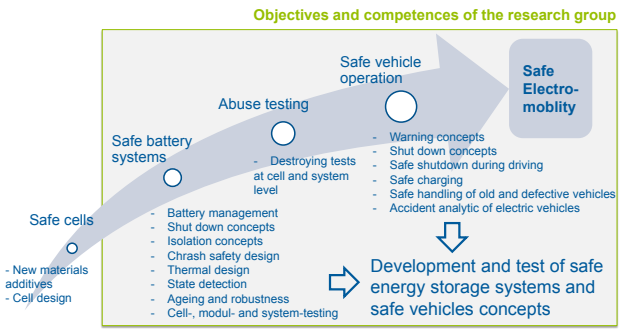
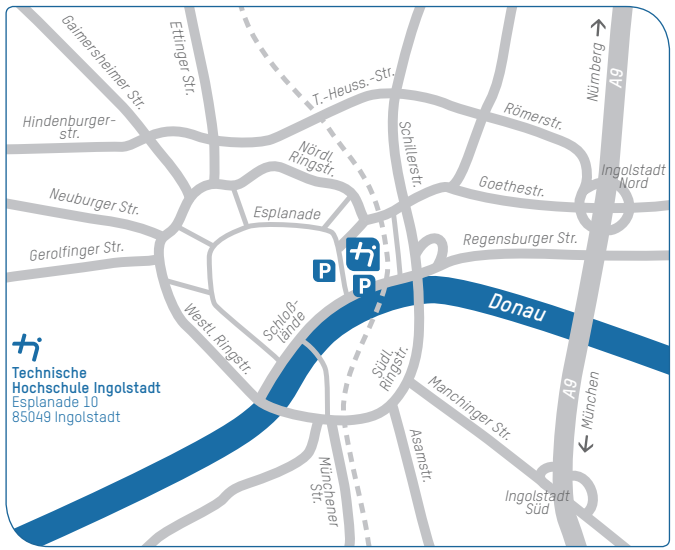
Research group Safe Electromobility

Our research group develops methods and technologies supporting safe electromobility including the safety of battery systems, abuse testing to study battery behavior outside safe operating conditions, and concepts of safe vehicle operation:



The research group follows an holistic approach towards safe batteries and safe electromobility. On battery system level, new methods for parameter determination of batteries are developed, as well as new concepts for the improvement of safety of battery systems. The group operates various test equipment, from cell to battery systems test benches up to a battery abuse area. Beside battery cells, all safety relevant components of battery system, e.g. fuses, contactors, and BMS electronics are on the focus of our research. In addition, safety aspects of battery system design is part of our research. On vehicle level, we examine safety relevant topics, e.g. firefighting, safe recycling, and safe handling of vehicles after accidents. Beside these topics, we develop new education programs (Bachelor, Master, and executive training) in the field of electromobility. The group is also interested in building a network for safe energy storages.

Information and Contact



Parking facilities are available at the underground car park "Am Schloss" or "Congressgarage".

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CARISSMA
Automotive Safety Research

SENSE BAY –
Safe Electric Energy Storage Systems Bavaria

Networking for Innovation

European Union
European Regional Development Fund

Technische Hochschule Ingolstadt

Overview

Efficient and safe electrochemical storage systems are of central importance for a successful energy transition and electromobility. However, the ever-increasing energy densities of the systems pose risks in production, storage and operation, which lead to a great need for innovations in the field of safety.

SENSE BAY – Safe Electric Energy Storage Systems Bavaria

- promotes networking of actors in the area to generate innovative business models and services,
- supports the cooperation of companies along the value chain as an important feature of success,
- tests the newly developed concepts at cell or module level to examine their suitability for practical use.

For more information www.thi.de/go/sensebay

Project kick off meeting at THI (20.04.2018)

Facts at a glance

- Funded by: EFRE - European Regional Development Fund
- Volume: 1.122.805 €
- Time frame: 01.03.2018 – 28.02.2022

Research

SENSE BAY supports the establishment of collaboration between industry and academia to generate new business ideas and thus the development of a leading Bavarian position in research and technological development in the field of electrochemical energy storage.

Areas of research

- Battery development
- Testing
- Measuring technology
- Application and disposal

Facilities

- Testing of battery cells (cell tester 0 to 5 V, 800 A), modules (high-current test bench, 0 to 60 V, 4000 A, 240 kW) up to large high-voltage battery systems (high-voltage test stand, 50 to 800 V, 500 A, 150 kW)
- Temperature and climatic chambers
- Abuse testing: mechanical, electrical, and thermal tests, as well as fire extinguishing tests including monitoring and analysis of fire water via ion chromatography

Short circuit test THI

Company partners

- Alpin Engineering GmbH
- Audi AG
- AVL Deutschland GmbH
- Bernd Willer Ingenieurbüro
- eCHARGE Hardy Barth GmbH
- ELOGPlan GmbH
- e.telligent GmbH
- Gustav Klein GmbH
- Innofas GmbH
- ip3 | Ingenieure mit Partner GmbH
- Kratzer Automation AG
- LION Smart GmbH
- Paul Müller Transport- und Verpackungsmittel GmbH
- RegLas Ingenieurbüro
- Sedlbauer AG
- SKH GmbH
- TÜV Süd Battery Testing GmbH
- ZAHNER-elektrik GmbH Co. KG