

Diversified Consortium

Institute of Particle Technology

Manufacturing of electrodes and manual cell assembly (full and half cells)

Institute of Machine Tools and Production Technology Stacking and wrapping of electrodes, cell housing

Institute of Energy and Process Systems Engineering
Simulation, electrochemical analysis and diagnostics

Institute of High Voltage Technology and Electric Power Systems

Formation, ageing and performance tests

Institute of Environmental and Sustainable Chemistry Electrochemical characterization

Institute for Engineering Design

Design methods, production planning and development

Institute of Joining and Welding

Confectioning, contacting and cell sealing

Physikalisch-Technische Bundesanstalt Braunschweig Metrology, measurement technique, standardization, traceability

Visitor Address

Battery LabFactory Braunschweig Langer Kamp 19, 38106 Braunschweig

Further Information:

www.tu-braunschweig.de/blb

Scientific Director:

Prof. Arno Kwade

Technische Universität Braunschweig Institute of Particle Technology (iPAT)

Volkmaroder Str. 5, 38104 Braunschweig

Phone: +49 (o) 531 - 391 9610 Fax: +49 (o) 531 - 391 9633

E-Mail: a.kwade@tu-braunschweig.de

Executive Board

Research and Development

Dipl.-Ing. Wolfgang Haselrieder

Phone: +49 (o) 531 - 391 94659 Fax: +49 (o) 531 - 391 9633

E-Mail: w.haselrieder@tu-braunschweig.de

Organisation and Communication

Jens Geissmann

Phone: +49 (o) 531 - 391 94658

Fax: +49 (o) 531 - 391 9633

E-Mail: j.geissmann@tu-braunschweig.de



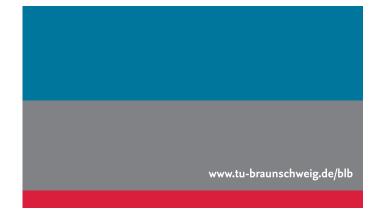






AN INSTITUTION OF





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Unique Characteristics

- Representation of the entire process chain for the automatized manufacturing of large scale battery cells
- 1,000 m² development centre with 160 m² dry room for the systemic research of electrode- and cell manufacturing processes.
- Scientifically sound knowledge of electrode and battery cells production on industrial level since 2008
- » Freedom of design more than 1,000 possible variations of electrode- and cell production configurations
- Production and process associated experimental and modelbased analysis
- » Incorporation of mechanical-, process-, electrical engineering and (electro)chemistry
- Seven institutes of TU Braunschweig and PTB Braunschweig in cooperation with industrial companies
- Cooperation with Niedersaechsisches Forschungszentrum Fahrzeugtechnik (NFF) in the subjects of automotive integration, lightweight design

Core Competences

- Excellence in process engineering along the entire value adding chain
- » Custom-made and reproducible production of electrodes / cell structures
- » Customizing individual and application-specific electrodes and cells incl. manufacturing of demonstrators
- » Development of next generation battery technologies
- » Diagnostics and metrology
- » Physical / electrochemical modelling and simulation
- » Development of recycling processes for batteries and electrode production waste
- Life-cycle-analysis energy monitoring along the process chain and production environment

Aims

- » Establishment of reproducible production processes und profound material- and process knowledge
- Evaluation of impacts of production-related processes on quality, costs, energy demand and performance of the battery
- Development of mechanical and installation engineering in cooperation with industry
- » Increase of energy density, quality and safety
- » Testing of new materials and cell designs
- Verification of alternative manufacturing processes and of new battery technologies

