



From motorboat to sweeper

A battery system for various applications

It would be very beneficial if completely different electrical types of vehicle such as forklift trucks, lightweight vehicles, sweepers and floor cleaning machines as well as motorboats could be powered by a standardised battery system. The batteries could then be used in all applications up to a home energy storage system in a cost efficient and environmentally efficient way. No sector-specific development is necessary. Scientists from the research and subject area Technical Design at the Institute for Design Technology and Technical Design (IKTD) at the University of Stuttgart are jointly working with nine reputable partners from research, industry and standardisation on making this vision possible.

Through the development of a standardised basic model on the basis of modern lithium-ions technology, the battery system could be put together depending on the application and the requirements in accordance with the modular principle. Only the outer interfaces of the modules are standardised, the interior is not specified. Thus new battery cells and cell formats can also be integrated at a later stage. In this way the use is possible for many different applications. If a battery is not used in a mobile way, the integration in a home energy storage system is conceivable.

Easy to use and manufacturer-independent design

The researchers from IKTD are concentrating on developing using the module according to ergonomic standards and ensure that even lay people are able to use it confidently. A possible change of battery should be able to be done by hand or alternatively in an automated way. Everybody should be able to operate the battery system intuitively.

University Communication

Head of University Communication
and Press Spokesperson
Dr Hans-Herwig Geyer

Contact
T 0711 685-82555

Contact person
Birgit Vennemann

Contact
T 0711 685-82122
F 0711 685-82291
hkom@uni-stuttgart.de
www.uni-stuttgart.de



Moreover, the team from IKTD is designing a manufacturer-independent, specifiable and timeless design. In this way individual creative leeway is on offer for companies that wish to use this. In spite of the standard with clear recognition value for operating personnel, manufacturers should have the possibility for their own design integration in the corresponding product system. Since along with the ergonomics the design of the module is significant for the broad acceptance of a standard battery system.

The project planned for a term of three years (term from 1st December 2016 until 30th November 2019) BaSyMo (Battery system for modularity) is being funded by the Federal Ministry for Economic Affairs and Energy (BMWi).

Partners: ElringKlinger AG, Sensor-Technik Wiedemann GmbH, Phoenix Contact GmbH & Co. KG, Alfred Kärcher GmbH & Co. KG, HIT Hafen- und Industrietechnik GmbH, University of Stuttgart, Institute for Design Technology and Technical Design as well as the DLR-Institute for Networked Energy Systems (DLR-VE).

Associated partners: DKE Deutsche Kommission Elektrotechnik, Forschungsvereinigung Antriebstechnik e. V. (FVA).

Contact

Matthias Fischer, University of Stuttgart, Institute for Design Technology and Technical Design, Tel: +49 (0) 711 685-66041, E-Mail: matthias.fischer@iktd.uni-stuttgart.de.