



The mission of the battery test center is to conduct performance, lifetime, endurance, and safety tests on cells, modules, and batteries designed for portable, mobile, and stationary energy storage systems. A great deal of effort is devoted to characterizing batteries under various operating conditions and studying their behavior in response to abuse and crash.

“In the eLaB we investigate, test, and analyze batteries and systems according to standards or by new innovative methods.”

Dr. Harry Döring, Head of Department



// Contact:

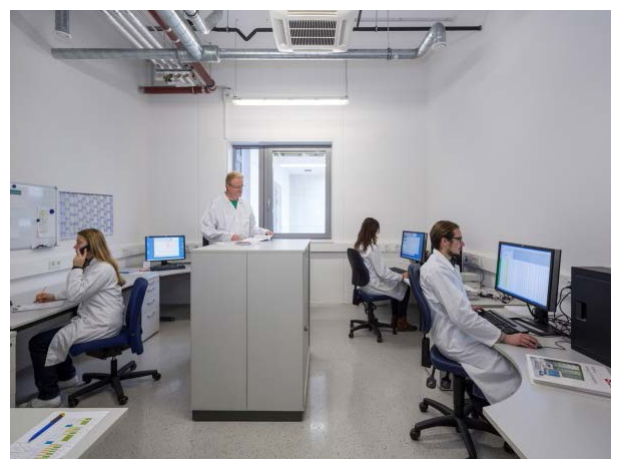
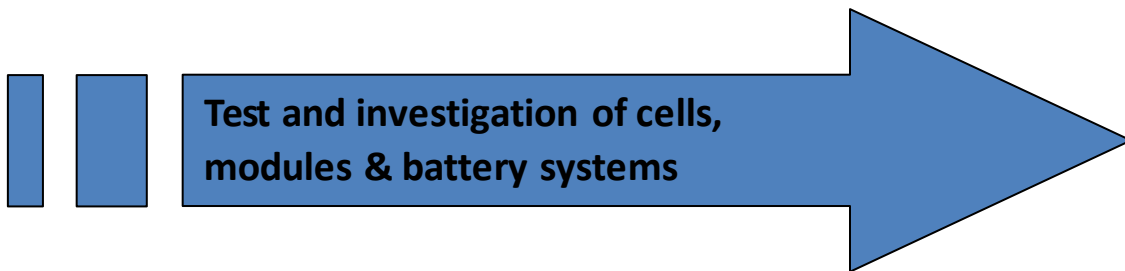
Dr. Harry Döring
 Head of Department Accumulators
 Phone: +49 731 9530-506
 Email: harry.doering@zsw-bw.de

Zentrum für Sonnenenergie- und Wasserstoff-Forschung Baden-Württemberg (ZSW)
 Lise-Meitner-Straße 24 / 89081 Ulm / Germany
 Phone: +49 731 9530-0 / Fax: +49 731 9530-599 / <http://www.zsw-bw.de>



// ELECTRICAL TESTS

Battery tests can be done under normal conditions and in extreme temperature conditions. We test Hybrid- / Battery vehicles (HEV; BEV), PV-application and stationary applications-



// EQUIPMENT AND INFRASTRUCTURE



Li-Hybrid Module - Single cell measurements - 400V-Li-Hybrid System

Battery Packs

- 7 test rooms with safety monitoring
- 11 Battery test units
 - 1x 1000V/400A/320kW with data logging system (128x0...5V, 32xTyp K Temp), 1xCAN
 - 1x 600V/3x300A/3x80kW, 2Q, short time 135kW (30sec), I_{max}400A, parallel operation possible (max. 900A, 1200A peak. (30sec.)), data logging 24x0..10V, 16 Typ K Temp, 2xCAN
 - 4x 600V/2x300A/2x80kW 2Q, short time 135kW (30sec), I_{max}400A, parallel operation possible (max. 600A, 800A peak. (30sec.)), data logging 48x0..20V, 16 Typ K Temp, 2xCAN
- 1x 500V/2x250A/2x50kW, 2xCAN
- 1 temperature room VTZ 40088/S (for complete car)
- 9 temperature chambers
 - 1x VTS 7130-15 (rapid Temperature change, 15K/min: 1300 l, -70°C/+180°C)
 - 6x VT 4150 (1500 l, -45°C/+180°C)
 - 2x VT 7150 (1500 l, -70°C/+180°C)
- 1 Impedance meter Gamry for use with Battery Tester 1000V/320kW Tester

Modules

- 8 test rooms with safety monitoring
- Battery test units:
 - 1 test unit 600V/400A 60kW, additional 128x0...5V logging system and 32xTyp K
 - 1 test unit 500V/300A 65kW, additional 128x0...5V logging system and 128xTyp K
 - 50 test units 100V/50A (parallel operable max. 250A) with data logging
 - 2 test units 100V/350A (parallel operable max 700A), fast, with data logging

- 2 test units 60V/150A
- test units 150V/600A
- test units 70V/220A
- test units 60V/200A (500A 10 sec peak), 2xCAN
- 7 temperature chambers:
 - 5x 1000 l, -40°C/180°C
 - 1x 1000 l, -70°C/180°C
 - 1x 1000 l, -40°C/180°C
- 1 impedance meter
- 1 high accuracy – mΩ-meter

Cells

- 8 test rooms with safety monitoring
- Cell test units:
 - 12 x 6V/200A, I_{max} 300A for 10s (parallel operable), with data logging system
 - 40 x 18V/50A (parallel operable max. 250A) with data logging system
 - 32 x 10V/150A (parallel operable max. 600A) with data logging system
 - 2 x 10V/400A (parallel operable max. 800A), fast, with data logging system
 - 4 x -5V...20V/750A (parallel operable, I_{max}=3000A)
 - 24 x 0.5V-4.5V/50A
- 25 temperature chambers
 - 13 x 400 lit., -40°C/180°C
 - 12 x 200 lit., -20°C/85°C
- 1 Impedance meter
- 1 high accuracy mΩ – meter

// Contact:

Harald Brazel
Head of Electrical Tests / Department Accumulators
Phone: +49 731 9530-504 / Email: harald.brazel@zsw-bw.de

Zentrum für Sonnenenergie- und Wasserstoff-Forschung Baden-Württemberg (ZSW)
Lise-Meitner-Straße 24 / 89081 Ulm / Germany
Phone: +49 731 9530-0 / Fax: +49 731 9530-599 / <http://www.zsw-bw.de>

