



2026

BATTERY CELL TESTING SERVICE WITH EXCELLENCE

Leverage the battery to win!

www.sphere-energy.eu

About Us

Located in Großaitingen near Augsburg, our Technology Center supports testing across all development stages. We characterize cells, small packs, and modules under controlled conditions, translating electrochemical, thermal, and mechanical behavior into measurable and comparable results.

Our processes ensure consistency and traceability, delivering structured datasets ready for validation, modelling and performance assessment, supporting informed technical decisions throughout development.



From **cycle life** and **calendar aging** to **high-power performance** and **HPC testing**, the center provides precise measurement across multiple parameters. All operations comply with ISO 17025, while management and security follow ISO 9001 and TISAX standards. To ensure these results are immediately actionable, technical support provides robust, ready-to-use datasets in various formats (mf4, .csv, .xlsx, or custom), minimizing the need for client-side post-processing.

Battery Testing

In-Depth Insights for Advanced Battery Development



Large test capacity

1,200+ channels from R&D to commercial benchmarks.



Up to 1600A channels

High-capacity cyclers for energy storage and industrial use.



Controlled Conditions

Climate chambers simulating environments from -40°C to +80°C.



Smarter Diagnostics

EIS, thermal analysis, swelling and pressure monitoring systems.



Automated data process

Raw or processed data in any format for seamless validation.

We measure electrochemical, mechanical, and thermal behavior and translate it into practical parameters for range, fast charging, safety, and lifetime. Our lab is equipped with high-precision cyclers, pressure and swelling analysis tools, and multi-point thermal monitoring, enabling testing from early chemistry benchmarking to full module validation.

Our facility uses High Precision Coulometry (HPC) to study cells and modules with stable and accurate current control. By revealing these fine details, HPC shortens development cycles, improves lifetime predictions, and deepens our understanding of cell behavior under realistic operating conditions.

This includes evaluating pressure pad designs, stack layouts, and thermal management strategies, giving a clear picture of battery performance under real conditions.



Battery Validation

UN38.3 & CB-Precompliance Testing (IEC 62619, IEC 62133-2)

Battery validation can be performed as a single test for early prototypes or as a full UN38.3 certification. Stress assessments and failure analysis are carried out in a unified infrastructure, ensuring reliable and consistent results.

T1: Altitude Simulation

T3: Vibration

T5: Short Circuit

T7: Overcharging

T2: Thermal Test

T4: Shock

T6: Impact/Crush

T8: Forced Discharge

The Technical Edge

Our validation stations support cells, small packs, and modules up to 25.9 V and 500 A. They provide full raw telemetry, including voltage curves, current profiles, and multi-point thermal mapping, for detailed failure analysis and design verification. High measurement resolution enables early detection of critical failure mechanisms such as separator collapse, internal shorts, vent activation behavior, and BMS response characteristics.

Regulatory & Forensic Reporting

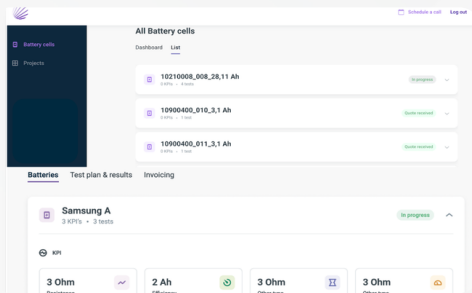
Each validation sequence generates serialized, audit-ready documentation aligned with international transport and safety standards.

Reports include complete test traceability, data from calibrated instrumentation, and structured evidence suitable for certification bodies and supply chain audits.



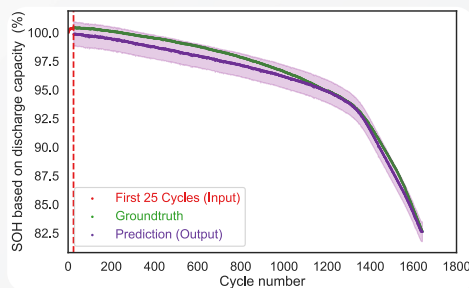
Add-on Solutions

Enhance Your Testing With Specialized Battery Tools



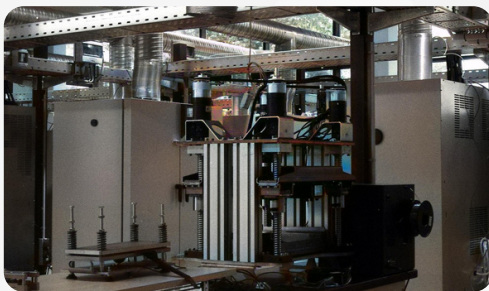
Automated Data Analytics

Our battery analytics platform ensures data quality and harmonization across all test channels. It generates clean, structured datasets in your required formats for direct CAE and validation integration, while deriving KPIs with clear visualizations to cut post-processing time.



Battery Performance Simulation

Sphere's simulation tools predict cell aging and performance across varying C-rates and temperature conditions. The models are trained on extensive proprietary test data and enriched with electrochemical and mechanical parameters collected in our laboratory.



Engineering Hub: Custom Jigs & Fixtures

We design and manufacture custom fixtures and test interfaces for precise integration with your cell geometry. Our expertise spans pouch, prismatic, and custom formats, including high-precision swelling, displacement, and pressure sensing, engineered to meet mechanical and electrical requirements.



"Working with Sphere Energy has been an absolute pleasure from start to finish. Their attention to detail, professionalism, and commitment to quality are unmatched. I highly recommend Sphere Energy to anyone in search of top-notch battery testing services. They truly set the standard for excellence in their industry."

Mina Naguib - Battery Systems Specialist Electra Vehicles, Inc.



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HAVE QUESTIONS? CONTACT US

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