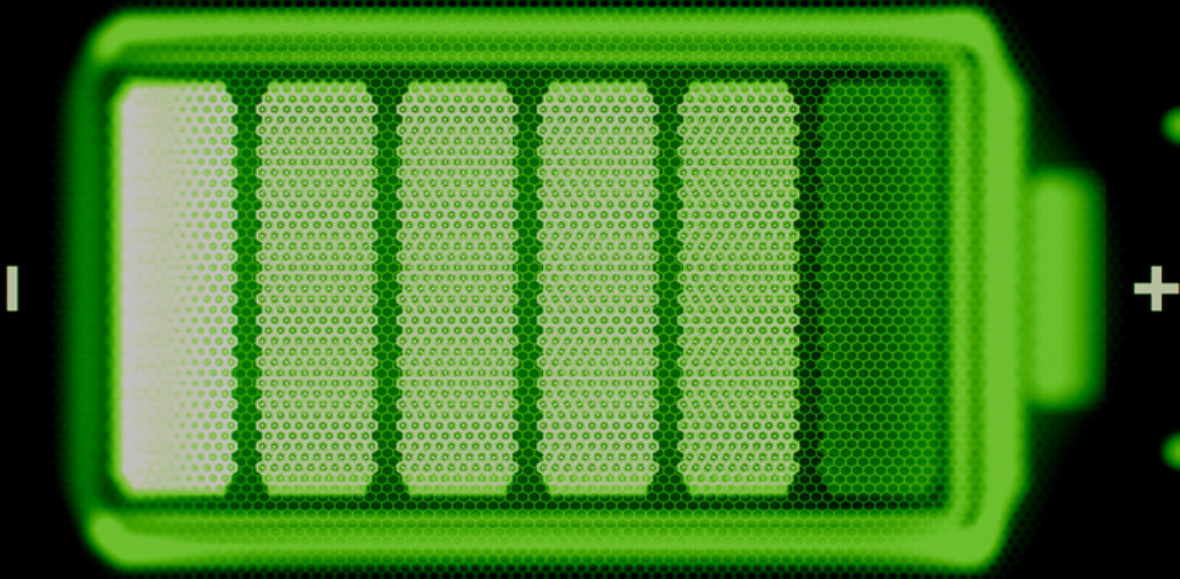


# Battery Testing & Certification



Helping businesses

**Helping business thrive and innovate**  
while making the world safe.



## The safety foundation of energy storage

Traditional and future technologies increasingly rely on batteries as major source of high performance and sustainable energy storage and distribution. At DEKRA we provide battery testing and certification services, regardless of;

- Application: our service and accreditation scope provides solutions for portable, e-mobility and industrial battery use
- Geographical end market: through our Global Market Access network and expertise, we provide you a one stop shop ability to manage national certifications
- Testing location: Within our international network of DEKRA testing facilities and network partners we are able to offer you test options in various countries, including Certification Body Test Labs (CBTL) and Customers' Testing Facilities (CTF).
- Chemistry: although Lithium-ion is massively adopted, we can handle other chemistries as well and continuously investigate novel battery types
- Battery management system (BMS): whatever the safety integrity level (SIL) or performance level (PL).

## One stop shop certification

Our mission is to serve our customers to the maximum. Therefore, we have established relations with a wide range of national certification bodies around the world and obtained the accreditations by major ones, to provide you conformance services independent of the country you want to market your batteries globally. Apart from the IEC CB Test Certification we can organize, we can offer the CTIA certification, DEKRA Seal, DEKRA mark, CE-mark, NRTL-mark, E-mark, UN transportation certification and global market access marks.

Apart from safety certification, we can complete your product compliance needs with our state of the art electromagnetic compatibility (EMC) facilities, performance, reliability, endurance, functional safety, EMC, RoHS, wireless and cybersecurity certification.

What are the types of testing and certification required and recommended for battery systems and how can DEKRA support you to prepare your product for the market?

## Battery System Validation

The continuous strive to reduce our dependency on natural resources for our energy needs, has transformed the battery industry from primary, mostly portable applications, to large high capacity e-mobility and industrial applications. Today every household or company is using and storing many batteries, all posing potential safety risks. With our battery testing facilities in Europe and China and wide accreditation scope, we work together with our customer base to make products safer and more resilient.

Our testing facilities and partner network can meet all kinds of electrical, mechanical, abusive and environmental testing requests. Our qualified engineers are on top of regulations and standards, regardless if it is about cells, modules, packs, systems or final -battery containing- end-products.

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### PORTABLE

Portable applications - whether used in a household or professional environment - are increasingly cordless and have an integrated or removable rechargeable battery. Although portable batteries do exist since decades, the higher demanding applications pose new product safety challenges. Whether it is a power tool, a children toy, a mobile phone or a medical device, DEKRA can test and certify the end product, it's components as well as the batteries which might pose a risk of excess heat, fire or explosion.

### E-MOBILITY

From one-wheel to x wheels, electrified powertrains have quickly become the benchmark for personal or professional transportation. From e-bikes to light electrical vehicles, from cars to trucks, DEKRA can provide a full range testing and certification program for product validation and homologation and supports the e-vehicle transformation.

### INDUSTRIAL

To reduce our dependency on oil, gas and coal; to create a backup power source; for peak shaving or load balancing the grid; to live and work off grid; to improve power connection performance and reduce cost; to contribute the renewables generation of wind, ocean, photovoltaics.

The reasoning to use battery systems is immense and Battery Energy Storage System (BESS) markets are accelerating. But the impact on product and process safety is high, and national demands may vary. Therefore we test your BESS or other industrial application to ensure the safety, from the level of cell, module, installation, system to end product. A BESS appears in a variety of portable, household, containerized or commercialized power stations.



## Our standards and accreditations

Please note that below are our most popular international standards.

### PORTABLE

IEC/EN 62281  
UN 38.3  
IEC/EN 60086-1/-2/-3/-4/-5  
IEC/EN/UL/KC 62133/-1/-2  
IEC/EN 60950-1, 60065, 62368-1,  
62841-1 (batty pack safety)  
IEC/EN 61951-1/-2  
IEC/EN 61960/-3  
UL 1642  
UL 2054  
UL 2056  
UL 2743

### INDUSTRIAL

IEC/EN 62281  
UN 38.3  
IEC/EN 62619  
IEC/EN 62620  
IEC/EN 63056  
IEC/EN 63057  
IEC/EN 62933-5-2  
VDE-AR-E 2510-50  
DNVGL-RP-0043  
UL 1973  
UL 9540  
UL 9540A

### E-MOBILITY

IEC/EN 62281  
UN 38.3  
UNECE R100  
UNECE R136  
UNECE GTR20  
IEC/EN 62660-1/-2/-3/-4  
IEC/EN 61982/-4  
ISO 12405-1/-2/-3/-4  
ISO 6469-1  
ISO 62485-1/-2/-3/-4/-5/-6  
ISO 18243  
EN 50604-1  
UL 2271  
UL 2580  
SAE J 2464  
SAE J 2929  
SAND2005-3123

### BMS

IEC/EN 61508-1  
IEC/EN 60730-1  
ISO 13849-1  
ISO 26262-1/.../10  
UL 60730-1  
UL 1998  
UL 991

Is your own laboratory ISO 17025 certified? Please contact us if you need R&D or pre-compliance services and get informed about the possibilities for witness based certification at your own lab.

# Why DEKRA for battery testing & certification?

At DEKRA we offer you:

- Customer centric experience
- Insight and expertise in cutting-edge regulations and standards which DEKRA experts are deeply joining with major industry organizations and technical committees
- The most comprehensive test laboratories and located in different locations worldwide
- More than 90 years of experience in product testing and certification
- One-stop shop compliance: from cells and components to end-application
- All needed testing including EMC, under one roof
- Global market leader in testing and certification of charging solutions (EV & 'household')
- Wide network of accredited partner labs for specialized assignments
- DEKRA Seal, an internationally accepted certification mark
- Flexible testing solutions to test in our labs or in the lab of the manufacturer
- Active participation and member of a large range of standardization & industry groups
- Worldwide-class battery testing labs operating in safe and secure and patented way

## Contact

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