



## VDE Global Energy Storage Competence Cluster

# Your one-stop shop for safe and efficient energy storage

- R&D support
- Testing and Due Dilligence
- Independent Engineering and Prototyping
- Consulting and Training

### Safety



### Performance



### Lifetime



### Reliability



**Our clients** from various industries: aerospace, marine, hygiene products and consumer goods; have **one common concern**:

Need of **tailored battery/energy storage solutions** to serve their clients better and be more competitive. They need **expert support** as batteries are not their core business.

#### **Common challenge:**

Can I trust battery suppliers' technical specifications for my sensitive applications?

We need different and additional specifications regarding safety, size, performance, environmental conditions.

#### **Winning solutions:**

Globally recognized team of battery experts especially for lithium-ion batteries World class laboratories in Singapore, China, Germany and USA. Creating additional value by advising, engineering, designing, testing, prototyping and monitoring battery modules and systems.



## Testing

- ISO17025 accredited laboratory
- Standard tests (IEC, VDE, UN)
- Customized tests on client's request
- Development of client's own quality assurance standards
  
- Abuse testing in safety chamber
- Performance testing
- Lifetime and ageing tests
- BMS testing

## Independent Engineering & Prototyping

- Development & design of batteries for
  - portable electronics
  - e-mobility
  - stationary storage
- Prototyping of battery systems
- Thermal management solutions
  
- Development support with consulting and testing for energy storage systems



## Research & Development support

- New materials implementation
- Optimization of cell properties and operating conditions
- Optimization of cell design
  
- Sourcing of materials
- Technology scouting
- Training & Consulting

### Your contact:

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