

**SOLUTIONS FOR ENERGY STORAGE SYSTEMS** 

# De-risk deployment & operation of energy storage systems

Investment in energy storage systems is going through the roof. But how can you be sure that you're getting what you paid for? 58% of energy storage failures happen in the first 2 years of operation, so this is the most critical time. But TWAICE helps you protect your investment and reputation. With TWAICE's Digital Commissioning, you can identify manufacturing or installation issues before the storage goes into operation, and avoid downtime during the most critical years of operation with TWAICE in-life analytics. Aim for 100% storage availability (compared to 82% market average) so you don't lose money due to unplanned storage downtime, or end up in the news due to BESS failures.

## Uncover issues before BESS deployment

Commissioning on-site lacks the necessary depth. It usually takes place on inverter level, meaning problems with individual cells are missed.

Commissioning is a complex process, involving coordinating on-site visits. This can delay deployment.

## Ensure safe & reliable BESS operations

Energy Storage Management Systems (ESMS) are not enough to ensure health and safety of energy storage systems.

They can malfunction and do not provide analysis of historical data to show long term trends or anomalies.

## Track warranty agreements to protect ROI

Tracking compliance with complex warranty conditions involves considerable manual effort. Not tracking at all creates significant financial risks.

Warranty coverage is at risk when the operating strategy is changed.

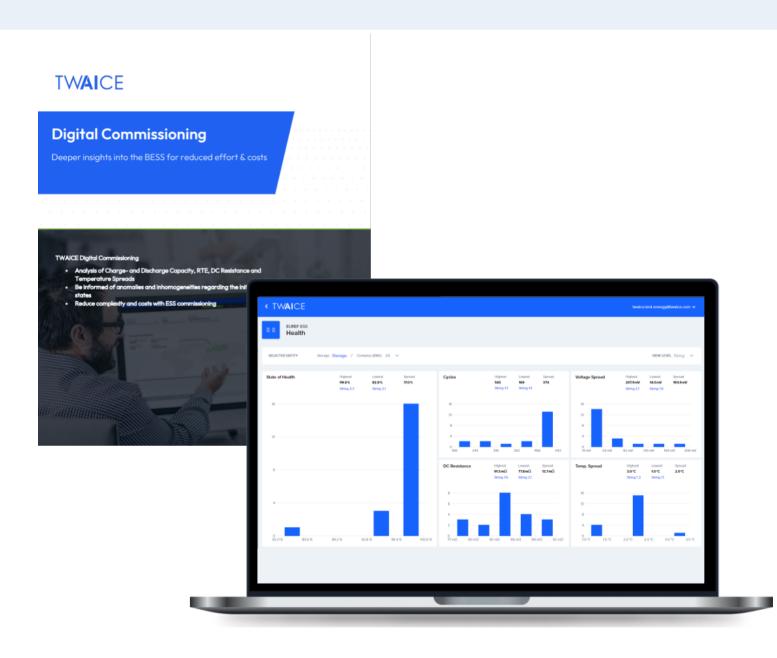
Deploy your energy storage systems faster with digital commissioning that only requires an online connection, and no on-site visits.

Identify faulty cells and modules through analysis on the string level.

Uncover issues when the EPC is still around so they can be fixed immediately. Avoid interrupting operations later. Monitor an entire fleet of storages with more KPIs than are available with conventional solutions e.g. direct current resistance & roundtrip efficiency.

Access insights on a per asset basis, carry out rootcause analysis & detect trends early with an incident long. Get notified of the most critical events for peace of mind. Manage all warranties with a central contract database. Get notified when your asset's operating leads to derating of your performance warranty or you are about to breach warranty conditions.

Utilize an extensive data set on warranty parameters to claim compensation for defective batteries early and from a strong negotiating position.



#### **Digital Commissioning**

Less complexity & more insights than with physical commissioning

Exchange faulty modules before operation

Avoid early-life failure & downtime

#### **In-Life Analytics**

Identify trends over storage lifetime

Detect & fix anomalies early

Increase BESS availability

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TWAICE

#### **ABOUT TWAICE**

TWAICE provides predictive analytics software that optimizes the development and operation of batteries. The software combines deep battery knowledge and artificial intelligence to make customers more effective, quicker, and more profitable while reducing the risk. As the leading battery analytics software for global players in the mobility and energy sectors, TWAICE is committed to increasing the lifetime, efficiency and sustainability of the products that power the economy of tomorrow.