

Reduce Risks & Improve Profitability of BESS Projects

With Energy Storage Analytics

CHICAGO, IL

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Leading & most trusted battery analytics provider

30+

120+

team incl. battery software engineers & data scientists

\$90m

funding for long-term security

offices: Munich HQ (DE), Chicago (US), Berlin (DE) onsite battery research center

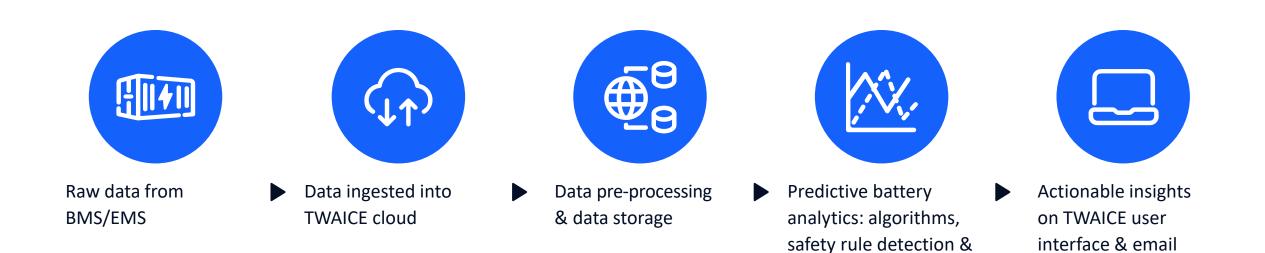


70+

BESS connected, adding up to a total of 5 GWh

Patents (granted & in application)

Advanced analytics turns BMS data into actionable insights



more

alerts

We help you solve business critical BESS challenges with advanced analytics

Safety

Availability & Performance

Insurance



"We have found issues in every storage we have analyzed – in commissioning & operation"

- Co-CEO TWAICE

"Unplanned downtime led to an average availability across our fleet of only 84% last year"

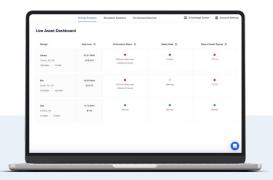
- US ASSET OWNER



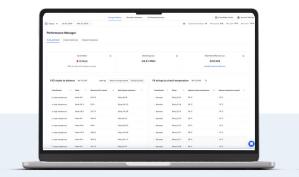
"Premium reductions of up to 30% possible due to battery analytics"

- US BESS BROKER

Experience our predictive analytics platform: Energy Storage Analytics



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Efficiently manage your BESS portfolio

✓ Optimize BESS health & lifetime

- ✓ Dashboards & standardized KPIs
- ✓ Automated Reporting

Avoid fire risks & other safety incidents

- Identify safety-relevant trends across your fleet
- ✓ Get alerts & recommendations

Improve availability & revenue

- Pinpoint components that are harming revenue
- Get recommendations on what to fix (e.g. balancing or replacing modules)

Automatically track BESS warranties

- Automatically track warranty indicators
- Support decision making and communication during disputes

Providing value for CFO, Asset Managers and Field Service engineers

Storage	Daily Loss	Performance Status	Safety Index	State of Health Spread
Cectus Tucson, AZ, US 300 MWh 75 MW	-92,61 Milth -\$18,245	56 % of nodes with imbalance issues	Critical	9 77.5 %
Elm Austin, TX, US 470 MWh 100 MW	-38.95 Milth -\$7,673	23 % of nodes with imbalance issues	Wiening	9 77.2 %
Dek London, UK 24 MWh 24 MW	-0.72 MWh -\$142	Normal	Normal	Normal
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High-level overview

- ✓ Asset management dashboard
- ✓ Proactive email alerts
- ✓ Identify immediate risks

Detailed insights

- ✓ Pinpoint problematic components
- ✓ Concise summaries for quick action
- Predictive analytics to identify risks

Advanced data exploration

- ✓ Explore data with powerful tool
- ✓ In-depth root cause analysis
- ✓ Work with TWAICE experts

Increase Revenue – Improve availability by proactively identifying issues

Challenge

- SoC Imbalances in the system limiting power availability
- Unclear root causes of imbalances

Solution

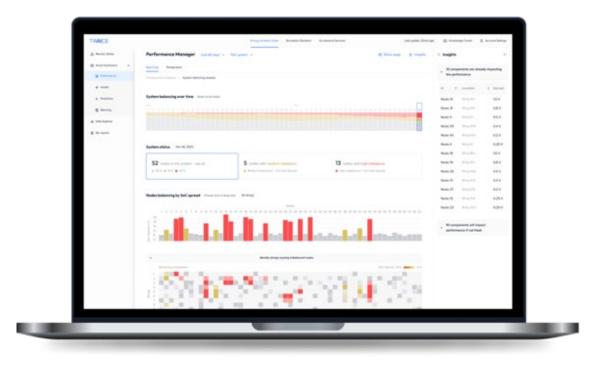
- ✓ Pinpoint problematic component
- Identify countermeasure (balancing, maintenance)

Impact Examples

300 MWh nameplate, 406 MWh installed system

- 6 defective modules
- Daily loss of 18 MWh
- >\$1 M annualized revenue lost and gained back
- Provided documentation for legal claims (cell supplier)

TWAICE Performance Manager



Lower Costs - Digital Commissioning to pinpoint weak spots and baseline BESS

Challenge

- Majority (of failure incidents happens in the first two years and around half are related to manufacturing and integration (Joint case study with EPRI)
- On-site measurements becoming more expensive & complex due to larger systems

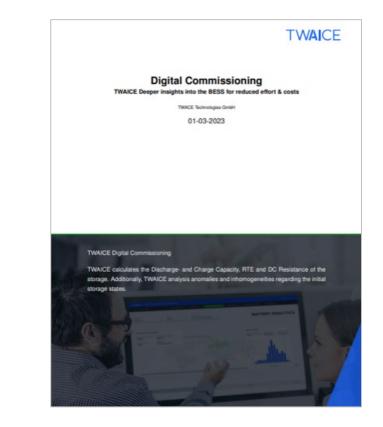
Solution

- Pinpointing anomalies in the system to guide onsite teams
- ✓ Baseline the system to ensure performance

Impact Examples

 VERBUND identified multiple issues with their storage systems ranging from temperature issues to integration defects (welding) (<u>case study</u> | <u>webinar</u>)





Unlock improved profitability: Increase revenue & save costs

INCREASE REVENUE

- Higher availability & better performance
- Higher energy utilization (more accurate SoC and lower degradation)

LOWER O&M COSTS

- Quicker troubleshooting & root-cause analysis
- ✓ Proactive maintenance
- ✓ Streamlined commissioning

increase revenue +5-10% costs reductions
8-15%

Impact with current customers

Learn more about how Energy Storage Analytics helps you achieve longterm success:



Stay up-to-date on our blog



Read our customers' stories



Watch our webinars



