



# Maximize Capacity + Improve Availability + Streamline OEM Claims Costs for Battery Storage Operations

## Digital Twin based Advanced Battery Analytics Platform

Underperformance hits your storage projects even harder than solar assets. You already have a platform to monitor the assets in 1-Place with 1-Source of Truth. Why not get beyond alarms into genuine insights to really optimize the assets.

We first build a detailed, personalized, digital replica of your BMS & EMS. This bottom-up addition of yield expectations for each and every instrumented battery, gives you the most accurate estimate of your battery's capacity.

### CMMS

- Monitoring, Alerting & Reporting of Outages in RealTime
- Degradation
- Predictive Maintenance

### AI for Ancillary Services & Optimization

- State of Charge (SoC )
- Capacity Forecasts (Dispatch Pricing & Scheduling)
- Optimizations for Hybrid Solar-Wind-Storage projects



Sharat Singh (Engineering, Data) & Dr. Hugh Hind (AI) bring learnings from long careers in Data, building Enterprise grade, trusted, secure products & Data, Prediction & Anomaly Detection AI.

Combining Data & Deep Math expertise allowed us to apply building Digital Twins for Asset Management, first to the Solar Industry. This is the basis of our proprietary & patent pending Machine Learning.

Quadrical AI's Digital Twin approach was instrumental in setting realistic expectations and then pinpointing areas of under performance that focused our teams' efforts.

#### James Abraham

Founder and Director, SolarArise

Next our special purpose Digital Twins for identifying and quantifying shading, soiling, insulation, long term degradation, due diligence help us get you there. We do this by moving from reactive to proactive management. Alongside outages and alerts, our AI sees early warnings and signals, automatically issuing revenue-prioritized tickets.

Adding those to O&M moves you from rote Preventative Maintenance to Proactive Maintenance which will improve your plants while monitoring

### Extensible Self-Serve Platform

- No Code Alerting Framework
- Power BI & Notebook Framework for Automated Reports
  - Yield, Contracted DGR, Warranty Compliance, OEM LD, Analytics

### Integration

- Sits Along existing Monitoring Platform.
- Directly pipes Smart Tickets directly into your existing Enterprise Ticketing System like Microsoft Dynamics, Salesforce, SAP)

Try us out...

With a Data based 1-Time Performance Snapshot

### Plant Audit

[15-Day Time to Value]

- Daily Generation Reports for the last 7 days, with Fault Attribution for each Equipment
- Revenue prioritized tickets for current losses
- Online dashboard for further Exploration & Validation



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Deployed on 2300MW Solar + 535MW / 2140MWh Storage