Solar Accelerators for Asset Performance Management from GE Digital

Improve solar asset performance and reliability to meet energy transition requirements.

Solar Accelerators is a package of solar-specific analytics, visualizations, and insights to improve O&M strategies.

01 Reduce Downtime

Empower O&M teams to dispatch resources only when they're truly needed.

- Intuitive asset, site, and fleet visualizations guide operators through their daily workflow
- Automated alerts inform maintenance teams of active or expected faults
- Recommendations guide and accelerate fieldwork at the component and sub-component level
- Integrated alerts, inspections, and field work orders with CMMS systems help prioritize and document field technician's time in one system of record

02 Improve Yield

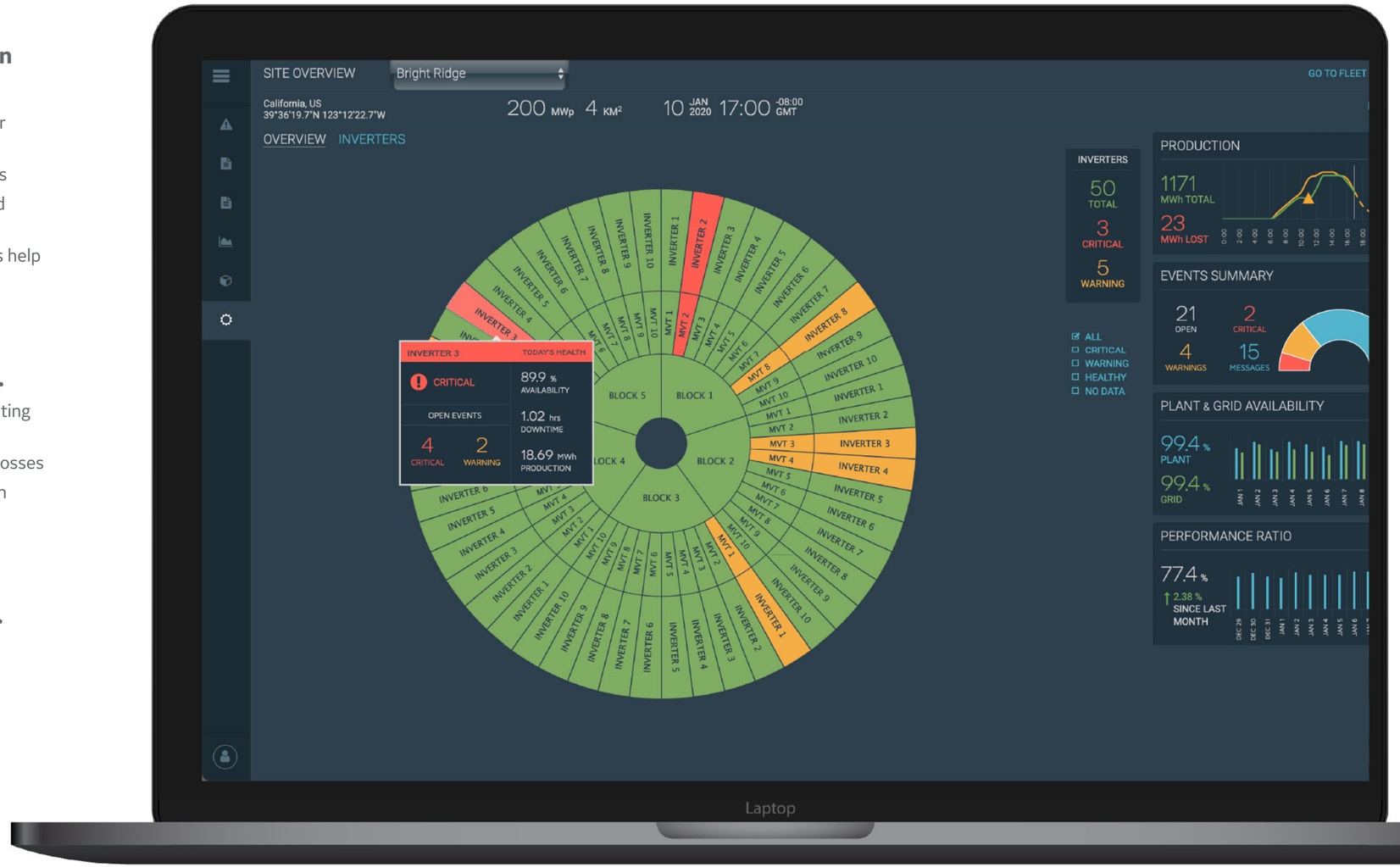
Reveal performance gaps and anticipate asset failure.

- Near-real-time analytics flag deviations from expected KPIs at any operating point and environmental condition
- Machine-learning-based algorithms quantify and categorize production losses
- Health monitoring can reduce downtime and increase system generation which translates to higher revenue and ROI

03 Increase Efficiency

Lower O&M costs with condition-based maintenance.

- Tools for early and automated detection of performance degradation
- Compare competing maintenance needs, investigate the evidence, and determine a course of action before sending resources into the field
- Increase productivity by reducing trips to the field and scheduling maintenance to minimize generation impact
- Optimize fleet workforce composition, cutting costs and focusing SME efforts on value-add events



DETAILED FUNCTIONALITY

CONNECTIVITY & DATA MANAGEMENT

Connectivity:
Across sites and tools

Asset hierarchy:
Unified view of hierarchy and enterprise system

2-year data storage

Data mining and analysis:
Customizable data retrieving and exploration tools

MONITORING OPTIONS

Standard Offering	Additional Options
Inverter monitoring	String/combiner box monitoring
Site monitoring Fleet monitoring	Tracker monitoring
	Auxiliary device monitoring (ex: weather stations)

Technical Requirements

Solar Accelerators is a cloud-based offering. The only technical requirements relate to compute and connectivity.

Compute

- Customer-provided hypervisor that can load GE Edge image to provision 1+ VM instance per site per OPC-UA server

Connectivity

- Allow https communication between GE server and GE cloud endpoints (time series, edge manager)
- Allow TCP communication between GE server and OPC-UA server
- Enterprise-level OPC-UA access preferred with data access for all sites
- Availability and mapping of tags and asset details required by Solar Accelerators
- Stable egress IP/CIDR range for white listing Solar Accelerators tenant access

MONITORING & DIAGNOSTICS

Persona-based dashboards and KPIs

Asset status:
Historical and current operation status

Condition monitoring:
Sensor analysis, anomaly detection and KPIs to see operating state and health

Benchmarking:
Asset performance to like assets to identify improvement opportunities

Fault analysis:
Anomalies, advisories, alerts, alarms and events

Alert/alarm management

Case management:
Collaboration between analysts, engineers and plant personnel

Recommendation management:
Leverage historical asset conditions and case data to enhance decision making

Standard and customized reports:
Summarize fleet and site performance as well as ongoing issues for leadership visibility and decision making

Export to Image File

User Profiles

- Fleet/Regional Managers, Site Managers, Subject Matter Experts (SME), and Field Technicians

ADVANCED ANALYTICS

Comparative analytics:
Compare asset performance with like assets in similar operating profiles and environmental conditions

Performance modeling:
Reveal the expected energy output of assets, establishing an asset performance baseline

Production loss breakdown:
Aggregate most common loss types for learning and future maintenance planning

Unlock better solar asset performance and reliability.

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