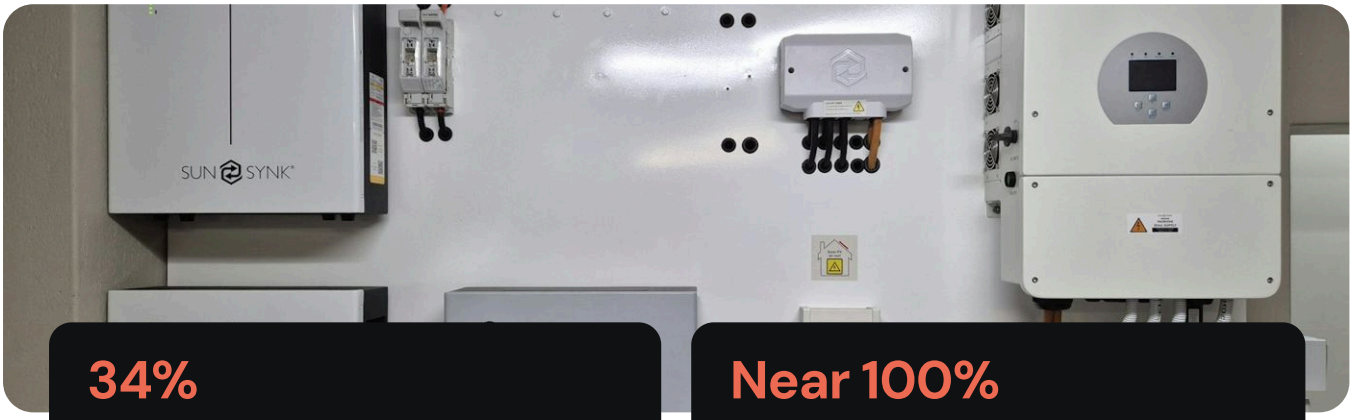
Solar energy · Global

A solar O&M provider cut repeated inverter failures by 34% in four months

A solar O&M service provider standardized inverter preventive maintenance and centralized fault logs across utility-scale and rooftop sites, so recurring failures were traced and fixed.



34%
fewer repeated inverter failures within 4 months

Near 100%
PM compliance across all sites

AT A GLANCE

INDUSTRY
Solar O&M services

PORTFOLIO
Utility-scale and C&I solar

LOCATIONS
Sites in multiple states

CONTRACTS
SLAs tied to availability and generation

FEATURES USED
Maintenance · Work · Stores

01 The client

The client is a large solar O&M provider managing utility-scale and commercial and industrial solar assets across multiple states. Its portfolio includes string and central inverters, combiner boxes, SCADA systems, transformers and protection equipment.

Its SLAs are tied to plant availability and guaranteed generation, so preventing inverter failures is a top priority.

02 The challenge

The same inverter failures kept repeating across sites. Maintenance was inconsistent, fault records were thin, and nobody could see which inverter was failing repeatedly or why.

- Missed or inconsistent PM on inverter fans, filters, terminals and cooling.
- Technicians closing tickets without logs or evidence.
- No standard inspection checklists across sites and vendors.
- Fault trends hard to see across makes, models and sites.
- Little root cause insight into DC overcurrent, AC imbalance, fan or communication failures.

03 What they set up in Asset Infinity

The provider ran inverter maintenance, fault logging and root cause tracking for every site in Asset Infinity.

Maintenance

PM for every inverter type

Checklists for string and central inverters require filter cleaning, torque checks, thermographic scans, airflow checks and firmware validation. Plans run by date, runtime or generation meter.

Work

Faults logged with evidence

Every inverter fault is logged with its code, photos, temperature readings and technician notes, and rolls up by inverter, block and site.

Maintenance

Root cause patterns

Fault history shows the same inverter failing repeatedly, the same component failing across sites and faults linked to poor PM compliance.

Stores

Spare parts traced

Fans, PCB modules, fuses and connectors are issued to each repair, which shows consumption patterns and poor-quality components.

04 How it works day to day

Here is how inverter maintenance runs across the provider's sites now.

SYSTEM

Raises PM when due

Preventive plans create work orders by date, inverter runtime or generation meter reading, with the checklist for that inverter type.

TECHNICIAN

Completes the PM checklist

Filter cleaning, torque checks, thermal scans and firmware checks are recorded in the mobile app with required fields and photos.

TECHNICIAN

Logs a fault

When an inverter trips, the fault code, photos, temperature readings and notes go on that inverter's record.

STOREKEEPER

Issues the spare

Fans, PCBs and fuses are issued to the work order, so every part used is tied to an inverter.

SUPERVISOR

Approves the close

Jobs are reviewed with their evidence before sign-off, so no ticket closes without a log.

SYSTEM

Escalates overdue PM

PM that slips past its date is escalated, so overdue work does not slip by unnoticed.

SUPERVISOR

Separates patterns from one-offs

Dashboards group faults by inverter, block, site and component, showing which failures are systemic and which are isolated.

05 Before and after

	BEFORE	WITH ASSET INFINITY
Inverter PM	Missed or inconsistent	Standard checklists, near 100% compliance
Ticket closure	Closed without logs	Evidence required before sign-off
Checklists	Different by site and vendor	One checklist per inverter type
Fault trends	Hard to see across makes and sites	Grouped by inverter, block and site
Spare parts	Consumption not visible	Issued to each repair and traced
Repeated failures	Recurring across sites	34% fewer within four months

06 How it rolled out

1

Utility and rooftop sites. Rolled out across utility-scale solar farms and C&I rooftops.

2

Trained by region. Field technicians learned the mobile workflows in regional phases; supervisors adopted the dashboards.

3

SCADA alarms connected. SCADA alarms were connected through the API alongside existing and new ticket workflows.

07 The results

- Major drop in DC/AC imbalance issues through structured PM
- Fewer emergency breakdown visits, reducing operating costs
- Clear insight into ageing inverters and component weaknesses
- Higher plant availability and improved performance ratio
- Stronger SLA adherence and customer confidence

08 Why it worked

Same standard for every vendor

One checklist per inverter type means every site is maintained the same way and can be compared.

Faults sit on the inverter

Logging each fault against its inverter makes repeat failures and weak components easy to spot.

Plans follow how inverters run

PM by runtime or generation meter puts maintenance where the equipment works hardest.

09 Looking ahead

By standardizing preventive maintenance, centralizing inverter fault logs and making root causes visible, the provider cut repeated inverter failures by 34% within four months.

Decision-makers can now tell systemic problems from one-off events. That lets the team act on a weak component or a poorly maintained block before failures spread.

See it on your own assets

A 30-minute demo, set up for a solar O&M provider.

The client's name is withheld for confidentiality. Results are as reported by the client.

Book a demo

Start a 14-day free trial