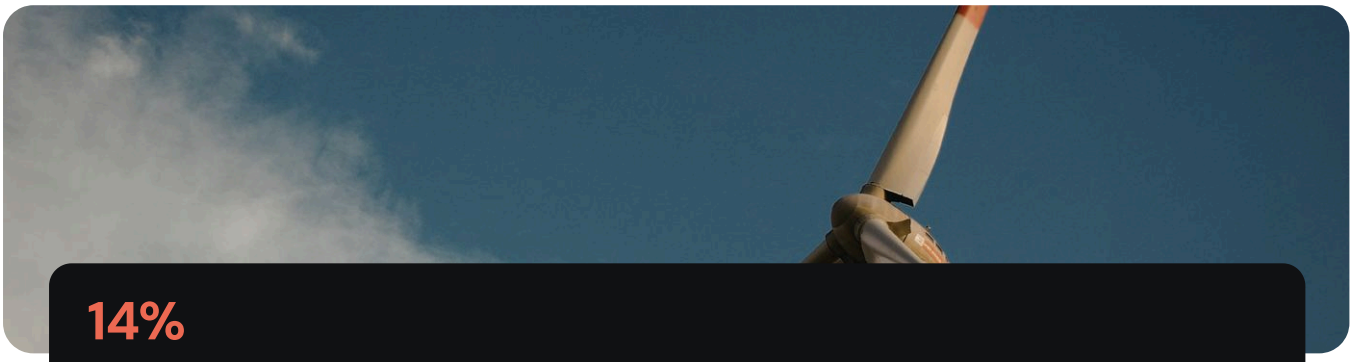
Wind energy · Global

A wind turbine OEM cut turbine failures by 14% across multiple sites

A global wind turbine manufacturer unified preventive maintenance, inspections and sensor calibration for its installed base, and used fault history to remove the causes of repeat failures.



14%
fewer turbine failures across multiple sites

AT A GLANCE

INDUSTRY
Wind turbine manufacturing

CUSTOMERS
IPPs, utilities, wind farm developers

FLEET
Onshore turbines of several capacities

TEAMS
OEM field teams and customer operators

FEATURES USED
Maintenance · Insight

01 The client

The client is a global wind turbine OEM supplying onshore turbines to IPPs, utilities and wind farm developers. Its turbines include nacelle components, generators, gearboxes, pitch and yaw systems, hydraulic units and electrical panels.

Wind farms are large and remote, so reducing repeat failures is essential to protect availability and customer satisfaction.

02 The challenge

Failures kept recurring across wind farms. PM was missed, inspection logs were incomplete, and alarms were never linked back to maintenance or component age.

- Missed PM on pitch and yaw systems, cooling, lubrication, anemometers and hydraulics.
- Incomplete logs of vibration, thermography, torque and oil condition.
- Calibration lapses on wind speed, temperature, pressure and vibration sensors.
- Jobs closed without enough evidence or root cause detail.
- No unified view of turbine health across regions and models.

03 What they set up in Asset Infinity

The OEM ran turbine maintenance, inspections and calibration for its installed base in Asset Infinity, shared by its field teams and customers' operators.

Maintenance

PM templates for every model

Preventive plans follow OEM requirements, with inspections of pitch, yaw, gearbox lubrication and temperature, cooling, anemometers and nacelle panels. Overdue PM is escalated to supervisors.

Maintenance

Inspection and service logs

Technicians record vibration, thermography images, hydraulic pressure, gearbox oil condition, spare parts and recommendations in the mobile app, tied to the turbine.

Maintenance

Sensor calibration calendar

Anemometers, wind vanes and vibration, temperature and pressure sensors are calibrated on schedule, with reminders and certificates kept for audits.

Insight

Fleet health and root cause

Dashboards across farms and models show repeat faults, PM gaps, ageing components and fault patterns such as pitch motor overheating or sensor drift.

04 How it works day to day

Here is how turbine service work runs for the OEM and its customers now.

SYSTEM

Schedules PM by model

Preventive plans raise work orders for each turbine using the template for its model, with the inspection checklist attached.

TECHNICIAN

Inspects the turbine

In the mobile app, the technician records vibration, thermography images, hydraulic pressure and gearbox oil condition. Required fields cannot be skipped.

SYSTEM

Raises corrective work

A failed check can raise a corrective work order, so an anomaly found during PM is fixed rather than noted and forgotten.

TECHNICIAN

Records spares and notes

Spare parts used and recommendations are added to the turbine's record before the job closes.

CALIBRATION TEAM

Keeps sensors accurate

Calibration work orders for anemometers, wind vanes and other sensors arrive on schedule, and certificates are attached to each sensor.

SYSTEM

Escalates overdue work

PM and calibration that pass their due date are escalated to supervisors.

ENGINEERING TEAM

Finds systemic causes

Dashboards group failures such as yaw misalignment, pitch motor overheating and cooling fan failures across the fleet, so fixes are rolled out at scale.

05 Before and after

	BEFORE	WITH ASSET INFINITY
Preventive maintenance	Missed on key subsystems	Model-specific plans with escalation
Inspection logs	Vibration and oil data often missing	Required readings and images per turbine
Sensor calibration	Lapses on critical sensors	Scheduled, with certificates on record
Job closure	Little evidence or root cause	Evidence and notes before closing
Fleet view	None across regions and models	One dashboard for the installed base
Turbine failures	Recurring across farms	14% fewer across multiple sites

06 How it rolled out

1

OEM and customer teams. Deployed across OEM field teams and customer wind farm operators, with no interruption to turbines.

2

Technicians trained. Teams learned the PM, inspection and root cause workflows.

3

History migrated. Historical logs were brought in so trends were visible from day one.

07 The results

- Significant drop in recurring pitch, yaw and generator temperature alarms
- Calibration compliance improved dramatically
- Fewer emergency callouts and repeat faults
- Consistent service quality across regions
- Better data for planning upgrades, refurbishments and component improvements

08 Why it worked

One standard per model

PM templates follow the OEM's own requirements, so every farm maintains each model the same way.

Shared with customers

OEM teams and customer operators work in the same records, which keeps reporting transparent.

Fleet-wide patterns

Seeing failures across the installed base shows which causes are systemic and worth fixing everywhere.

09 Looking ahead

By digitizing preventive maintenance, inspections and calibration tracking, the OEM cut turbine failures by 14% across multiple sites.

Transparent reporting has also strengthened customer trust. Operators see the same records as the OEM, and engineering uses the fleet's fault history to improve components and plan refurbishments.

See it on your own assets

A 30-minute demo, set up for a wind turbine OEM or O&M team.

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

Book a demo

Start a 14-day free trial