# Maximize Wind Turbine Performance and Reliability

Smarter Operations, Fewer Failures, Greater Efficiency





# Why reliability is crucial for wind turbines

Reliability often gets overlooked during the warranty period, but the real challenges begin when turbines move beyond it. Without focusing on reliability, operators face unexpected failures, costly downtime, and reduced turbine lifespan.

- Extend turbine lifespan by 5 to 10 years.
- Save hundreds of thousands per detected fault.
- Reduce repair frequency and scope.
- Prevent major drivetrain damage.
- Plan maintenance during low-wind seasons.

### Stay ahead of failures with Acoem's early detection solutions

Main bearing 1 year





### Acoem key technologies for wind power



### Shock Finder<sup>™</sup>

Detects faults in low-speed components, like main bearings, up to **1 year** in advance, preventing costly drivetrain failures.



### Acoem MCT<sup>™</sup>

Adjusts monitoring every 80 milliseconds based on the turbine's operating conditions, including wind speed, power, pitch, yaw, and more, ensuring real-time performance optimization.



**Smart Anomaly Detection AI** AI identifies and prioritizes critical issues, boosting efficiency with minimal operator input.

**Proven Expertise in Wind Turbine Reliability** 

# 15+

Years of Wind Turbine Reliability

## 3.000+

Turbines monitored globally

### 1

Unified ecosystem in NEST Vision, combining vibration, alignment, oil, thermography, and more







27% Gearbox

Acoem MV-x real time Al powered Variable & low speed technology



Acoem Falcon portable analyser Wireless and Al powered periodic analysis

DNV

SO/IFC 270





### Acoem Advisor Global 24/7 reliability solutions

- Real-time recommendations from certified experts for timely decision-making.
- Worldwide support with teams in the US, Brazil, France, India, and Thailand.
- 24/7 monitoring to maintain continuous turbine performance and reliability, anytime, anywhere.





18% Main Bearing

# Wind turbine laser shaft alignment tools







### NEST

Comprehensive platform for wind turbine management

- Custom overview adaptable to individual user
- Actionable data
- Easily integrate various data sources for enhanced decision-making with advanced analytics
- Access information on any device, no software downloads required
- Real-Time Monitoring

# Simplifying shaft alignment for wind turbines



#### Effortless setup with custom fixtures

Dedicated mounting fixtures designed specifically for major turbine brands like Vestas, Siemens, Gamesa, GE Wind, Nordex Group, Senvion, United Power, Suzlon, Acciona and more!









# Intuitive alignment with a dedicated wind turbine app

- Turbine-specific graphics for intuitive guidance.
- Manufacturer design templates for seamless setup.
- 3D wind turbine view for clearer user guidance.
- Automatic model managementno complex setup required.
- Supports both coupled and uncoupled modes.

Quick, two-direction alignment with vertizontal Measure once and adjust in both vertical and horizontal directions, eliminating re-measurement steps.

#### Precision made simple with GuideU™

The GuideU<sup>™</sup> interface offers 3D graphics and animated help screens, reducing errors and simplifying shaft alignment for accurate results.

#### All your reports in one place, thanks to seamless cloud connectivity:

Easily upload, store, and access alignment reports through the cloud for quick analysis, sharing, and future reference—anytime, anywhere.

# **Training and Support**

**Empower your team with tailored training:** Customized programs to enhance expertise in:

- Vibration technology
- Bearing technology
- Turbo machinery alignment
- Precision maintenance

#### **Ongoing expert support:**

Continuous consultation to enhance turbine performance and operational efficiency.

Transformative maintenance practices

We help your team adopt best practices for long-term reliability and cost-effective operations.

