

# 8.2 | The Experts in Renewable Energy

In partnership with

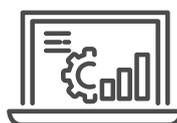


# ecoCMS

COLLECT



Innovative CMS based on Internet of Things (IoT)



Monitoring services with minimal upfront cost



Flexible cloud-based software platform

## NEXT GENERATION CONDITION MONITORING HARDWARE

eco**CMS** is a high performance, smart condition monitoring solution for wind turbines and industrial machinery. Developed based on many years of experience in condition monitoring and diagnostics, eco**CMS** delivers high value for your business and is proven to reduce O&M costs.

## 21<sup>st</sup> CENTURY TECHNOLOGIES FOR SENSING AND ELECTRONICS

Every aspect of our lives is dominated by digital technology - so why select a legacy CMS based on expensive analogue sensors and analogue electronics? eco**CMS** utilises powerful mobile computing technology combined and low cost MEMS sensors.

## SEAMLESS INTEGRATION WITH fleetMONITOR AND MONITORING SERVICES



fleet**MONITOR** is a unique hardware-independent software platform for condition monitoring and predictive maintenance.

ONYX InSight routinely monitors vibration and SCADA data from many gigawatts of assets worldwide from our Monitoring Centres around the world using fleet**MONITOR**.

System specifications	
Power	24V DC, <1A
Memory	512MB
Storage	4GB OS, 8GB data
Over voltage protected	Galvanic isolation on all interfaces
Communications interface	Ethernet, RJ45
Vibration measurement	
Measurement range	+/- 2g to +/-16g
Resolution	16 bit
Accelerometers	up to 8 tri-axial
RPM input opto-coupled	Yes
Environmental Specifications	
Main enclosure operating temperature	0 to +60°C
Main enclosure storage/survival temperature	-40 to +70°C
Main enclosure environmental rating	IP66
Accelerometer operating temperature	-45 to +85°C
Accelerometer environmental rating	IP68
Mechanical Specifications	
Dimensions L x W x H	200 x 150 x 120 mm
Mounting brackets bolting	4 x M8
Weight	2 kg
Optional Interfaces	
Particle counter	Yes
Oil debris sensor	Yes
3G	Yes, via external module

### Get In Touch

✉ [monitoring@8p2.de](mailto:monitoring@8p2.de) | ☎ +49 173 540 4453 | +49 40 181 2604 10 | 🌐 [www.8p2.de](http://www.8p2.de)



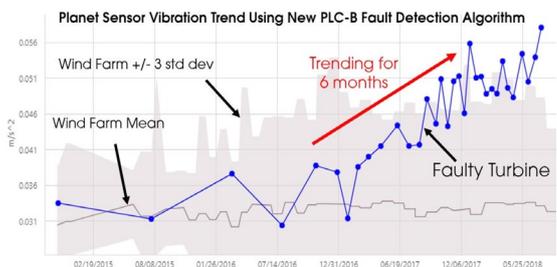
Main bearing macropitting detected using ecoCMS



High speed shaft bearing damage detected using ecoCMS



ecoCMS accelerometers retrofitted to GE1.5 MW gearbox



## PROVEN EFFECTIVENESS FROM BLADE TO GENERATOR

With triaxial accelerometers, each with an embedded temperature sensor, ecoCMS provides 24 vibration signals and 8 temperature signals, along with options for additional oil sensors. This is the most comprehensive and effective solution for monitoring wind turbines and is proven to detect all major drivetrain failure modes.

## MONITOR IMBALANCE WITH ecoCMS™ and fleetMONITOR™

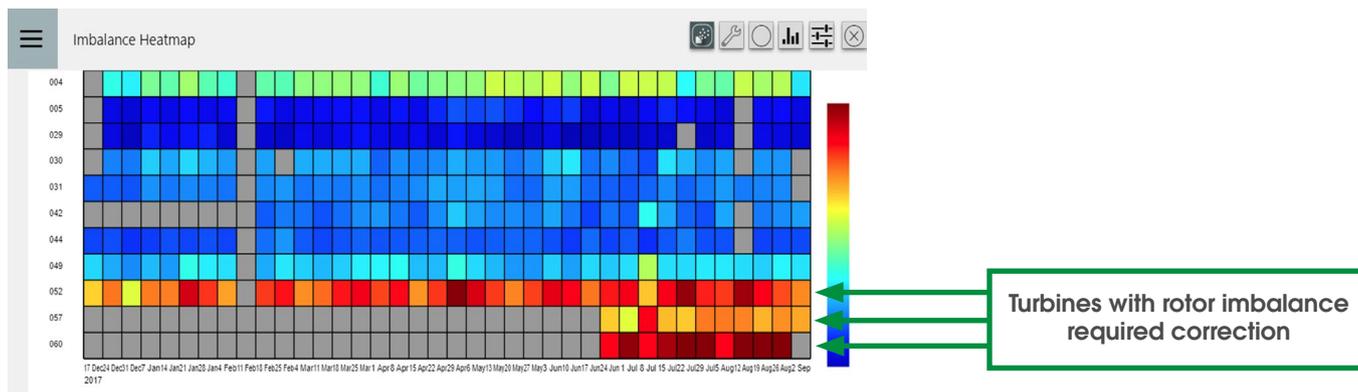
Rotor imbalance is a chronic problem for owners and operators around the world. Turbines with rotor imbalance still produce power, but with an increased risk of failure due to incorrect loading of the drivetrain and blades. A strategy should be in place to detect and remedy the problem.

**OPTIONAL ADD-ON**

**NO ADDITIONAL HARDWARE REQUIRED**

## CASE STUDY - GE 1.5 MW rotor imbalance detection with ecoCMS™

ecoCMS's MEMS accelerometers are perfectly suited to measuring low frequency rotor imbalance. Analysis of ecoCMS data from 155 x GE 1.5 MW turbines revealed three turbines with high rotor imbalance requiring further investigation and correction.



## Get In Touch