

# Condition Monitoring System for Wind Farms

We help deliver enhanced reliability and security to your wind farms. From delivering insightful monitoring to providing Higher ROI, RM's Condition Monitoring System plays an ever-increasing role within renewable energy installations.

# Our Solution

The increasing installations of Wind Energy Power Plants are putting more stress into the electrical assets of current infrastructure. Higher transients and harmonics from converted power supply of ESS (Energy Storage Systems), Increasing supply related fluctuations from Wind Farms are some of the major issues that impact the long-term sustainability of our transmission and distribution network.

RM's condition monitoring systems perform more efficiently to cater the needs of wind power industry, it also facilitates planned maintenance with deep insight into the component failures before they affect energy production. Ensuring that the integrity of processed data is not being compromised by severe and extreme climates, We at Rugged Monitoring have developed wide range of products with deep understanding of the stress and strain placed on renewable energy applications.

Delivering several advantages over conventional equipment, the popularity of condition monitoring solutions in solar and wind farm has gathered much attention than yesteryears.



## Renewable Energy Condition Monitoring System Benefits

- Reduces expensive emergency repairs by detecting problems early, avoiding unplanned downtime and optimizing the planned outage cost with planned maintenance.
- Real time monitoring of electrical assets
- Detailed diagnosis of the faults in different assets
- Root cause analysis of damage event
- Data trending
- Operational and economic benefits are realized through reduced downtime
- Seamless communication among multiple systems

## Features of Condition Monitoring System

- High precision modular design
- Accurate measurement
- Multiple Digital and Analog Outputs
- Plug and Play, No Re-Calibration
- Accessible Installation and Commissioning
- Data integration with high level systems

Our Condition Monitoring System for wind turbines is specifically designed to detect and prevent generator, gearbox and rotor bearing failure, with highly accurate real-time monitoring, and analysis.

	Wind Farm Structure/ Blades	Turbine	Generator /Motor	Transformer	ESS/ Battery	Power Cables	Inverter/ Power Electronics	Switchgear	GIS
Temperature		✓	✓	✓	✓	✓	✓	✓	✓
Voltage			✓	✓	✓	✓	✓	✓	✓
Current			✓	✓	✓	✓	✓	✓	✓
DGA				✓					
Moisture			✓	✓		✓	✓	✓	✓
UHF PD				✓		✓		✓	✓
HF PD				✓		✓		✓	
Breaker Condition Monitoring								✓	✓
Vibration Sensor	✓	✓	✓	✓			✓		
CSA			✓						





# RM EYE Enterprise APM Suite

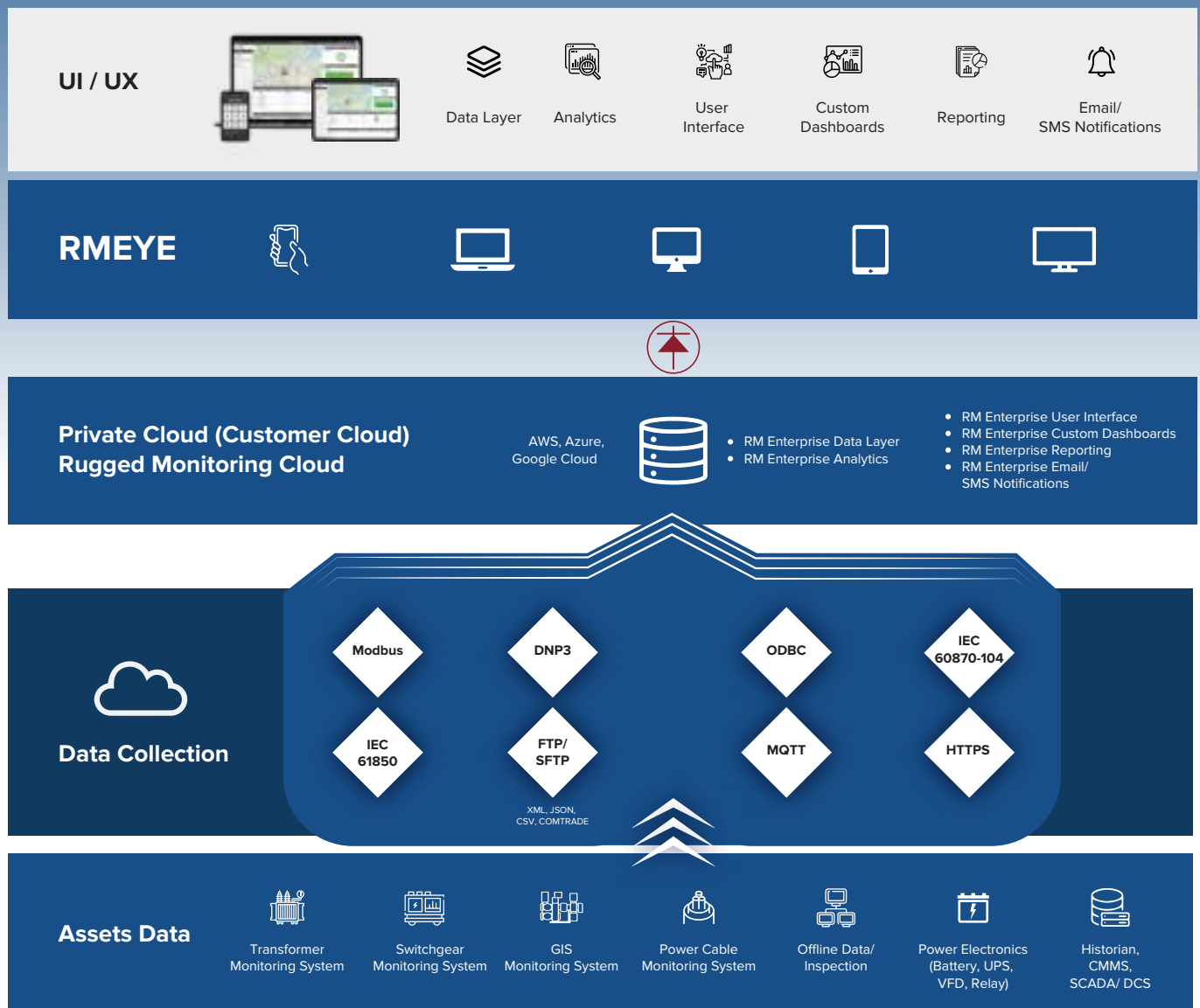
RM EYE is our advanced Asset Performance Management (APM) system designed to provide a scalable and future-ready solution undergoing digital transformation.

With AI-powered data intelligence, it offers comprehensive health indices for various assets across multiple locations. RM EYE surpasses traditional condition monitoring and facilitates a shift from reactive maintenance to predictive maintenance, maximizing asset lifespan and boosting ROI.

With its real-time remote monitoring capabilities, RM EYE equips experts, operators, SMEs, and engineers with real-time insights that support more informed, data-driven decisions. Through a combination of offline, periodic, and online assessments, it effectively lowers maintenance costs, helps avert unexpected failures, and enhances overall operational efficiency.



## RM EYE' Architecture



# One Solution for Multi-Site Multi Asset Monitoring

**RM Eye - Unified platform to monitor entire network  
of electrical assets**

## Features

- **Advanced asset health monitoring** with analysis and recommendations to increase asset effectiveness in addition to maximizing equipment uptime
- **Modern remote monitoring solutions** provide valuable insights to Multiple Assets at Multiple Sites from time to time
- **Establish a real time and consistent monitoring** by getting the right information into right hands
- **Simple and user-friendly interface** providing easy and fast access to all the features
- **Everything about the asset at one place**  
The raw data, analysis and recommendations
- **Advanced asset algorithms** for electrical assets to evaluate asset health
- **Advanced reporting technology with automated alerts**
- **An efficient, reliable partial discharge monitoring for all the assets**
- **A detailed comprehensive DGA analysis**
- **Built on well-established remote and cloud-based monitoring technology**
- **Quick configuration** so that you are not required to configure separately.
- **Protocols: IEC 61850, MODBUS, MQTT**
- **Robust integration with 3rd party systems and devices** with industry standard protocols
- **Bulk configuration imports for fast deployment**
- **Encompasses a secure access to data and configuration**
- **QR code scanner on mobile devices**
- **Accessible on web browser and mobile app**
- **Historical data storage and on demand access** via export feature
- **Extended multilingual support** to handle product inquiries or troubleshoot problems proactively
- **Systematic fleet management analysis**
- **Offline test data integration and analysis**

### A plan for Success

Our Customers are well satisfied with the advisory services that we offer to help them with best in class technological performance and a long durable life.



#### Experts only

We bring-in our diversified experienced team with over 100+ years of experience in Asset Monitoring

## Why Customers Choose Us?

RM solution, the trusted monitoring solution for over 10000+ assets across 50+ countries. We are a leading High Value Electrical Asset Monitoring Company integrating fibre optic technology to the assets.



#### Money Matters

We protect you against currency fluctuation with competitive and fair market prices



#### Meeting Deadlines

Work with us, and you'll work with seasoned professionals – vigilant of deadlines, and committed to exceeding client expectations.






# Our Presence **Across the Globe**



## Head Office

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## Certification



ISO 9001



ISO 14001



ISO 45001/  
OHSAS 18000



Lloyd's  
Register



ATEX  
Certification



NIST  
Certification

## Rugged Monitoring Services

Rugged Monitoring provides customization of sensors, monitors & software. In addition we offer on-site commissioning services, maintenance contracts and technical support to all customers worldwide.

## About Rugged Monitoring

Industry's leading team of asset condition monitoring experts with 100+ years of combined experience committed to delivering customizable solutions for challenging applications. We offer a range of reliable, high performance, customizable sensors and monitoring solutions that are immune to external influence.



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