



24/7/365 Advanced Continuous Monitoring Technology:

Sensoria stands out due to its innovative use of machine learning algorithms to analyze acoustic emissions from wind turbine blades. This system enables real-time monitoring, early detection of anomalies, and proactive maintenance, significantly reducing unplanned downtime and extending the lifespan of turbine components. This technology offers a more reliable and comprehensive approach compared to traditional periodic inspections.

Best for Offshore WT Blade Monitoring

While drones and visual inspections are severely limited by weather conditions, vessel availability, and high access costs in offshore environments, SENSORIA provides uninterrupted 24/7 monitoring regardless of weather conditions. The system's ability to detect internal structural issues and early-stage damage before they become visible, combined with real-time impact detection and trend analysis, significantly reduces the need for frequent costly offshore inspections.

Comprehensive Coverage and Proven Effectiveness:

Sensoria covers a wide range of potential issues, including cracks, delaminations, lightning strikes, and icing. The technology has been tested for four years on wind turbines in diverse environments across the US and Canada, demonstrating its robustness and effectiveness. This extensive coverage and proven track record make Sensoria's solution a reliable choice for enhancing wind turbine maintenance and operational efficiency.

Overview

WindVox with Sensoria offer a cutting-edge solution for managing the integrity of wind turbine blades. By integrating advanced monitoring technologies, WindVox addresses the critical challenges of blade maintenance, offering a robust system that enhances the reliability and efficiency of wind farms. This document outlines the innovative approach, differentiates between inspection-based and monitoring-based methods, and highlights the benefits of creating a lifetime passport for turbines, which can significantly improve investment returns.

Inspection-Based vs. Monitoring-Based Approaches:

Inspection-Based Approach:

- Relies on scheduled visual inspections, often conducted annually.
- Limited in detecting internal or hidden defects.
- Reactive maintenance, addressing issues only after they become apparent.
- Higher risk of unexpected failures and extended downtime.

Monitoring-Based Approach:

- Utilizes continuous real-time data collection and analysis.
- Detects both visible and hidden defects through acoustic emissions.
- Enables proactive maintenance, scheduling repairs based on actual conditions.
- Reduces unplanned downtime and maintenance costs, improving overall efficiency.

Full events coverage:

The Sensoria system offers extensive coverage of potential issues, including:

- **Cracks and Delaminations:** Detects early-stage cracks and material separations.
- **Lightning & Hi-Energy Strikes:** Identifies and differentiates between minor and significant impact events.
- **Icing:** Monitors ice formation and provides alerts to mitigate risks associated with icing.

Field Testing and Proven Results:

The WindVox system has been rigorously tested over four years on wind turbines in the US and Canada. These tests have demonstrated the system's effectiveness in real-world conditions, proving its capability to enhance turbine maintenance and reliability. The system's success in these diverse environments underscores its robustness and adaptability.

Takeaway:

By shifting from traditional inspection methods to continuous monitoring, Sensoria not only improves operational efficiency but also provides valuable tools for investors to maximize their returns. The comprehensive coverage of potential issues ensures that turbines operate at peak performance, contributing to the overall sustainability and profitability of wind farms.

contact us:



Wojciech Jeznach CEO / Founder

t: +48 665 002 115

e: wojtek@windvox.com