# TURNER ICENI

## Operation & Maintenance

# Drone Inspections

**www.turnericeni.com**

# Drone Inspections

## Turner Iceni utilizes machine learning and artificial intelligence to carry out pixel by pixel analysis of your turbine.

Pinpoint defects and identify risks on equipment to effectively monitor operations and improve efficiency in inspection and maintenance.

Hail, snow, lightning, rain, salt, and dust are just some of the things that wind turbine components are forced to endure daily. In addition to this environmental stress, a turbine blade may also get damaged due to factors like extreme load buckling or manufacturing defects leading to debonding.

**Some common defects per part that are usually discovered during wind turbine inspections include:**

**Tower:** Crack, damage, paint peeling off, corrosion

**Blade:** Crack, damage, paint peeling off, deformation, lightning traces, water ingress

**Nacelle:** Lightning traces, crack, damage, corrosion, oil splits, paint peeling off

**Hub:** Skewness, loose connection, damage

Using specialised equipment and UAV technology Turner Iceni are able to carry out pixel by pixel analysis on your turbine. This allows us to identify any cracks, strikes, or material failures, autonomously and at a distance. Inspectors and equipment can be deployed quickly, with standard inspection time being around 30-60 minutes. After data capture Turner Iceni utilise the power of AI (artificial intelligence) to analyse the images for any issues or defects.

The results are then checked by our technicians to ensure data integrity and outcomes. Inspection results can be analysed and reported within a short period of time, with results being available on a dedicated portal.

Using a range of capture methods Turner Iceni are able to produce highly detailed imagery, 3D models, and thermal imaging scans. Where required lidar scanning can be introduced into the inspection to provide a high accuracy inspection of complex structures.

# 75%
## FASTER, MORE ACCURATE AND MORE SCALABLE THAN TRADITIONAL DATA ANALYSIS METHODS

*"To overcome the key challenges of low efficiency, high costs, and inadequate inspection data quality, many wind farm operators across the globe have started using drones for wind turbine inspections."*
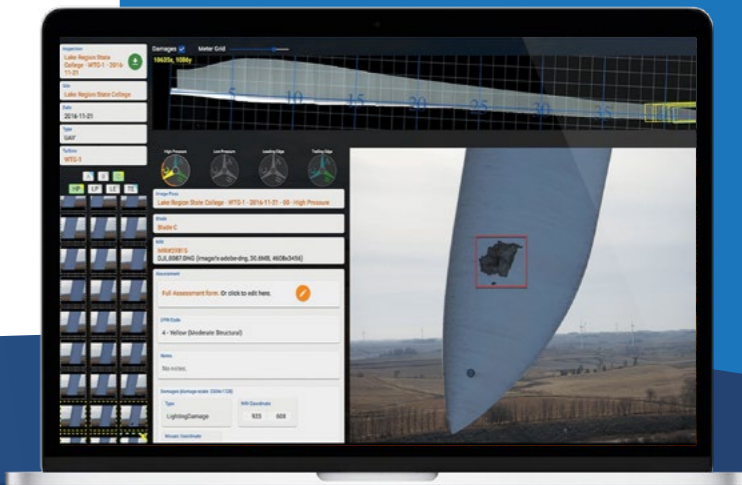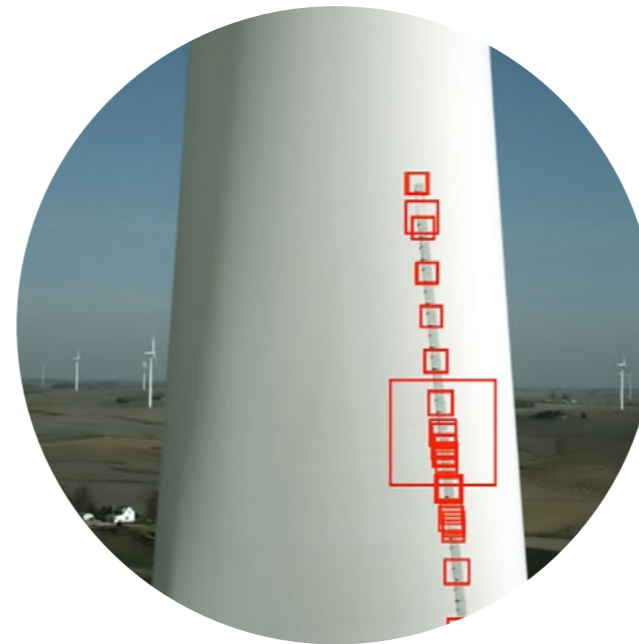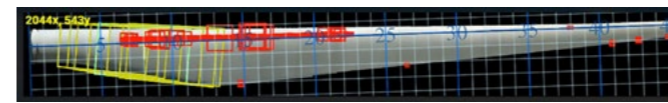
## Drone Offerings

### Enhanced Efficiency
Manage assets with precise aerial insights acquired during automated drone flights that quickly identify threats.

### Improved Safety
Protect workers from hazards by using drones to get up and close to the assets, quickly identifying asset issues.

### Reduced Costs
Conduct critical inspections using intelligent drone solutions while operations continue to run, minimizing maintenance costs.

**TURNER ICENI**

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# Any Turbine, Anytime, Anywhere

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