Wind Turbine Inspections

25% Cost savings

while also removes workers from working at height risk

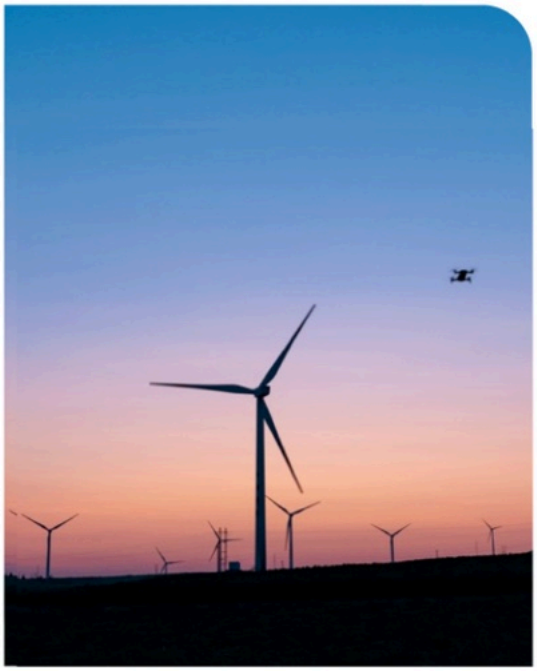
AT A GLANCE

DETAILS

Company: Roavr group & Airborne Robotics
Location: United Kingdom, Scotland
Industry: Wind
Activity Type: Inspection and surveying, Offshore and inland

BENEFITS

- 25% Cost savings compared to traditional methods
- Zero risk of falling as inspectors stay on the ground
- More than triple effiency of turbines inspected per hour



ISSUE

Traditional wind turbine inspections involve technicians physically climbing turbines to check for damage, a method that is time-consuming, labour-intensive, and risky, particularly in harsh weather. This process typically covers only 2-5 turbines per day and may result in incomplete inspections due to limited access to certain blade areas.

SOLUTION

The deployment of drones for wind turbine inspections has significantly improved the efficiency and safety of the process. Companies like Roavr Group and Airborne Robotics have pioneered the use of sophisticated drones equipped with high-resolution cameras and sensors to autonomously inspect turbines. These drones can quickly and accurately capture detailed data from all parts of the turbine blades, even those that are hard to reach. They are capable of inspecting 10-12 turbines per day. This drastically reduces the time and cost involved in inspections, while also enhancing safety by keeping personnel on the ground.

BENEFITS

Cost Benefits

Pilot-operated drone inspections cost around $300-$500 per turbine, or about 20%-25% of the cost of manual inspections which are estimated to cost up to $3,000 per turbine.

Inspection Efficiency

Current drone inspections can cover 10-12 turbines per day, with each blade inspection taking just 4-9 minutes. This is much faster than manual inspections, which typically only cover 2-5 turbines per day. Autonomous drone operations could increase coverage to 15-20 turbines per day.

Safety

Automated drone inspections allow personnel to stay on the ground, which enhances safety, especially in adverse weather conditions.

ROAVR | GROUP

AIRBORNE ROBOTICS

ARPAS-UK The UK Drone Association