

# Lessons from the field: What our inspectors see that algorithms can't



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In recent years, digital tools have transformed the way onshore and offshore wind inspections are carried out. Drones, high-resolution imagery and AI-assisted analytics now allow us to capture vast amounts of data more quickly and safely than ever before. But while technology is a powerful enabler, it is not a replacement for one critical component of effective inspections: human expertise.

Onshore and Offshore wind assets operate in complex, variable environments. No two sites are the same, and no dataset ever tells the full story on its own. Experienced inspectors bring context, judgment and intuition that algorithms simply cannot replicate. They understand how local terrain, weather patterns, turbine models and operational history intersect – and how small details can signal much bigger issues.

From the field, our inspectors regularly encounter challenges that demand professional judgment rather than binary answers. A structural defect, for example, may appear minor in an image, but an experienced inspector can assess its orientation, location and progression to determine whether it presents an immediate risk or a longer-term maintenance issue. Similarly, subtle changes in tower condition, foundations, or internal mechanical or electrical components often only make sense when viewed through the lens of hands-on experience and an understanding of how assets age in real-world conditions.



There is also the reality of working environments that are rarely predictable. Access constraints, changing weather, site-specific safety requirements and unexpected findings all require inspectors to make informed decisions in real time. Knowing when to pause an inspection, escalate an issue or adapt an approach is not something that can be automated – it comes from training, experience and a strong safety culture.



Safety, in particular, is where human expertise remains paramount. Robust inspection programmes rely on people who are not only technically competent, but also highly trained in risk assessment, working at height, rescue procedures and HSE compliance. At Natural Power, safety is not an add-on to inspection work; it is embedded in how our teams are trained, how inspections are planned, and how quality is assured on site and in reporting. This commitment protects our people, our clients' assets and the long-term performance of projects.

Quality assurance is another key differentiator. Algorithms can flag anomalies, but it takes experienced professionals to validate findings, prioritise actions and translate data into practical, commercially relevant advice. Our inspectors bridge the gap between raw data and decision-making, ensuring asset owners receive insights they can trust.

As the wind industry continues to evolve, the most effective inspection strategies will be those that combine advanced technology with deep human expertise. It is this balance – data informed, experience led – that delivers safer inspections, better outcomes and more resilient wind assets.



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