

High-Quality Blade Inspections
in Northern Sweden with Skyforest

CASE STUDY

ABOUT US

Perceptual Robotics is a UK based technology company, focused on drone automation and AI services in the field of Wind Turbine Blade Management. Our services cover from technology for field inspection to data processing and repair management. With presence worldwide and thousands of inspections made we keep investigating new solutions.

FIGURES

- **130+ inspections** completed in just **3 months** from start
- **Large Turbines** up to 170 m rotor diameter
- **2 critical cracks** detected **immediately post-flight**
- **12 years** of professional drone operations experience

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OVERVIEW

Operating in Northern Sweden, **Skyforest** used Dhalion to inspect large wind turbines under demanding winter conditions.

In just three months, they completed more than 130 inspections while supporting operations teams with rapid defect detection and reliable, field-ready inspection workflows.

ABOUT THEM

Skyforest, based in Northern Sweden combines extensive drone expertise with deep operational knowledge in forestry and drone inspections. More than 12 years of drone experience.

Their highly trained team places strong emphasis on health, safety, and operational discipline, reflected even in their fully organised mobile-office field deployment setup.

THE CHALLENGES



Remote areas of Northern Sweden, where turbines and inspections face harsh **winter conditions, snow, and strong winds.**



Large modern turbines, added further operational complexity during inspection planning and execution.



Combined with **difficult terrain and limited daylight hours.**



HOW

With over a decade of drone operations experience, Skyforest **rapidly integrated Dhalion into their workflow**. Their field teams maintained high inspection throughput while ensuring consistency, safety, and image quality across geographically dispersed wind farms and **challenging environmental conditions**.

Interaction with Perceptual Robotics Dev team has created an ideal ecosystem for new developments and collaboration.

RESULTS

- High Quality Inspections detected **2 cracks in the field**
- **Results** were uploaded in Customer platform in record time

**Fast
adoption**

**2 Cracks
Detected on
site**

**Inspections
+130
in 3 months**



USE IMPACT

The combination of autonomous inspections and experienced field teams enabled **faster reviews and earlier defect identification**.

During image review immediately after flights, Skyforest identified **two blade cracks** and rapidly alerted the operations team. **Immediate mitigation actions were triggered, helping prevent progressive structural damage**, unplanned downtime, and more extensive repair requirements.

TRANSITION

01

It all starts with

Capture repeatable high-quality blade imagery

02

Ensure

Review inspection data immediately post-flight

03

Execute

Escalate critical findings directly to operations teams

04

Add Value

Support faster maintenance and repair decisions

CONCLUSIONS

- Skyforest demonstrates how experienced field teams combined with autonomous drone inspections can deliver reliable, scalable blade assessments even in extreme northern environments just after training.
- The result is faster defect detection, improved operational responsiveness, and safer, more efficient turbine maintenance workflows.