NEARTHLAB

MAKE YOUR NEXT INSPECTION A BREEZE

**Elevating Wind Farm Efficiency
With Autonomous Drone Inspection Solution**

NEARTHLAB offers advanced Drone Inspection Solution for comprehensive wind farm inspections, ensuring optimal performance and uncompromised safety.

NEARTHWIND PRO

NEARTHWIND PRO 2 is Nearthlab's flagship AI-powered Drone Industrial Solution, designed specifically for providing the highest quality of wind turbine external blade inspections. It offers fully autonomous flight capabilities, enabling precise and efficient data capture with minimal human intervention.

01 **Autonomous Precision**
Fully autonomous flight capabilities for inspecting all four edges of a turbine blade.

02 **High-Resolution Detection**
Identifies defects as small as 0.3mm, ensuring thorough inspections.

03 **Efficient Operation**
Completes a turbine inspection in under 15 minutes, up to 15WTGs per day.

04 **Flexible Deployment**
Suitable for both onshore and offshore turbines, with various purchase options.

FIEXIBLE OPTIONS FOR CLIENTS

Turnkey Solution
Inspections operated by Nearthlab's expert pilots – reduce inspection times by up to 90%.

Flexible Leasing
1 - 3 year lease options with comprehensive training and onboarding by Nearthlab trainers.

Drone Purchase
Purchase options available, subject to availability.

NEARTHWIND Mobile

NEARTHWIND Mobile is a DIY, subscription-based solution that seamlessly integrates Nearthlab's cutting-edge inspection technology into off-the-shelf drones. This CES award-winning platform is designed for ultimate flexibility and convenience, empowering field teams to harness deep-learning AI and autonomous flight capabilities with ease. With Nearthwind Mobile, businesses can conduct an unlimited number of blade inspections, maximizing efficiency and reducing reliance on specialized equipment, all while maintaining the highest standards of accuracy and reliability.

0.8 kg
Weight of the Mavic 3 Enterprise Drone

Cost-Effective
Industrial-Caliber Drones not Needed

Versatility
Compatible with several versions of the DJI Mavic series. – more models to come

NEARTHWIND MOBILE'S DIY INSPECTION SOLUTION

01
Flexible Integration
CES award-winning platform integration with off-the-shelf drones like DJI Mavic 3 Enterprise.

02
User-friendly Operation
Simple app download in the drone remote control enables autonomous flight inspections.

03
Unlimited Inspections
Subscription-based model allows for unlimited turbine inspections without additional charges.

04
Empower O&M Operations
With simple drone training, your team will be equipped with your own inspection solution, completing each WTG within 20 mins.

INDUSTRY-CHANGING AUTONOMOUS TECHNOLOGY AT A GLANCE

In-house Development
Created by Nearthlab's expert AI and visual perception engineers, backed by a robust portfolio of intellectual property patents.

Autonomous Precision
Capable of complete autonomous flight without pilot intervention to inspect all four edges of a turbine blade.

High-resolution Detection
Identifies defects as small as 0.3mm.

LPS Drone Inspection Solution

NEARTHLAB's LPS Drone Inspection Solution provides a precise, contactless method for identifying Lightning Protection System (LPS) damage along turbine blades. This technology enables manufacturers and asset owners to quickly detect and address potential issues without making physical contact with the blade, ensuring the integrity and safety of their turbines. By pinpointing the exact location of damage, the solution allows for targeted maintenance, minimizing downtime and preventing more severe structural failures.

**Pinpoint exactly where the damage is in the LPS line
and reduce costs by up to 90% vs traditional rope access LPS inspection services.**

Specialized Equipment
Requires the use of Nearthlab's LPS electromagnetic field sensor payload and a high-voltage (HV) generator that is used to simulate a lightning strike.

Purchase Options
Turnkey Solutions: Inspections performed by Nearthlab's skilled pilots and technicians. Flexible Leasing: 1 - 3 year lease options with comprehensive training and onboarding by Nearthlab pilots and technicians.

01
Rapid Setup
HV generator setup within 1-2 hours for efficient operation.

02
Swift Inspection
Less than 15 minutes of flight time required per turbine.

03
Immediate Results
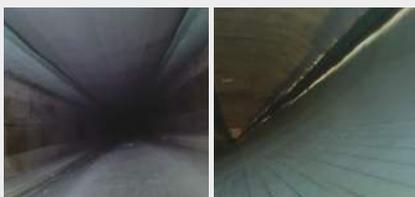LPS inspection sensitivity reports available immediately after the inspection.

Internal Blade Inspection

Internal Blade Inspection allows customers to gain insight on the condition inside of the turbine chambers using Nearthlab's in-house designed and manufactured rover. Equipped with a 360-degree camera, the rover can navigate deep within the blade and identify hidden damages that could otherwise go unnoticed.

Trailing Edge

Defect Report on Zoomable

ANNOTATION #1002996

TURBINE INFORMATION

WINDFARM NAME	Zoomable Demo
TUR BINE NAME	N40
MODEL	6.2M126
MODEL HEIGHT	97000 mm
ROTOR DIAMETER	126000 mm

BLADE INFORMATION

MODEL	PB - RE61.5E (Powerblades)
BLADE LENGTH	61500 mm

ANNOTATION INFORMATION

POSITION	Blade 2(PB0236) / IN_NAA_CC / R55
DATE	2024-07-03
DESCRIPTION	No Finding
SEVERITY	0
R VALUE	54800 mm

Leading Edge

FIEXIBLE OPTIONS FOR CLIENTS	Turnkey Solution	Flexible Leasing
	Inspections operated by Nearthlab's expert pilots.	1 - 3 year lease options with comprehensive training and onboarding by Nearthlab trainers.

zoomable™

Zoomable is our award-winning cloud-based analytics platform designed to give asset manufacturers and owners complete control over the lifecycle and task management of their wind farms. It offers AI-powered defect analysis and real-time monitoring, with expert insights from aerospace engineers to classify damages by severity. The platform enables easy tracking of year-to-year damage trends and seamless integration with existing systems, ensuring all proprietary data is securely stored and managed.

STEP
01
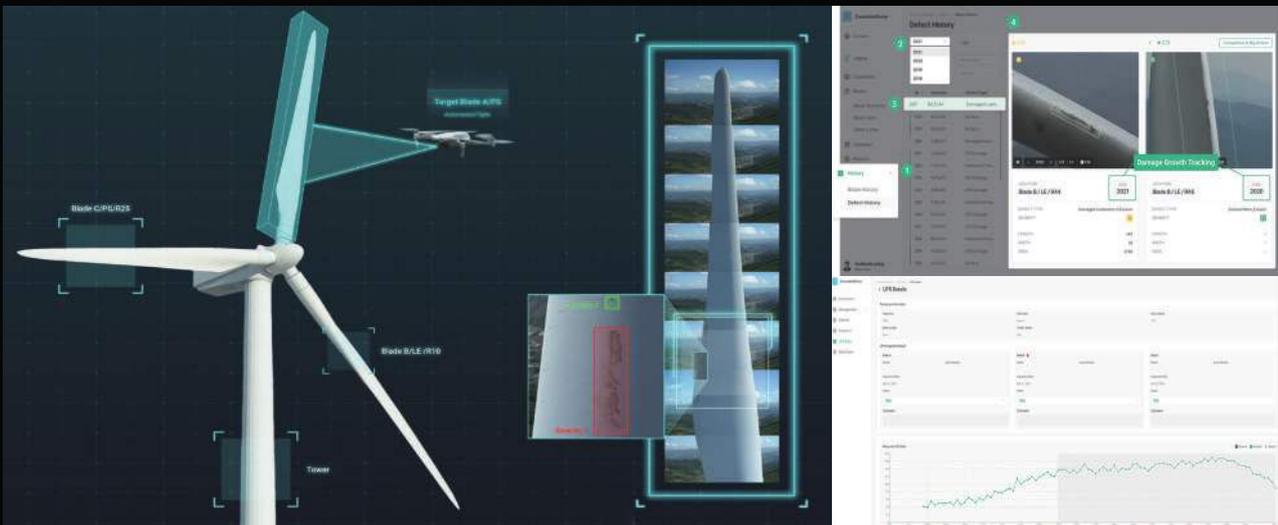
Autonomous Inspections
Within 15 Minutes.

STEP
02

Effortless Data Integration
with **Zoomable**
(Nearthlab SaaS Platform).

STEP
03

Guaranteed Full
Report Generation
Within **One Week**.

Zoomable Report Generation Features

Zoomable revolutionizes wind farm management by transforming safety inspections and defect analysis into actionable insights, empowering operators to make faster, smarter decisions for enhanced efficiency and safety.

Defect Management

99% data accuracy reading in defect detection External and Internal Year-to-Year Damage Growth Tracking.

Task & Repair Management

Directly assign and track repair tasks with your technicians, and integrate inspection data with repair notes to boost the health of your fleets.

LPS Readings

Testing the functionality of the LPS and identifying point of disconnection along the leading edges.

ABOUT NEARTHLAB

NEARTHLAB

NEARTHLAB is pushing the boundaries of drone hardware and autonomous software, redefining what's possible in the realm of unmanned aerial systems. Since its inception in 2015, Nearthlab has been pioneering innovative drone solutions that merge state-of-the-art hardware with advanced, vision-based autonomous flight technology. The company's name, inspired by the phrase "Near the Earth," reflects its mission to bridge the gap between vision and location by offering drones that operate seamlessly in GPS-denied and zero-light environments, both indoors and outdoors.

BUSINESS

NEARTHLAB's solutions extend the lifetime of wind assets, reduce downtime, and ultimately allow turbine owners and manufacturers to maximize energy production. We are a globally-minded company with a diverse team spanning several nationalities and four continents, fostering innovation and collaboration on an international scale. This global reach is not just in our mindset but also in our business, as over 70% of our revenue comes from markets outside Korea. Our commitment to diversity and global engagement allows us to understand and address the unique challenges of our clients worldwide, ensuring that Nearthlab remains at the forefront of the wind energy industry on a global stage.

Autonomous Flight Software

Drone System Integration

Data Management

INDUSTRY

Wind Turbine, Solar Panel Oil & Gas, Facilities Inspection

Public Safety, Surveillance

Defense

MILESTONES

GLOBAL COMPETENCE

2024	2023	2022	2018
• Fast Company's The World's Most Innovative Companies by Fast Company	• Microsoft Growth X Accelerator	• CES Software & Mobile App Innovation Award (NearthWIND MOBILE)	• NVIDIA GPU Technology Conference in Silicon Valley Presentation
• WEF Technology Pioneer		• Google Kaggle AI CHallenge Gold Medalist	
• iF Design Award (AiDEN)			
• Red Dot Design Award (AiDEN)			

KEY PARTNERS & CLIENTS

"Zoomable is incredibly user-friendly. Finding your way around the platform is a breeze. I appreciate how I can easily filter and switch between rotor blades and sides with just a few clicks. Plus, the display of radius is spot on. Uploading metadata on the iPad and then transferring images to Zoomable is smooth sailing. The tracking feature for the 'DIU process' status during annotation is a nice touch; it keeps me informed about the progress every step of the way."

Steffen Mueller & Thomas Buske (Professional Drone Pilots) at Deutsche Windtecnik

"Navigating the platform is so easy to figure out; it's like second nature; I have to give props to how flexible claim creation is, especially the hands-free manual option. It's a game-changer."

Kevin Hauenstein (Blade Expert) at Deutsche Windtecnik

"Zoomable gives us incredibly detailed insight into our turbine's exterior blade health. The photo quality is top tier for the industry and makes viewing damages a breeze. With Zoomable, it helps us track damage degradation and repair them when needed which saves me money for the life of the project."

Marcus Correale (Operations Manager) at Innergex Renewable Energy

"Zoomable has been a game-changer for us over the last four years. With records from previous years at our fingertips, identifying defects that require immediate attention has become significantly easier. Zoomable makes up for a vital component of our daily operations, streamlining O&M processes and helping us to stay ahead of the curve."

Bjorn Hedges (Plant Manager) at NAES

90% ▼
IN INSPECTION TIME

40% ▼
IN INSPECTION COSTS

15% ▲
CONTRIBUTIONS
TO ASSET LIFE EXTENSION

20% ▲
IN ENERGY PRODUCTION

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