

**Ned Marine**  
services B.V.

ISO 9001 & VCA certified company

## **Drone Services**

**Safety and efficiency  
from the air and underwater**

Certified quality, delivered directly by Ned Marine Services B.V.

**Efficiency at every level**



# Smart inspection, without risk.



## Safety and efficiency in one solution

Inspecting your installations is crucial to prevent accidents and additional costs. Drone solutions provide an efficient and accessible way to perform inspections and offer a true cost-saving solution.

### Environments

- Underwater: open water, ports, storage tanks
- Confined spaces: voids, ballast and drinking water tanks, cargo holds and storage tanks
- Height inspections: cranes, buildings, installations, flares, rotor blades, chimneys

### Installations / Locations

- Ships
- Wind farms
- Offshore platforms
- Ports
- Storage locations

### Applications

- Class inspection
- Flag state inspection (statutory inspection)
- Insurance surveys
- Clarifying uncertainties
- Preparation for dry docking
- CAP (Condition Assessment Program)





## Height Inspection

With the help of drones, it is now possible to inspect structures such as wind turbines, cranes, buildings and other installations easily, quickly and accurately.

Traditionally, inspections at height required scaffolding, rope access techniques or aerial work platforms, which are dangerous, costly and/or time-consuming.

The use of drones for visual inspections at height eliminates these risks and makes the inspection process safer and more efficient.

Drones can often perform an inspection in a few hours or even faster.

This significantly reduces the downtime of your asset.

## Underwater inspection (ROV)

Underwater inspections with an ROV (Remotely Operated Vehicle) complement diving inspections.

With our ROV, we can easily descend to a depth of 300 meters, giving the crew (and especially the inspector) a clear live view of the inspected object.

## Underwater inspections

Mini-ROV technology offers extensive possibilities for underwater inspections and provides an optimal solution between traditional diving operations and large-scale ROV deployment.

- Cost savings: light logistics, fewer resources required
- HD data: 1080p - 4K + AI-supported imaging
- Live images: real-time sharing worldwide
- Manual deployment: operable by one person
- Portable: compact and easy to transport
- Safer operations: keeps divers out of dangerous situations

Initially classified as Class 1, these ROVs now feature extended Class 2 capabilities such as thickness measurements, cathodic protection inspection, biofouling assessment and light cleaning.



## Your benefits

By combining our visual inspection techniques with UTM measurements (ultrasonic thickness measurement), we offer a complete and efficient inspection solution.

This approach significantly reduces risks and minimizes downtime, while inspections are performed up to 3 to 4 times faster.

Thanks to the high accuracy of UTM and visual support with video recordings, inspections can be carried out very precisely and easily followed up, with measurement points accurately traceable.

Moreover, with this combined technique we reach all areas, including hard-to-access and confined spaces.

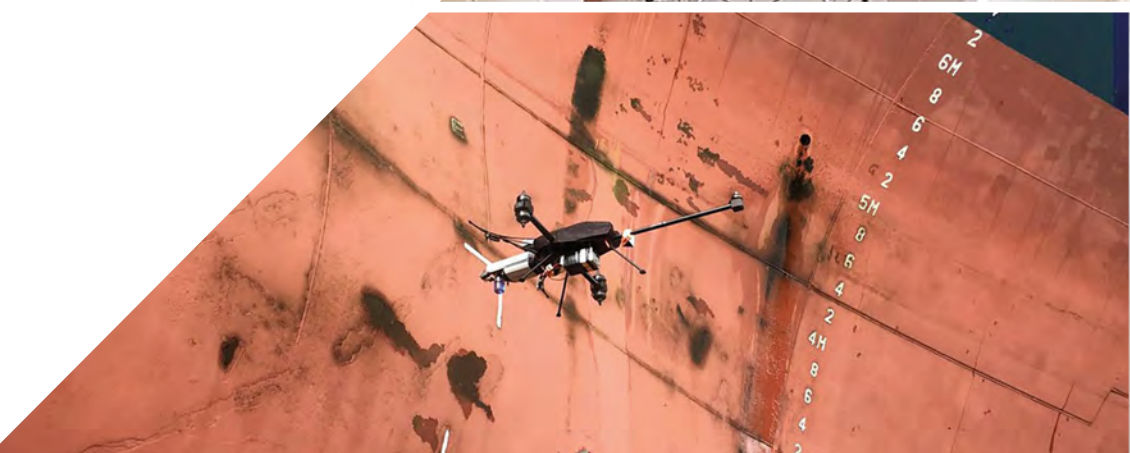
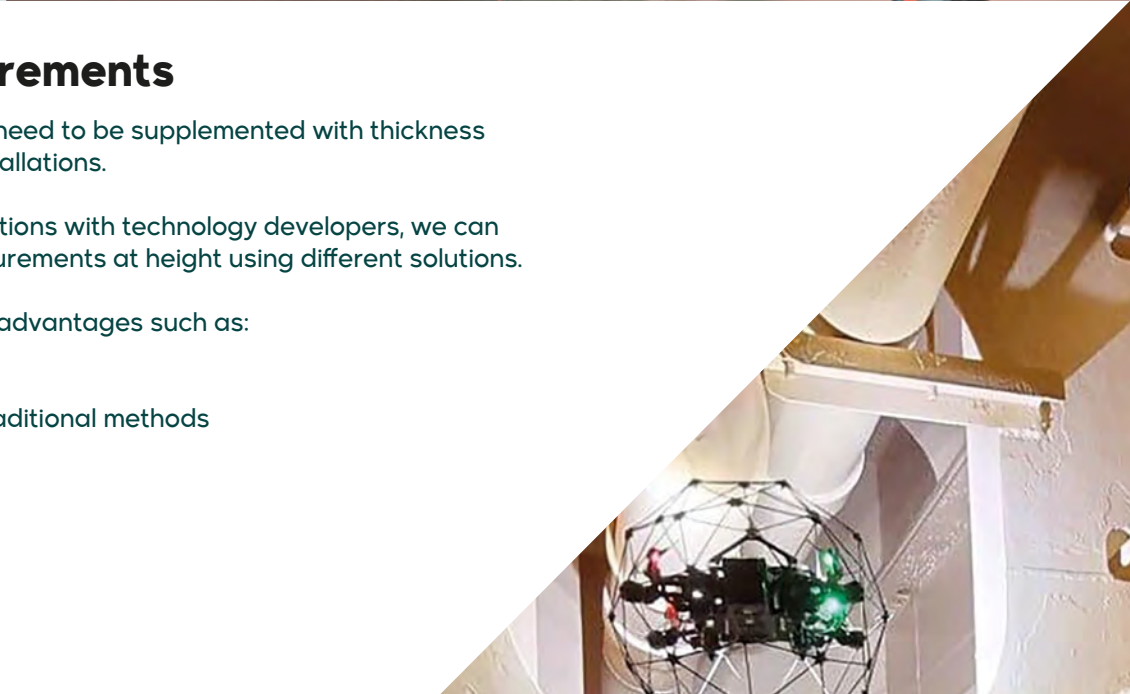
## Thickness measurements

Visual inspections sometimes need to be supplemented with thickness measurements for various installations.

Thanks to long-term collaborations with technology developers, we can now also perform these measurements at height using different solutions.

These innovations offer major advantages such as:

- Higher efficiency
- Improved safety
- Lower costs compared to traditional methods





## Specialist in confined space inspections

Revolutionary visual inspections of tanks and confined spaces that were previously difficult to access using rope access or other traditional methods.

Our specialized drones operate safely in non-breathable environments (except explosive environments).

- Ballast tanks and cargo holds
- Fuel storage compartments
- Ventilation systems
- Engine rooms

Improved safety: eliminates human exposure to hazardous confined spaces.

### 1 Visual inspection

Initial comprehensive assessment using high-resolution cameras

### 2 Ultrasonic measurement

Accurate thickness measurements using miniaturized ultrasonic sensors

### 3 Data analysis

Comprehensive reporting with concrete insights and recommendations

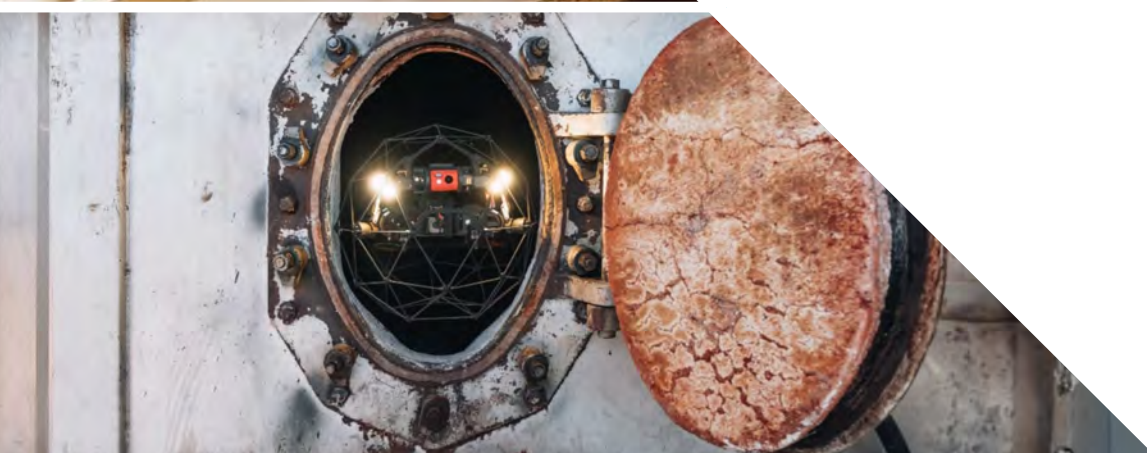
## Tank inspections

Ned Marine innovates tank inspections with thickness measurements performed by drones.

A drone-based thickness measurement has been successfully tested in a COT (Crude Oil Tank) on an FPSO, providing unprecedented access to confined and hard-to-reach spaces.

Improved safety: eliminates human exposure to hazardous confined spaces.

- Access capabilities for confined spaces:
- Visual inspection: minimum opening of 350 mm
- UT inspection: minimum opening of 550 mm



## Additional interventions

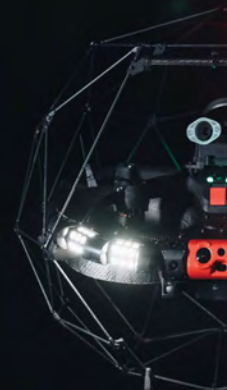
Our activities go beyond visual inspection alone. Read more about several types of operations already performed for clients.

## Anti-pollution standby

Respond faster to pollution using drone inspections and maintain a clean environment.

Locating an oil leak can be difficult due to factors such as weather conditions, waves, wind and currents.

Drones help your team reach the pollution location faster and locate the leak more accurately.



## Anti-rust spraying

Shipping companies place great importance on the visual appearance of their fleet.

But how do you remove rust during a short port stay, especially on the seaside?

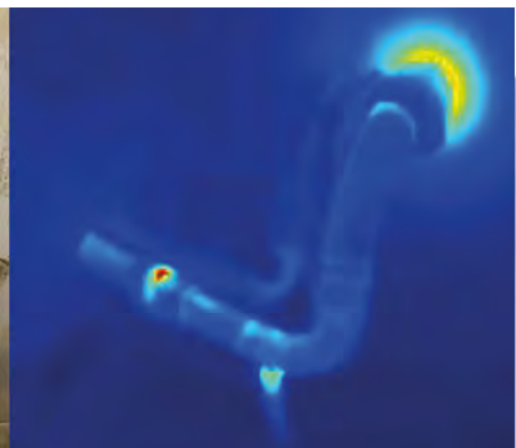
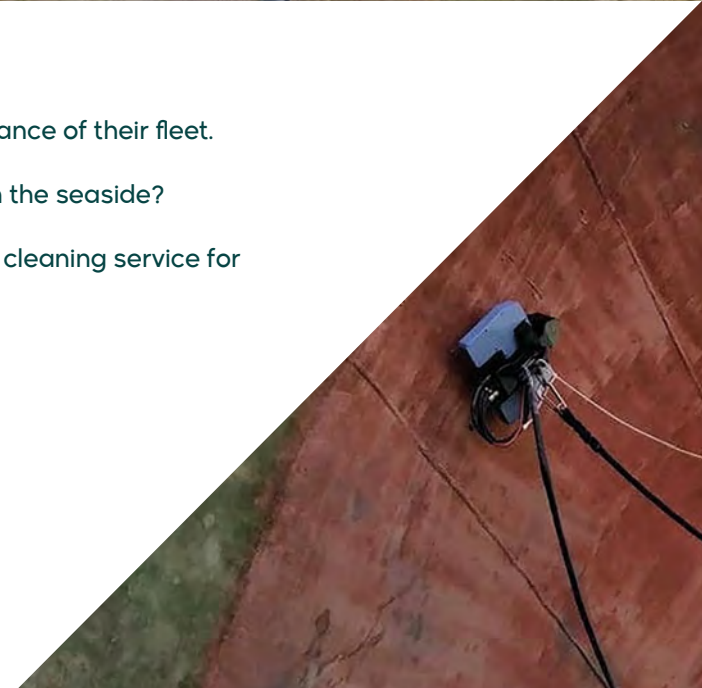
After years of searching for solutions, Ned Marine can now offer a cleaning service for passenger ships.

## Thermography

Aerial thermography is an infrared imaging technique used to analyze the heat radiation of an object.

This analysis offers many advantages, such as detecting:

- Defects in installations
- Heat losses





## Modeling

3D modeling with drones is a process in which a structure, object or location is digitally reconstructed into a 3D model based on photos or LiDAR scans taken by a drone.

This virtual copy of reality is highly accurate and is used across many sectors.

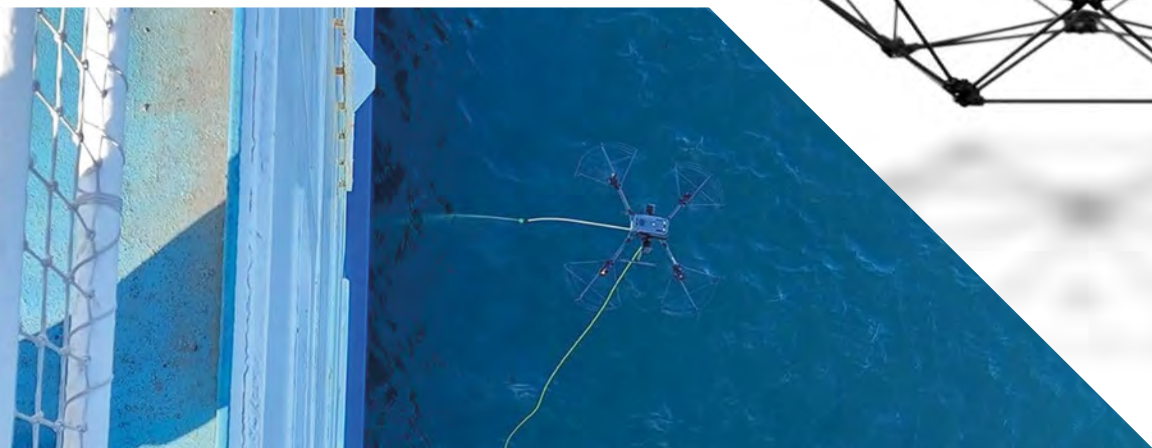
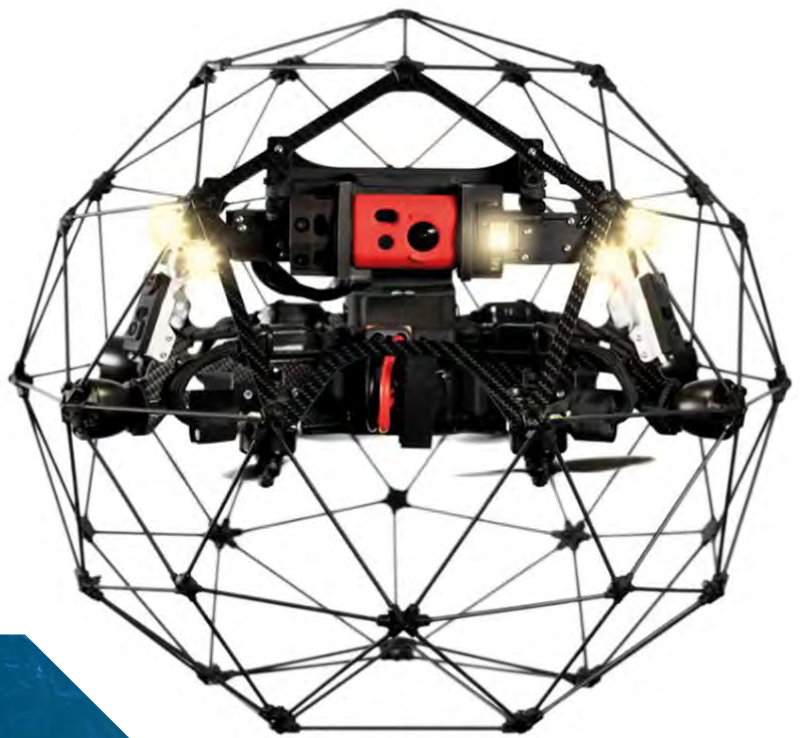
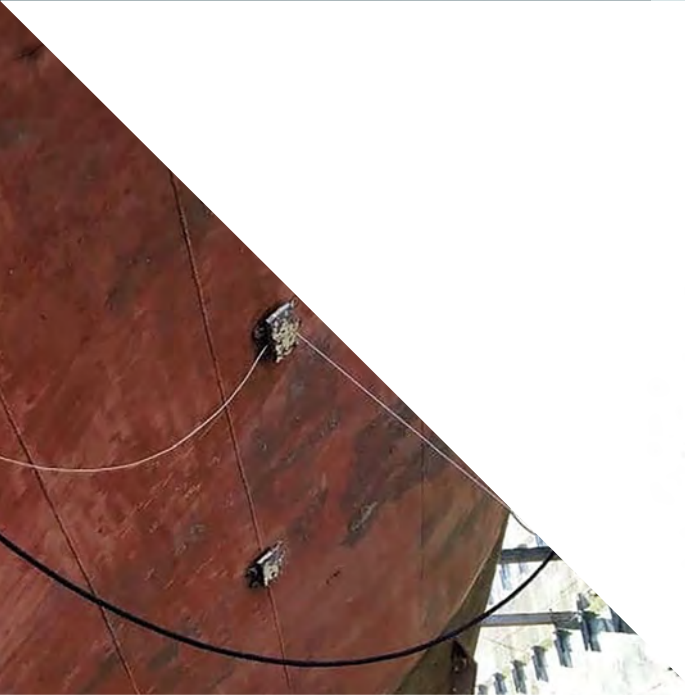
The drone flies close to the object and captures multiple high-definition images from different perspectives.

The images overlap, creating a detailed representation that enables accurate calculations of dimensions, surfaces and volumes.

After collecting the images, special software is used to generate a 3D model based on a dense network of points.

Textures are then refined to enhance detail and realism.

The result is an extremely realistic and detailed model.







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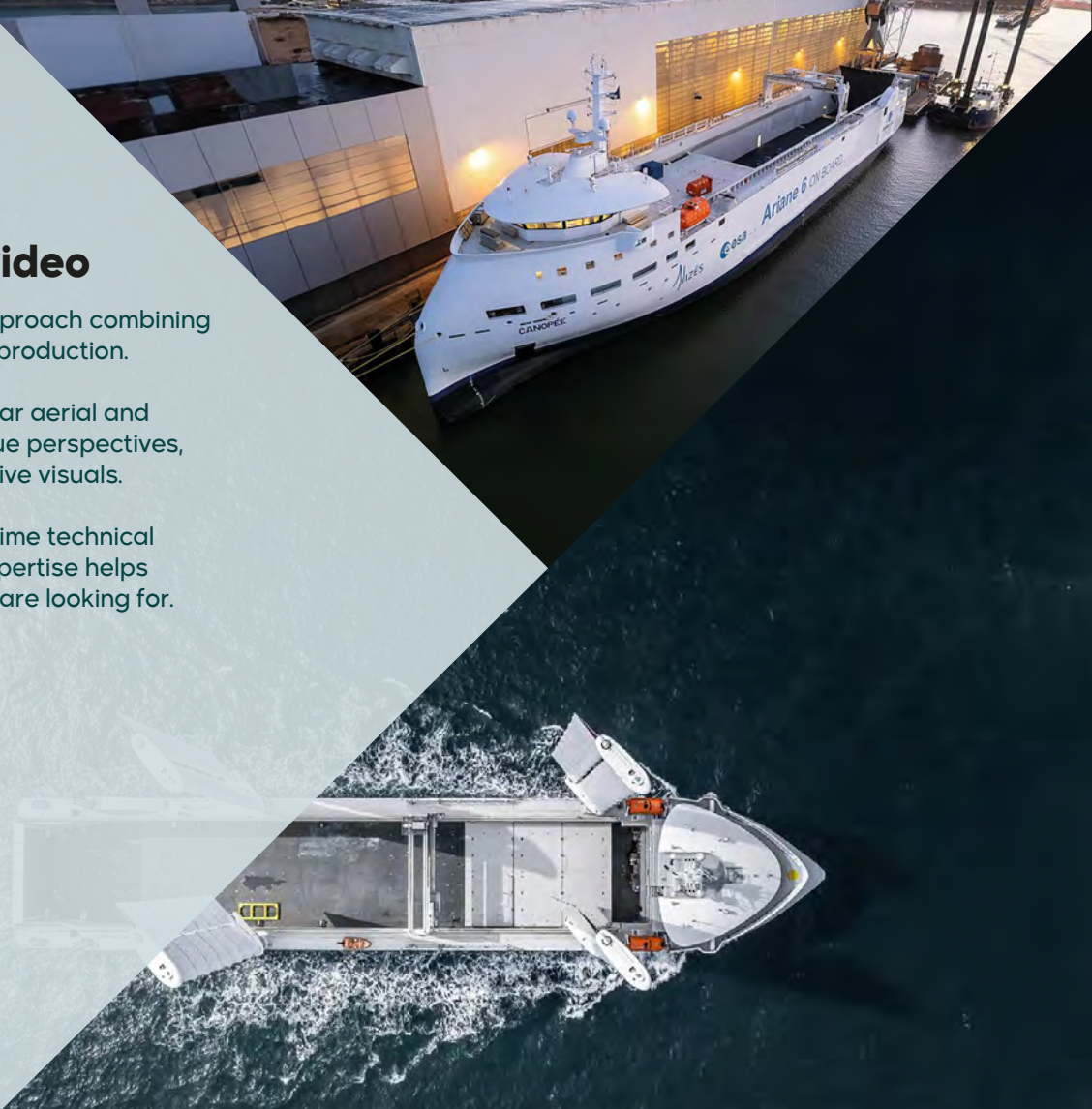
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## Communication video

Ned Marine offers a unique approach combining maritime expertise with video production.

Drones can capture spectacular aerial and underwater images from unique perspectives, creating dynamic and impressive visuals.

If you want to promote a maritime technical project, this combination of expertise helps deliver the results your clients are looking for.



## Surveillance

Monitoring a location can be difficult and costly, especially for large or hard-to-reach areas.

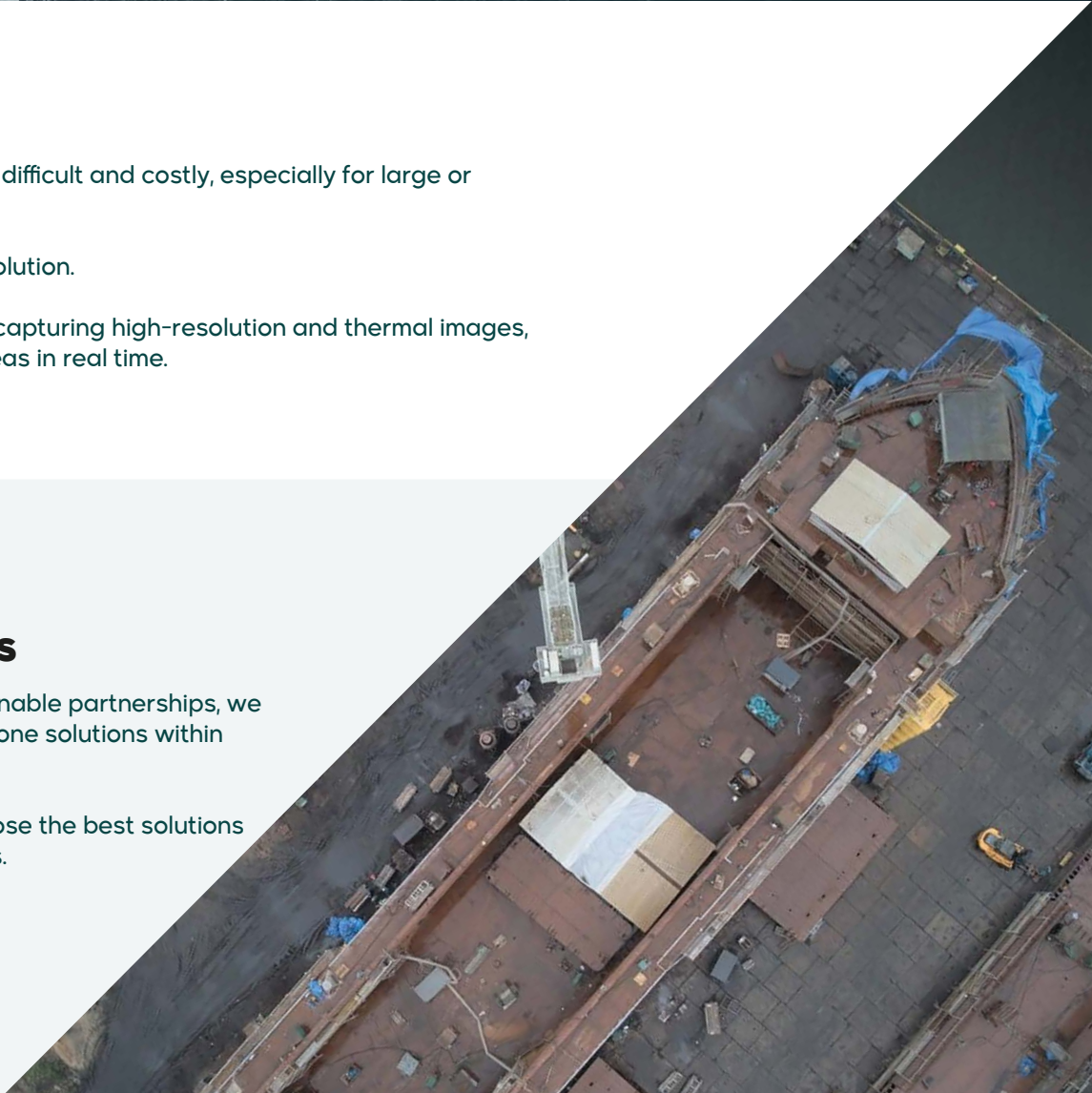
Drones provide an efficient solution.

By flying long distances and capturing high-resolution and thermal images, drones can monitor large areas in real time.

## Custom solutions

Because we believe in sustainable partnerships, we support you in integrating drone solutions within your organization.

We provide expertise to choose the best solutions based on your specific needs.



## Versatility across multiple sectors

We bring our expertise to a wide range of key sectors and tailor our solutions to the specific challenges of each industry.



### Maritime

Inspections and 3D modeling for fleets, port infrastructure and shipyards.



### Offshore wind farms

Monitoring and diagnostics of wind turbines and foundations in demanding maritime environments.



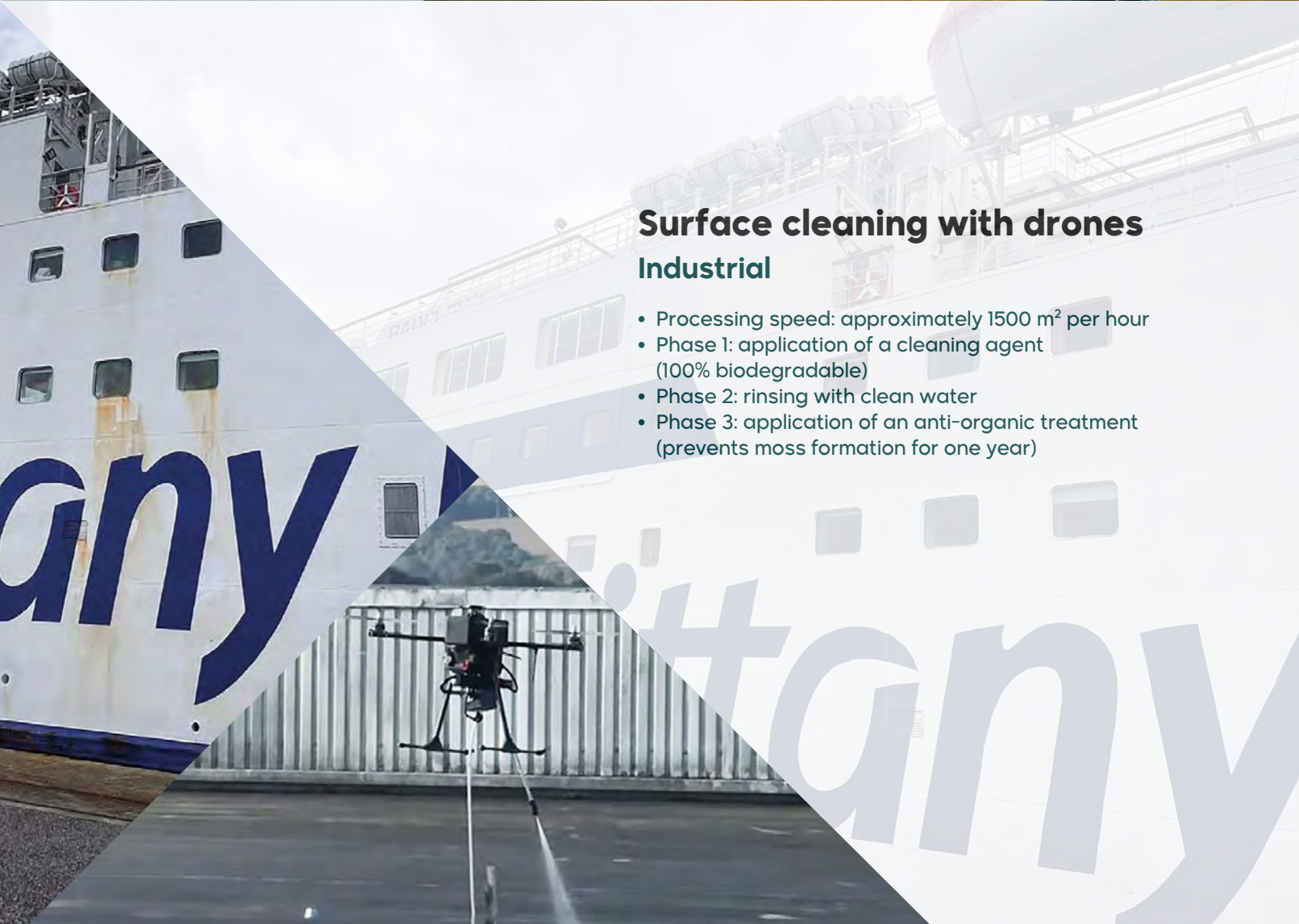
### Oil & gas

Analysis of platforms, pipelines and installations for optimized preventive maintenance.



### Onshore industry

Inspection of infrastructure, buildings and industrial equipment for safety and regulatory compliance.



## Surface cleaning with drones

### Industrial

- Processing speed: approximately 1500 m<sup>2</sup> per hour
- Phase 1: application of a cleaning agent (100% biodegradable)
- Phase 2: rinsing with clean water
- Phase 3: application of an anti-organic treatment (prevents moss formation for one year)

A large red ship is shown from a low angle, with a drone-mounted water spray nozzle directed at its hull. The drone is visible in the upper right corner, flying against a blue sky with scattered white clouds. The ship's hull is a deep red color, and the water spray is creating a misty effect. The background is a clear blue sky with some white clouds.

## **Ships / vessels**

- Processing speed: approx. 6 hours to treat a full vessel (repeat 3 times per year)
- Permission: approval in all ports from Roscoff to Le Havre and Marseille/Fos

## **Benefits**

- Efficiency and time savings
- Increased safety: fewer risks when working at height
- Cost reduction

## **Oil & Gas Offshore**

Maximum safety in high-risk environments combined with operational continuity.

Our drone systems provide comprehensive inspection services for FPSOs, fixed platforms and offshore installations, while production continues and human exposure to hazardous conditions is eliminated.

## **Drone logistics**

- Fast response: express delivery of spare parts and samples between offshore installations and/or land
- Operational efficiency: significant cost savings and reduced dependency on helicopters



## Regulations & classification inspections

- Full compliance: 6 years of experience in cooperation

## Predictive maintenance

- Proactive detection: identification of thermal deviations and corrosion before escalation
- Asset optimization: prevention of major failures

## Confined space inspection (CVI, CGI, UTM)

- No risk to humans: 100% remote internal inspections of tanks and pressure vessels
- Data-driven insight: extensive condition data



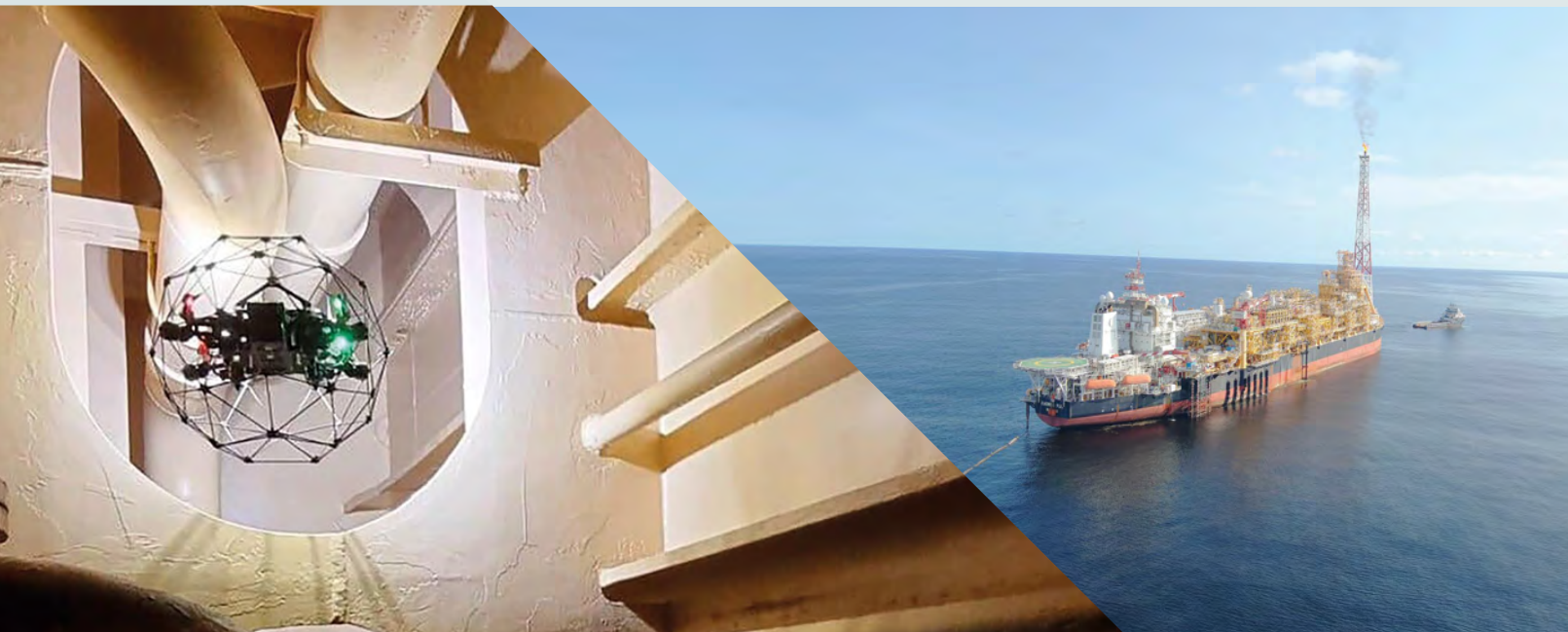
## Maritime sector

### Pre-docking inspections (during vessel operation)

- Accurate determination of repair scope before arrival at the yard
- Optimization of dry dock period by mapping work in advance
- Reduction of unexpected findings
- Limitation of costly yard time

### Cleaning and treatment operations

Exclusive drone-based application of rust converters on ship hulls.



## Offshore wind

We provide comprehensive drone services to support offshore wind farms throughout their entire lifecycle.

### 1 Construction monitoring

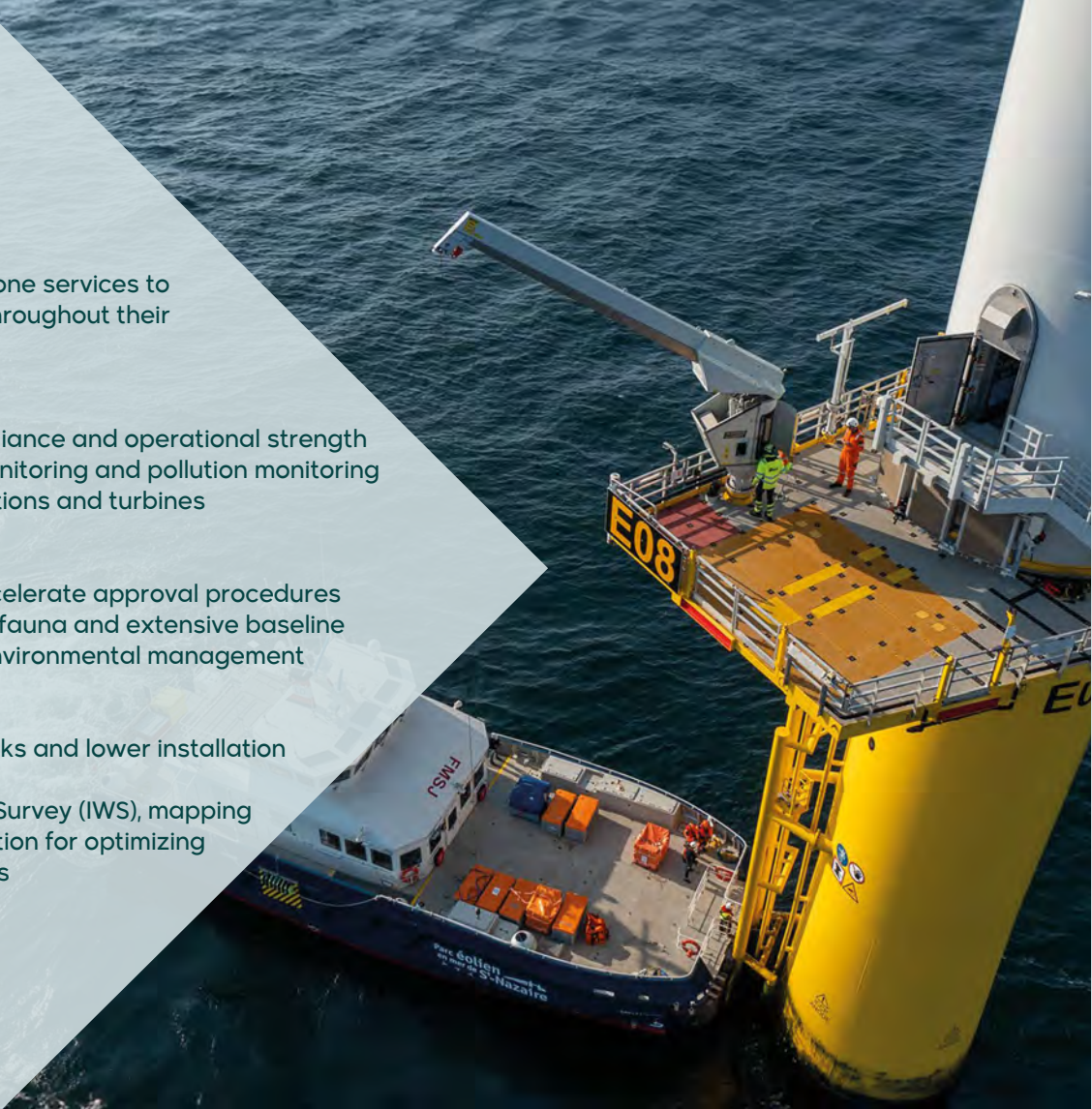
- Goal: ensure real-time compliance and operational strength
- Activities: continuous site monitoring and pollution monitoring during installation of foundations and turbines

### 2 Environmental study phase

- Goal: obtain permits and accelerate approval procedures
- Activities: monitoring marine fauna and extensive baseline measurements to support environmental management

### 3 Seabed survey

- Goal: reduce construction risks and lower installation costs
- Activities: detailed In-Water Survey (IWS), mapping and geophysical data collection for optimizing cable routes and foundations



## Operations & maintenance: maximizing turbine availability

### Blade inspection

- Full documentation of blade surface in 30 minutes per turbine
- Detection of damage not visible during rope access or boat inspections
- Detailed classification of defects to support repair prioritization

### Foundation inspection

- Extensive corrosion mapping without removal of marine growth
- Verification of structural integrity according to certification requirements
- Assessment of cathodic protection systems



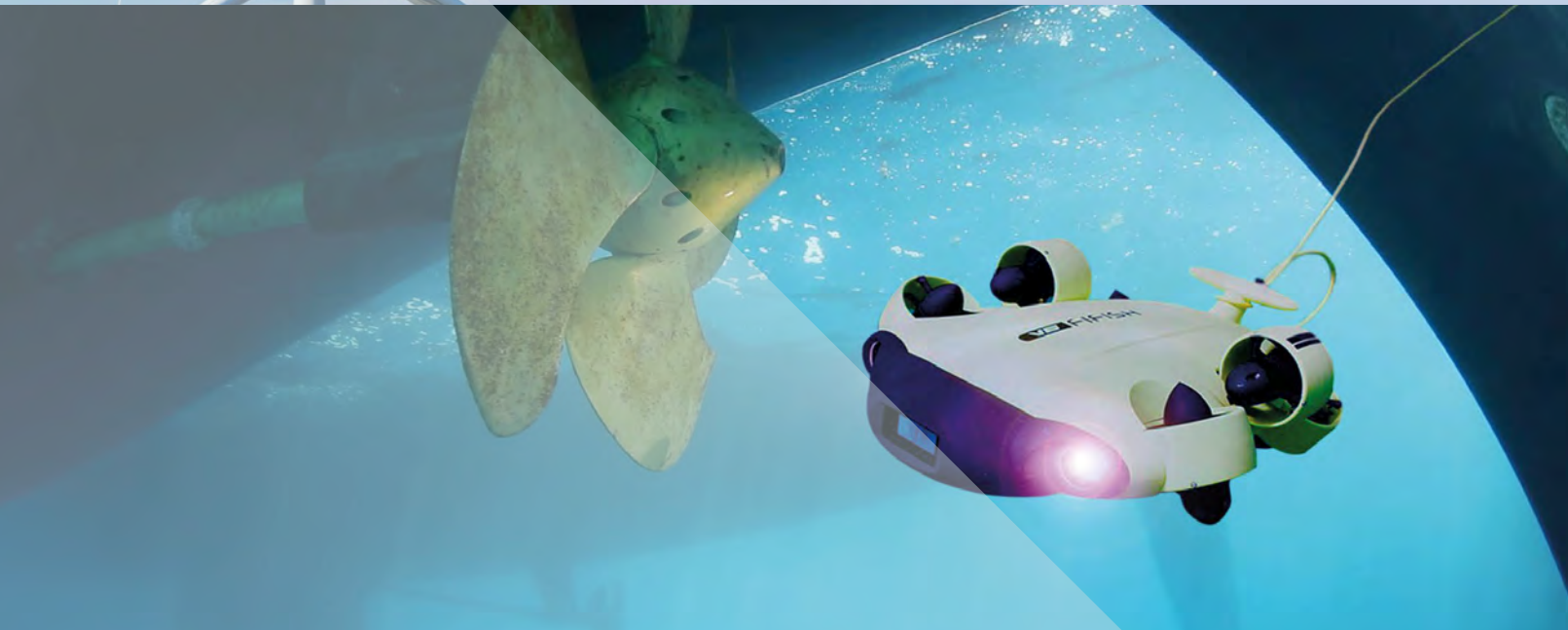
## Underwater inspection

- High-definition imaging, even at zero visibility
- Verification of cable burial depth and damage analysis
- Inspection of secondary foundation structures and J-tubes



## Internal inspection of tower & nacelle

- GVI, CVI and UTM
- Without rope access
- Accurate and documented assessment of internal defects



## Ned Marine Drone and ROV inspections for:

- Maritime sector
- Oil and gas industry
- Wind farms (on- and offshore)
- Tank inspections



## Why choose Ned Marine Drone Services?

- Cost: total costs can be up to 50% lower
- Downtime: inspection duration up to 4x shorter
- Remote inspection: follow your inspection anywhere in the world
- Analysis: improve follow-up of your installations
- Accessibility: reach every part of your installation instantly

*Real-time insight, available worldwide*

## Want to know more?

Please contact us.

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### Ned Marine Services BV

📍 Wolweverstraat 43  
2984 CE Ridderkerk  
The Netherlands

☎ +31180420055

✉ sales@nedmarine.com

🌐 www.nedmarine.com

