



CYBERHAWK
Aerial Inspection and Surveying Specialists

Digitising Drone Collected Data to Aid Asset Integrity & Major Projects

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- Maximising the Benefits





About CYBERHAWK



Selected Clients



bp



INEOS



ExxonMobil



MAERSK

BG GROUP

Petrofac



PERENCO



ConocoPhillips

Apache

TALISMAN ENERGY



NAM

MODEC



nexen

TULLOW
pic



CNR International

centrica

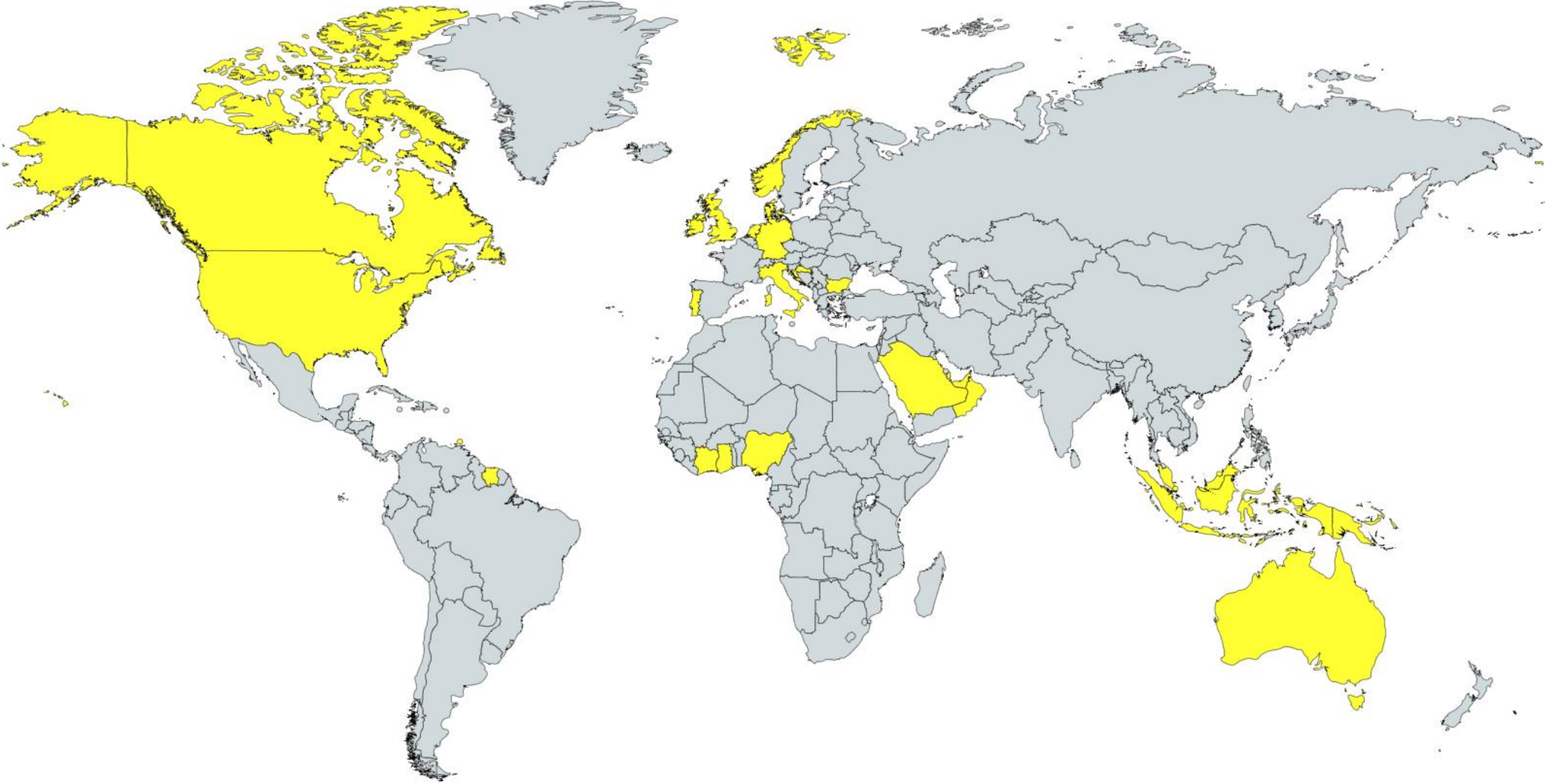
Marathon Oil

enQuest



Britannia

Global Experience



Team

Pilots
Inspection Engineers
Geospatial Surveyors
Software Developers



Solutions for
Asset Integrity

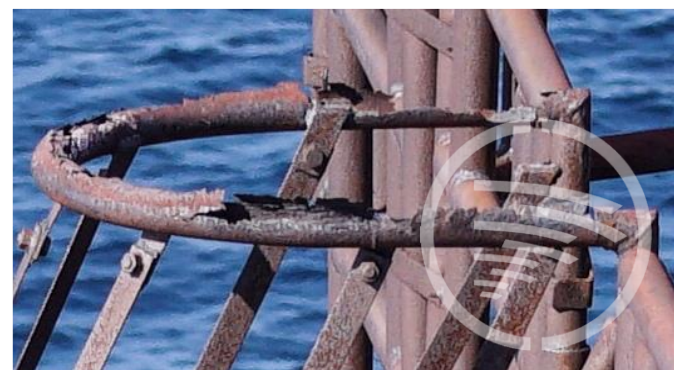
Drone Inspections





Flare Inspection





Flare Inspection Savings

Oil and Gas Supermajor, Nigeria

- 5 flares inspected in <1 week, while fully operational, avoiding a shutdown
- Alternative methods of inspection such as rope access or scaffolding would have required a complete shutdown of the facility
- Saved the client >\$US11 million



A photograph showing the underside of a ship's deck. The image features a complex network of dark, weathered metal beams and girders. Several white pipes with red and black markings are visible, running horizontally across the structure. A prominent, rusted metal bracket or support piece is in the center. The background shows a grid of orange-brown grating, likely part of the deck's flooring. A thick yellow diagonal bar runs from the top right towards the bottom left. In the top right corner, there is a circular logo with a yellow border and white stylized lines inside. A semi-transparent white box with black text is overlaid on the left side of the image.

Underdeck Inspection



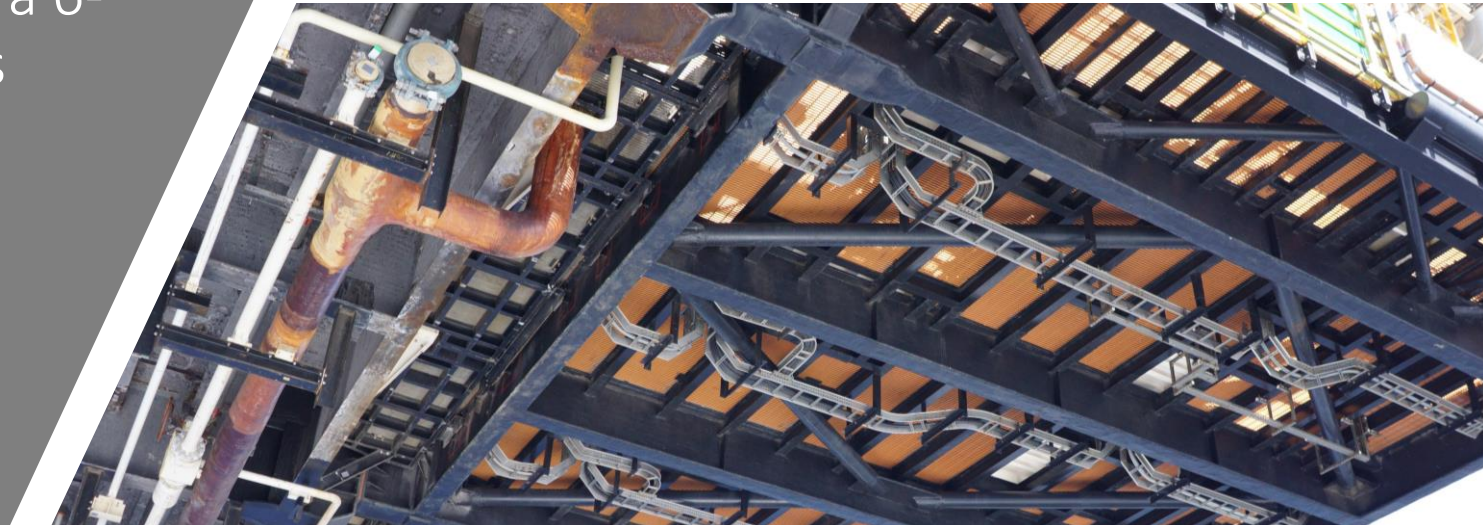


Underdeck Inspection Saving



Oil and Gas Supermajor, UK North Sea

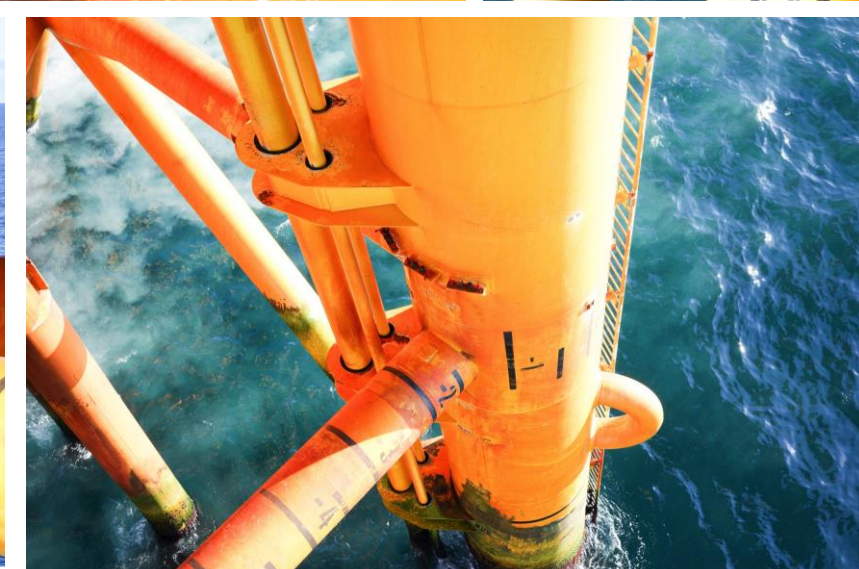
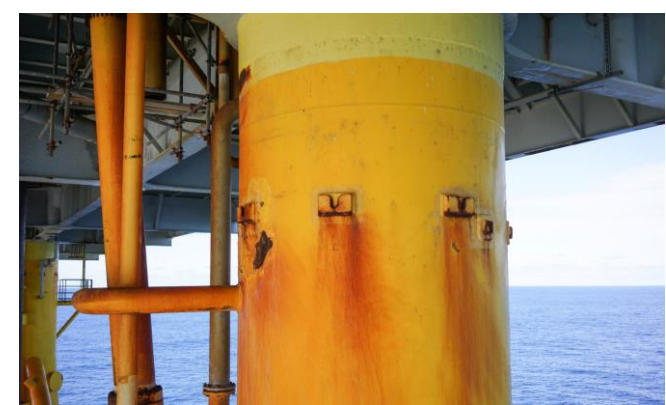
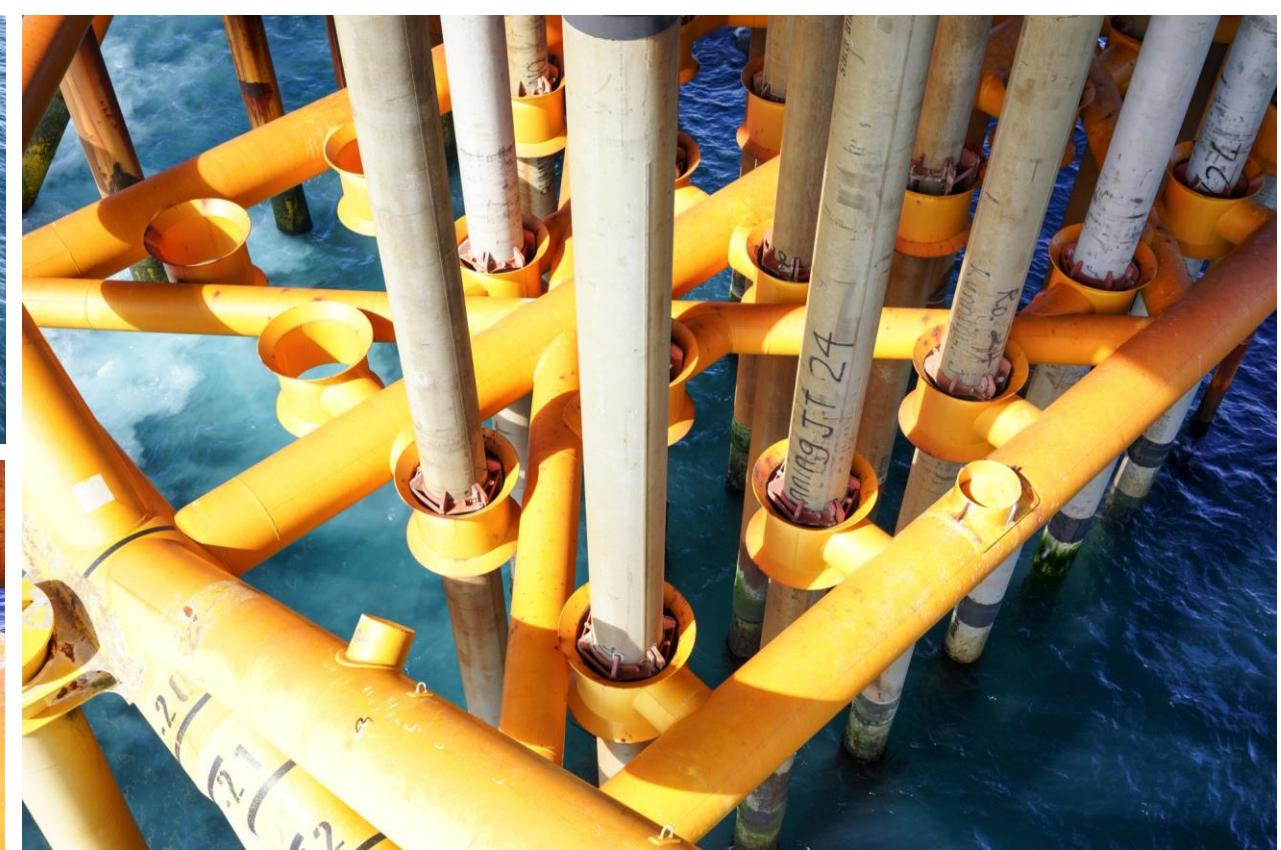
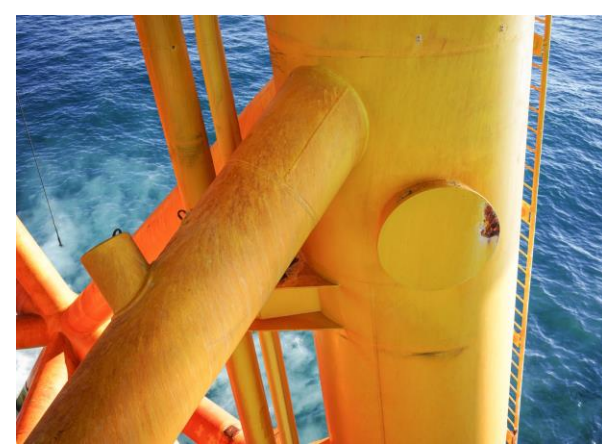
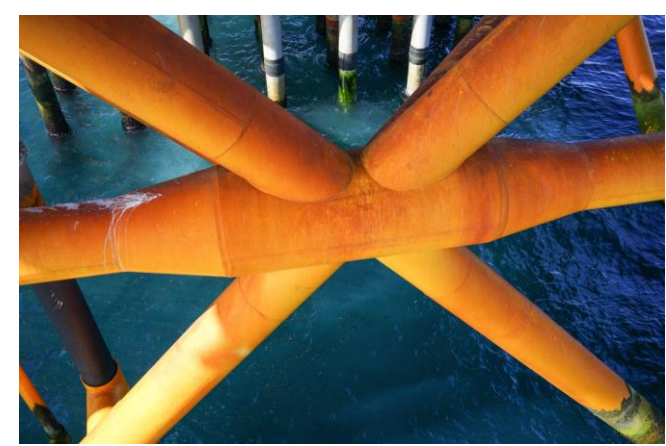
- Cyberhawk underdeck inspection in 3 days
- Previous method of inspection was a 6-man rope access team over 14 weeks
- Saved the client >£1 million



A photograph of an offshore oil rig's splash zone. The image shows a complex network of dark steel pipes and structural beams extending from the rig's deck down into the blue ocean. A large, powerful jet of white water is being sprayed downwards from a pipe, creating a significant splash and mist. The rig's legs are visible, some showing signs of corrosion and greenish algae growth at the water level. The sky is clear and blue. A semi-transparent white banner is overlaid across the middle of the image, containing the text 'Splash Zone Inspection'. A large yellow diagonal graphic element is on the right side, featuring a circular logo with white curved lines.

Splash Zone Inspection







Drilling Derrick Inspection



Drilling Derrick Inspection

Oil and Gas Supermajor , UK North Sea

- Cyberhawk General Visual Inspection scope completed in 2 days during gaps in drilling operations
- Previous inspection method required Rope Access Teams and delays in drilling operations
- No production deferment
£160,000 - £200,000



Bridge Inspection



Bridge Inspection Savings



National Oil Company, Dubai

- 64 platform complex
- 24 bridges inspected
- All elevations including underdeck
- Typical GVI/CVI completed in <math><0.5</math> days per bridge





Internal Crude Oil Tank (COT) Inspection

COT Inspection Saving



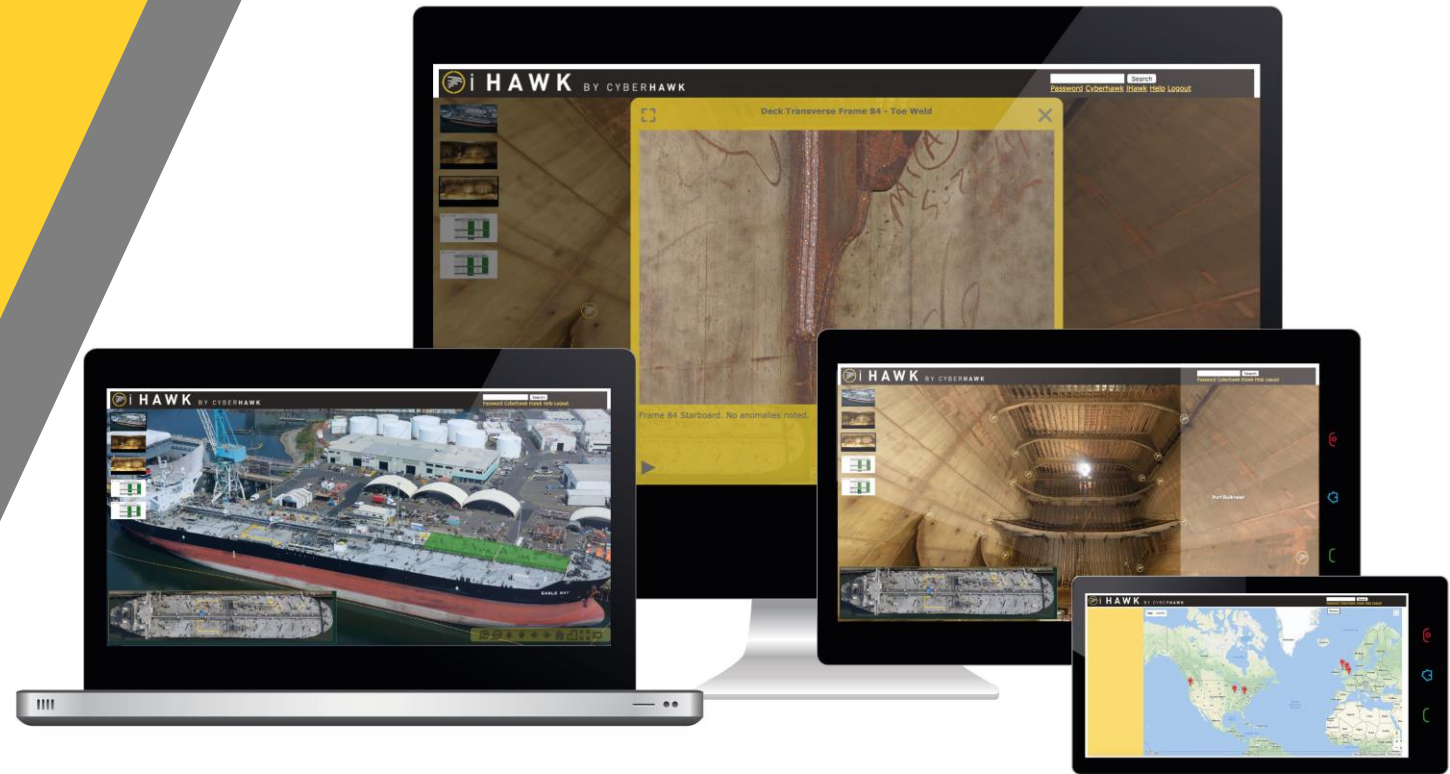
Oil and Gas Supermajor, West Coast USA

- 14 COTs inspected in 12 days
- Inspection approved by ABS to Class code
- No scaffolding or RATs used
- Client saved \$750,000 attributed to no scaffolding costs & efficiency of the inspection allowing for quick turnaround



Solutions for Asset Integrity

Digitising Inspection
Results in the Cloud





CYBERHAWK

Aerial Inspection and Surveying Specialists

Inspection Report

Client: Supermajor North Sea

Asset: Platform

Description: HP/LP Flare Inspection

Inspection Date: 28-29/04/17

Report Ref:XYZ170702_HPLPFLR_MHV1

Inspection Summary:

Sonajet HP/LP & Sour Gas Flare Tip + Flare Structure was inspected between the 28th and the 29th of April 2017.

The 14" HP tip was found with a possible hairline crack at the tip periphery.

The LP tip was found to be in poor condition. Deformation of the upper shell has resulted in a moderate sized tear on the East El. lifting lug weld. The deformation of the tip has also affected the overall cross section of the tip. Heavy liquid carry over was also found to be occurring on the low pressure flare. The sour gas flare was found to be in good condition.

The windstrake was found to be in poor condition. Multiple potential dropped objects found on flare deck. Access stairs handrails/backscratcher noted to have heavy corrosion/material loss – caution advised if used.

The overall flare structure appeared in good mechanical condition.

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Sonajet HP/LP & Sour Gas Flare Tip + Flare Structure Findings:

– HP Flare Tip

The 14" HP tip was found to be in satisfactory condition with the exception of a possible hairline crack at the tip periphery, further inspection is required to confirm this. The 8" nozzles were found to be in good condition with light carbon build noted.

– LP Flare Tip

The LP tip was found to be in poor condition. Considerable deformation was noted since the last Cyberhawk inspection in 2013. The deformation of the upper shell has resulted in a moderate sized tear on the East El. lifting lug weld. The deformation of the tip has also affected the overall cross section of the tip, which can cause an undesired burning effect, accelerating the deterioration of the tip itself and the components surrounding it. Heavy liquid carry over was also found to be occurring on the low pressure flare, more than likely related the separation process in the LP KOD, this appeared to cause a light smoke which can be observed in various stand off images.

– Sour Gas Tip

The sour gas flare was found to be in good condition with no visible anomalies.

– Windstrake

The windstrake was found to be in poor condition, further deterioration noted since the previous Cyberhawk inspection in 2013.

– Flare Deck and Access Stairs

Multiple potential dropped objects found on flare deck. Loose and detached handrail clamps were also noted. Access stairs handrails/backscratcher found to have heavy corrosion/material loss – caution advised.

– Structure

Overall, the structure appeared in good mechanical condition. Few areas of isolated coating breakdown with surface corrosion present were highlighted. PFP coating integrity appeared to be in overall good condition, one isolated area was found to have deteriorated PFP.

Anomaly No.	Description	Location	Elevation	Page
1	Damaged Windstrake	Windstrake	N/A	15,25,26
2	Deformed LP	LP Tip	North El.	16-23
3	Missing Pilot Burner	LP Tip	South El.	17
4	Tear	LP Tip Lifting Lug Weld	East El	19,20
5	Damaged Windstrake Support	Windstrake Bracket	East El.	23
6	Possible Crack	HP Tip	West El.	24
7	Dropped Object Hazard	Flare Deck	N/A	28-30
8	Detached Handrail Clamps	Flare Deck Handrails	N/A	31,32
9	Corroded Handrails	Access Stairs	North El.	35-45



Small crack-like-indication found on HP upper shell, adjacent to the flame retention segments. Propagation likely under normal operating conditions and shutdown/start up (cooling).

iHawk Visual Asset Management - Flares

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iHawk Visual Asset Management



EL +103 South



Anomaly 13

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Anomaly 13

Anomaly 13



iHawk Visual Asset Management



Anomaly 13

Anomaly 13



iHawk Visual Asset Management - Risers

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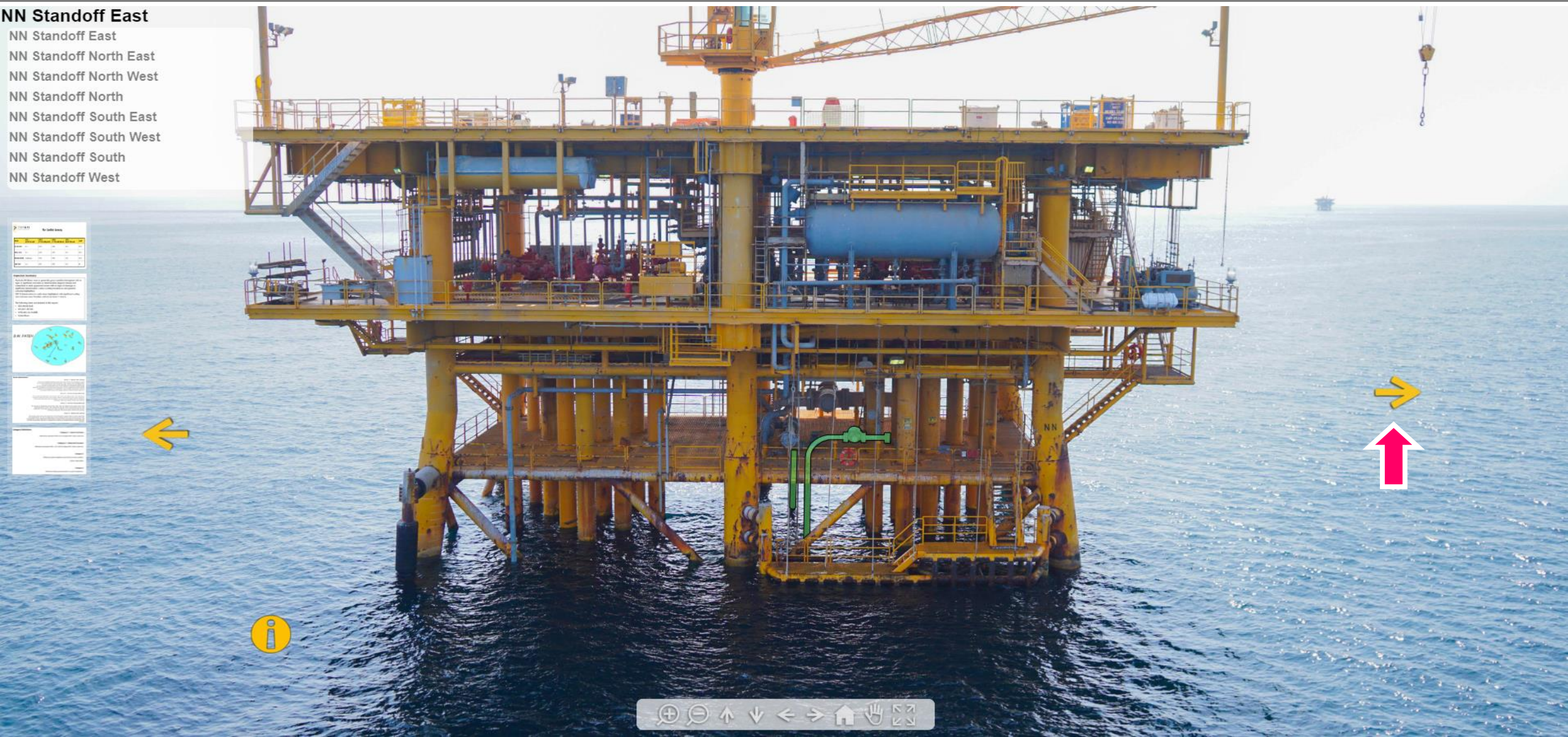
iHawk Visual Asset Management

NN Standoff East

- NN Standoff East
- NN Standoff North East
- NN Standoff North West
- NN Standoff North
- NN Standoff South East
- NN Standoff South West
- NN Standoff South
- NN Standoff West

Information panel containing a data table, a map, and descriptive text.

Asset Name	Asset Type	Asset Status
NN Standoff East	Offshore Platform	Operational
NN Standoff North East	Offshore Platform	Operational
NN Standoff North West	Offshore Platform	Operational
NN Standoff North	Offshore Platform	Operational
NN Standoff South East	Offshore Platform	Operational
NN Standoff South West	Offshore Platform	Operational
NN Standoff South	Offshore Platform	Operational
NN Standoff West	Offshore Platform	Operational

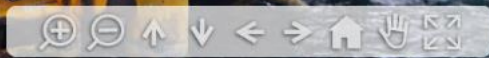


iHawk Visual Asset Management

NN Standoff North East

- NN Standoff East
- NN Standoff North East
- NN Standoff North West
- NN Standoff North
- NN Standoff South East
- NN Standoff South West
- NN Standoff South
- NN Standoff West

The sidebar contains a table with columns for 'Asset Name', 'Status', and 'Last Update'. Below the table is a block of text and a small map showing the location of the asset on a globe.

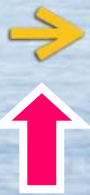
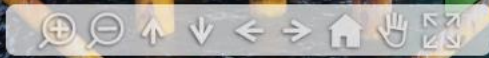


iHawk Visual Asset Management

NN Standoff North

- NN Standoff East
- NN Standoff North East
- NN Standoff North West
- NN Standoff North
- NN Standoff South East
- NN Standoff South West
- NN Standoff South
- NN Standoff West

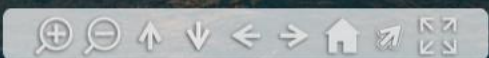
The sidebar contains several panels: a table with columns for 'Name', 'Status', 'Priority', and 'Action'; a map showing the location of the asset; and several text panels providing additional details.



iHawk Visual Asset Management

- NN Standoff East
- NN Standoff North East
- NN Standoff North West
- NN Standoff North
- NN Standoff South East
- NN Standoff South West
- NN Standoff South
- NN Standoff West

The information panel on the left contains several sections: a table with columns for 'Status', 'Priority', 'Category', and 'Count'; a list of 'Key Messages' with bullet points; a small map showing the location of the asset; and additional text-based information at the bottom.



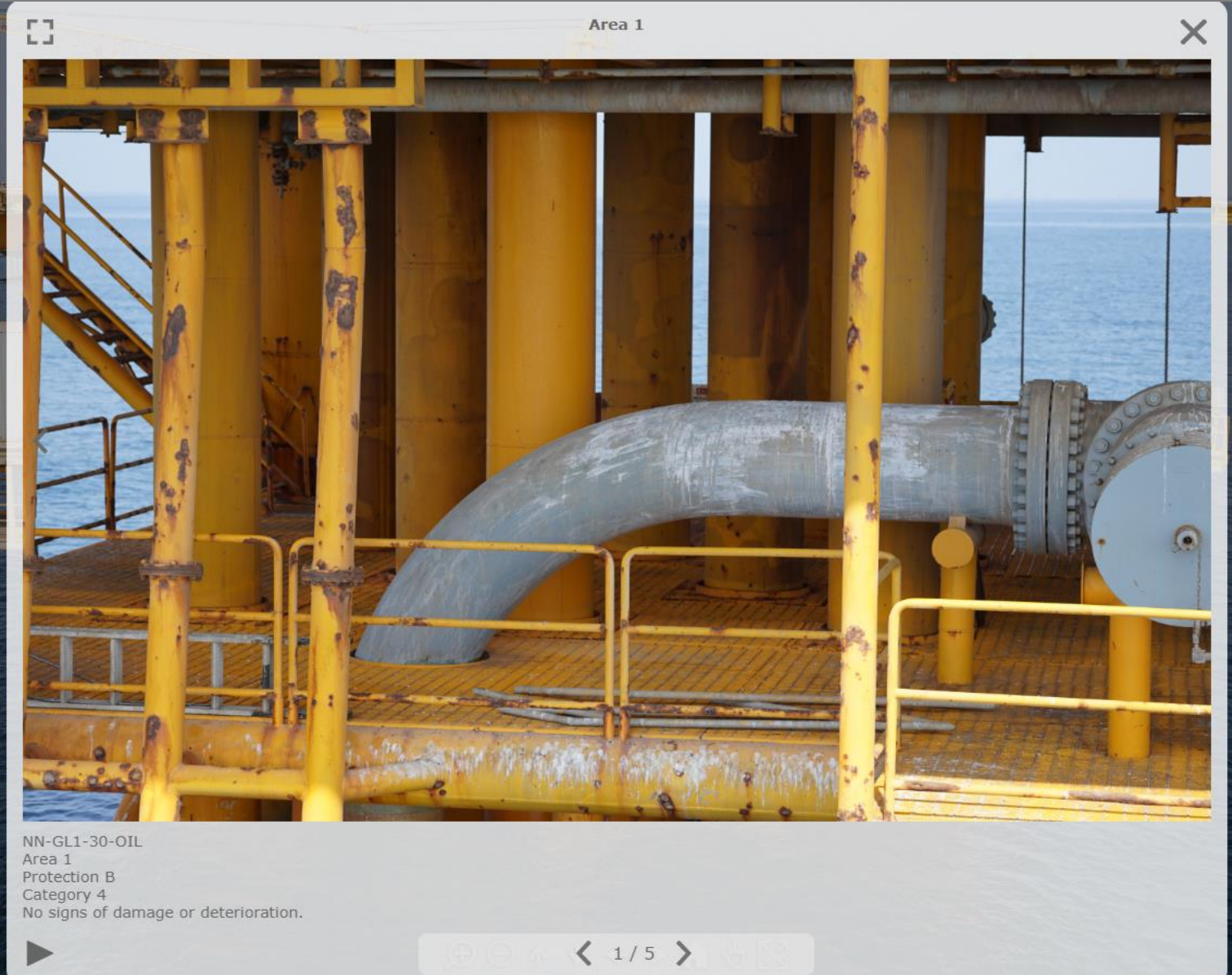
iHawk Visual Asset Management

NN Standoff West

- NN Standoff East
- NN Standoff North East
- NN Standoff North West
- NN Standoff North
- NN Standoff South East
- NN Standoff South West
- NN Standoff South
- NN Standoff West

Table with 4 columns: ID, Name, Status, Date. The table contains several rows of data.

Map showing the location of the asset on a globe.



iHawk Visual Asset Management

NN Standoff West

- NN Standoff East
- NN Standoff North East
- NN Standoff North West
- NN Standoff North
- NN Standoff South East
- NN Standoff South West
- NN Standoff South
- NN Standoff West

201401

Asset	Condition	Priority
...

2.4K 0.0000

...

Area 2

NN-GL1-30-OIL
Area 2
Protection B
Category 4
30" riser coatings in good condition throughout with no signs of significant deterioration.

2 / 5



iHawk Visual Asset Management

NN Standoff West

- NN Standoff East
- NN Standoff North East
- NN Standoff North West
- NN Standoff North
- NN Standoff South East
- NN Standoff South West
- NN Standoff South
- NN Standoff West

Information panel containing a table with columns for 'Status', 'Priority', and 'Action', and a map showing the location of the asset.

Area 2/3

Close-up photograph of a yellow riser pipe with a clamp. The riser is in good condition throughout with some surface corrosion on the clamp.

NN-GL1-30-OIL
Area 2/3
Protection B, N/C, N/R
Category 3
Riser in good condition throughout with some surface corrosion on clamp.

3 / 5



iHawk Visual Asset Management

Area 2/3

Standoff East
NN Standoff North East
Standoff North West
NN Standoff North
NN Standoff South East
NN Standoff South West
NN Standoff South
NN Standoff West

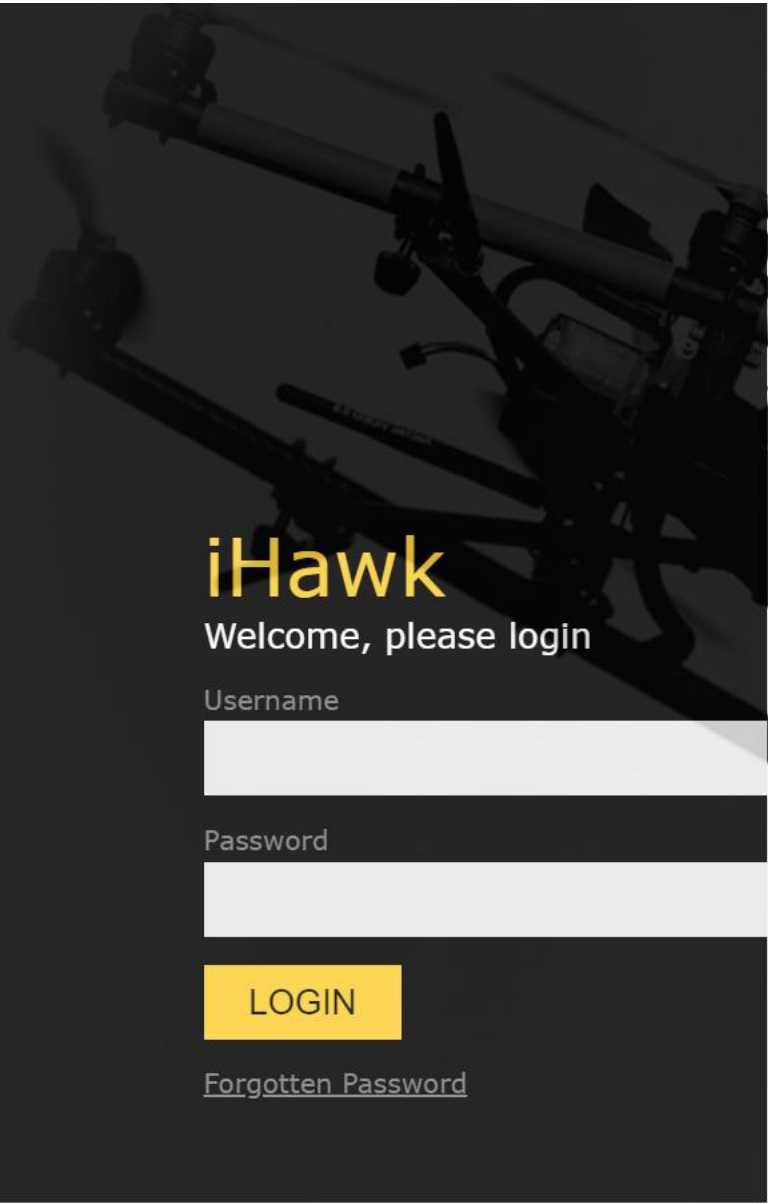


NN-GL1-30-OIL
Clamp
Protection N/C
Category 3
Minor coating breakdown and surface corrosion to support clamp.

4 / 5

The image shows a close-up of a yellow-painted metal clamp attached to a pipe. The clamp has several horizontal bars and bolts. There is visible rust and surface corrosion, particularly around the edges and where the clamp meets the pipe. The background is a blurred view of an industrial facility, likely an offshore oil rig, with various structures and platforms. The interface includes a navigation menu on the left, a close button (X) in the top right, and navigation arrows (left and right) on the right side. At the bottom, there are zoom and navigation controls, including a play button on the left and a page indicator '4 / 5' in the center.

iHawk Visual Asset Management - COT



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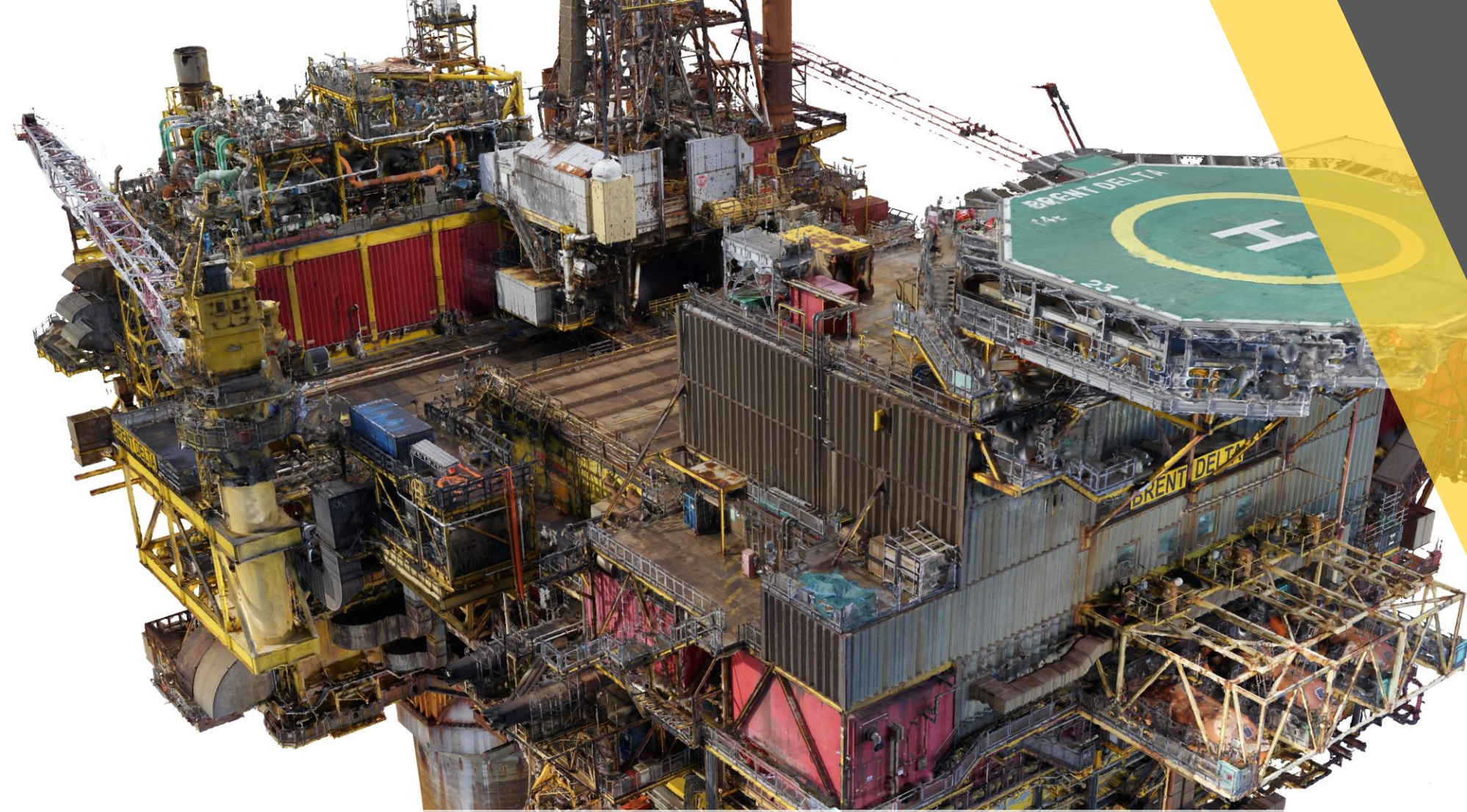


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iHawk COT Visualisation

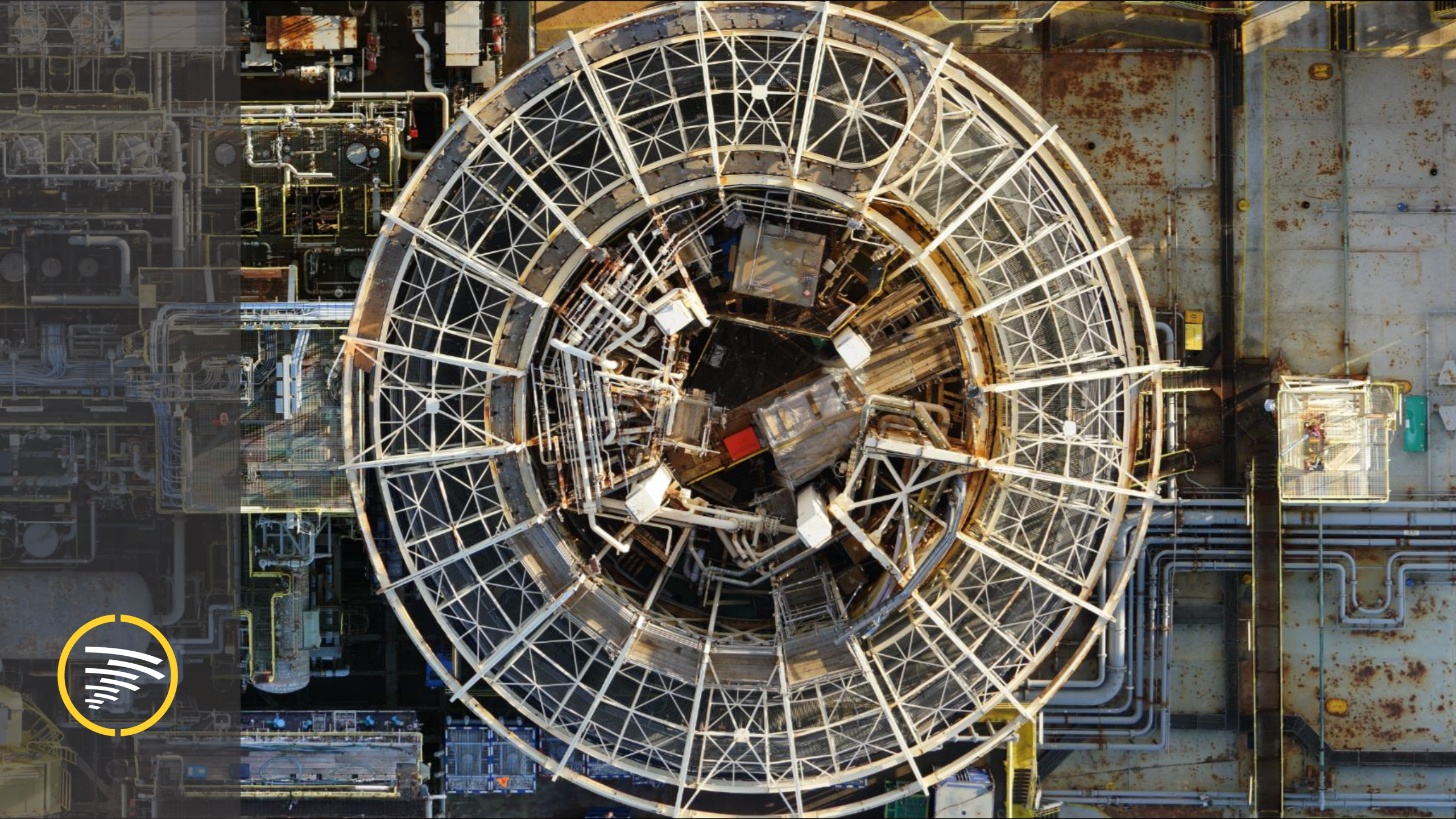


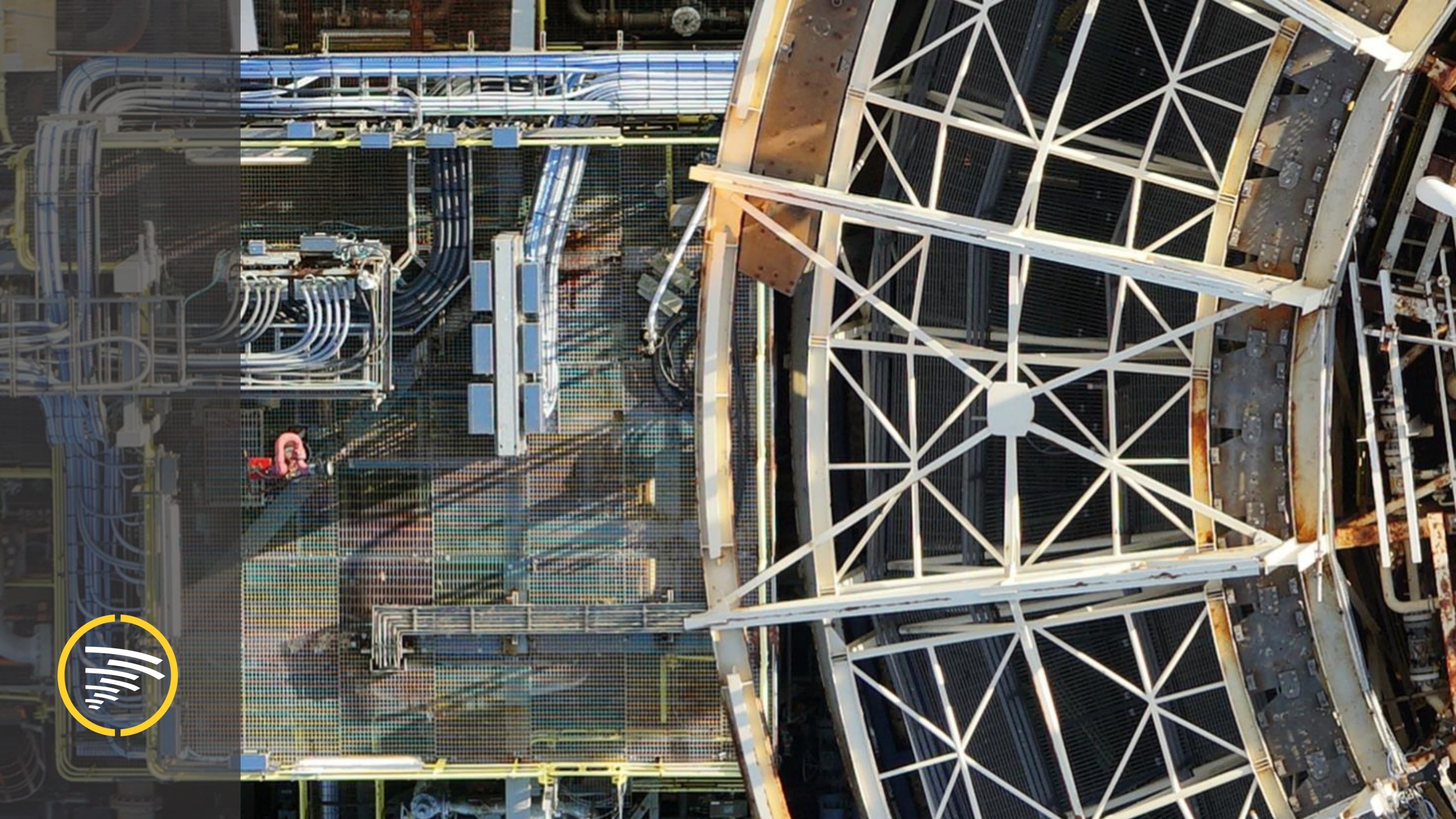


Solutions For Major Projects

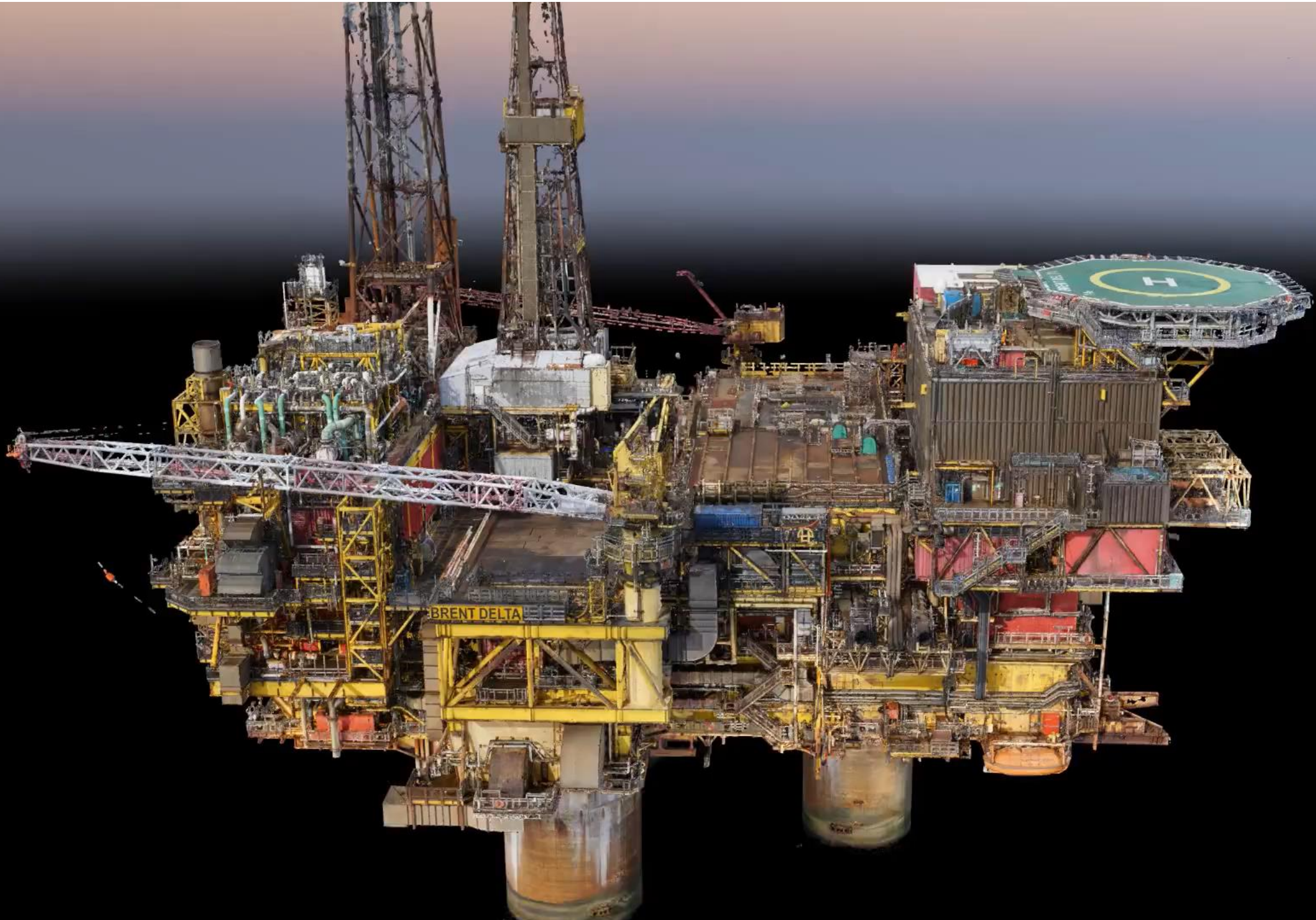
Drone Visualisations

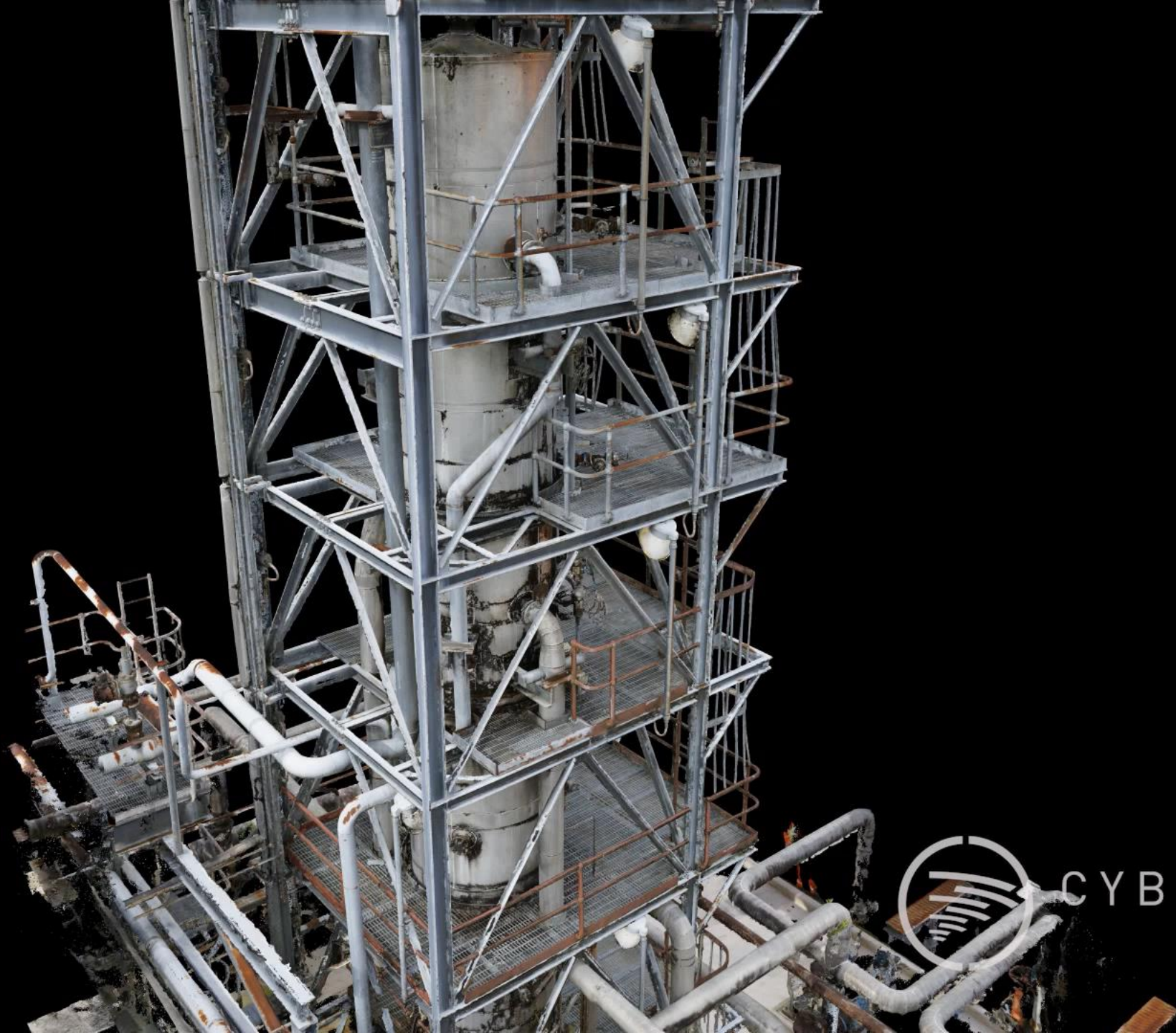












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Solutions For Major Projects

Cloud Based Visual Asset Management

iHawk Visual Asset Management – Project Management

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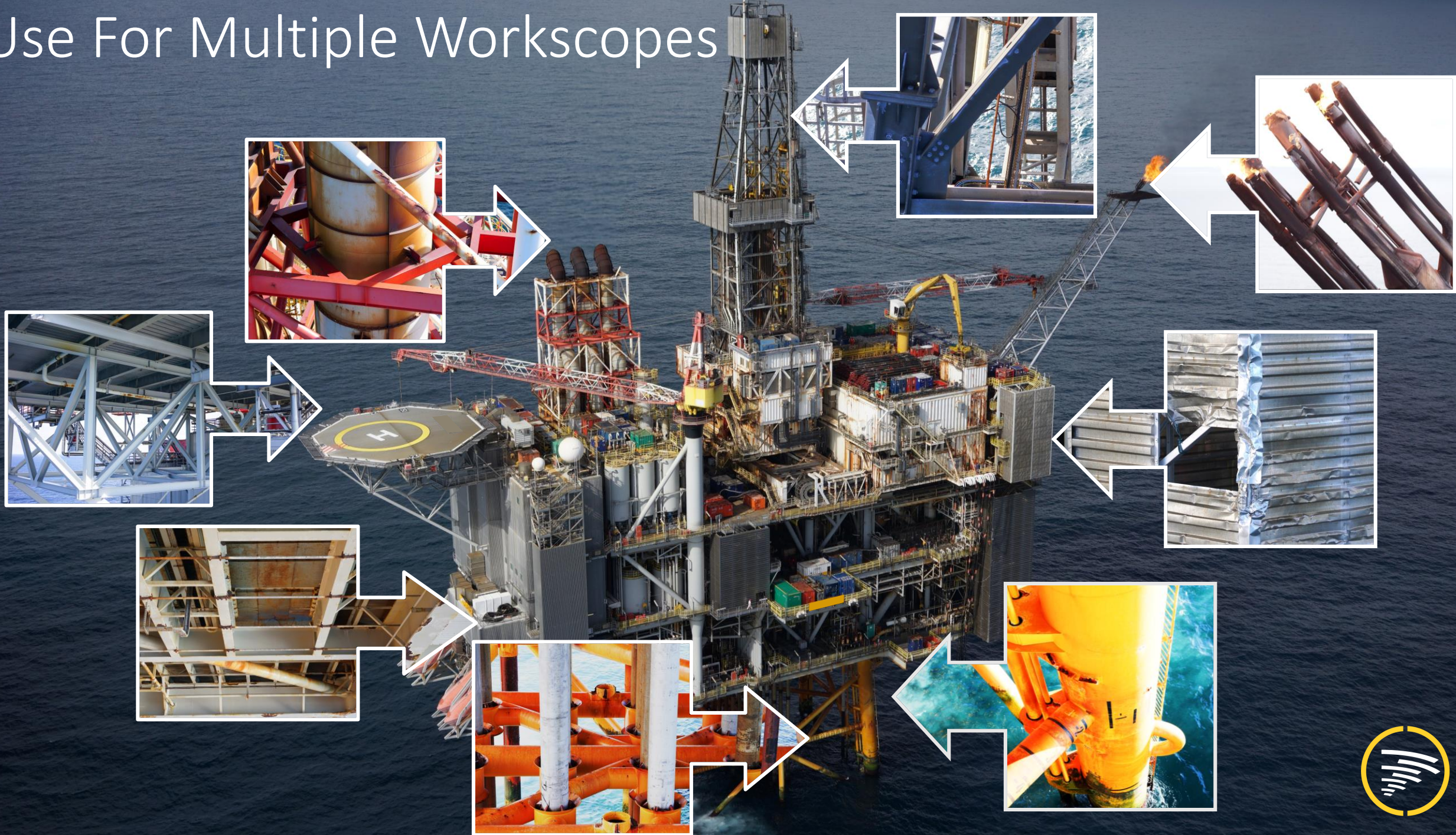
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Maximising the Benefits



Use For Multiple Worksopes



Use As A Screening Tool

- Inspect Large Areas Quickly
- Priorities Manned Access

Digitise The Data

- Increase Collaboration
- Reduce Site Visits
- Share Information

The Result

- Save Money
- Improve Safety
- Increase Efficiency





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