MAKING DECISIONS WITH INDUSTRIAL WORK SURFACES AND HIGH FREQUENCY DATA

Data and Work Surfaces

Examples

What goes wrong?

What is to come?

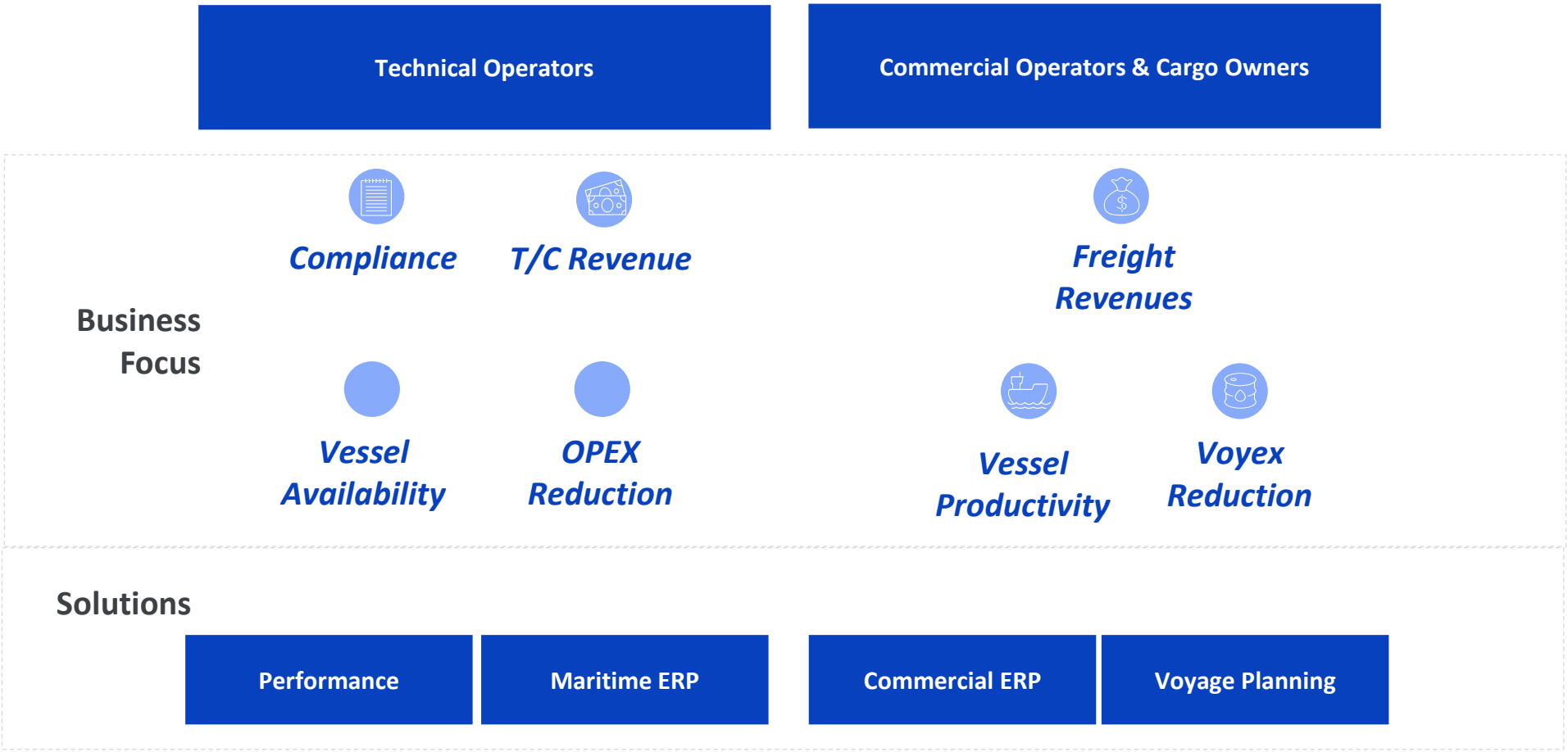
Key Takeaways

Anders Bryhni

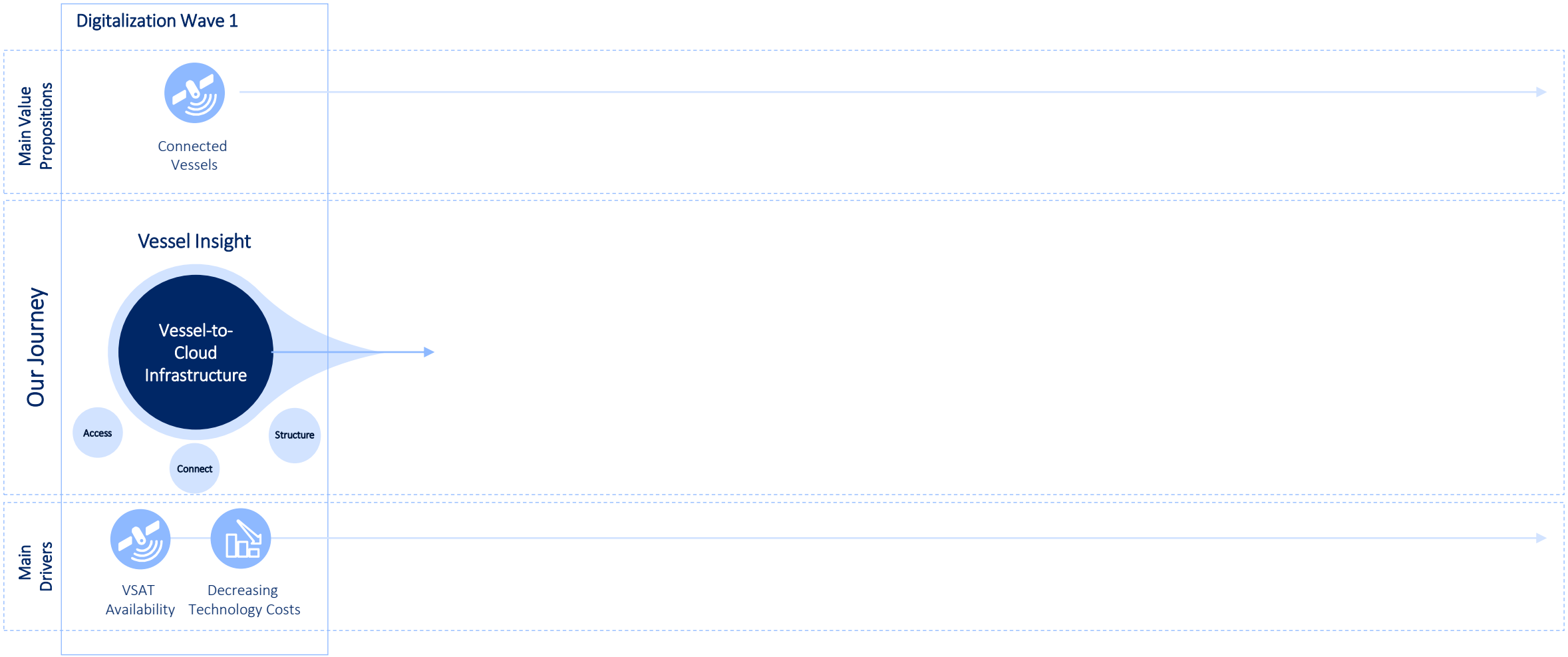
Kongsberg Digital

Data and Work Surfaces

The Work Surface perspective



The Data and Infrastructure perspective



The Data and Infrastructure perspective

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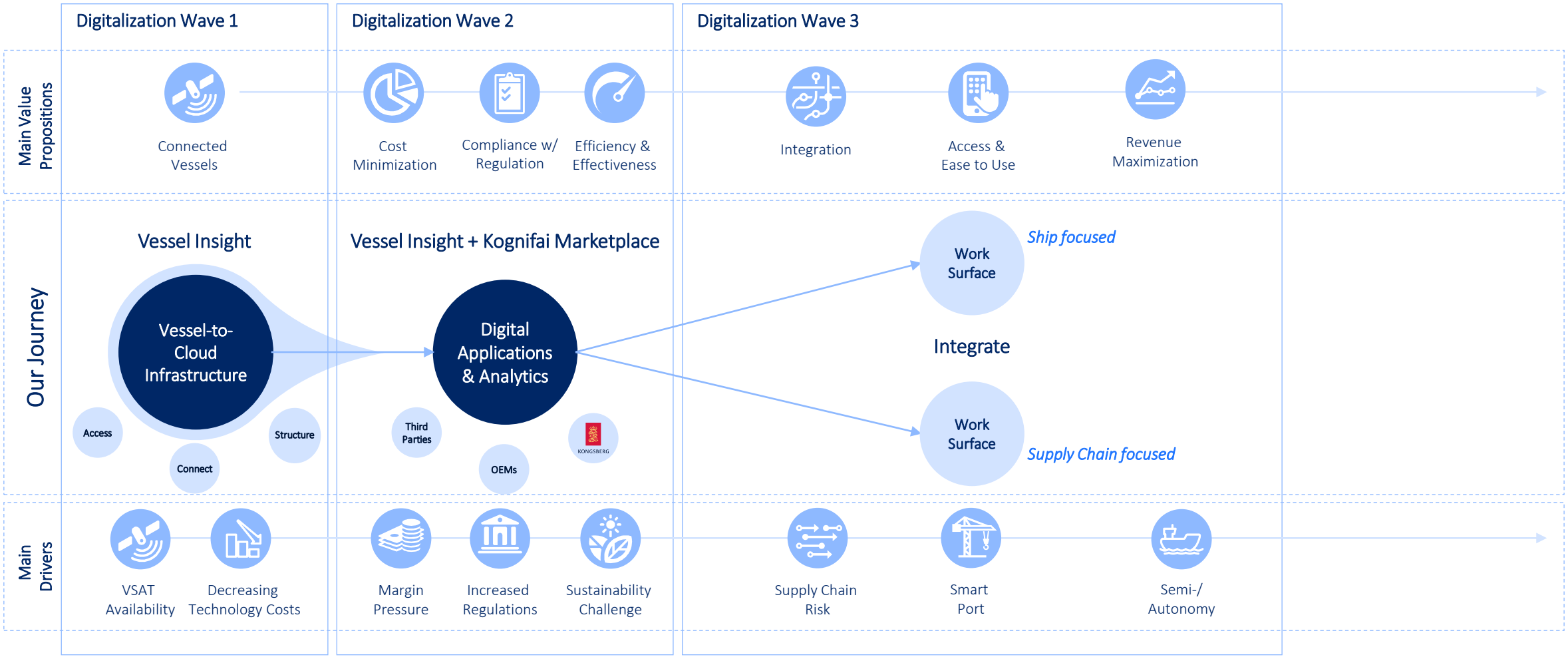
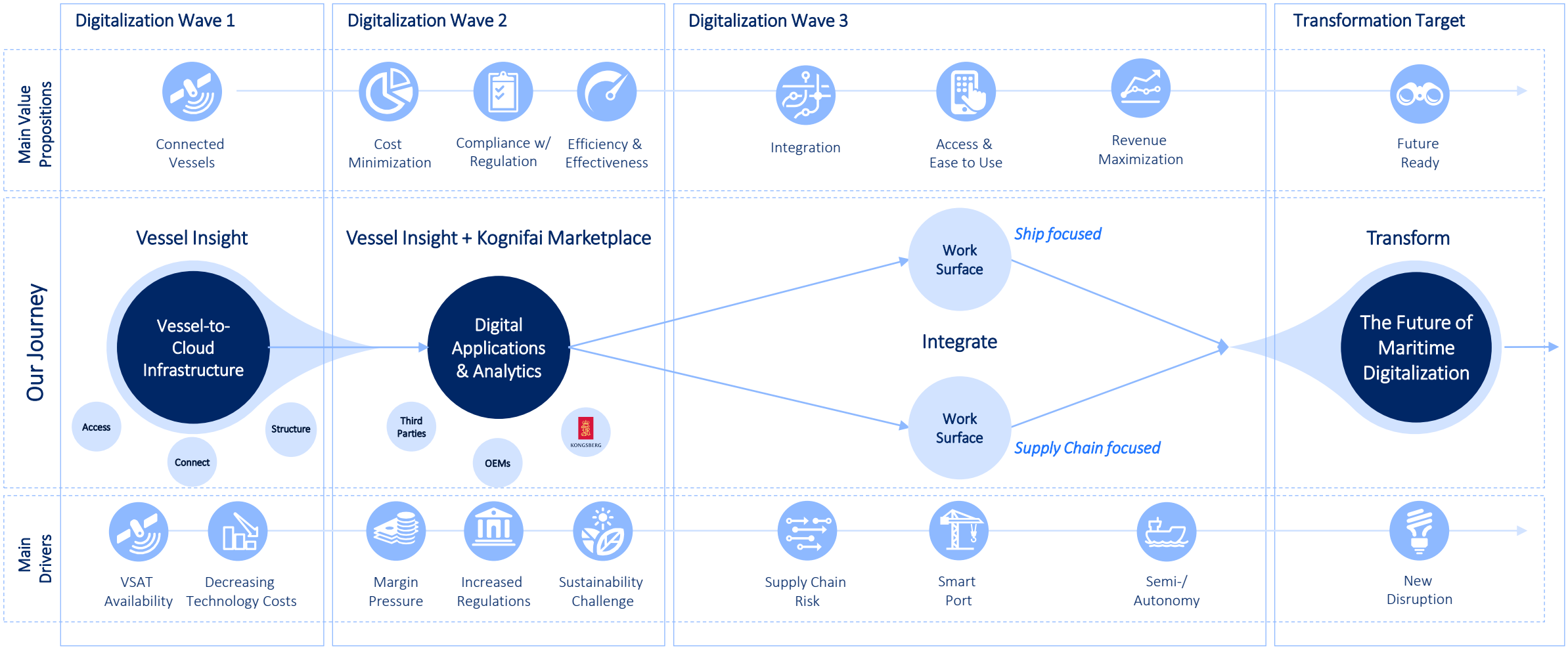
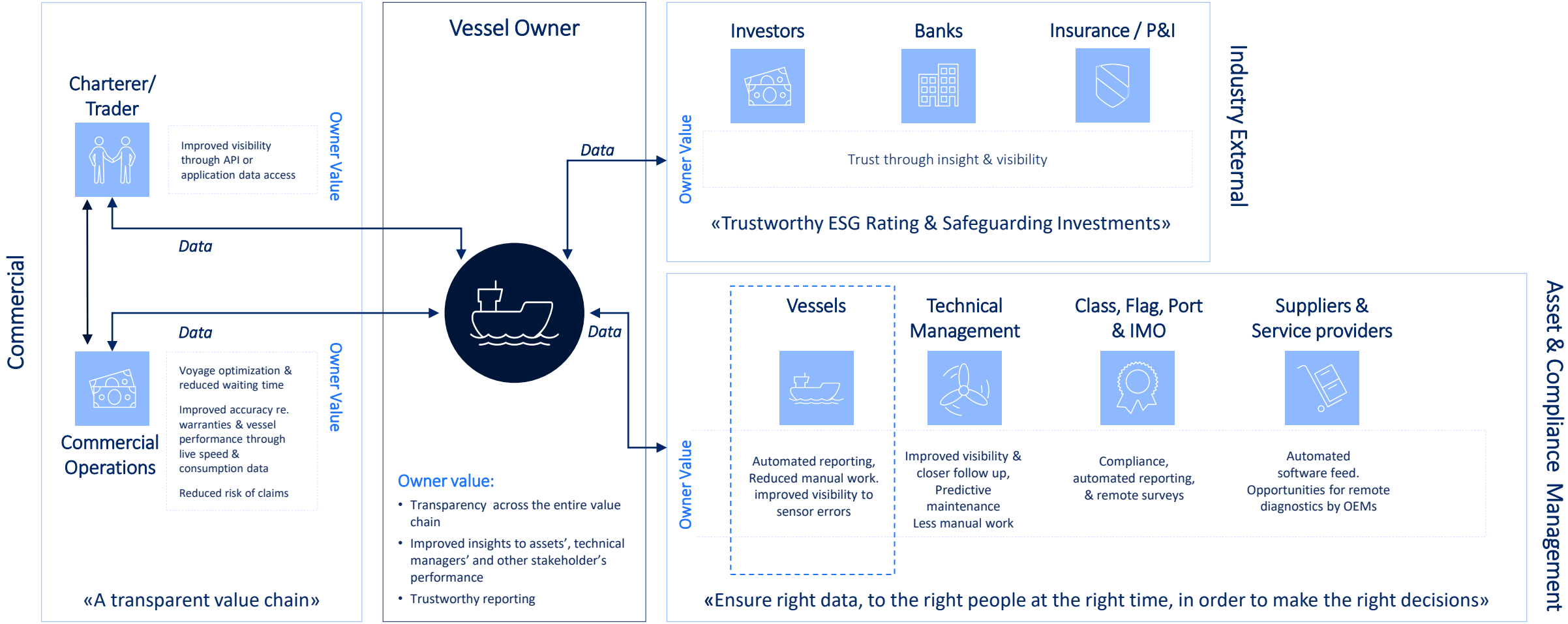


The Data and Infrastructure perspective



Increased demand for data throughout the value chain

Stakeholders require data on different formats



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Technical ERP Data Space

VESSEL DATA

- Voyage Info –Passage, Segment, ETA Management
- Vessel particulars
- Port Activity –Inbound, Outbound, Mooring, etc
- Bunkering and remains onboard
- Internal Messaging System
- Collaboration, sharing and task management
- Hand-over notes/diary

HSEQ/HSQE

- SMS/ Ship/fleet Safety Management
- Certificate management
- Document management
- Incidents, near-misses and other observations
- Audits, Inspections and Vetting management
- Risk Assessment
- Lessons learned

REPORTING

- Vessel Logs and record books – Deck, Engine, Oil Record book, Garbage, GMDSS, Cargo, Operational etc.
- Electronic checklists
- Environmental Data and Reporting –CO2,NOx,SOx
- EU MRV, EEOI, IMO-DCS
- Noon Readings –Navigation, Engine parameters, Cargo
- Automatic data collection and reporting during vessel operations

PROCUREMENT AND LOGISTICS

- Purchasing and Requisition process for all equipment and spares
- Quote generation
- Up to date spares inventory
- Budget
- Link to central Finance platforms
- Ad Hoc Maintenance

OTHER

- Guarantee Claims Management
- Unbudgeted Expenditure Claims
- Unique data management designed for offline usage
- Streamlined workflow
- Analysis across the fleet

REFIT

- Create and Manage Maintenance Requirements
- Import Maintenance Requirements
- Manage Refit History

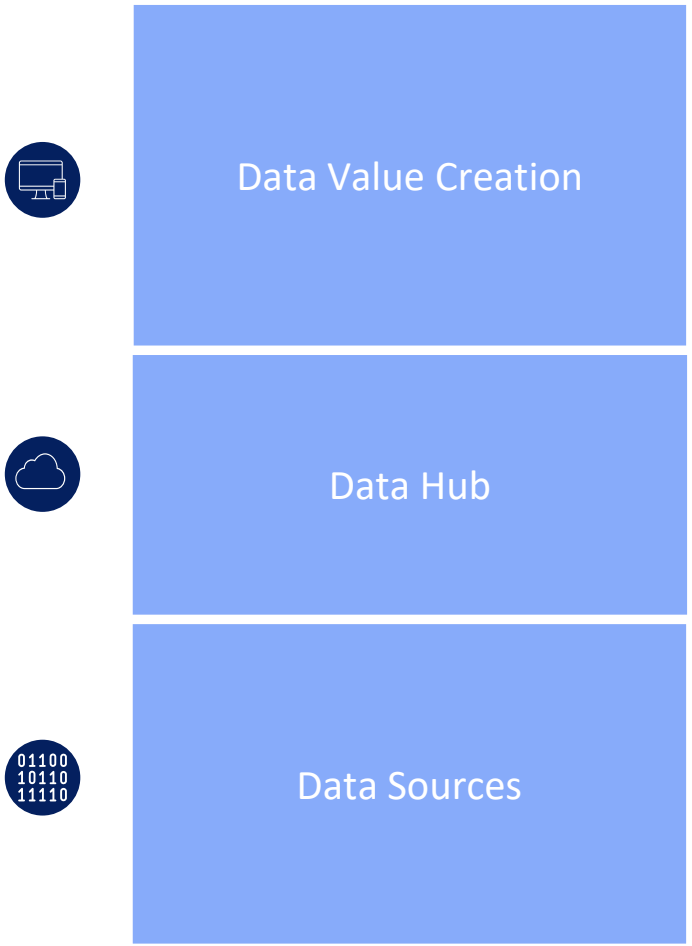
MAINTENANCE AND INVENTORY

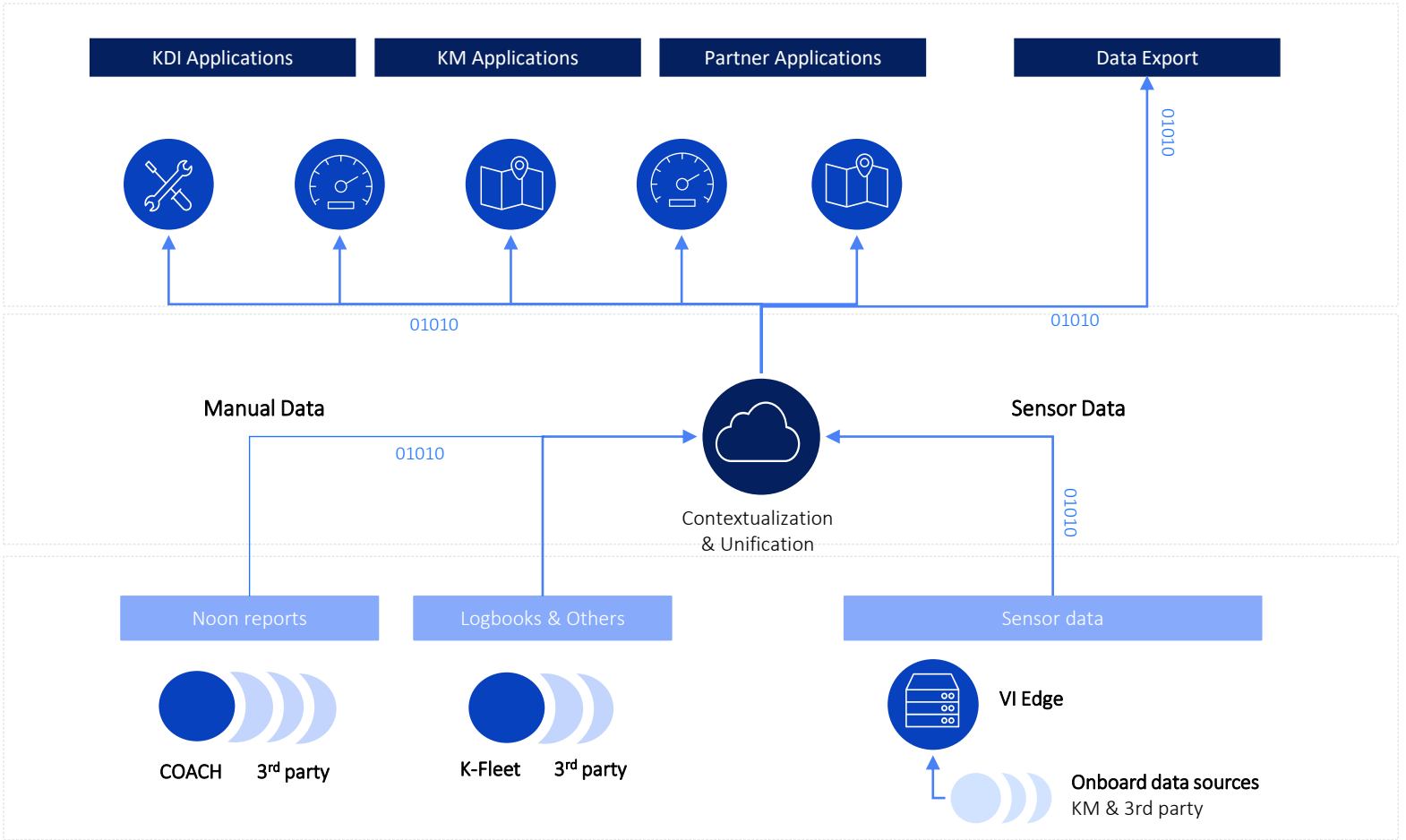
- Plan, schedule, execute and monitor your maintenance plans
- Create, Issue, Authorise, Defer, etc of Engineering Worksheets
- Ad Hoc Maintenance
- Machine Running Hours
- Spare parts Inventory management
- Circulating Component Management

Integrated with:

- Work permit creation and printing
- Risk Assessment Maintenance

Vessel Insight concept





Examples

Share

Frontline and Kongsberg Digital partner up for a digital future

Kongsberg digitaliserer 500 containerskip for MSC

Verdens største containerskipsrederi har signert kontrakt med Kongsberg Digital om å bruke digitale sky-tjenester for sine ca. 500 skip.

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Hoegh Autoliners brings Kongsberg Digital on for digitalisation push

Oslo car carrier owner was the first to use the Vessel Insight platform and is now rolling it out across all its ships

What goes wrong?


Not fit for purpose tools
Energy consumption
Energy production
His
Data
Asset performance
Alternative scenarios

Not fit for purpose tools

Fragmented IT Landscape

Not fit for purpose tools

Fragmented IT Landscape

Underestimate vessel system complexity

What is to come?

Digital Twins for the Maritime Industry

Visualization in 3D model

Data unification across sources & simulations

Work surface

Simulation and physics-based predictions

Enriched with data-based analysis

Applications & decision support

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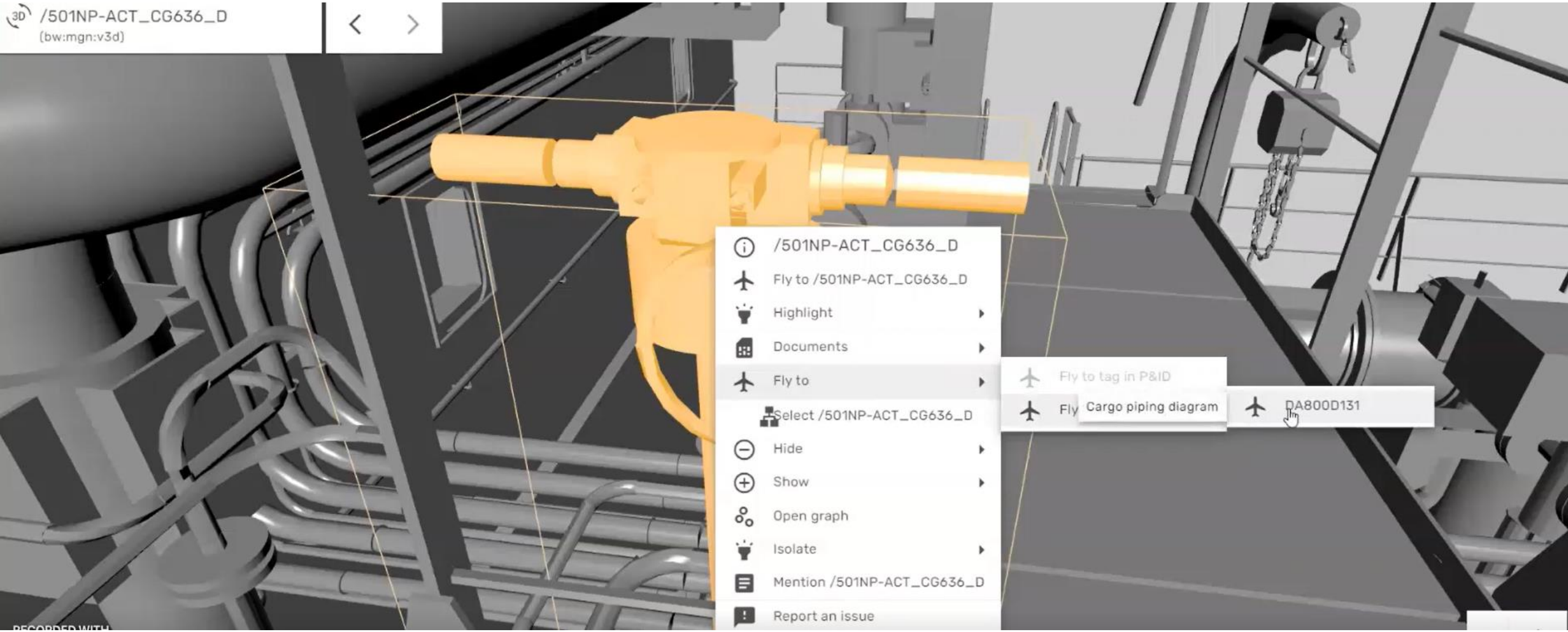
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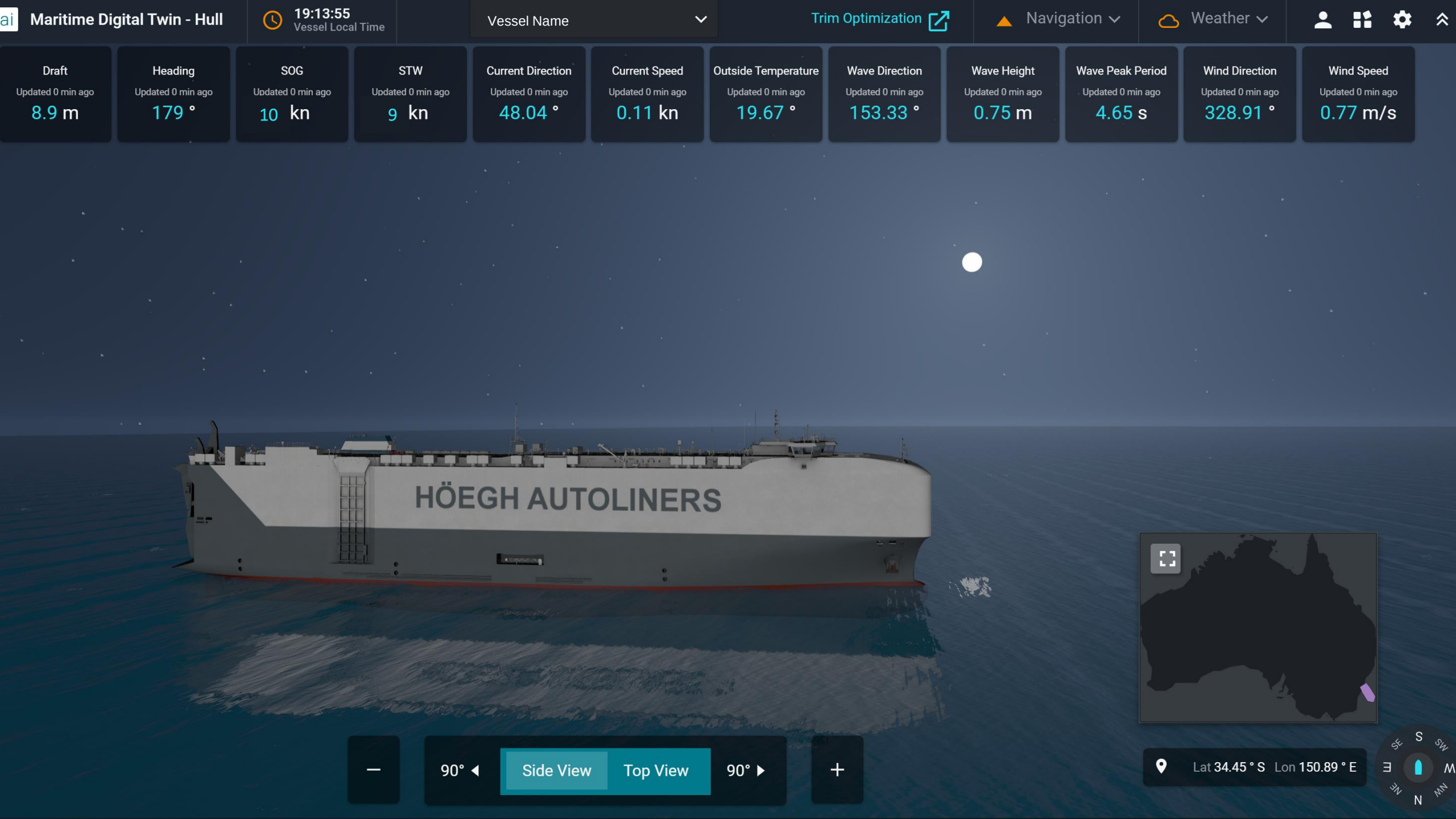
/501NP-ACT_CG636_D
Fly to /501NP-ACT_CG636_D
Highlight
Documents
Fly to
Select /501NP-ACT_CG636_D
Hide
Show
Open graph
Isolate
Mention /501NP-ACT_CG636_D
Report an issue
Fly to tag in P&ID
Fly
Cargo piping diagram
DA800D131


Maritime Digital Twin - Hull
19:13:55
Vessel Local Time
Vessel Name
Trim Optimization
Navigation
Weather
Draft
Updated 0 min ago
8.9 m
Heading
Updated 0 min ago
179 °
SOG
Updated 0 min ago
10 kn
STW
Updated 0 min ago
9 kn
Current Direction
Updated 0 min ago
48.04 °
Current Speed
Updated 0 min ago
0.11 kn
Outside Temperature
Updated 0 min ago
19.67 °
Wave Direction
Updated 0 min ago
153.33 °
Wave Height
Updated 0 min ago
0.75 m
Wave Peak Period
Updated 0 min ago
4.65 s
Wind Direction
Updated 0 min ago
328.91 °
Wind Speed
Updated 0 min ago
0.77 m/s
HÖEGH AUTOLINERS
90°
Side View
Top View
90°
Lat 34.45 ° S
Lon 150.89 ° E

Vessel Name Trim Visualization
IMO12345 Vessel Name

SELECT VESSEL

Vessel Name

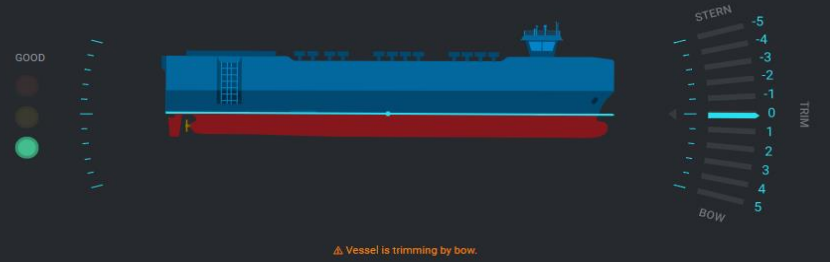
Plan Trim

Speed
13.8 kn
Since last 15 seconds

Mid Draft
8.9 m
Since last 15 seconds

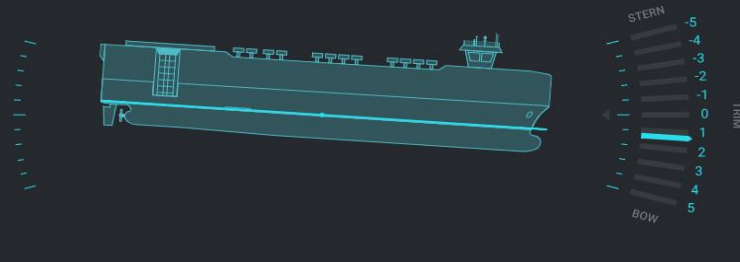
Current Trim
0.11 m
Since last 13 seconds

2.72 %
Added resistance
Significant resistance due to trim



⚠ Vessel is trimming by bow.

Recommended Trim
1.33 m
Adjust to reduce resistance with 2.72 %

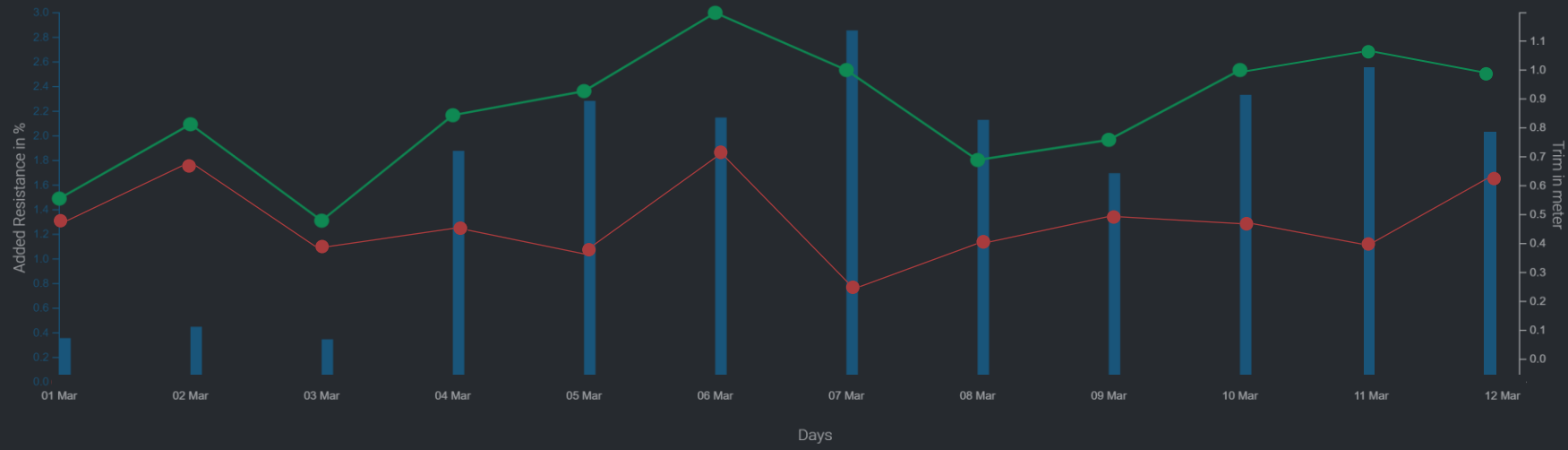


TRIM PERFORMANCE

Added Resistance

3/1/2023 – 3/14/2023

Download CSV



Trim Performance Recommended Trim Actual Trim

MDT Engine

Hoegh Autoliners > Hoegh Traveller

ME1 | ME2 | ME3 | AE1 | AE2

Cam 1 | Cam 2 | Cam 3

MAIN ENGINE 1

Overview | P&ID View | Asset Mapping

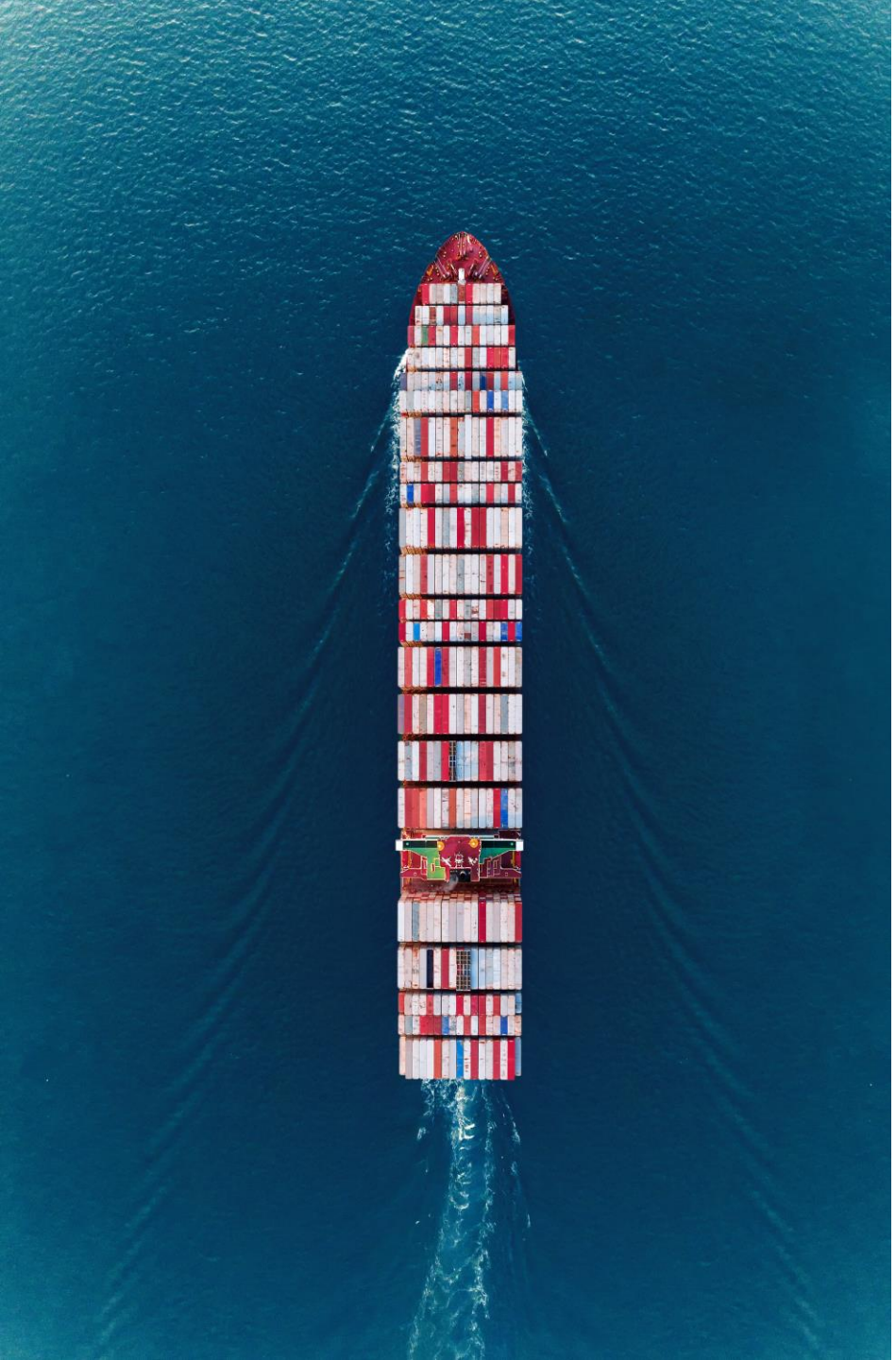
A
Engine Power
924 kW

B
FO Flow
1.3 L/h

C
Fuel Consump.
924 tonn

D
Shaft Power
4419 kW


massterly
a Kongsberg Wilhelmsen joint venture
Zero Emission
YARA
ASKO



KEY TAKEAWAYS

START WITH THE USECASE

Select products and technologies solving what is important to your business

BE OPEN

Needs change over time so make sure you select solutions you can grow with

BE SAFE

People and planet needs safe maritime transport and operations

BUILD ON EXPERIENCE

Fetching and integrating sensor data means integrating with the source. Do not underestimate this complexity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Shaping the future of work
Smarter, safer, greener