



Bernhard Schulte Shipmanagement

Decarbonisation through Analytics & Digitalisation



The Schulte Group

Ship Owning, Ship Management, and Maritime Services



SCHULTE GROUP



SHIP OWNING

BERNHARD
SCHULTE



90 Owned Vessels

SHIP MANAGEMENT



B&M CRUISE SERVICES



650+ Managed Vessels

MARITIME SERVICES



15+ Specialised Maritime Companies

Fleet under Management

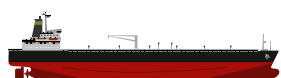
Managing Vessels in all major Segments, Types and Sizes



190

Tankers

Chemical Tanker
IMO I-III
Products Tanker
Handy – LR2
Crude Oil Tanker
Panamax – VLCC
Asphalt/Bitumen
Carrier



110

Gas Carriers

LNG Steam
LNG Diesel Electric
LNG DF Slow
Speed Diesel
LNG Bunkering
LNG/LPG Multigas
LPG Fully
Pressurized
LPG Fully
Refrigerated/VLGC
LPG Semi
Refrigerated
LPG/Ethylene



170

Bulk Carriers

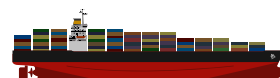
Handysize
Ultramax/
Supramax
Panamax/
Kamsarmax
Capesize
Newcastlemax
VLOC
Valemax
Self-unloader



120

Container Vessels

Feeder
Ice-Class Kiel-
max
Sub-Panamax
Classic Panamax
Eco-Wide Beam
Post & Neo-
Panamax
ULCVs
(20,000 TEU)



40

Offshore Vessels

Service
Operation Vessel
Floating Product
Storage Offload
(FPSO)
Anchor Handling
Tug Supply
Platform Supply
Accommodation
Vessel



10

Cruise Vessels

1,500 – 2,500
PAX Oceangoing
Vessel



10

Other Vessels

Pure Car
Carrier/Ro-Ro
Ro-Ro
Container
Research
Vessel
Ferry





Decarbonisation

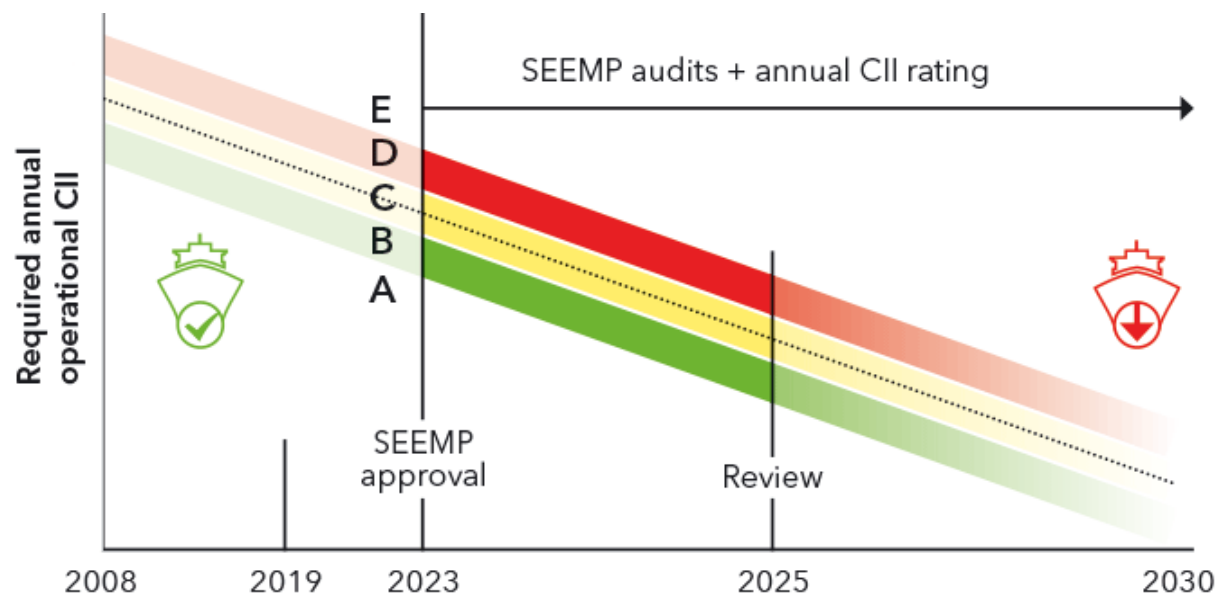




Our CII Targets for 2022



1. All vessels with rating E for 2021 to achieve rating D in 2022.
2. All vessels with rating D for 2021 to achieve rating C in 2022.
3. All vessels with rating C, B or A for 2021 to remain in their respective ratings and achieve at least 1% reduction

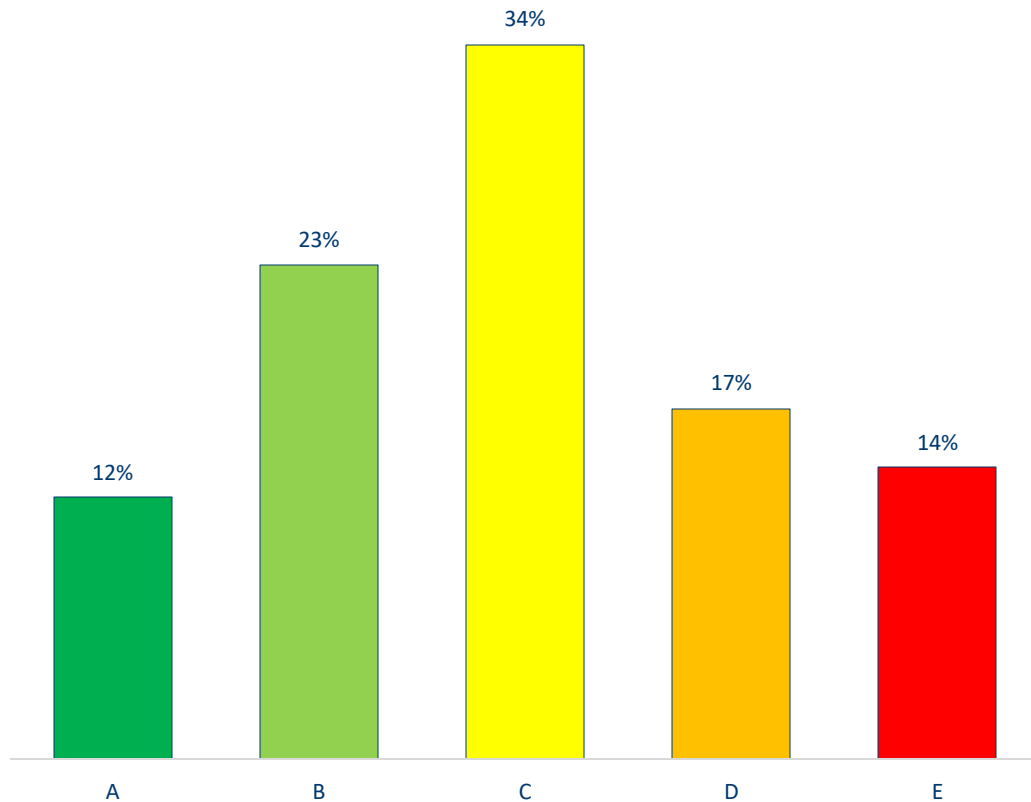




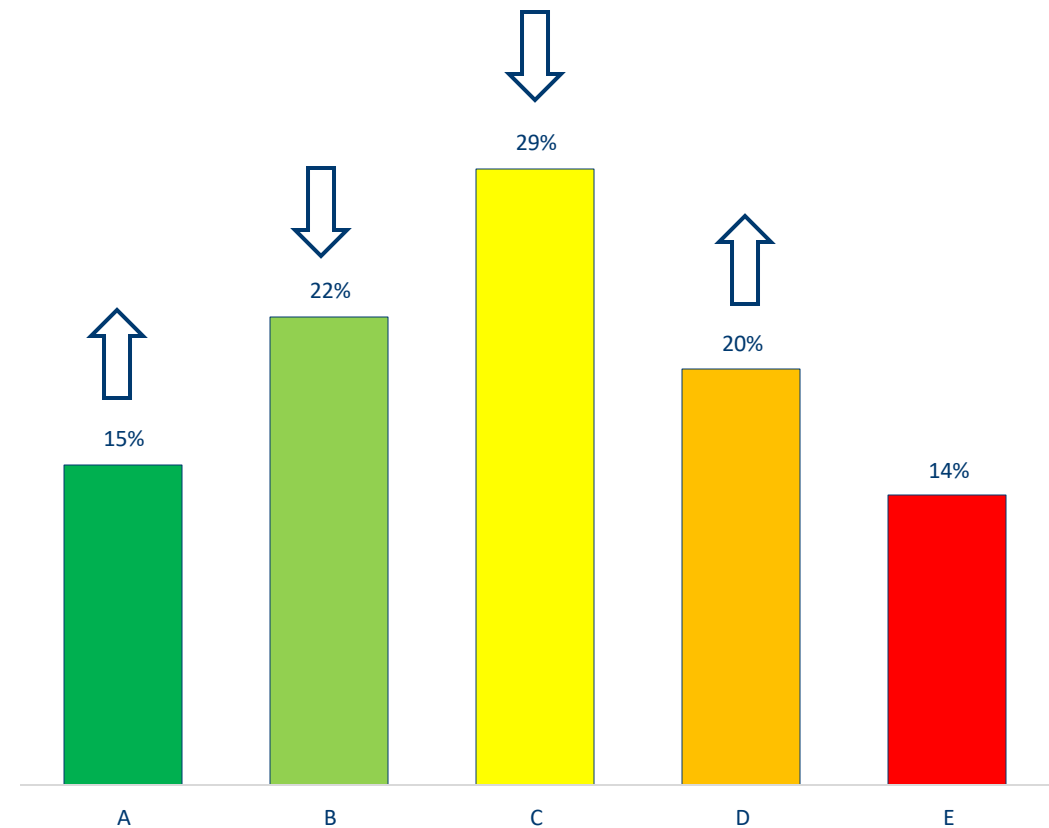
CII in Practice – Whole Fleet



2021



2022 YTD

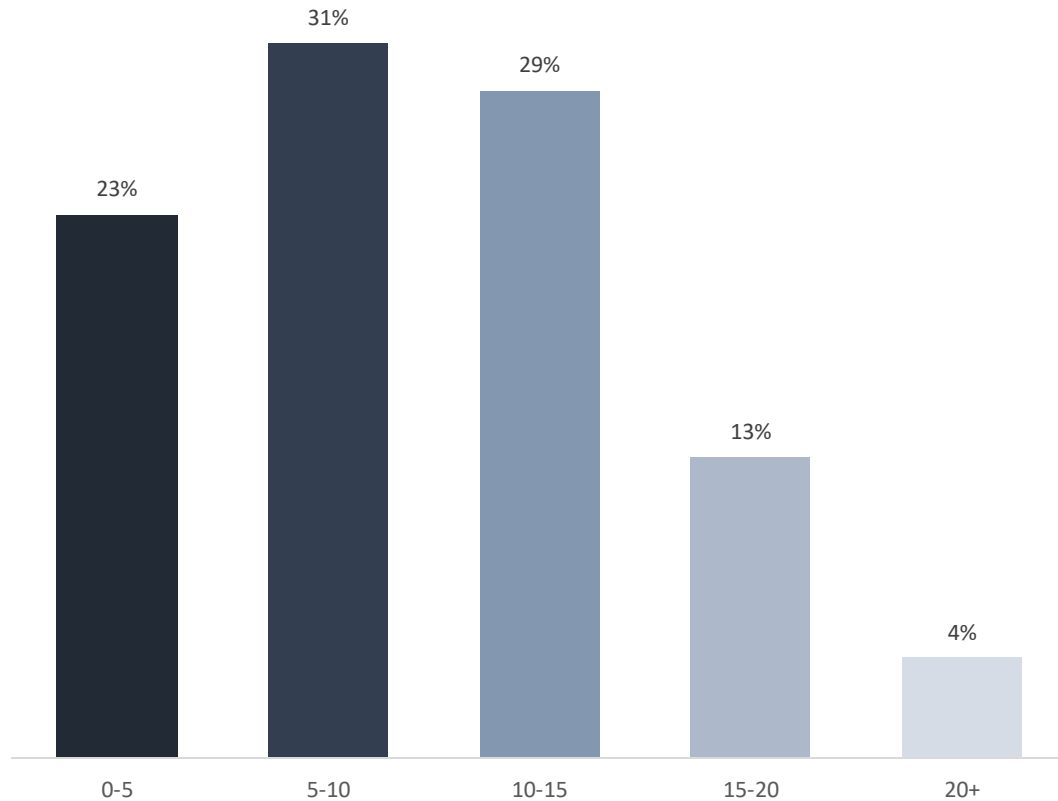




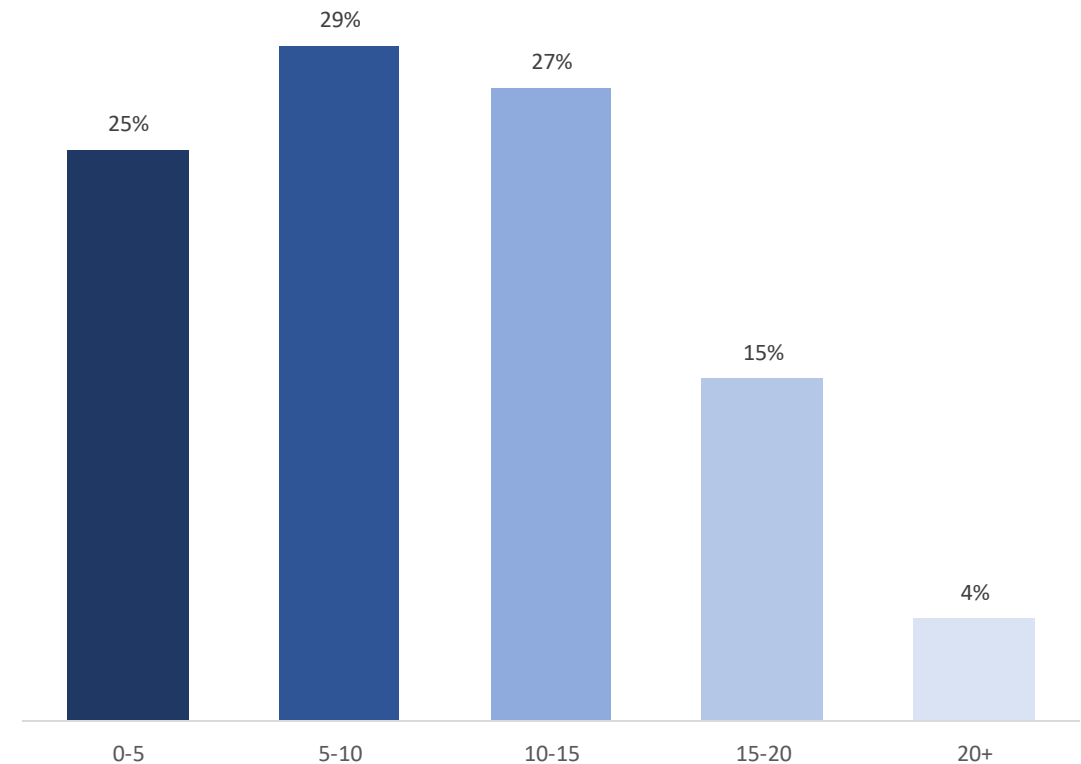
CII in Practice – Fleet Age Profile



2021

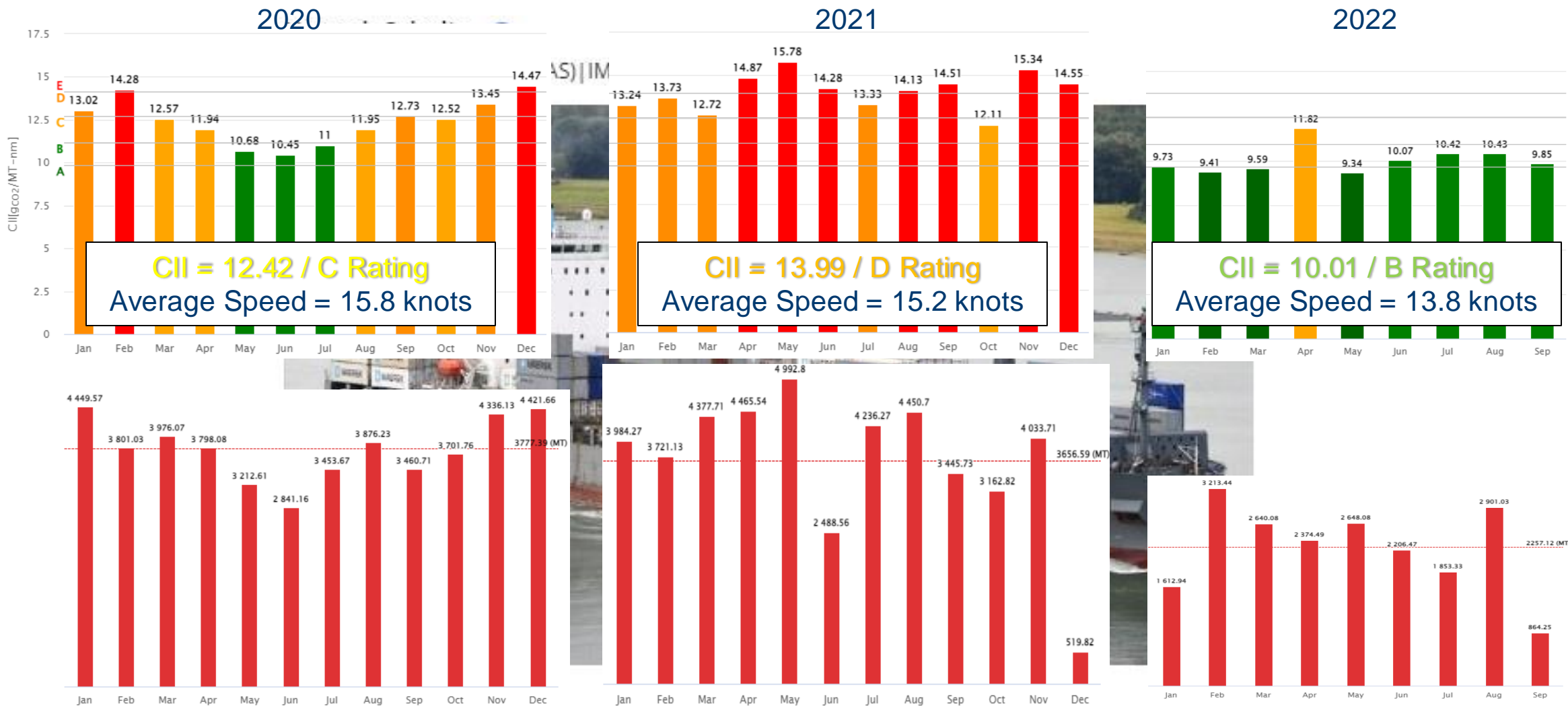


2022 YTD



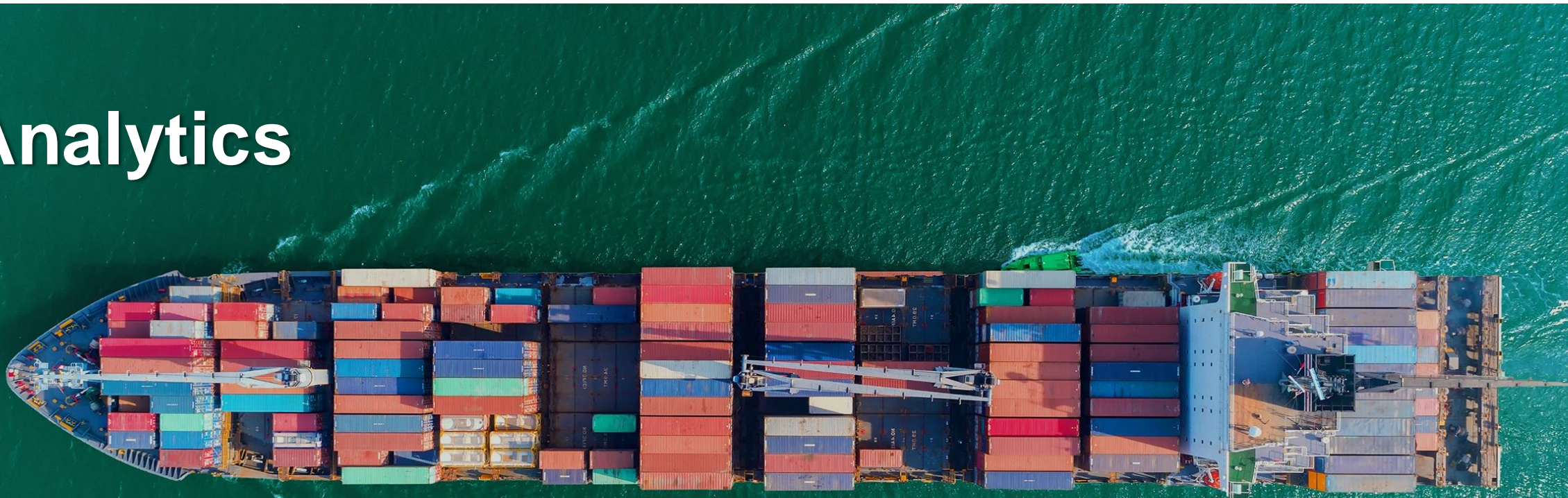


CII in Practice





Analytics





Vessel Performance



- Digital Twin benchmarking
- “ISO+” variable normalisation
- Emissions monitoring & reporting
- Manual + Telemetry + AIS + Hindcast Weather
- Targeted and automatically escalating alert system
- C/P performance and S&C generation
- Predictive hull inspection recommendation
- 2 & 4 Stroke Engines, Dual Fuel support
- Weather Routing integration
- Type & maker specific reporting and analysis
- Prescriptive engine fault diagnostics
- Analytics available onboard and ashore



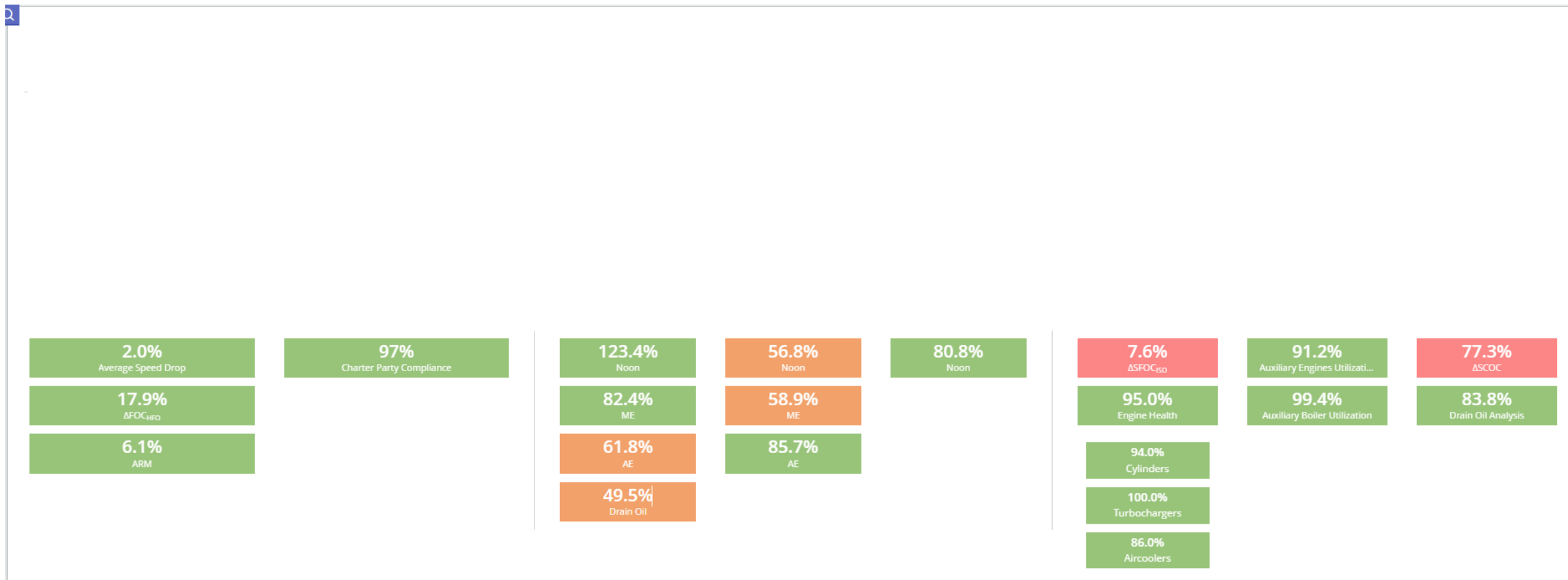


Monitoring



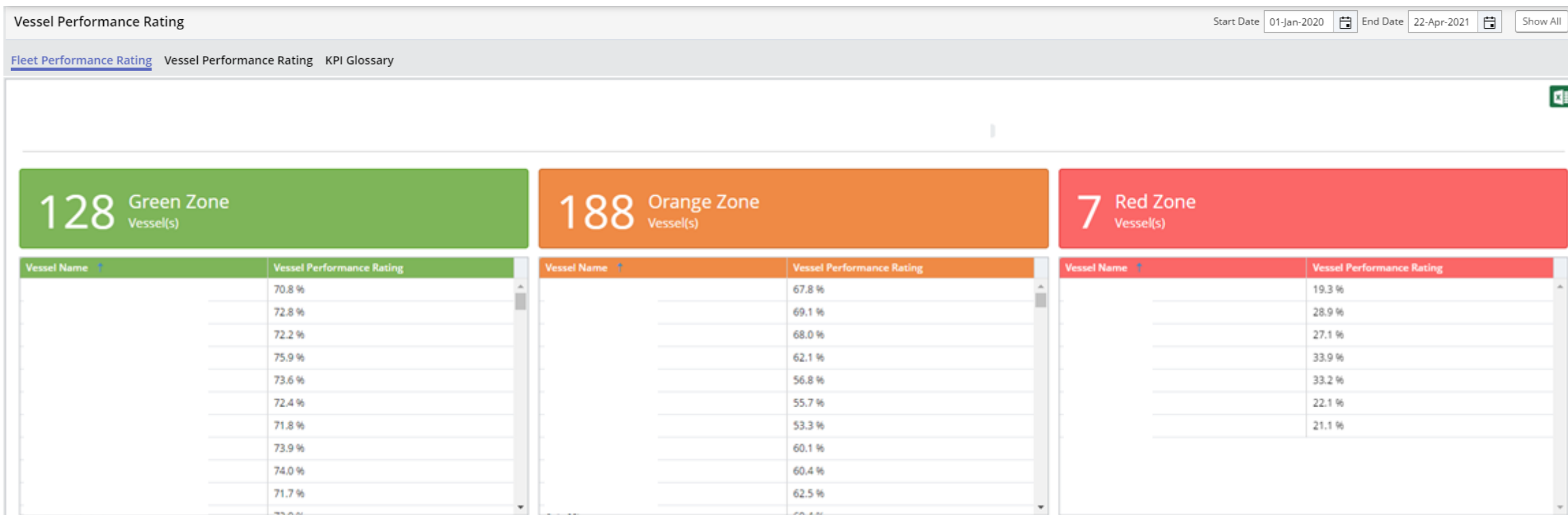


Fleet Management



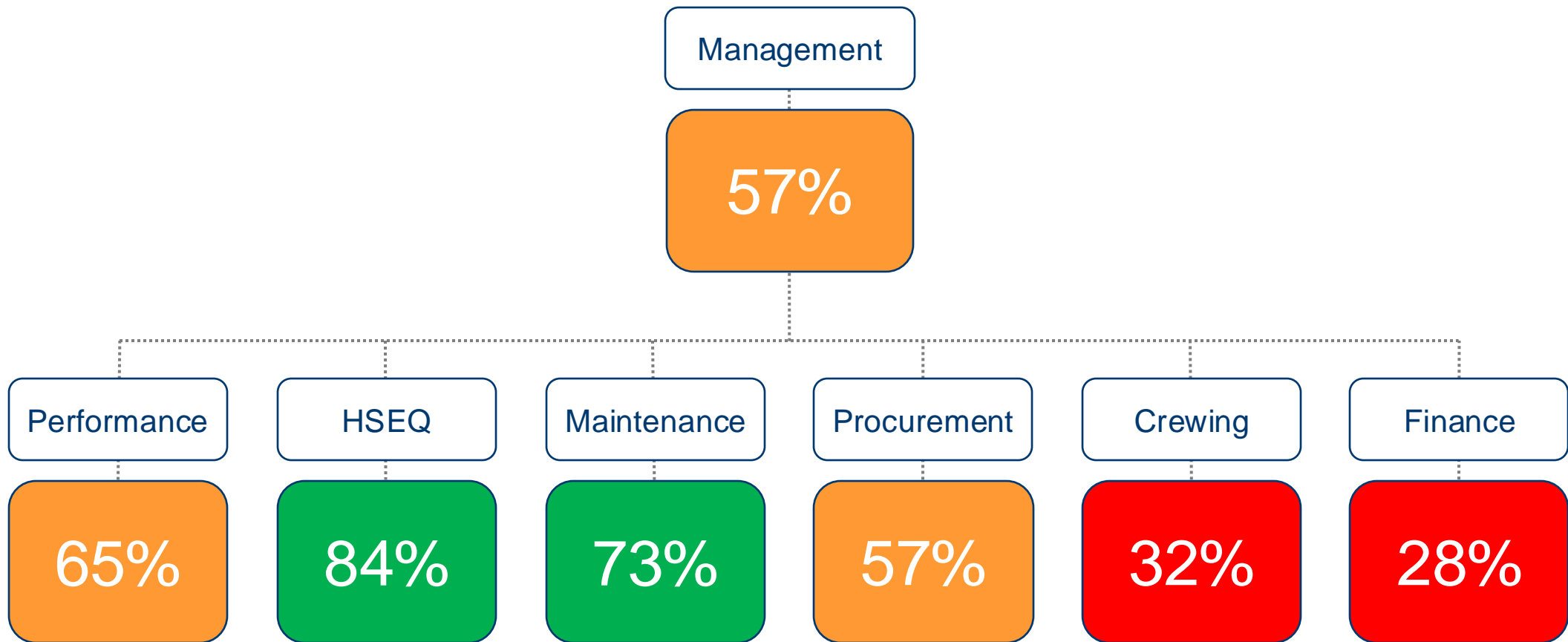


Fleet Management





Ship Management Performance

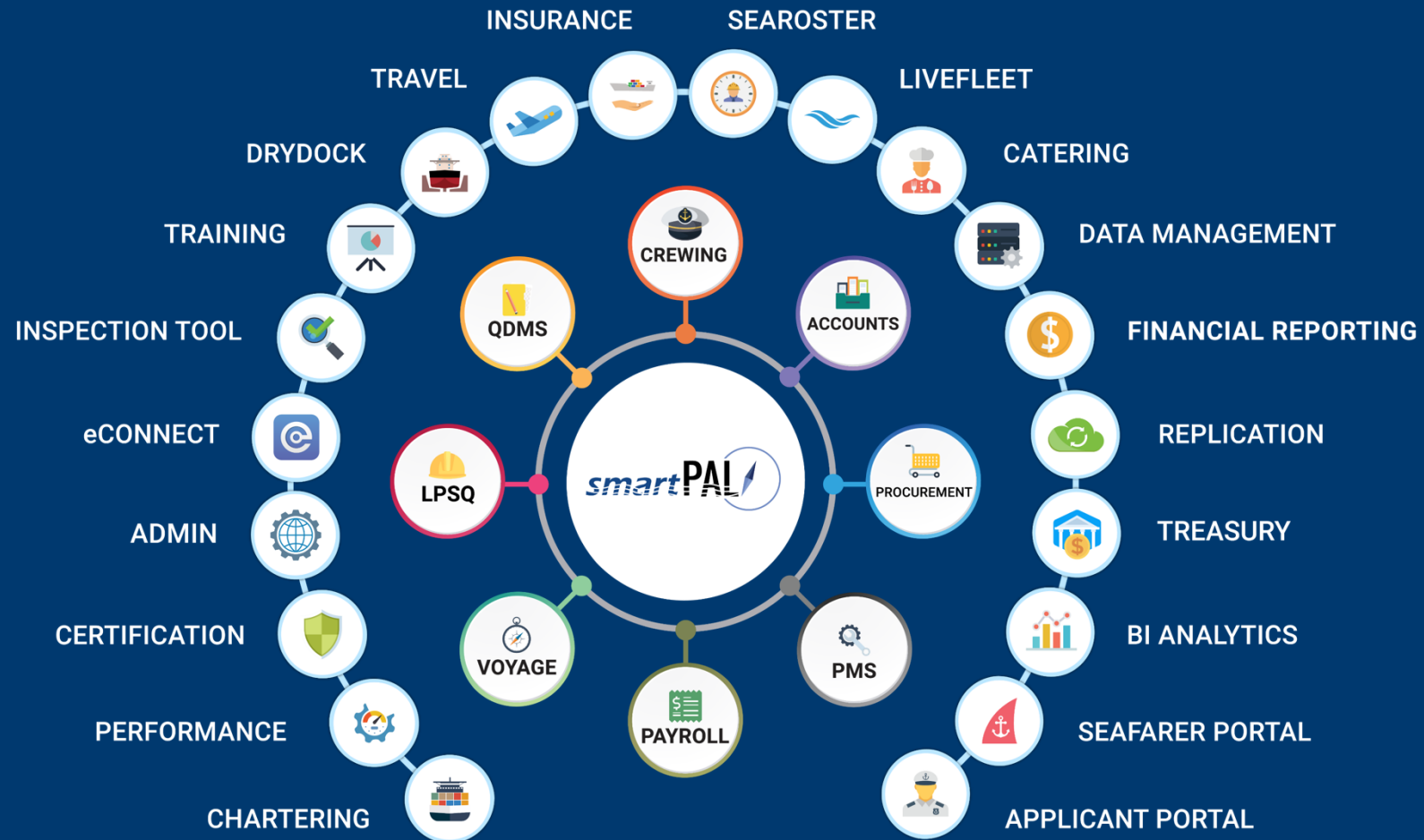




Digitalisation

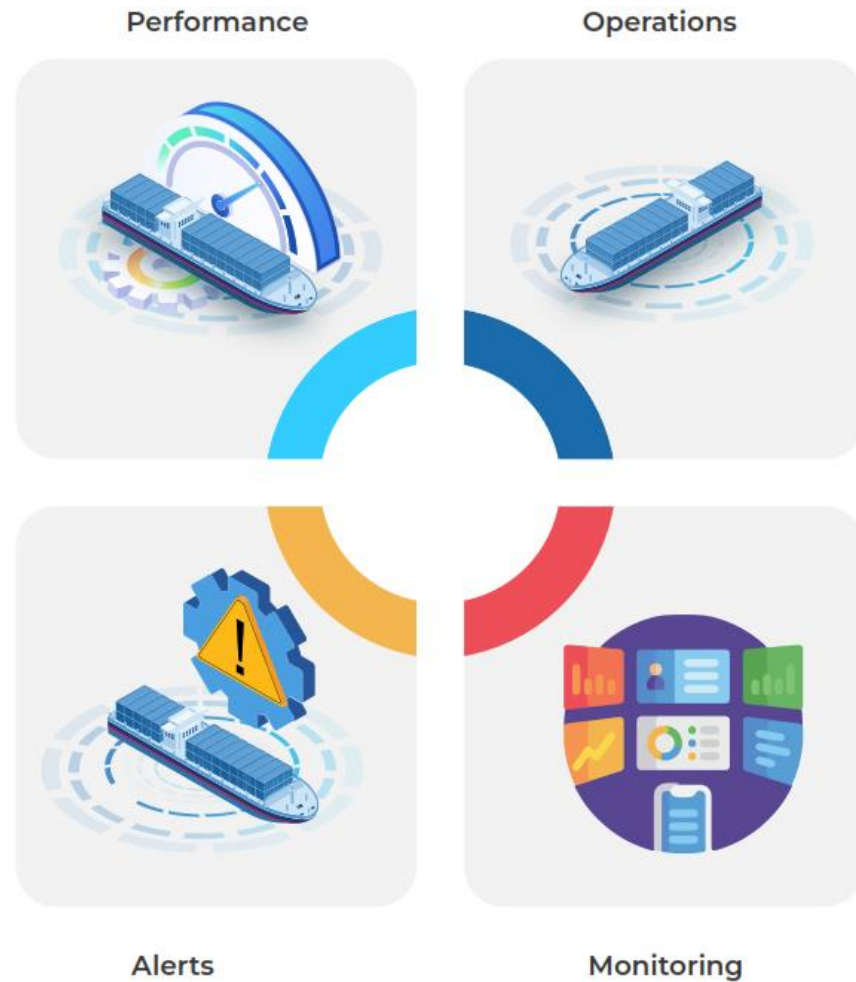


Digital Solutions. Maritime Focus





Fleet Performance Solutions



smartOps



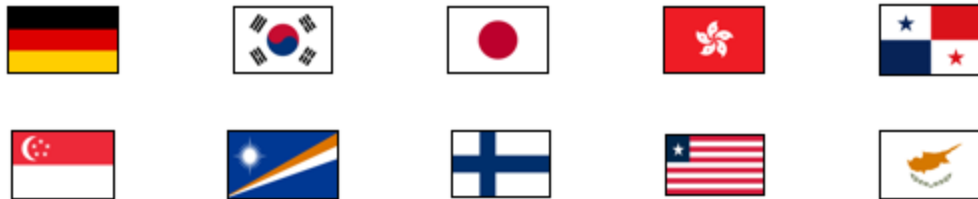
Electronic Record Books



Advantages

- | | | | |
|--|---|--|--|
| <ul style="list-style-type: none"> Automated calculations & validations User-friendly interface Efficient record keeping | <ul style="list-style-type: none"> Recordkeeping by authorized personnel Multi-layer security E-Signature facility Encrypted data with AES-256 | <ul style="list-style-type: none"> Oil Record Book Part 1 (ORB Part 1) Oil Record Book Part 2 (ORB Part 2) Emission Record Book (Annex VI) Cargo Record Book 1 (Noxious liquid substances in bulk) Ballast Water Record Book Garbage Record Book Part 1 (GRB Part 1) | <ul style="list-style-type: none"> Garbage Record Book Part 2 (GRB Part 2) Bio Fouling Record Book MARPOL Seal Logs Bunker Sample History Log Sewage and Grey Water |
| <ul style="list-style-type: none"> IMO regulations compliant Maintenance & support plan Mandatory software updates Web-based | <ul style="list-style-type: none"> Reminders for pending tasks Overview of key operations on one display Automated analytical reports Increase transparency, reduce human error | | |

Flag Approvals Received:



Type Approval:



Behavioural Science Pilot



The Signal Maritime Philosophy:

The role of the mariner in vessel efficiency has been underplayed in the shipping industry. Signal's deceptively simple and human-centric approach to decarbonisation can really help save the planet, one journey at a time.





Thank you for
your time!

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