



An Integrated Vessel Performance System for Environmental Compliance

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Vessel Performance

Vessel Performance Management Systems (VPMS)

MRV / IMO consumption/emissions reporting

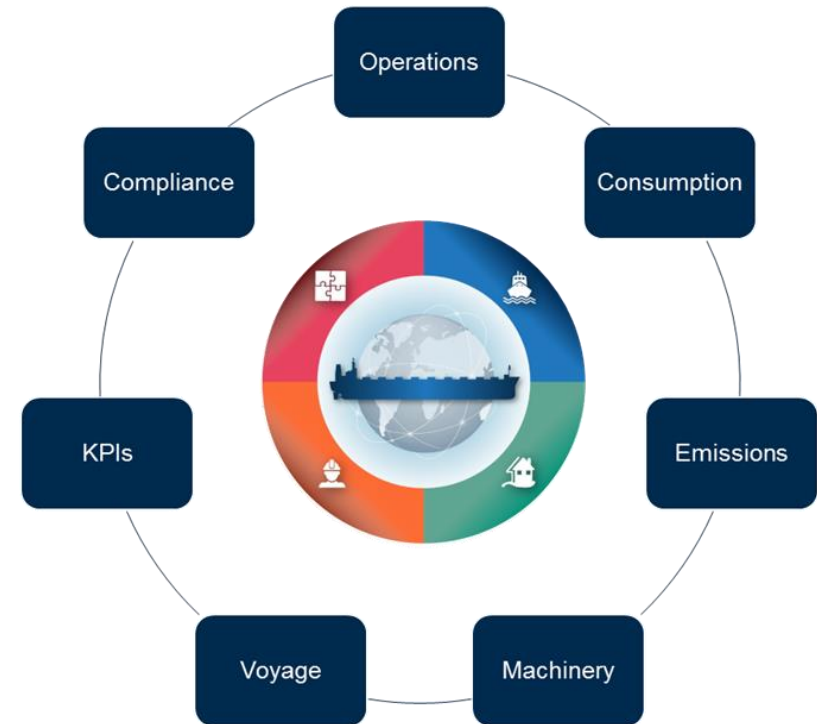
Utilizing Data

Expand VPMS with out expanding admin work



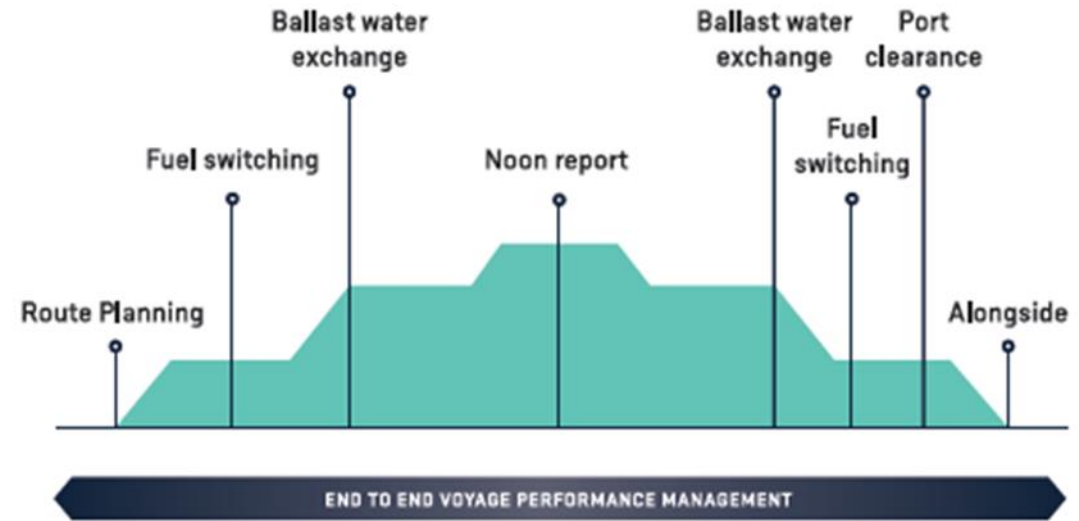
A Vessel Performance Management System

A VPMS should leverage operational data to provide analysis and insight to vessel owners to improve performance and environmental efficiency.



Capturing Performance Data

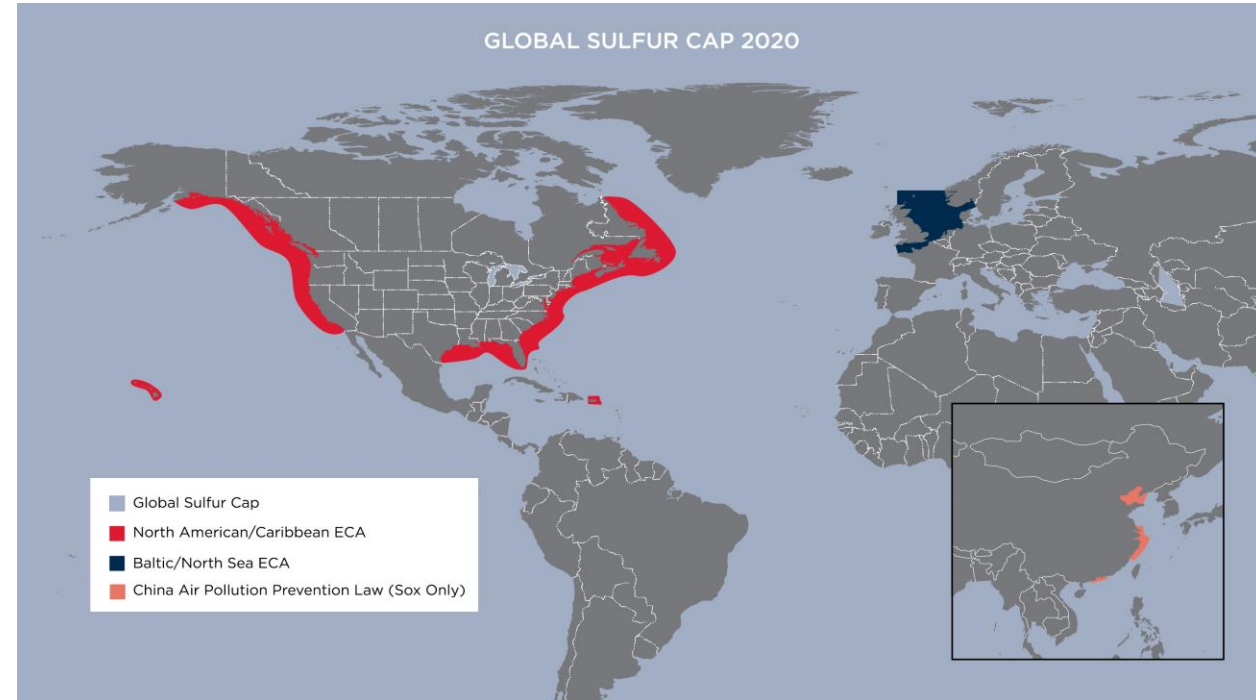
- Capture performance/events for the whole voyage
- Data for a technical/operational analysis (no human intervention)
- Predictive actions
- More data = more knowledge = better decision support
- Reduced workload for the crew without taking them out of the loop



Environmental Reporting

Multiple reporting including Efficiencies, Emissions and Regulatory

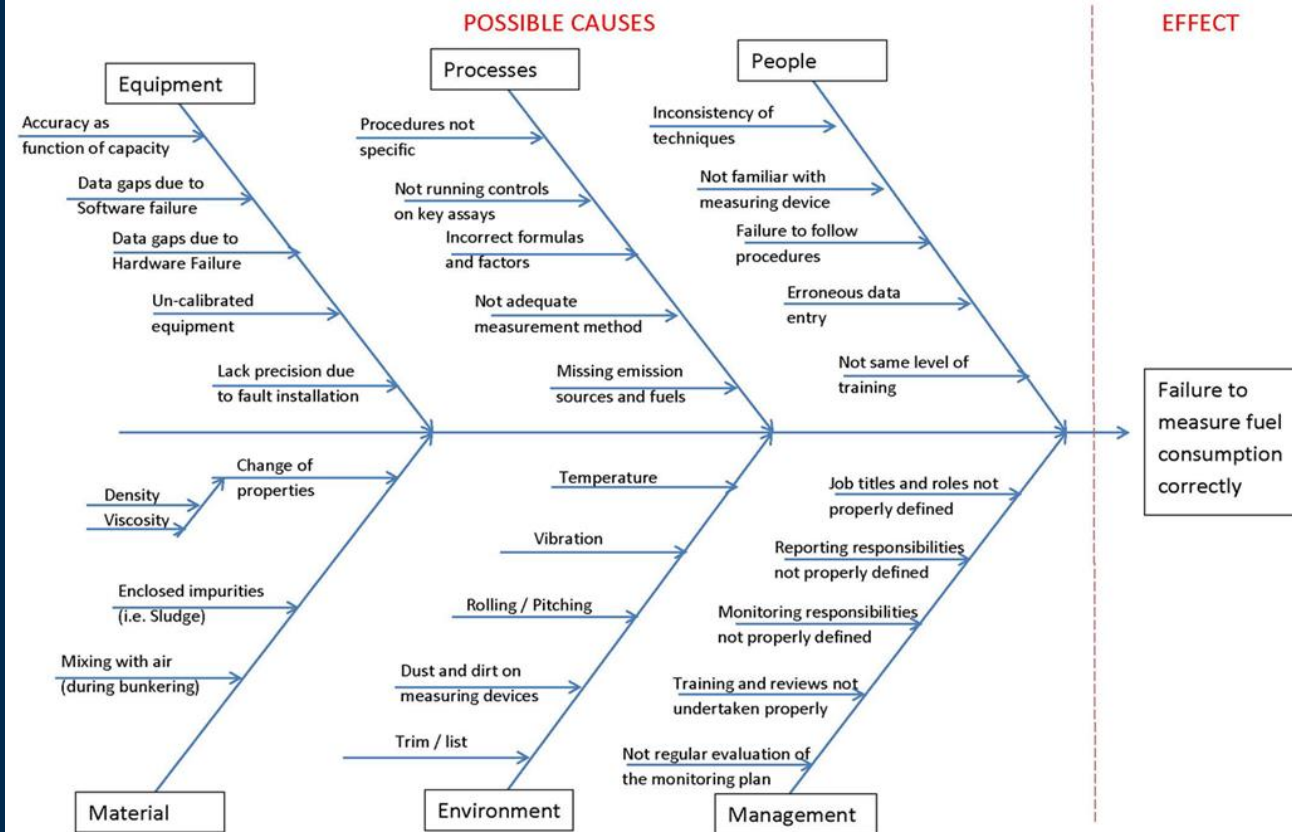
- Emissions (MRV, IMO, ECAs)
- SEEMP
- Fuel Switching
- Ballast Water Exchange
- Waste Handling



Environmental Reporting MRV reporting

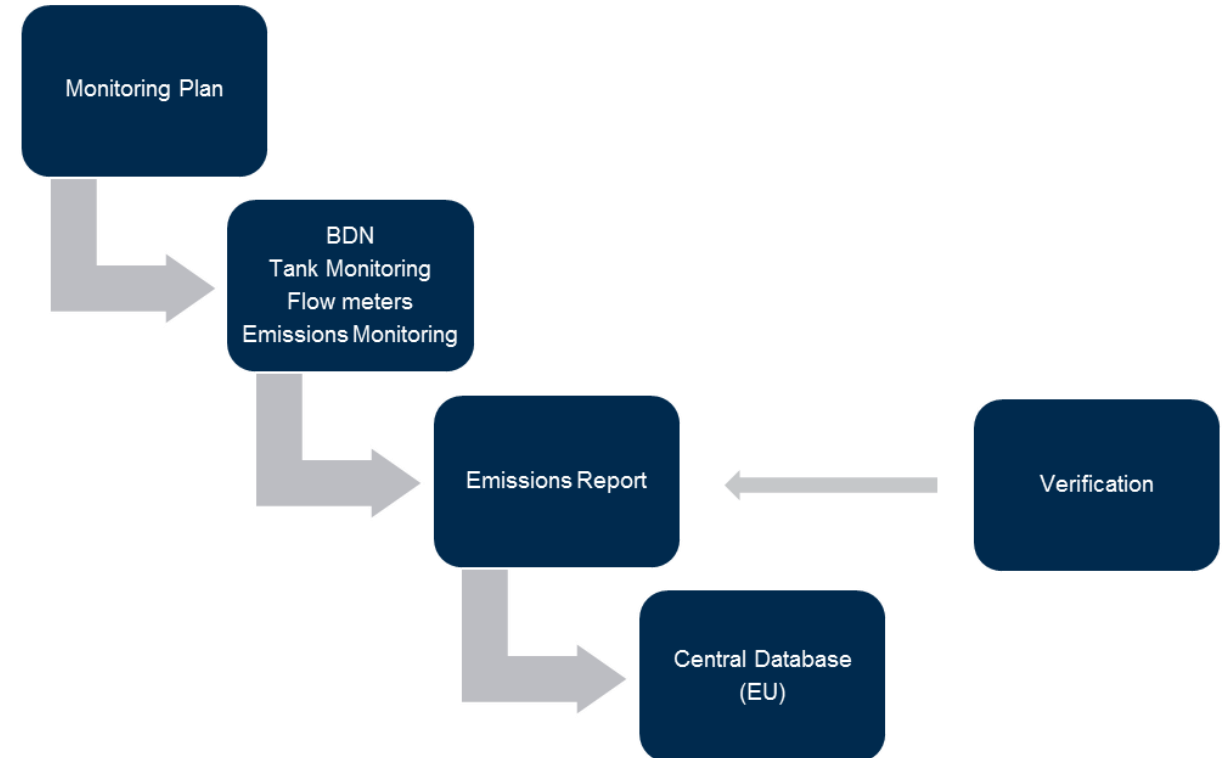
Data to be reported

- CO2 emissions at sea/in port
- Time at sea/in port
- Distance at sea
- Transportation Work
- Monitoring Plan
 - Methodology
 - Uncertainty
- Data Verification



The Monitoring Plan

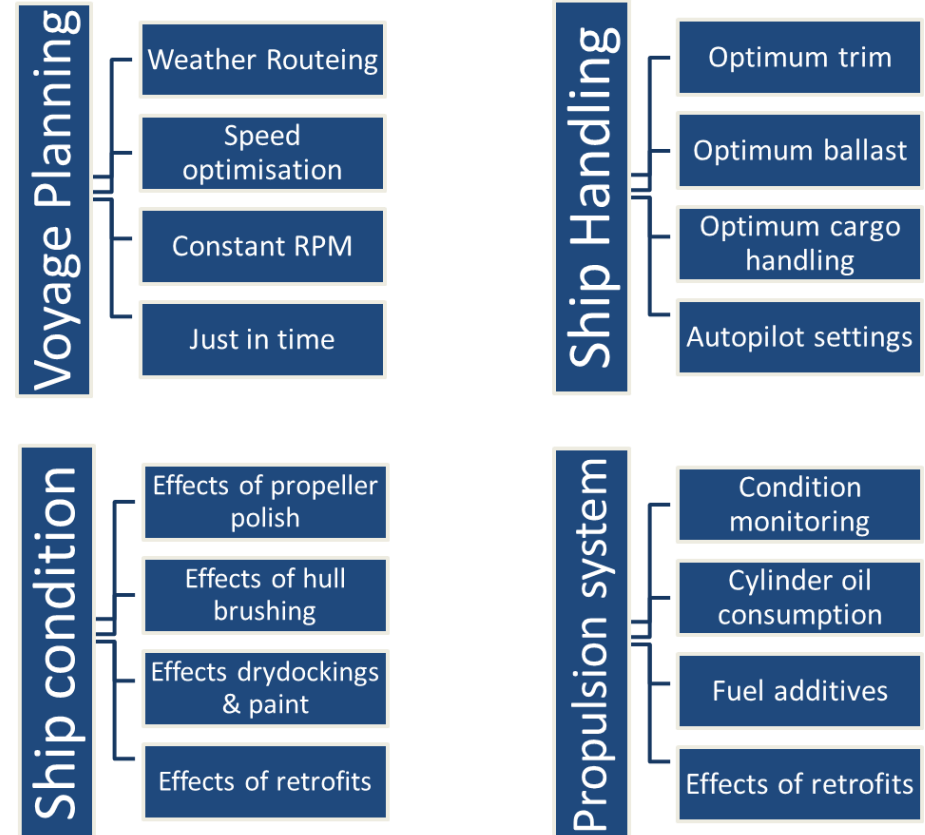
- Emissions Sources & Fuel types used
- Methodology, information flow and responsibilities
- Uncertainty assessment
- Measuring consumption
 - BDN
 - Tank Monitoring
 - Fuel Flow meters
- Emissions factors
- Risks and Gaps in reporting



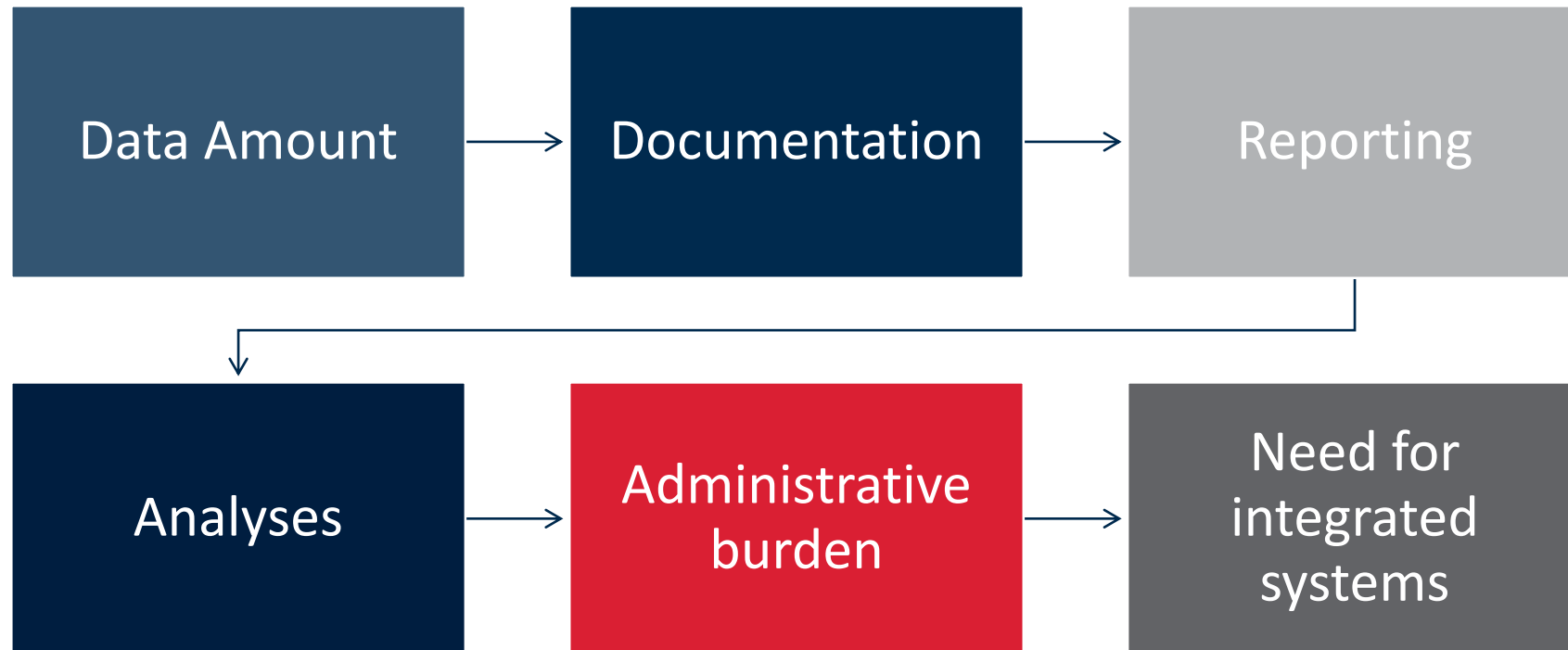
Environmental Reporting IMO reporting

Data to be reported

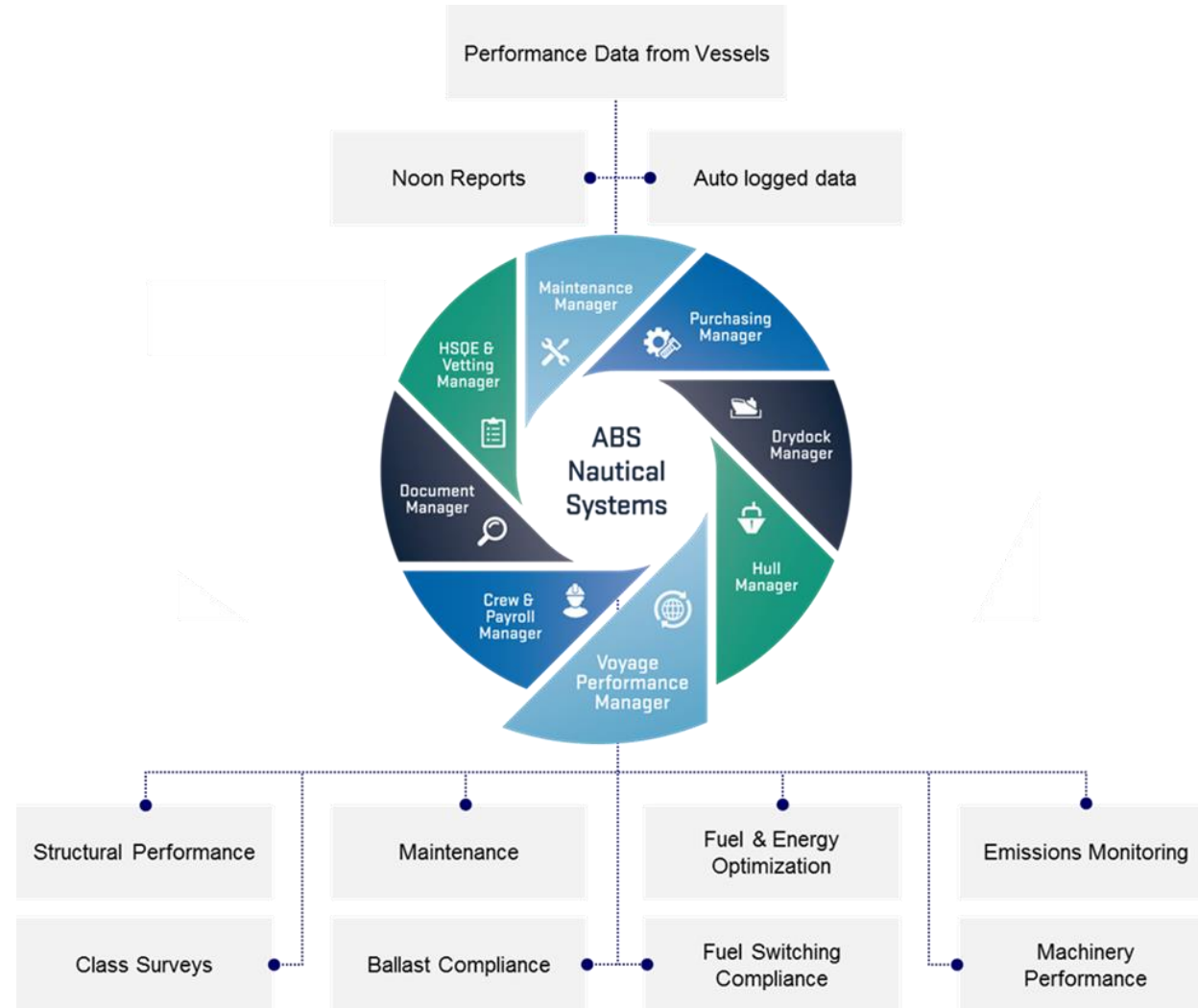
- Fuel Oil Consumption
- Time at sea
- Distance at sea
- Modification to the SEEMP (methodology of data capture)
- Roadmap for development (2018, 2023)
 - Analysis
 - Measures
- Data Verification



Administration on Board/Ashore



ABS NS Fleet Management





Thank You

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