



## 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

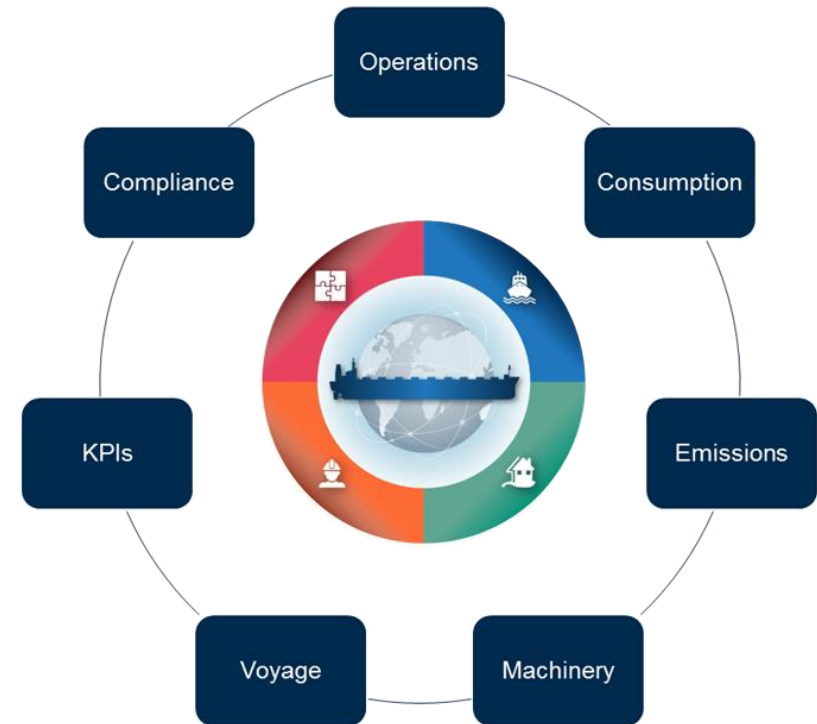
Expand VPMS with out expanding admin work



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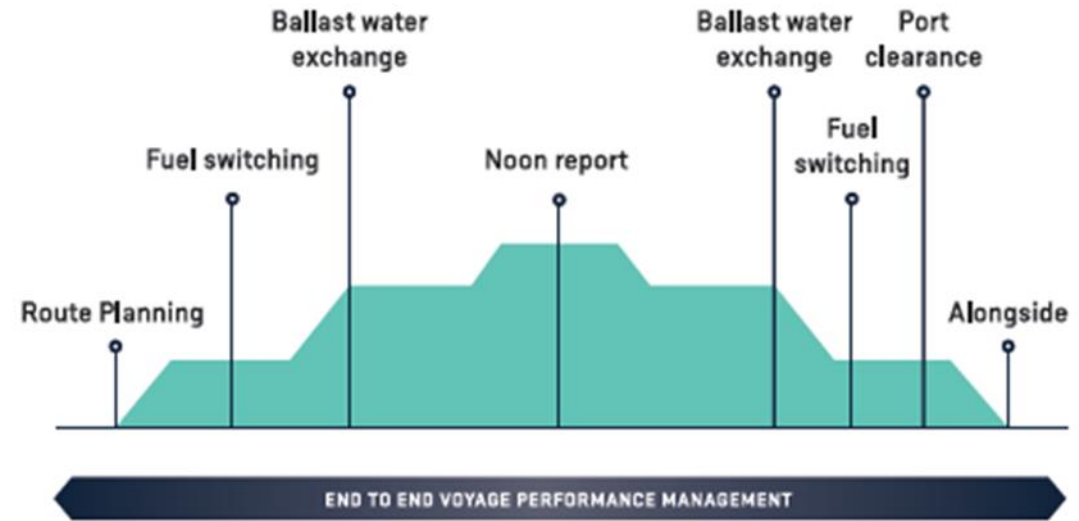
# A Vessel Performance Management System

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



# Capturing Performance Data

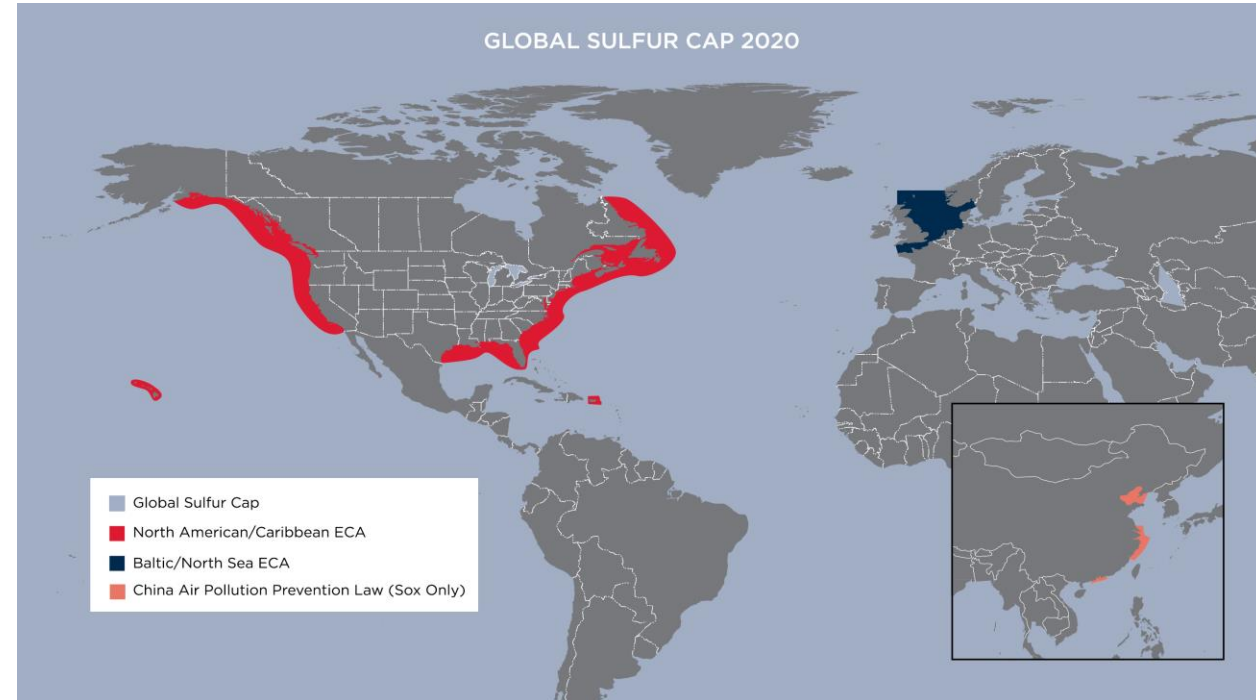
- Capture performance/events for the whole voyage
- Data for a technical/operational analysis (no human intervention)
- Predictive actions
- More data = more knowledge = better decision support
- Reduced workload for the crew without taking them out of the loop



# Environmental Reporting

Multiple reporting including Efficiencies, Emissions and Regulatory

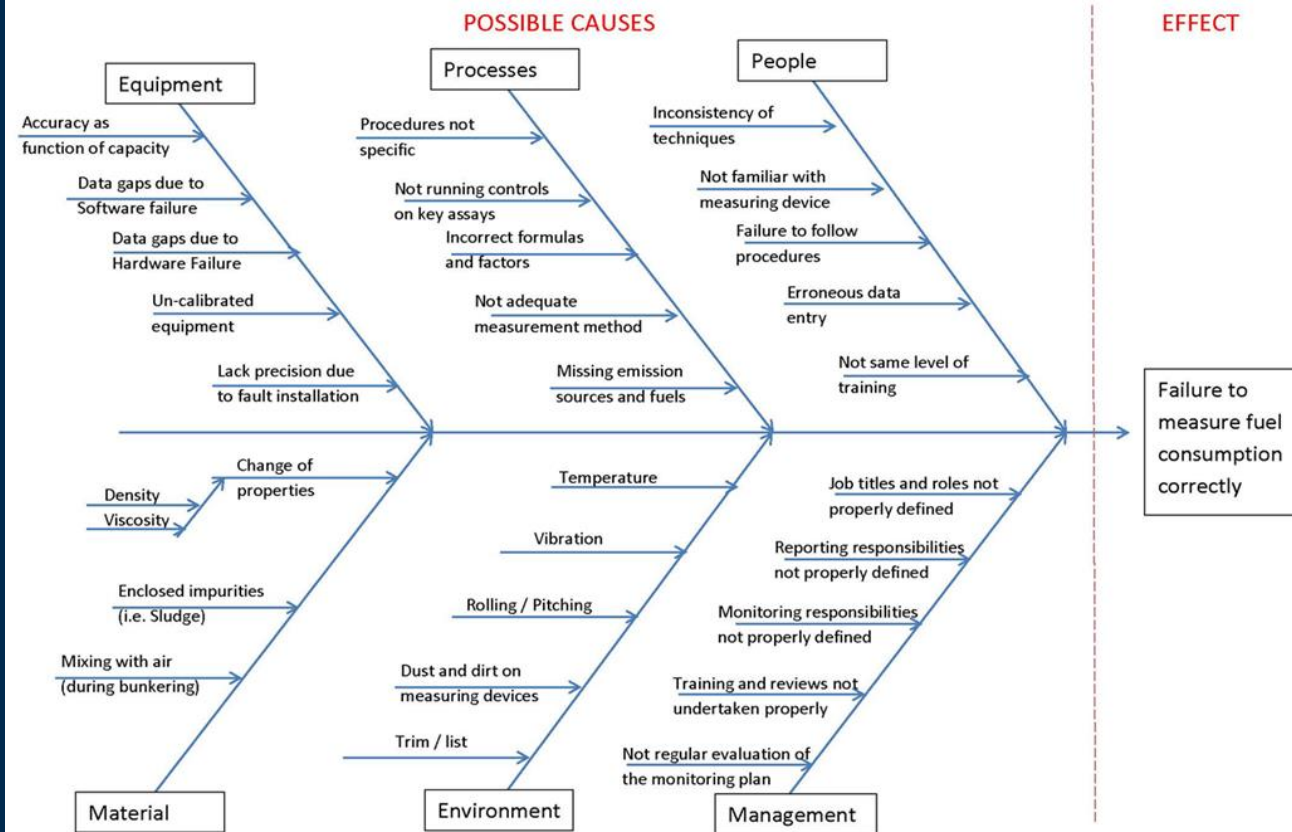
- Emissions (MRV, IMO, ECAs)
- SEEMP
- Fuel Switching
- Ballast Water Exchange
- Waste Handling



# Environmental Reporting MRV reporting

## Data to be reported

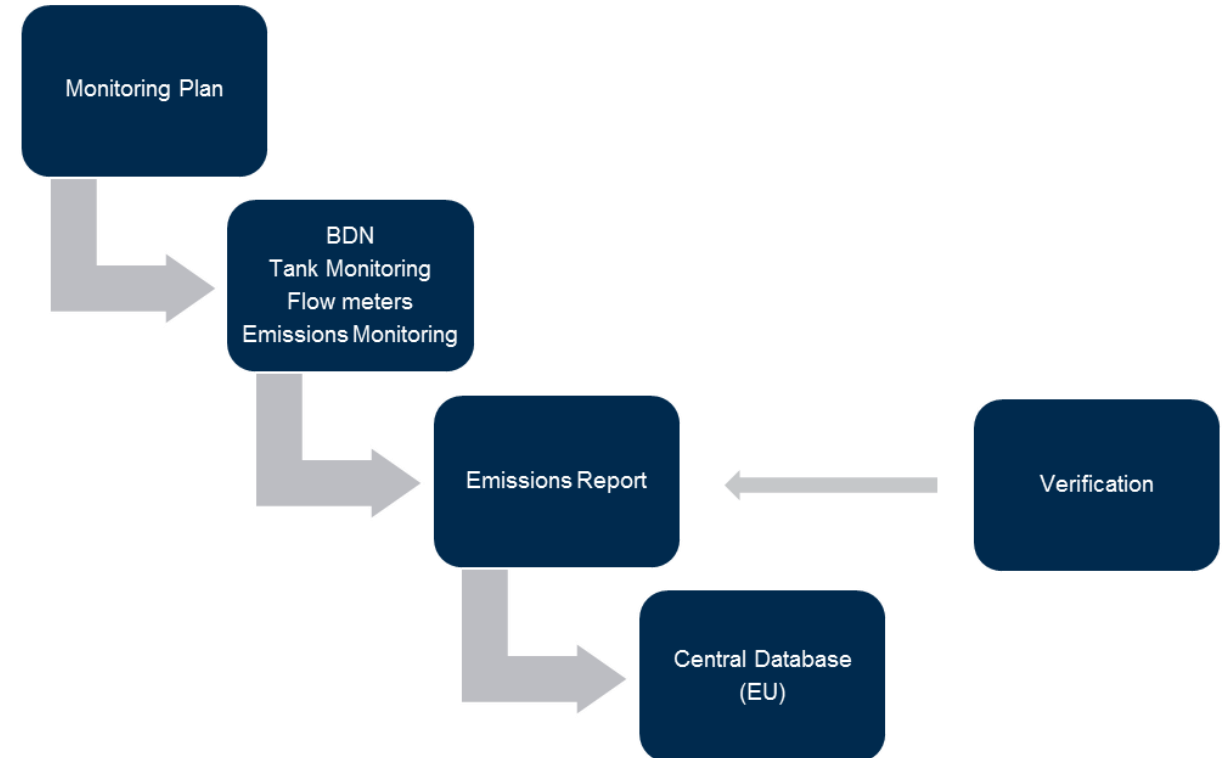
- CO2 emissions at sea/in port
- Time at sea/in port
- Distance at sea
- Transportation Work
- Monitoring Plan
  - Methodology
  - Uncertainty
- Data Verification



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# The Monitoring Plan

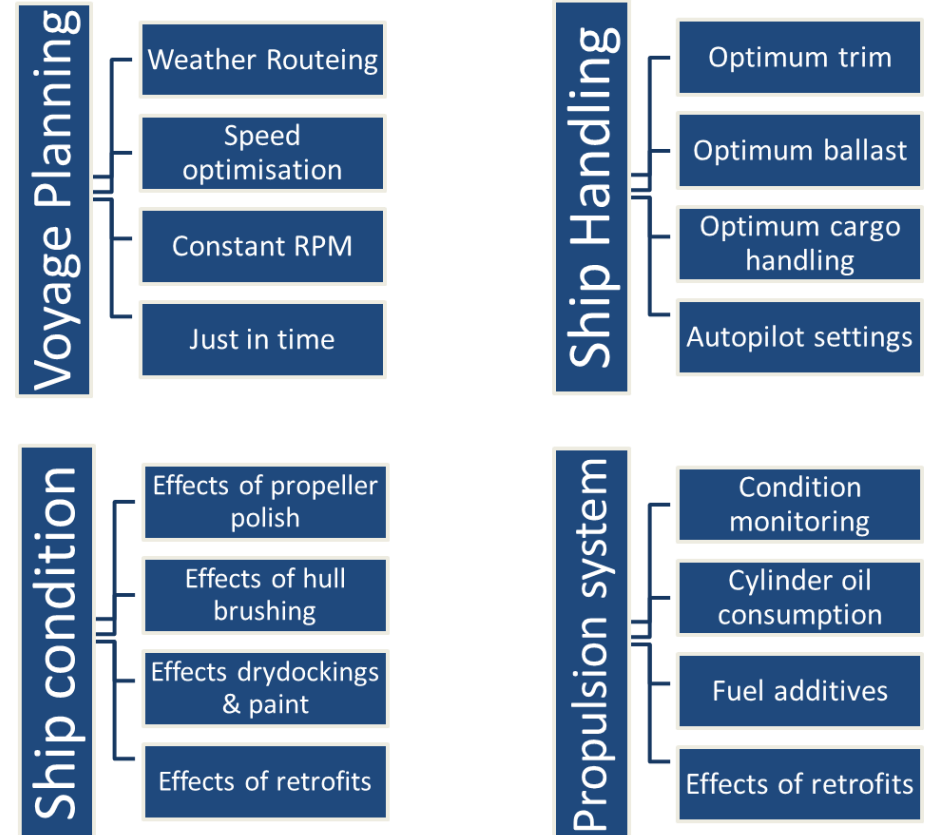
- Emissions Sources & Fuel types used
- Methodology, information flow and responsibilities
- Uncertainty assessment
- Measuring consumption
  - BDN
  - Tank Monitoring
  - Fuel Flow meters
- Emissions factors
- Risks and Gaps in reporting



# Environmental Reporting IMO reporting

## Data to be reported

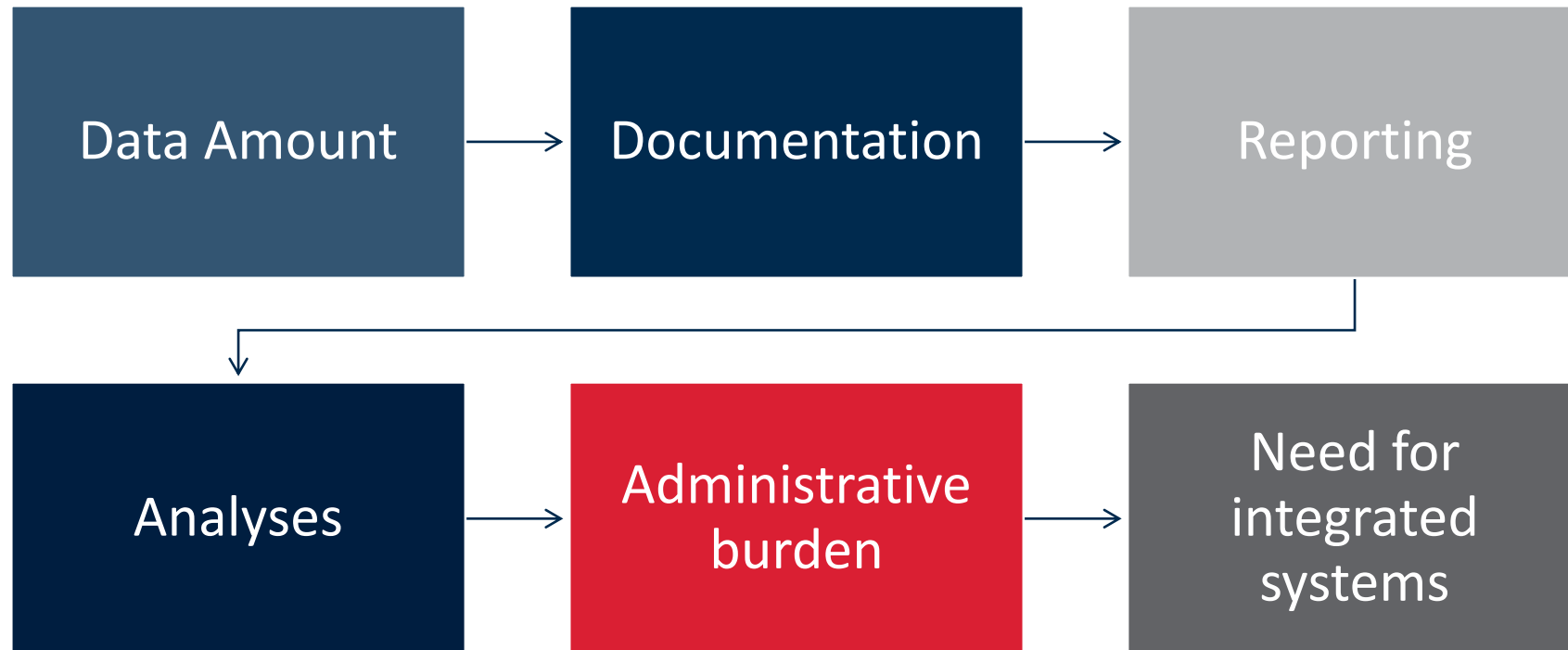
- Fuel Oil Consumption
- Time at sea
- Distance at sea
- Modification to the SEEMP (methodology of data capture)
- Roadmap for development (2018, 2023)
  - Analysis
  - Measures
- Data Verification



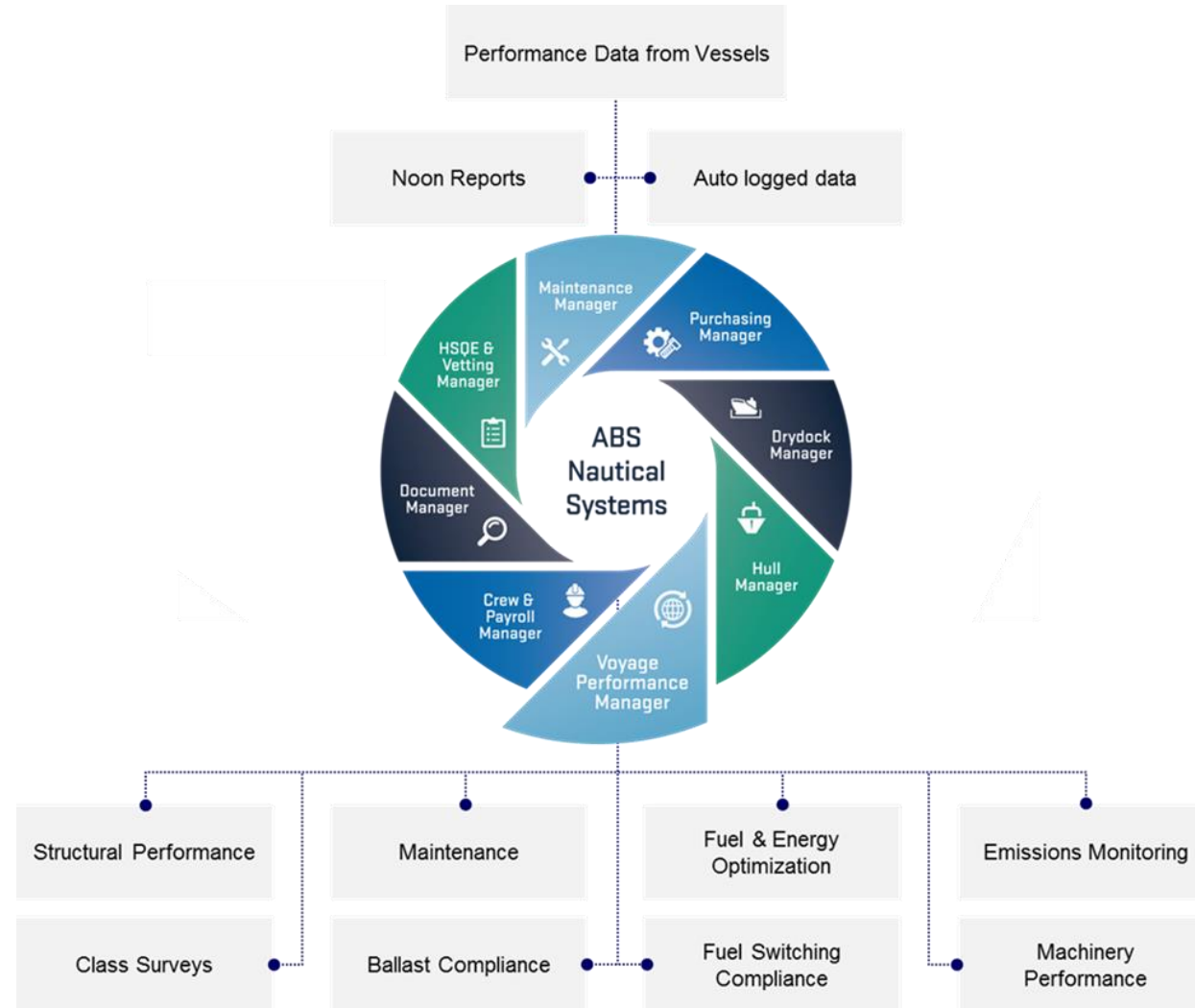


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# Administration on Board/Ashore



# ABS NS Fleet Management





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Thank You

[www.eagle.org](http://www.eagle.org)