



INTERTANKO

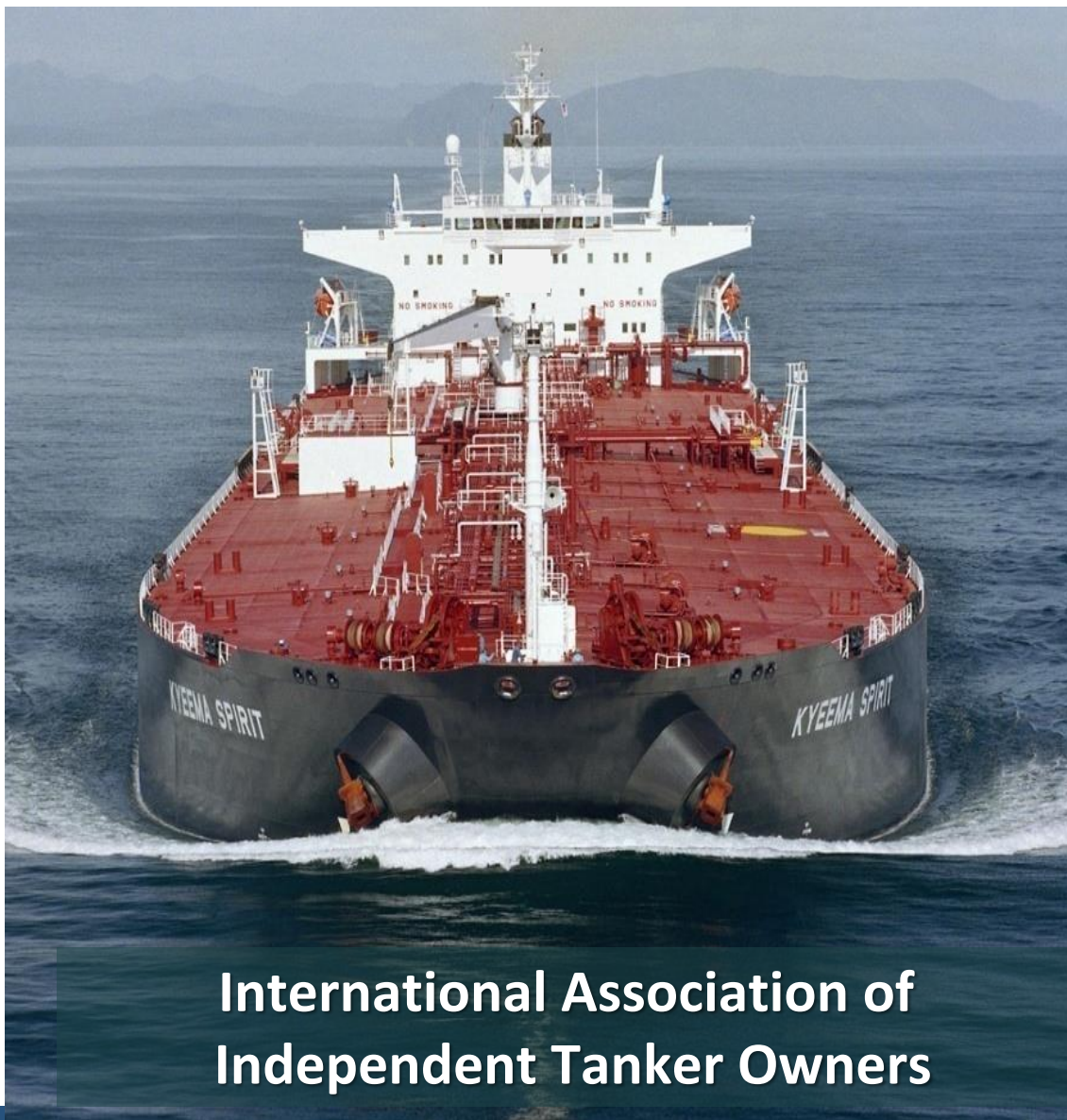
Session 4

Implementation of GHG Strategy

Vessel Performance Monitoring (PM)

17 October 2019

Gilyong Han



**International Association of
Independent Tanker Owners**

Leading the way, making a difference

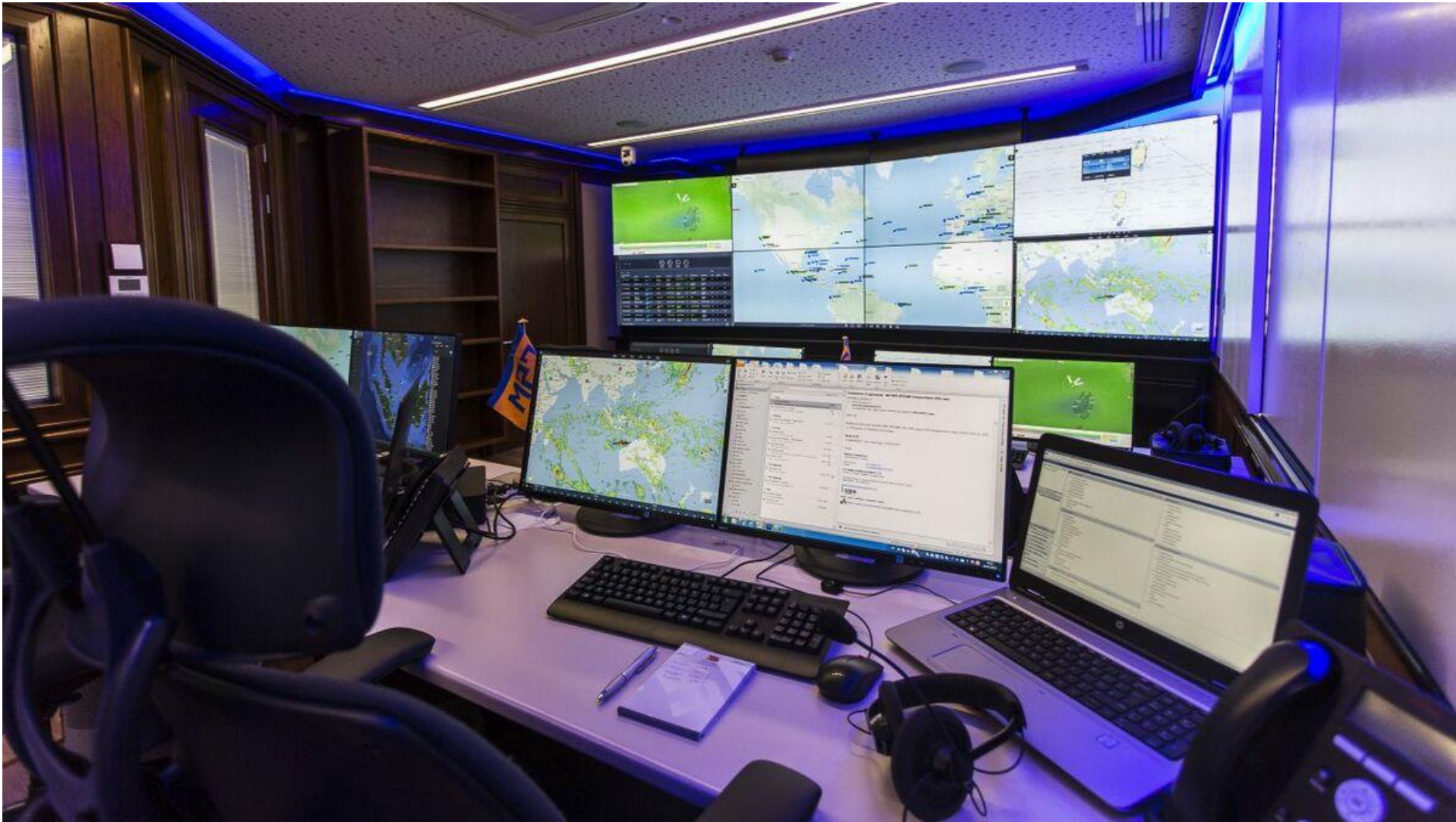


1. Background
2. ISO 19030
3. INTERTANKO WG/Performance Monitoring
4. Hull Performance & Insight Conference (HullPIC)
5. Questionnaire
6. Best Practice Guide



1. Background

INTERTANKO



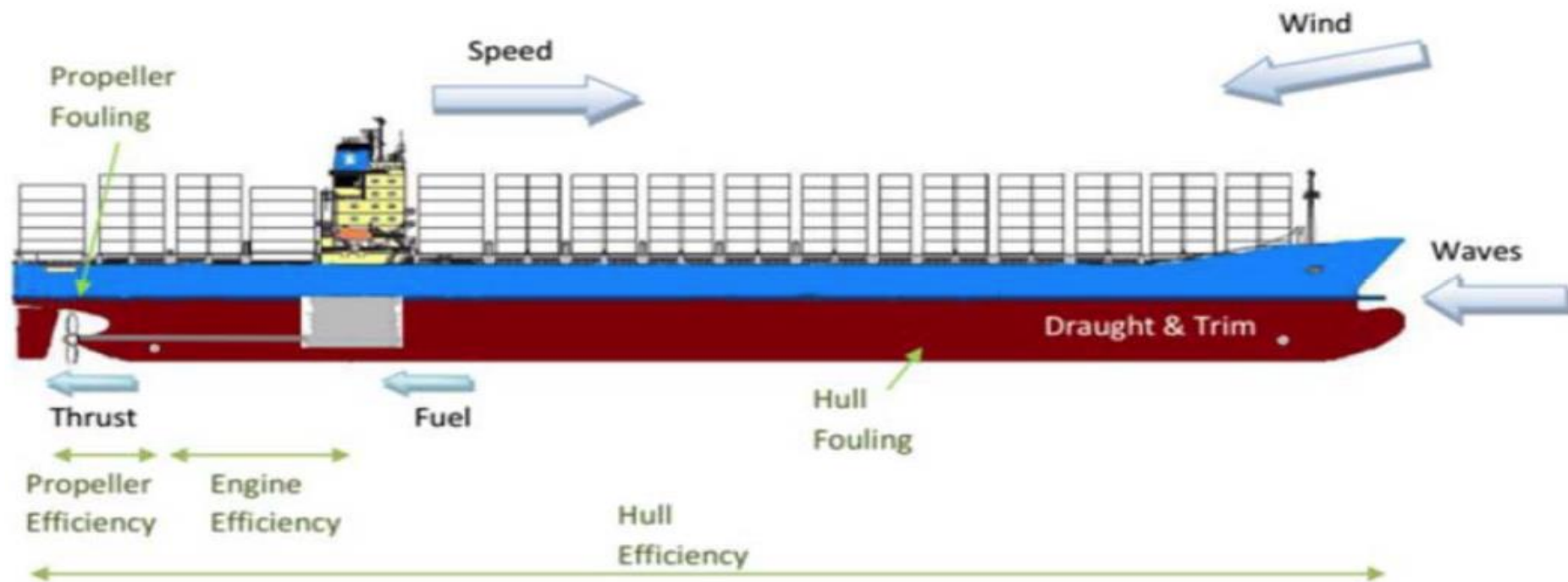
Source: 16 Oct 2019, Rivera Maritime Media, CMM control room



1. Background

INTERTANKO

What is performance monitoring?



(ABS, WG/Performance Monitoring, INTERTANKO WG 9 Nov 2017)

ISO 19030 states:

Hull and propeller performance refers to the relationship between the condition of a ship's underwater hull and propeller and the power required to move the ship through water at a given speed.



1. Background

INTERTANKO

Why are we interested in performance monitoring?

- Charterers' expectations

18.	PERFORMANCE OF VESSEL - SPEED AND CONSUMPTION
18.1	Unless otherwise ordered by Charterers, the Vessel shall perform all voyages at the service speed stated in the Questionnaire.
18.2	Owners warrant that the Vessel is and shall remain capable of maintaining, throughout the Charter Period, the speeds and bunker consumptions for propulsion described in the Questionnaire under normal working conditions and in moderate weather (which for the purpose of this Clause shall exclude any periods of winds exceeding Force 5 on the Beaufort Scale). Charterers shall have the right to make deductions from hire in respect of any time lost and any additional bunkers consumed by reason of the Vessel's failure to maintain the warranted capability.

**From
BIMCO**

- Question:

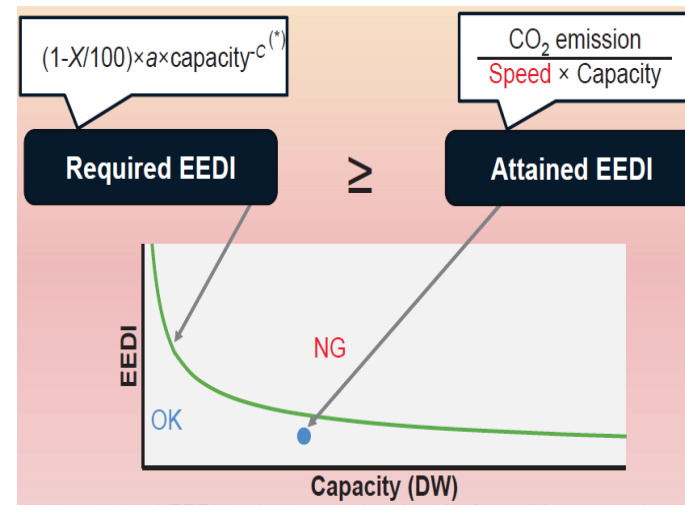
Are tanker operators and Charterers talking about the tanker performance in the same language ?



1. Background

What is the concept of performance monitoring ?

- No universally agreed reliable / accurate methodology for monitoring vessel performance
- ISO 19030: standard method to measure hull coatings & propeller performance
 - Part 1 (General),
 - Part 2 (automated data),
 - Part 3 (manual data)





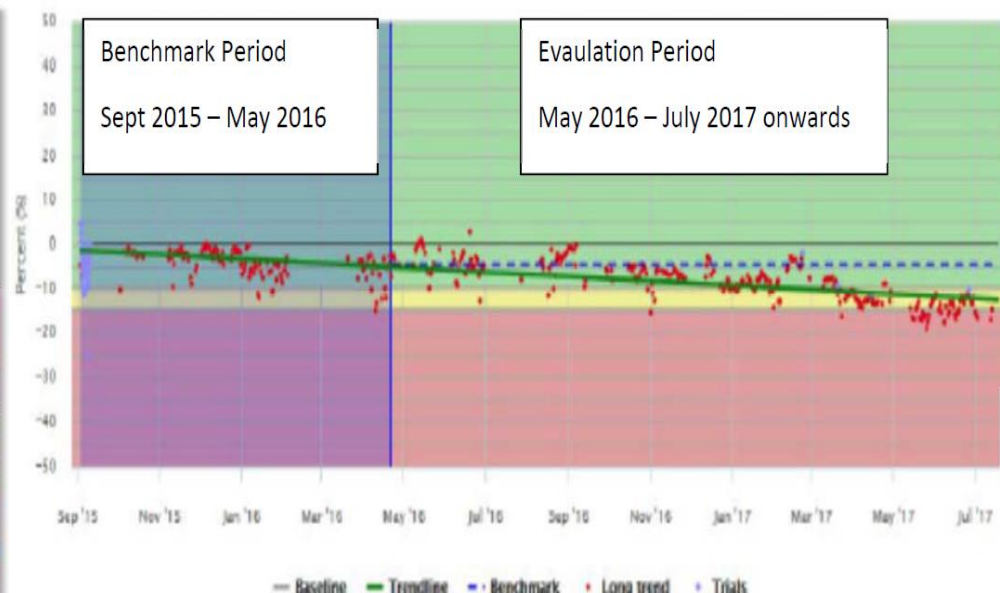
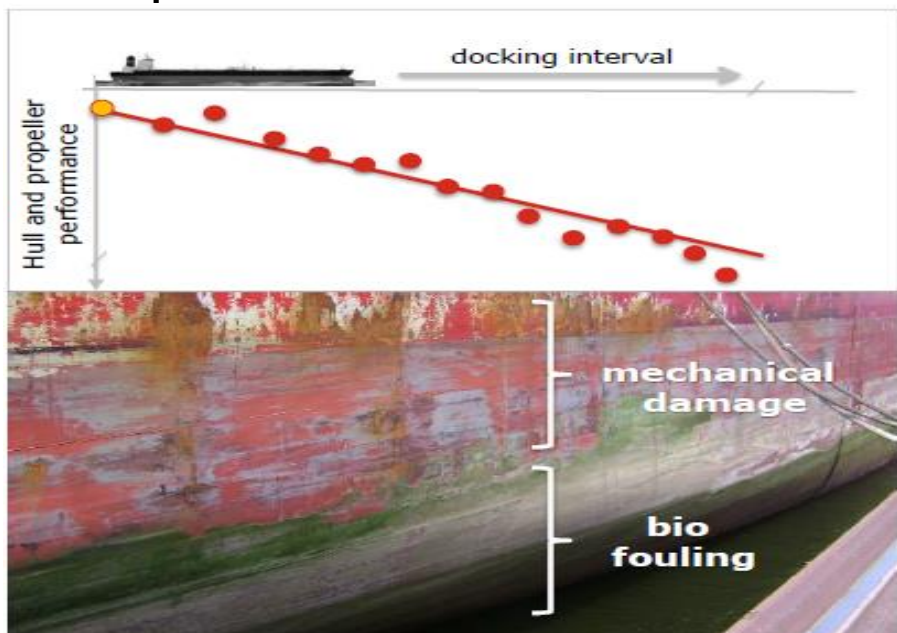
2. ISO 19030

INTERTANKO

What is the concept of ISO 19030 ?

- Calculation of performance value (V_d)
- Comparison between benchmark period and evaluation period
- Speed loss measurement after dry-dock or propeller polishing

$$V_d = 100 \cdot \frac{V_m - V_e}{V_e}$$



JOTUN, INTERTANKO WG1,

EURONAV INTERTANKO WG 1

Leading the way; making a difference



3. INTERTANKO WG/PM

INTERTANKO

ISTEC established a Working Group in 2017.

- Task – to look into the possibility of finding an agreed method
- Membership:
 - Scorpio SM ([Francesco B, Chair](#)),
 - Stena Bulk AB, CMM, Euronav SM,
 - V Ships, Springfield Shipping Co, Tsakos Columbia SM, Stolt Tanker
 - BVm Minerva Marine, Anglo Eastern, d'Amico Group, Odfjell Tankers
 - [ABS, DNVGL, JOTUN, Vessel Performance Solutions ApS,](#)
 - [Herbert Engineering, UCL, BMT Smart Ltd., Propulsion](#)
 - [Dynamics US, Prisma Electronics SA, OCIMF](#)
- WG 1 Nov 2017: a scooping exercise
- WG 5 Nov 2019: finalization of a Best Practice Guide



4. HullPIC (Hull Performance & Insight Conference)

INTERTANKO

- Members: ISO 19030 developers and users
- Objective: Share their experiences using ISO 19030

Journal of Shipping and Ocean Engineering 9 (2019) 1-7
doi 10.17265/2159-5879/2019.01.001



Tanker Operators' Perspective, Vessel Performance Monitoring

Francesco Bellusci¹ and Gilyong Han²

1. *Scorpio Ship Management, MC-98000, Monaco*

2. *INTERTANKO, London EN3N 1DD, UK*

Abstract: Tanker operators are committed to full compliance with environmental regulations while remaining competitive, irrespective of the market conditions. The major challenges are (a) the need to improve tankers' operational performance and (b) how to evaluate tankers' performance to assist them with taking timely action and meeting Charterers' expectations. IMO's efficiency index and indicator (EEDI and EEOI respectively) are based on the fuel consumption per (cargo) ton mile. Is the EEOI the right indicator to demonstrate operational performance? Does any ship operator really understand how good their ship's performance is at any time? A

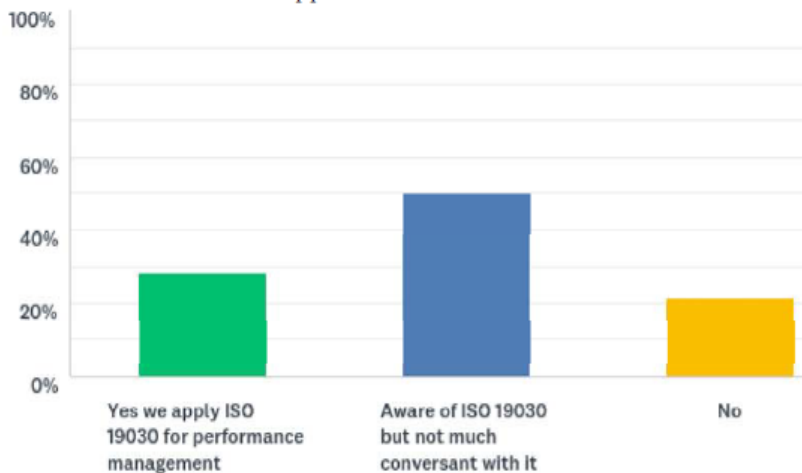


5. Questionnaire

Questionnaire 2019

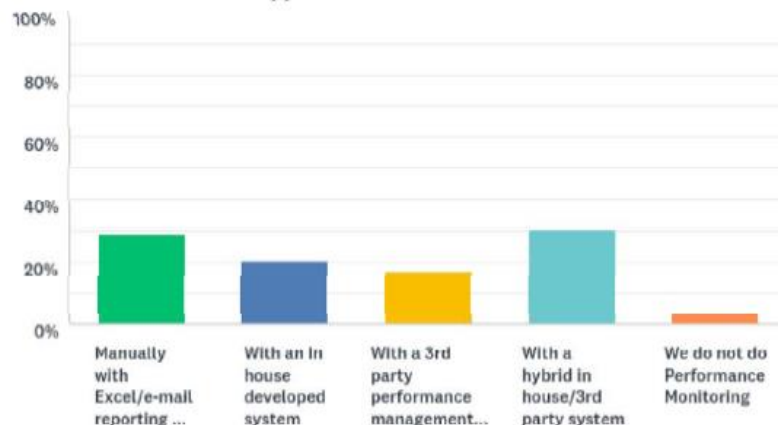
Q5 Are you aware of ISO 19030 ?

Answered: 60 Skipped: 4



Q6 How do you do Performance Monitoring in your shipping company?

Answered: 59 Skipped: 4



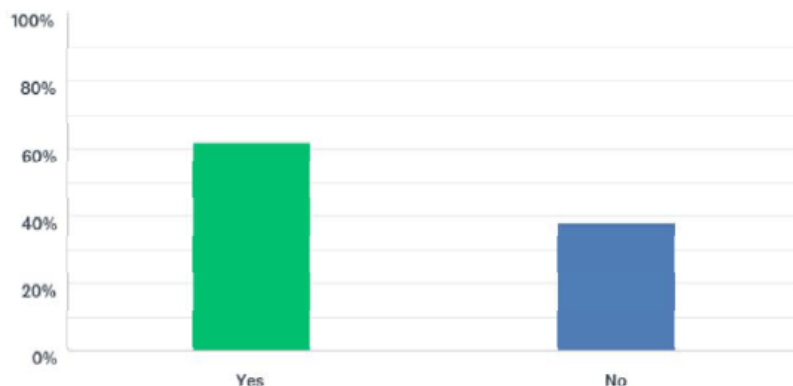


5. Questionnaire

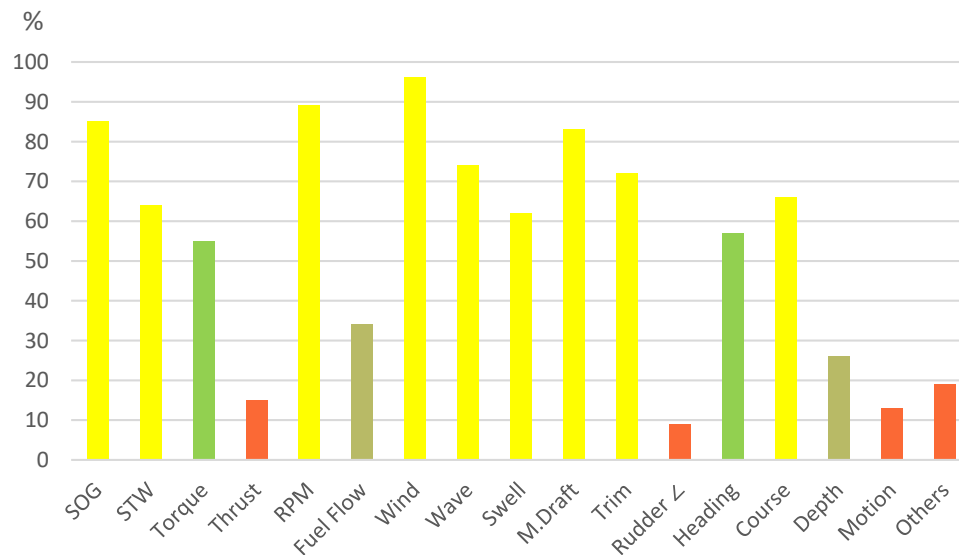
INTERTANKO

Q8 Do you have vessels equipped with an auto logging system for performance related sensors (torque, STW, draft, etc.)?

Answered: 58 Skipped: 6



Which data is recorded?





6. Best Practice Guide

INTERTANKO

1. Introduction
2. Performance Monitoring in Tanker Industry
3. Regulatory framework
4. Industry standards and commercial requirements
 1. ISO 15016
 2. ITTC
 3. ISO 19030
 4. Charter Party and TMSA
 5. Data Intellectual Property
5. Trend analysis
6. Understanding of Uncertainty
7. Data Source
8. Data treatment
9. Data driven decision



7. Summary

- The following two components could work together:
 - The wealth of expertise within HullPIC, and
 - Practical experience and feedback from field operation (INTERTANKO)
- INTERTANKO WG is to continue ISO 19030 experience sharing amongst its membership.
 - Expect that the Best Practice will underpin performance monitoring of the fleet, an integral part of CO2 reduction measures.

Thank you