



What If It's Not Just Competence? Equipment Failure – Is it getting worse?

John Flynn – Stena Drilling
Marine Safety Forum – All Members Meeting – Aberdeen, Scotland
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Stena Drilling

CARE, INNOVATION & PERFORMANCE



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IMCA DP CONFERENCE 2025

Our Views & Thoughts

This presentation is based purely on our own views through results of our own internal investigations and statistics collected.

This is meant to provide food for thought and to stimulate conversation, not to discredit the results of any studies carried out.

We welcome all questions at the conclusion of this presentation.



**Dynamic Positioning Station Keeping Review
– Incidents and Events Reported for 2021**

IMCA M258, DPSI032 Rev. 0.1
March 2024

IMCA Reports and Data

- DP Station Keeping Incidents are submitted anonymously by member and non-member companies.
- Aim is to share and learn
- Goal to reduce incidents.
- Excellent reference document trusted by the industry.

IMCA Data and Human Factors

“Through the analysis of IMCAs DP station Keeping Event Reporting scheme, IMCA recognises that human factors are a significant contributor to many DP station keeping events”

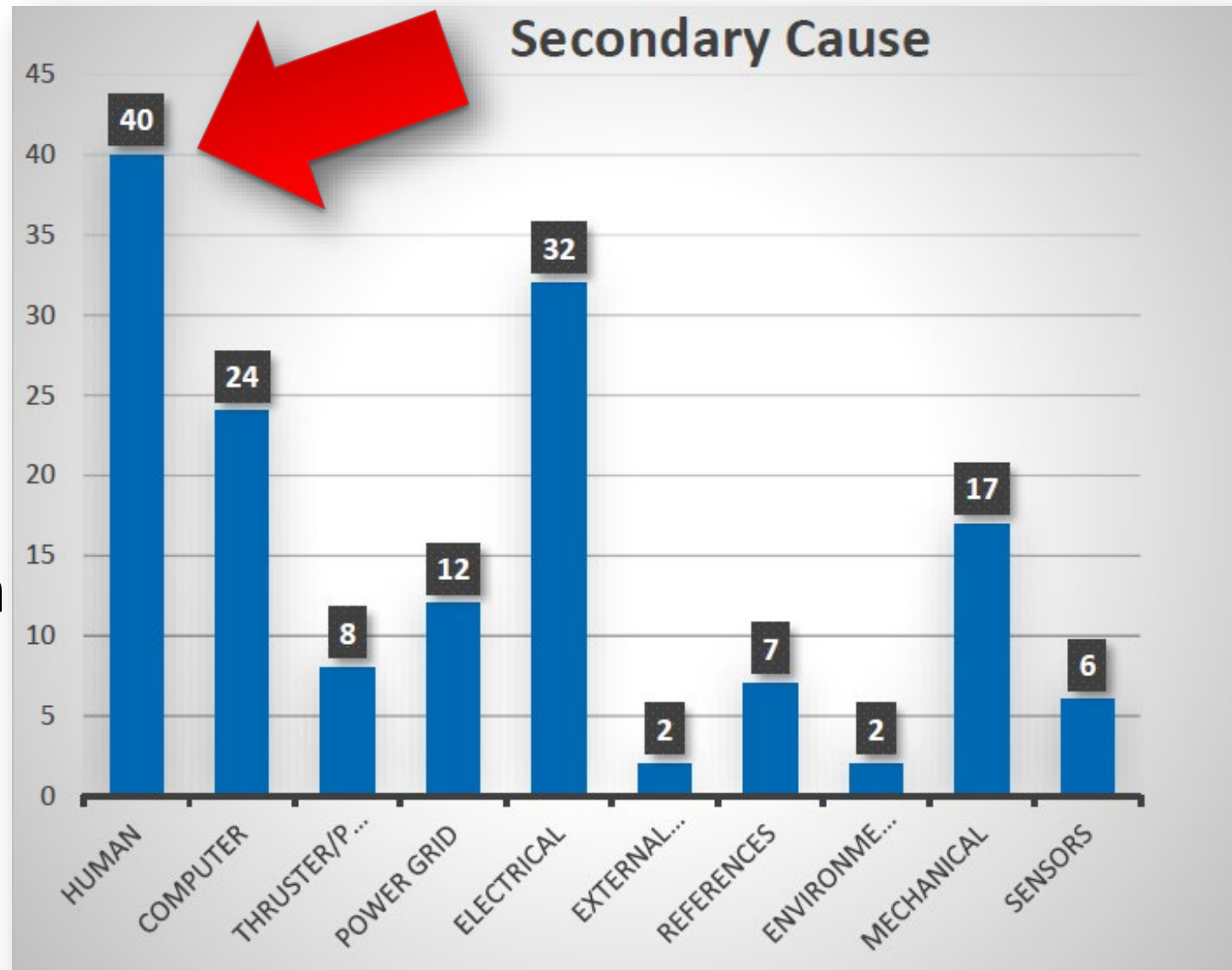


Figure 5 – Number of DP station keeping events by secondary cause

IMCA Data and Human Factors

- Human Factors = 0
- System Failure = 116.
- So is it fair to say fixing Human Factors isn't fixing all the problems?

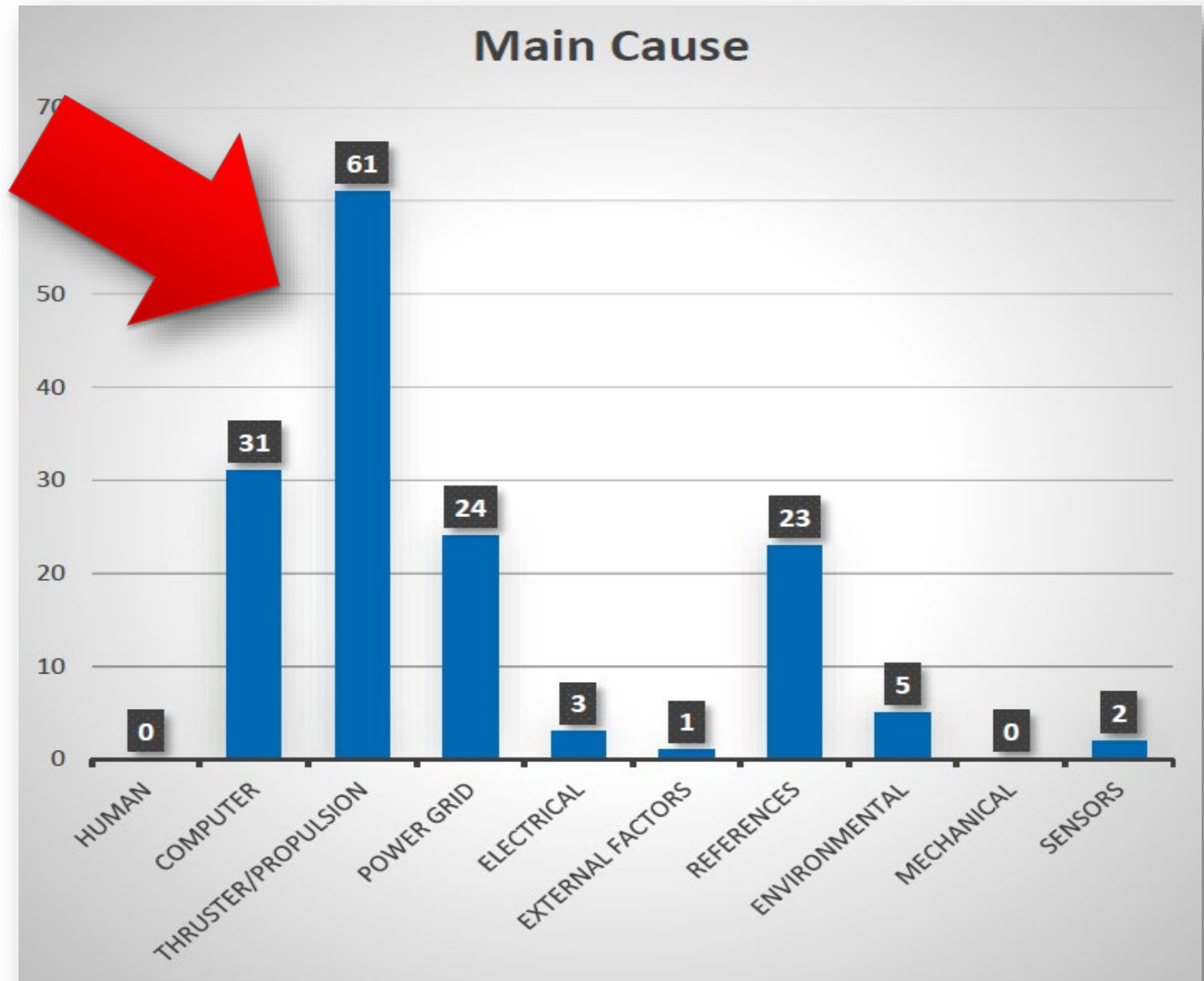


Figure 3 – Number of DP station keeping events by main cause

Stena Drilling - Incident Record Keeping

At Stena Drilling all incidents related to support vessel operations are to be reported and recorded. Minor events are recorded on a tracker and submitted to onshore Marine on a monthly basis.

Other events are investigated and will be classified against one of the incident categories. This data is used to trend the events and help put mitigations in place where possible.

3.15 Support Vessel Incident Reporting

In the event of an issue with the Support Vessel which results in an incident, degraded DP status or general failure of their equipment, regardless of whether or not it causes a halt to operations, the “PSV Incident Tracker – L2-FM-OPS-8686” is to be completed. This tracker is to be submitted at the end of each month to the Marine Manager and Marine Superintendent for review.

Note: this Tracker does not remove the requirement to follow “Accident and Incident Notification – L2-DOC-HSE-2560” within Stena Drilling’s incident reporting requirements.

Any incident or reported failure as it occurs shall be reported to the onshore Marine Department via e-mail and investigated.

Stena Vessel/Rig:

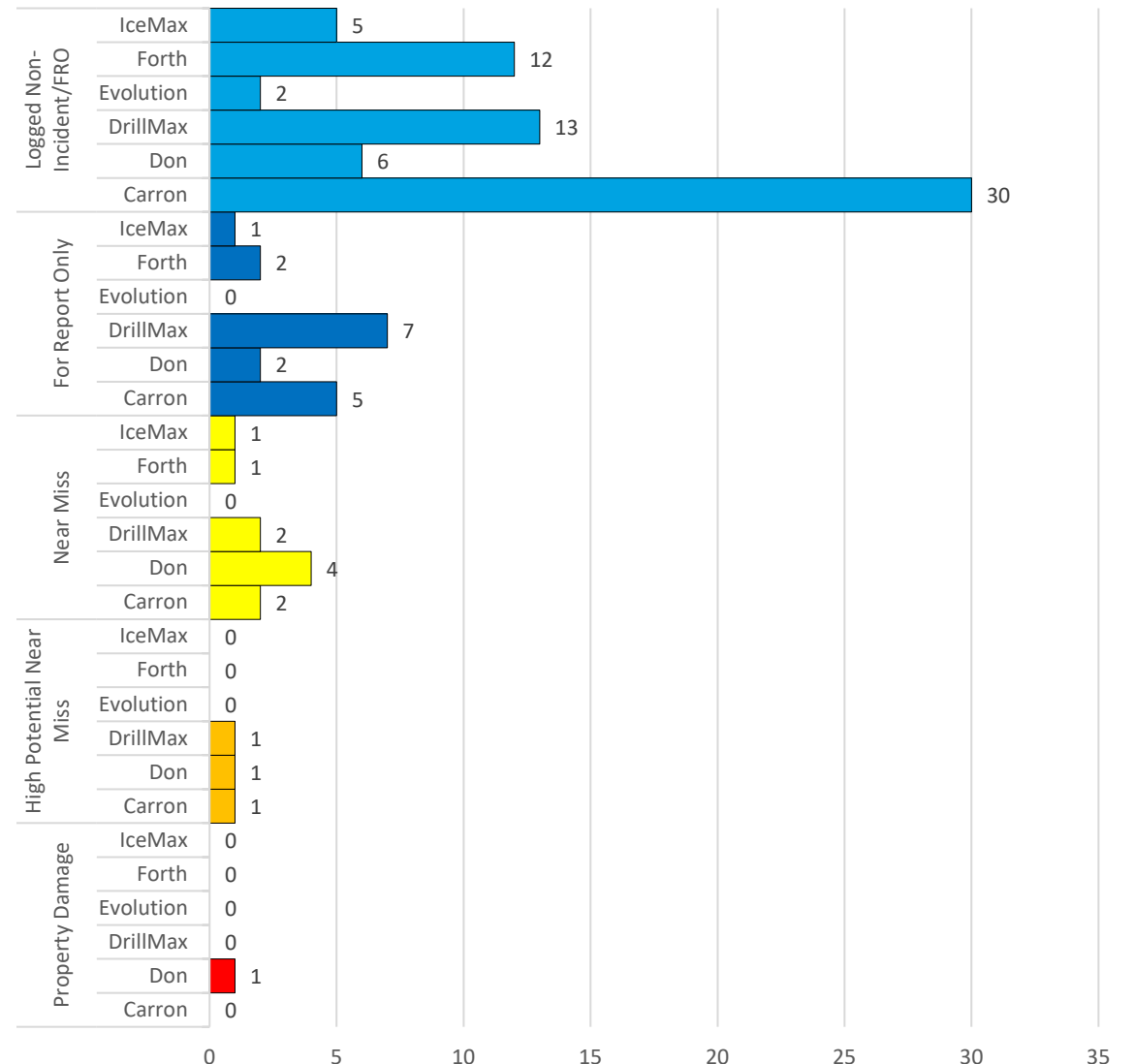
Client	Well Location	PSV	Date Inside 500m	Time Inside 500m	Nature of Operation	Working Heading	Current (spd & dir)	Wind (spd & dir)	Wave Height	Date of Incident	Time of Incident	Nature of Incident	Date Outside 500m	Time Outside 500m	PRO Number / Comments

How We Record Our Data

Over the last 5 years we've collated information and findings through our own internal investigations and from reports issued by support vessel operators.

Learnings from the results of investigations are passed onto our fleet through incident reports, bulletins and where required, change of operating procedures.

SUPPORT VESSELS - EVENTS BY RIG - 2021 TO PRESENT

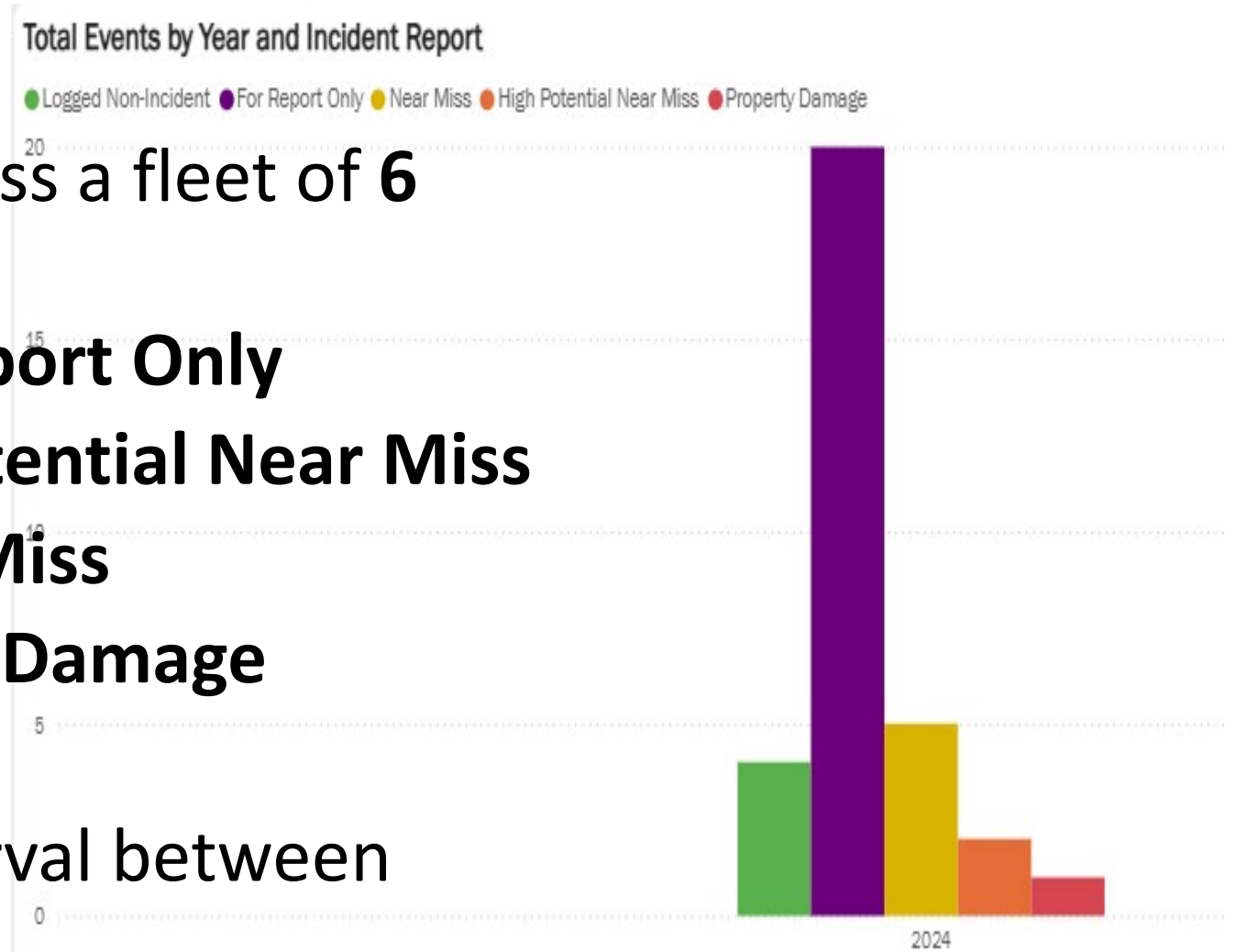


Support Vessel Incidents 2024 (Near Miss – IMCA DPE 03/24)



Support Vessel Incidents 2024

- **32** events were recorded across a fleet of **6** units.
- **20** events recorded as **For Report Only**
- **2** events recorded as **High Potential Near Miss**
- **5** events recorded as a **Near Miss**
- **1** event recorded as **Property Damage**
- During **2024** the average interval between events was **11.4 days**



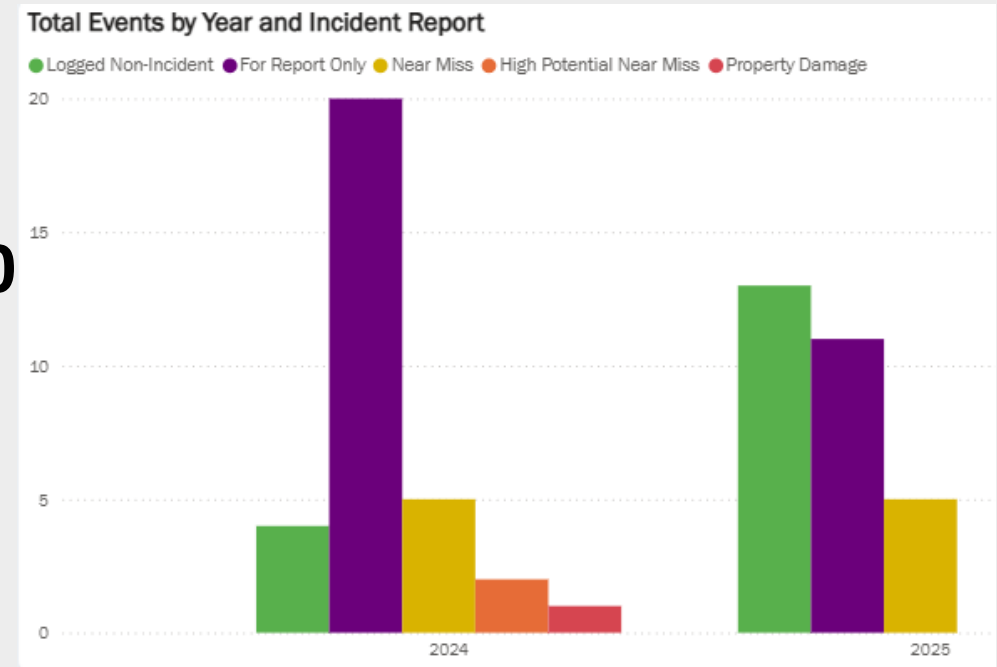
Support Vessel Incidents 2025

- **29** events were recorded across a fleet of **6** units.
- **11** events recorded as **For Report Only**
- **0** events recorded as **High Potential Near Miss**
- **5** events recorded as a **Near Miss**
- **0** event recorded as **Property Damage**
- During **2025** the average interval between events was **12.6 days**



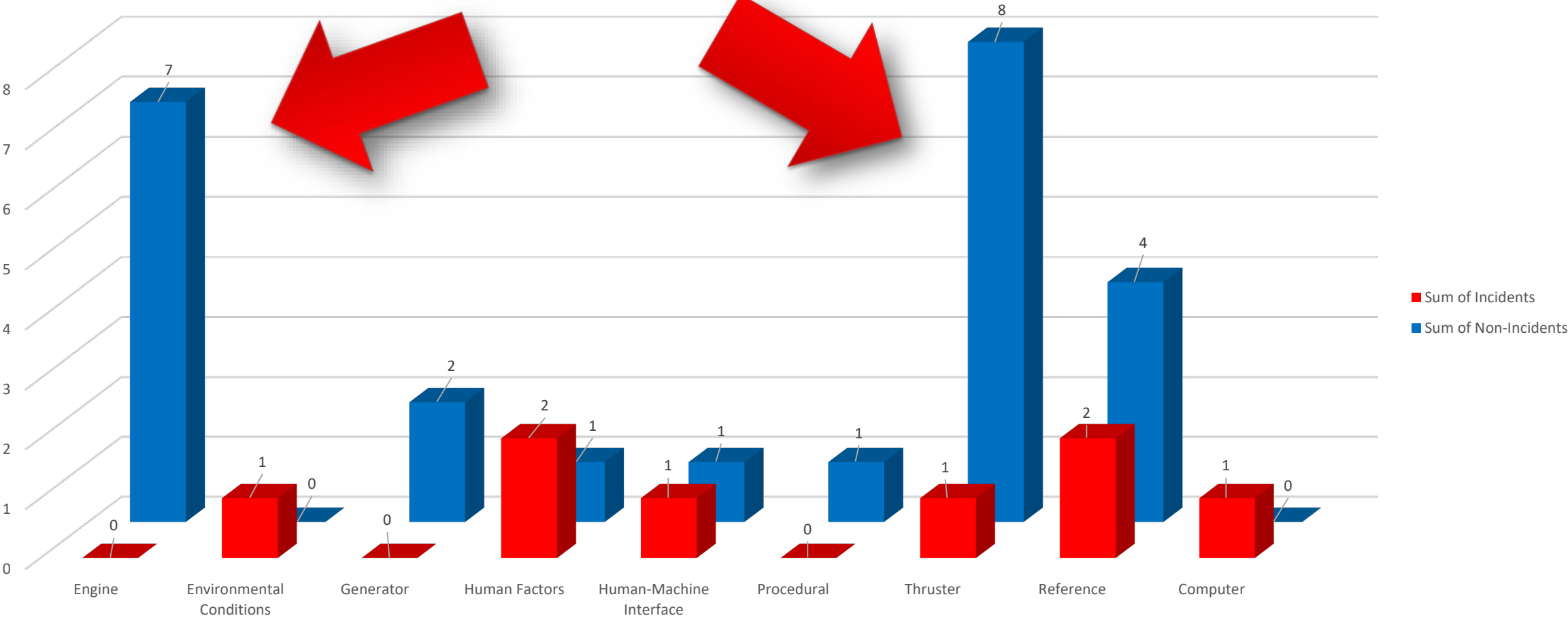
Support Vessel Incidents

- **32 events** were recorded across a fleet of **6 units** in **2024**.
- In **2021** IMCA recorded **150 events** globally.
- If we assume (according to Chat GPT) **3,000 DP vessels** Worldwide.
- What do you think the true number of DP events globally could be?



> **10,000 ?????**

Primary Factors Attributing to 2024 Events

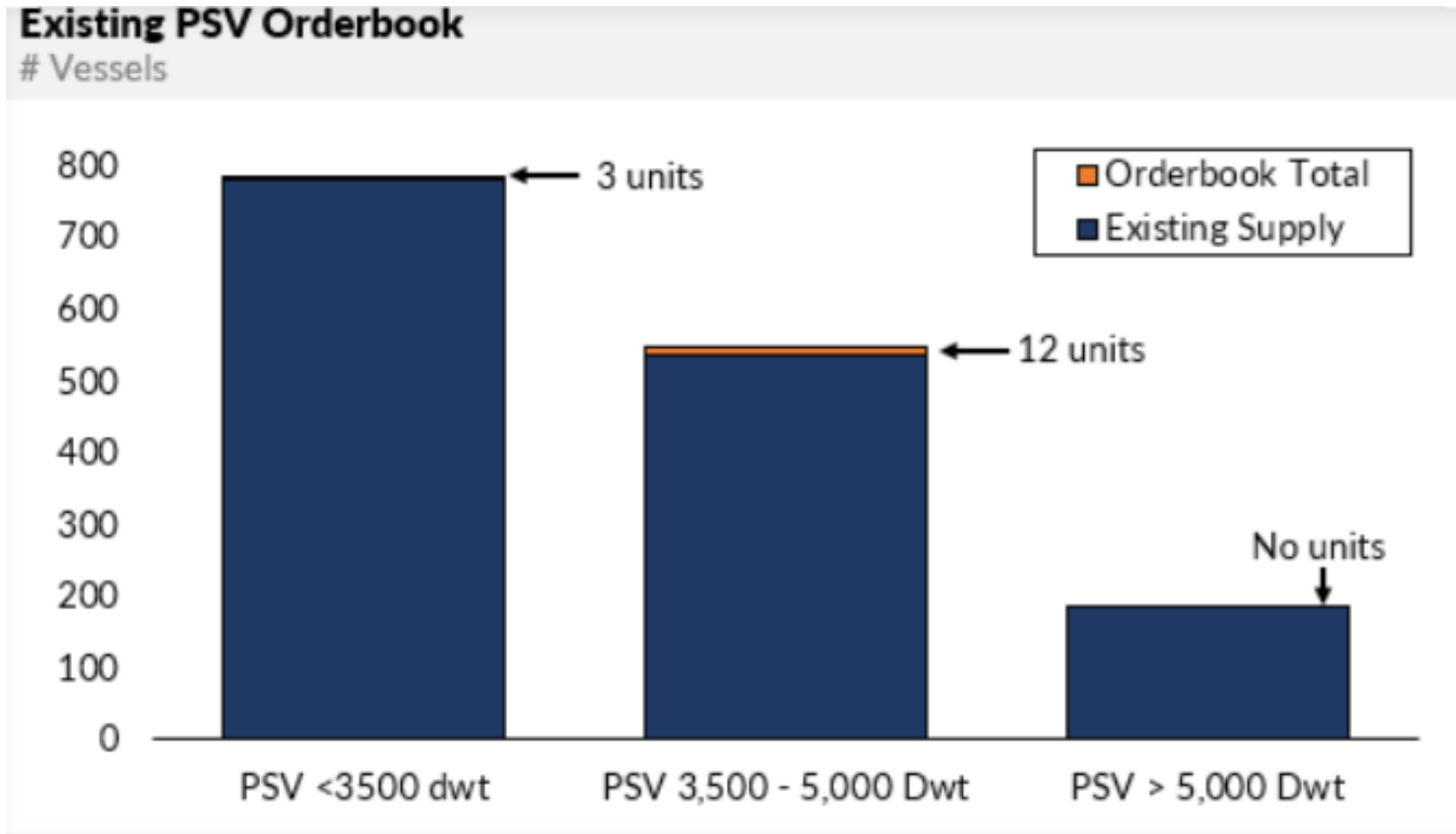


What does the data tell us are the reasons?

- Ageing Fleet / Tonnage?
- A shortage of long-term contracts ?
- Reduced vessel availability ?
- Commercial Pressure :
 - Maximized Uptime
 - Maintenance slots on hire
 - Day Rates / reduced margins
- Lower or stagnant Maintenance Budgets ?
- Human Factors / Competency?
- Obsolescence?
- Others.....

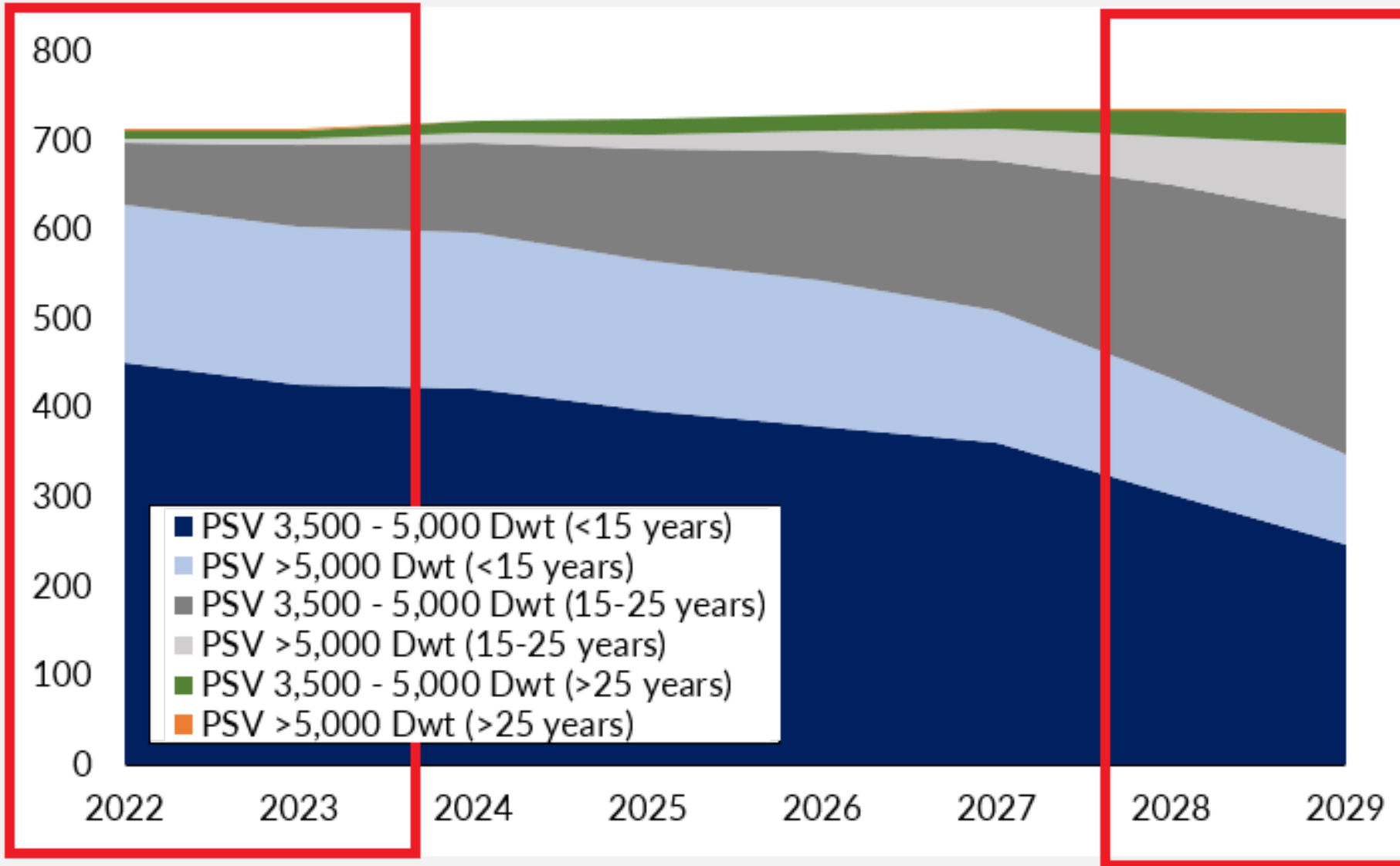


Like Us the Boats are getting Old!



PSV >3,500 dwt Age Profile 2022-2029

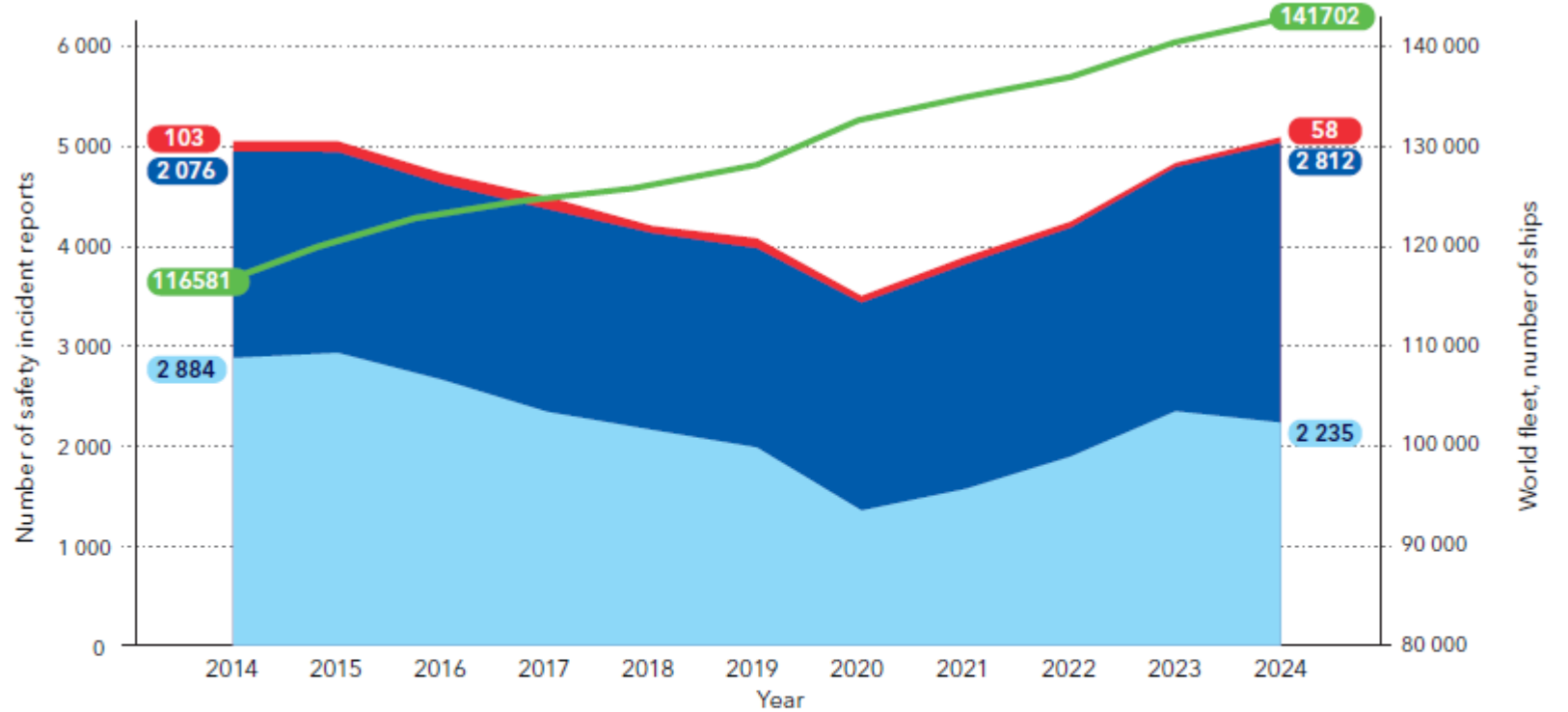
Vessels



And its not just us

MARITIME SAFETY TRENDS 2014-2024

Preparing for future risks



Percentage of world fleet



World fleet (>100 GT)

Losses

Casualties

Detentions

22%
growth of world fleet
from 2014 - 2024

44%
decrease in losses
compared to 2014

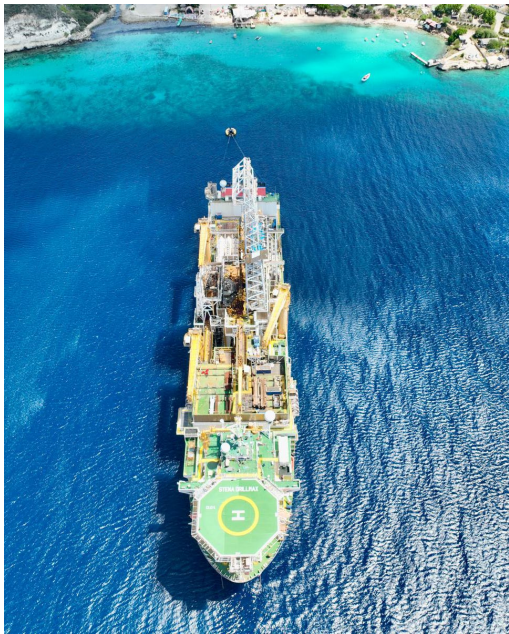
35%
increase in casualties
during that time

33%
less detentions
compared to 2014



MARITIME SAFETY TRENDS 2014-2024

Preparing for future risks

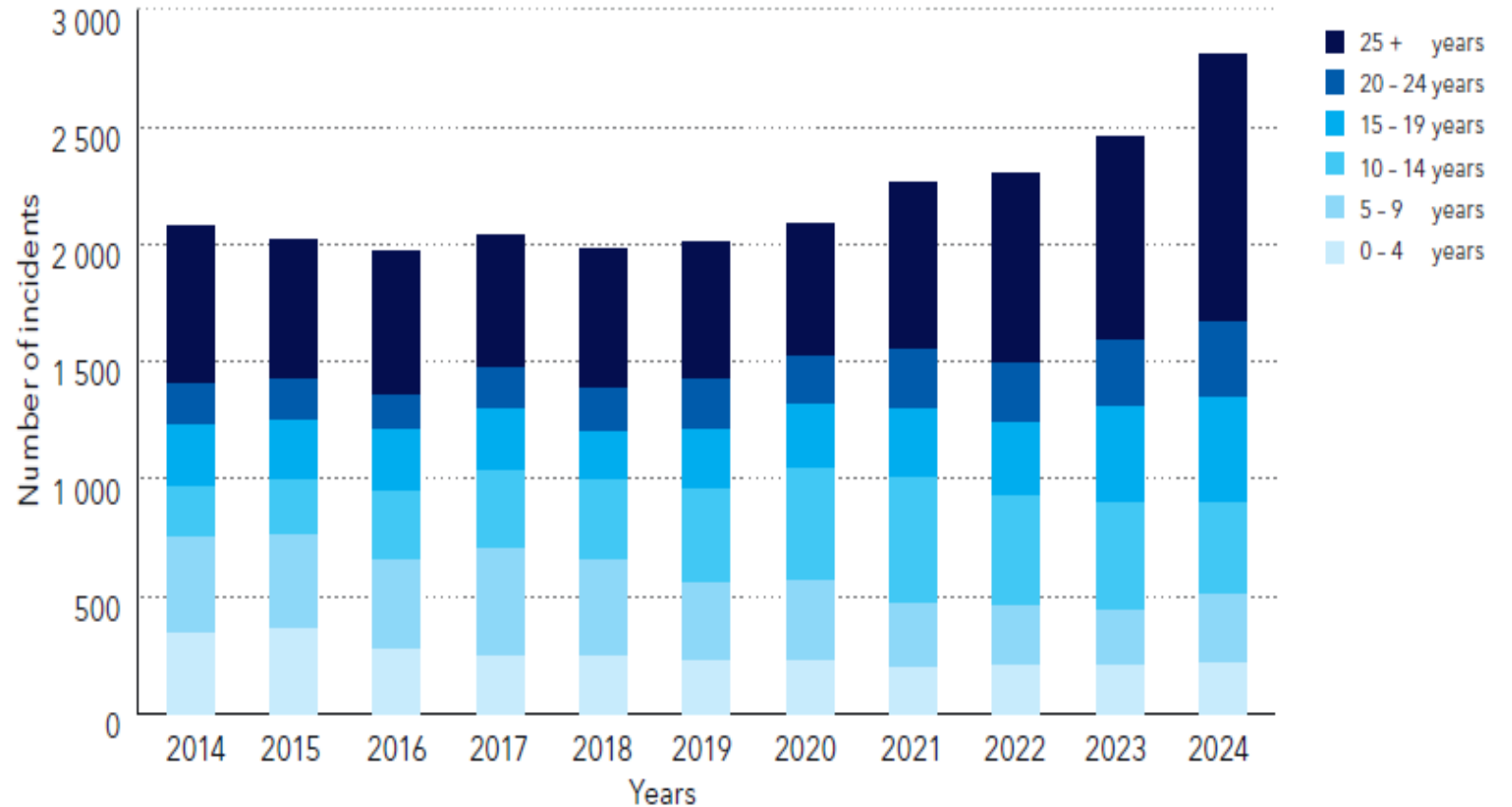


Knut Ørbeck Nilsen, CEO, DNV Marine

As shown in Lloyd's List Intelligence data from this year's safety report, a clear correlation has emerged between an ageing global fleet and an uptick in safety incidents over the past two years.

Figure 3

Incidents, age at time of incident





Trending Themes – Time & Budget For Maintenance ?

Higher utilization of ageing vessels with lower day rates have a knock on that certain routine preventative maintenance and updating of equipment (Software) is not carried out until necessary.

IMCA DPE 03/24 was the result of a wave train causing all references to be rejected from the DP system after exceeding the prediction error limit.

Had the DP software (ver 6.1.1) been proactively updated to the next version 6.1.2 or above the event would likely not have occurred.

The cost of the patch wasn't cheap (circa 20k). The company clearly didn't want to spend the time and money in upgrading.

Trending Themes – Human Factors - Primary Cause ?

The incidents reviewed in IMCA M258 DPSI032 place heavy emphasis on Human Factors to be the biggest initiating factor (as the secondary cause) followed by the primary cause that results in the incident.

We do see some events and incidents where Human Factors have been the primary cause of the incident through direct actions, lack of general awareness or misinterpretation of procedures.

Is Human Factors the “Go To” Root Cause?





Trending Themes – Too Quick To Resume Operations ?

Operators can be too quick to have support vessels return to the rig before the root cause of an event and the mitigations that may be required are established.

This has resulted in a lack of confidence in the abilities of the vessels which have required an additional risk assessment with control measures. Or until a level of confidence is achieved.

Lack of Industry Alignment on return to work?

What Could Help?

- More scrutiny into towards the indirect causes which have led to equipment failures.
- Improved vetting during the vessel hiring process to assess any ongoing performance and reliability issues, availability of critical spares onboard, outstanding repairs and work scopes affecting DP critical equipment.
- Including a reasonable amount of time for the maintenance of DP critical equipment within charter agreements without threat of straight NPT.





In Conclusion?

Recognition that human factors do play a large part towards how events are dealt with to prevent escalation, however also recognition there are increasing instances where such interventions should not have been required if the equipment was more reliable.

Inspirational Quotes -



"Machines should work. People should think." —
IBM Design Principle

**"Human error is not the cause of failure. It is the
effect of deeper trouble." — Sidney Dekker.**

Thanks for your attention



Questions please?