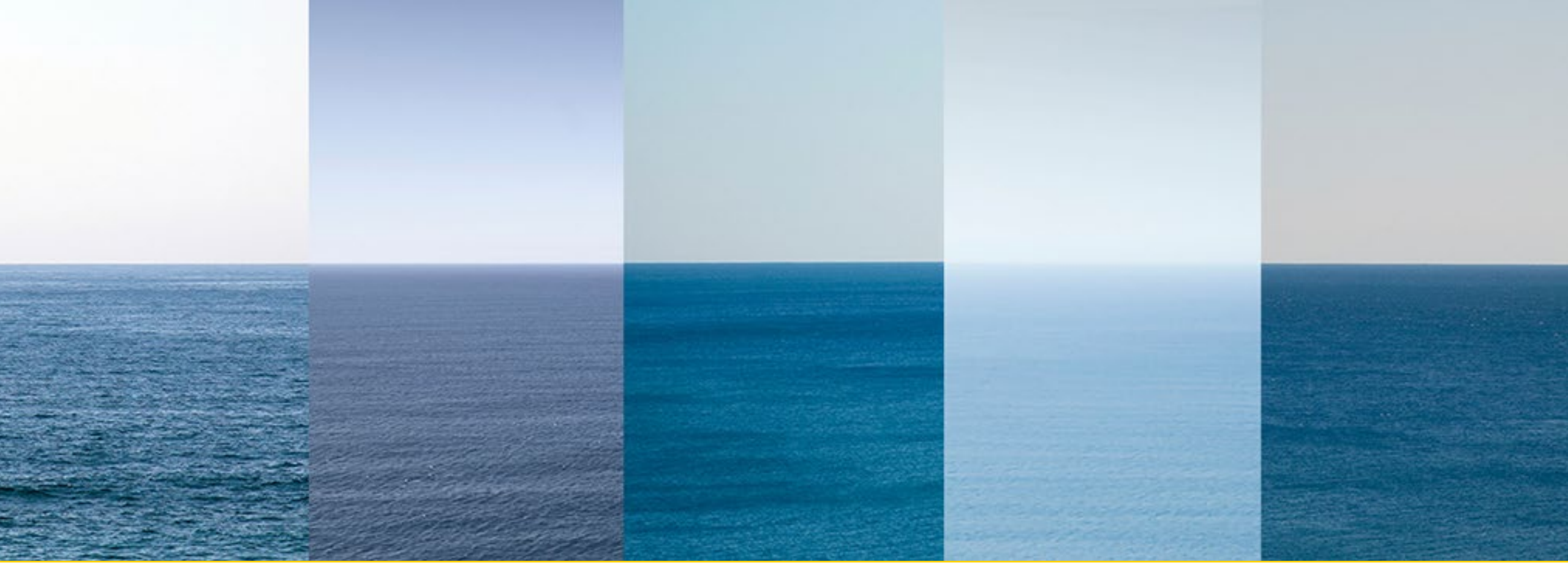

Has COVID-19 changed DP assurance forever?

Alessio Lombardi, 12/10/2022

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blue sea thinking

COVID-19

Effects of global pandemic on DP assurance

⇒ Is the DP assurance weaker after COVID-19?

⇒ Have Remote Assurance now become the norm?

⇒ How will DP assurance will look in five years from now?

Background

February 2020 - COVID-19

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February 2020 - COVID-19

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Disruption Factors for DP assurance

⇒ Travel Restrictions

⇒ Jamming of the global supply chain

Travel Restrictions

⇒ DP practitioners with the required competences can't be mobilised to perform the trials

OR

⇒ DP practitioners with the required competences can be mobilised for the trials

- ✓ medical expenses,
- ✓ paperwork
- ✓ days of quarantine

Travel Restrictions

Lower Efficiency

Higher Costs

Disrupted Global Supply Chain

Jamming of the global supply chain

Redundant systems without prompt availability of equipment and spare parts

April 2020 – Interim Trials

IMCA releases the information note

“COVID-19 affect on DP operations”

Should any vessel operators have concerns regarding continued safe operation of the DP system as a result of being unable to undertake formal annual DP trials, IMCA recommends the continuation of documented field arrival trials and DP exercises and drills. The selective use of parts of the DP annual trials programmes by vessel crew may also build further confidence that the performance, protection and detection attributes of the DP System remain intact until such time as normal trials can be undertaken in accordance with Guidance for developing and conducting DP annual trials programmes (IMCA M 190).

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April 2020 – Interim Trials

Guidelines from Charterers and Service Providers

Tests you should cover in interim DP trials

DNV

The interim trials program will be based on the vessel's DP system FMEA and typically include a focused set of tests as follows:

1. Generator full load test
2. Thruster full thrust, rotation and ramp test
3. UPS and battery charger endurance test
4. Emergency stop function test
5. Main DP controller changeover and alarms
6. Group redundancy tests (port, centre, starboard, as relevant)
7. DP performance (box & circle) - These tests may be combined with redundancy tests
8. IJS function test

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The Research

Research on available data

Global Maritime has conducted, at a regional level, a small but significant research on available data.

The research has been carried out across three different offices of Global Maritime in South East Asia: Indonesia, Malaysia and Singapore.

Research on available data

The research has performed an analysis on 115 DP trials:

⇒ Pre-COVID: from January 2019 to December 2019

⇒ Post-COVID: from September 2021 to August 2022

The research results are presented anonymously and consist only of a quantitative analysis.

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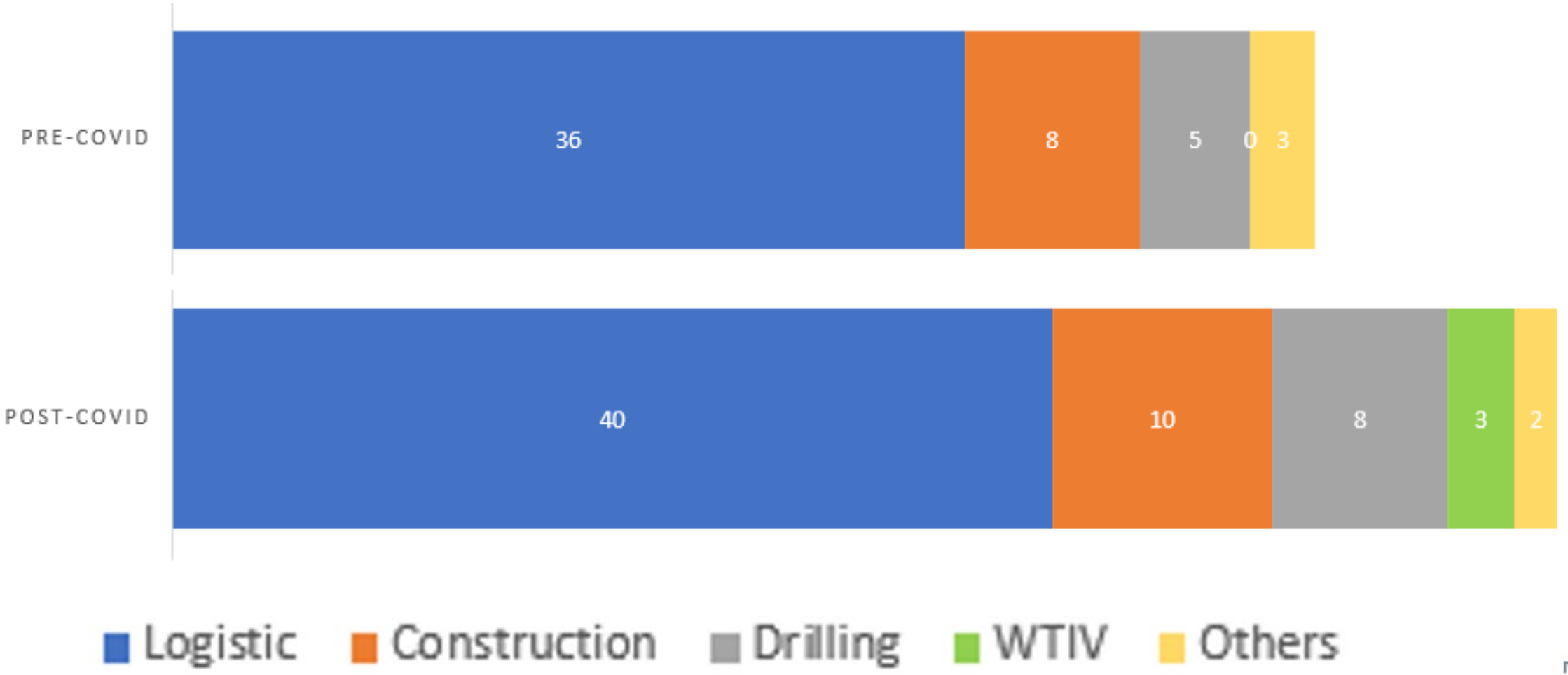
Statistical Sample



Remote DP Trials

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COVID 19 pandemic: an accelerator of a digital transition that was already taking place

Pre-pandemic context:

⇒ Classification societies: remotely witnessed inspections for annual surveys

⇒ OEMs: upgraded products to facilitate remote inspections

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“Remote DP trials”

Remote and confusion:

⇒ No Standards / Guidelines for “Remote DP trials”

⇒ No industry recognised definition for Remote DP trials

<u>Unharmonized / Unstandardised Services</u>

From OCIMF *DP FMEA assurance framework*

Remote Testing: Testing performed by crew or other owner's representative without the presence of (or remote witnessing by) a surveyor."

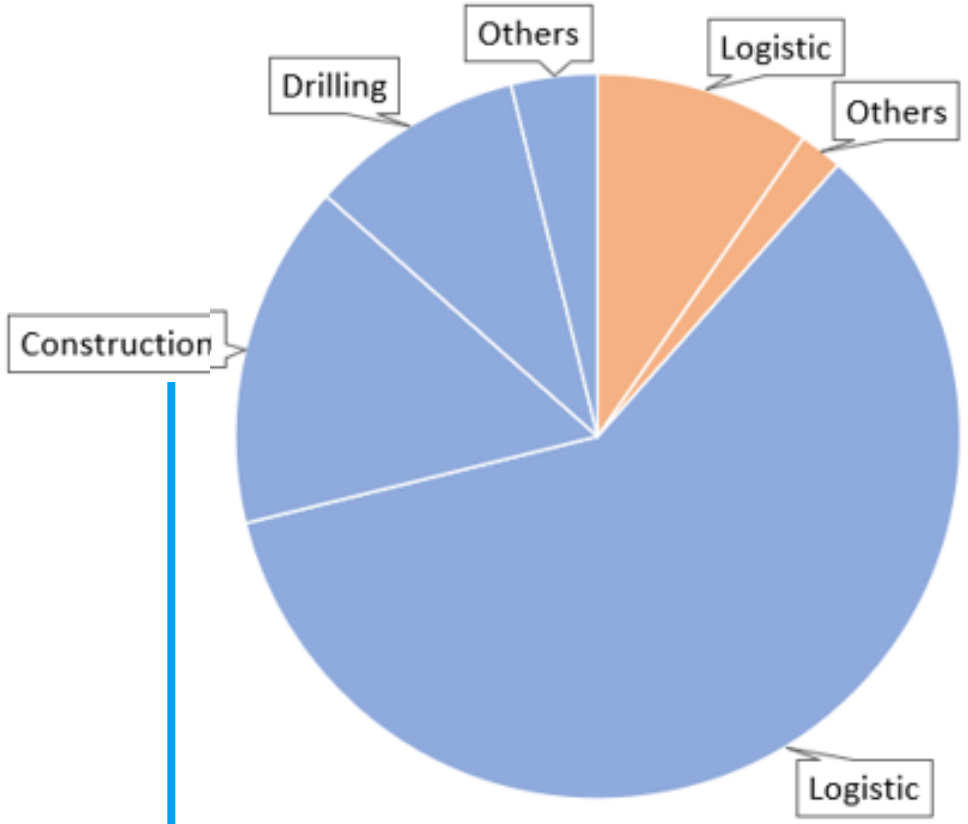
[…]

End user/charterer's standards/policies may preclude acceptance of non-data centric results presented by remote testing as defined in this information paper.

Remote Witnessing: Testing performed while being remotely witnessed by a surveyor through a live video and sound feed.

Remote DP trials: pre-COVID sample

- The pre-COVID sample already presented a significant percentage of unwitnessed trials
- Remote DP trials were performed on logistics types of vessels



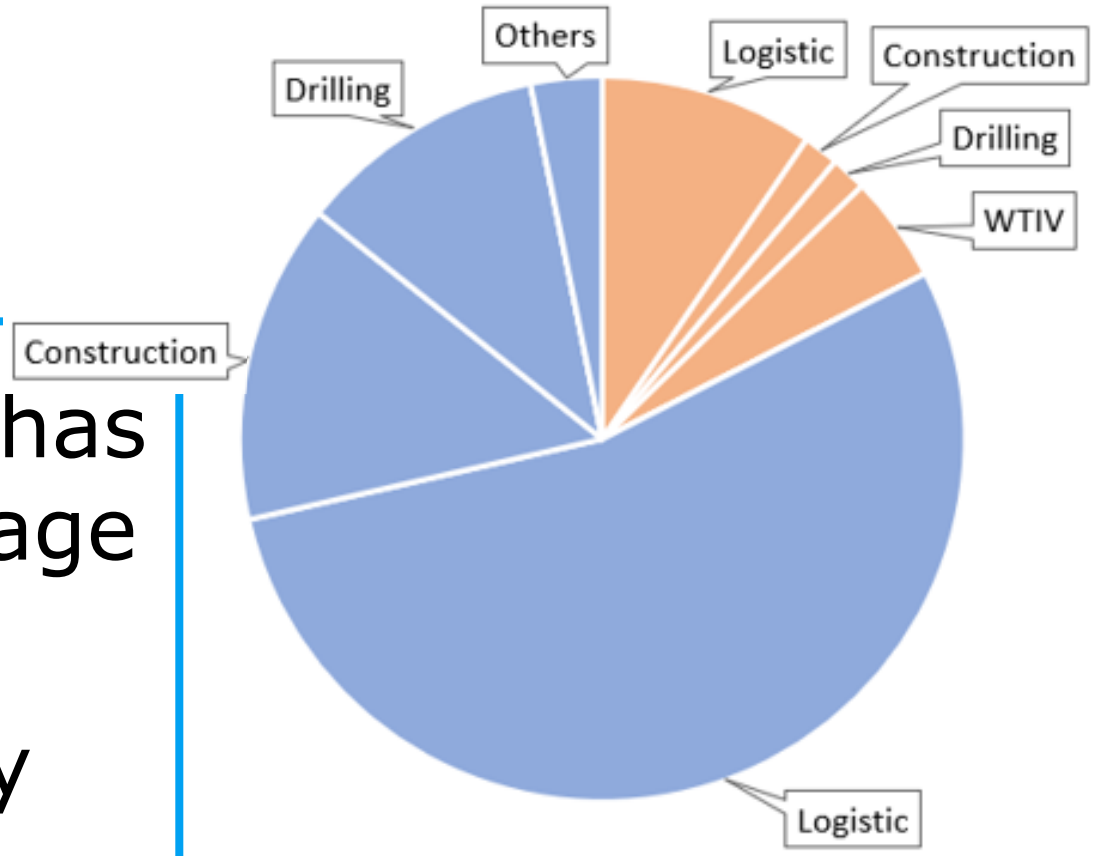
Pre-COVID sample

Witnessed DP trials: 88%

Unwitnessed DP trials: 12%

Remote DP trials: post-COVID sample

- The post-COVID sample has a 5-point higher percentage of unwitnessed DP trials
- Remote DP trials not only for logistic vessels
- All WTIVs of the sample bases their assurance on “remote trials”



Post-COVID sample

Witnessed DP trials: 83%

Unwitnessed DP trials: 17%

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“Remote DP trials”

- Travel restrictions have encouraged DP assurance practices that were already becoming popular in the pre- COVID period
- Remote DP trials still seem to enjoy a positive growth trend in a quasi-normalised context.
- None of the trials reports analysed can be referred as remote witnessing trials

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Local Offer

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A new local DP assurance offer

- Travel restrictions have encouraged new local realities to offer themselves as a support for DP assurance.
- The supply chain disruption has also introduced a transformation of the concept of DP assurance service

⇒ Packages for provision, installation and commissioning of (second hand) components / equipment, with DP trials attached.

Local DP assurance and data comparison

The research has analyses for both the pre-COVID and post-COVID samples, the number of trials provided by:

- Global or Well Established Service Providers
- Local or New Service Providers

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Definition of Global Service Provider

The following criteria has been used to define

"Global or Well Established Service Providers"

- The DP assurance provider has a global reach with DP practitioners who are direct employees in branches located in at least three different continents.
- The DP assurance provider has a regional reach but they are supporting DP assurance in the region for more than 10 years, with DP practitioners who are direct employees and member of recognised industry committees.

All the others has been defined as "Local or New Service Providers".

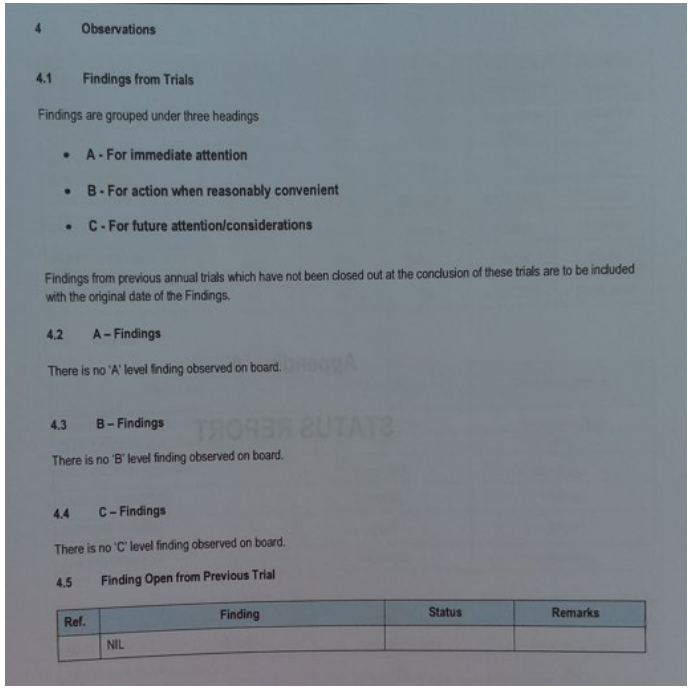
DISCLAIMER

The data presented purely consists in a a quantitative analysis which is not intended to provide any feedback on the quality of the DP trials reviewed.

In other words, this paper do not want to imply in any way that the quality of the DP assurance provided by the companies defined as “Global or Well established” was better than the services provided by others.

… sometimes it happens ….

From DP annual trials 2022



4 Observations

4.1 Findings from Trials

Findings are grouped under three headings

- A - For immediate attention
- B - For action when reasonably convenient
- C - For future attention/considerations

Findings from previous annual trials which have not been closed out at the conclusion of these trials are to be included with the original date of the Findings.

4.2 A – Findings

There is no 'A' level finding observed on board.

4.3 B – Findings

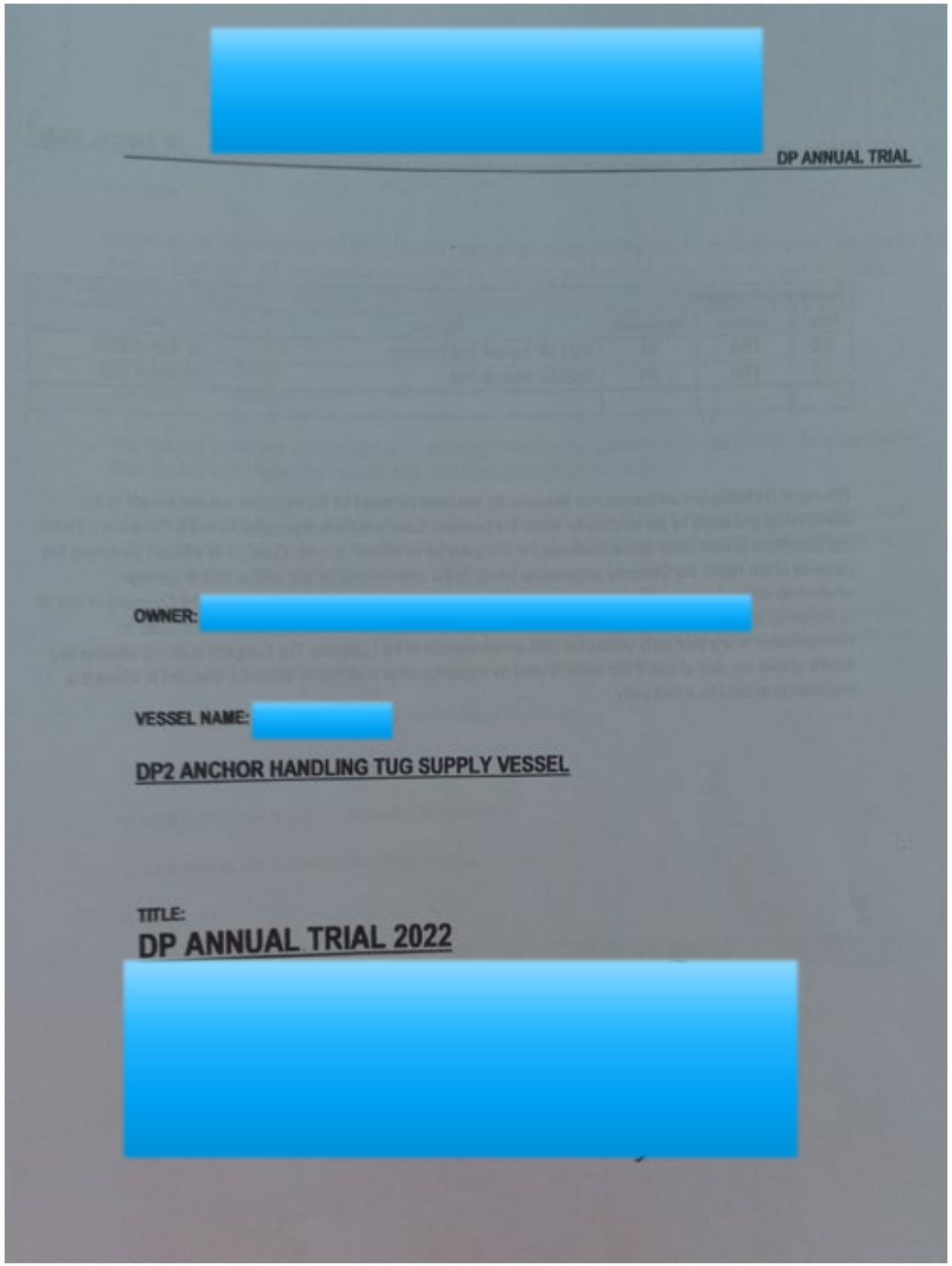
There is no 'B' level finding observed on board.

4.4 C – Findings

There is no 'C' level finding observed on board.

4.5 Finding Open from Previous Trial

Ref.	Finding	Status	Remarks
	NIL		



DP ANNUAL TRIAL

OWNER:

VESSEL NAME:

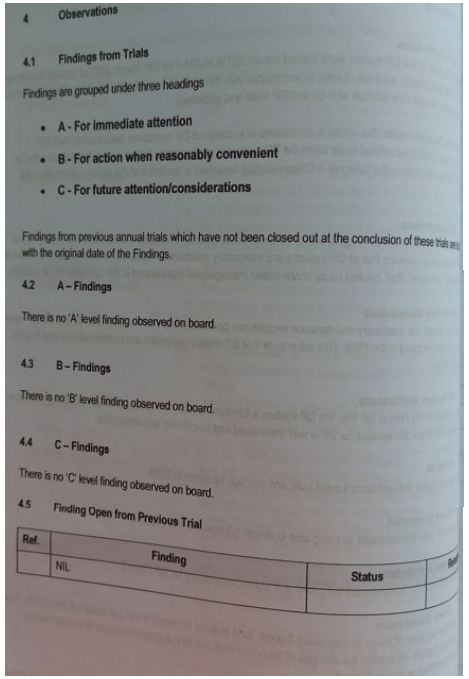
DP2 ANCHOR HANDLING TUG SUPPLY VESSEL

TITLE:

DP ANNUAL TRIAL 2022

… sometimes it happens ….

From DP annual trials 2021



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4.3 B – Findings

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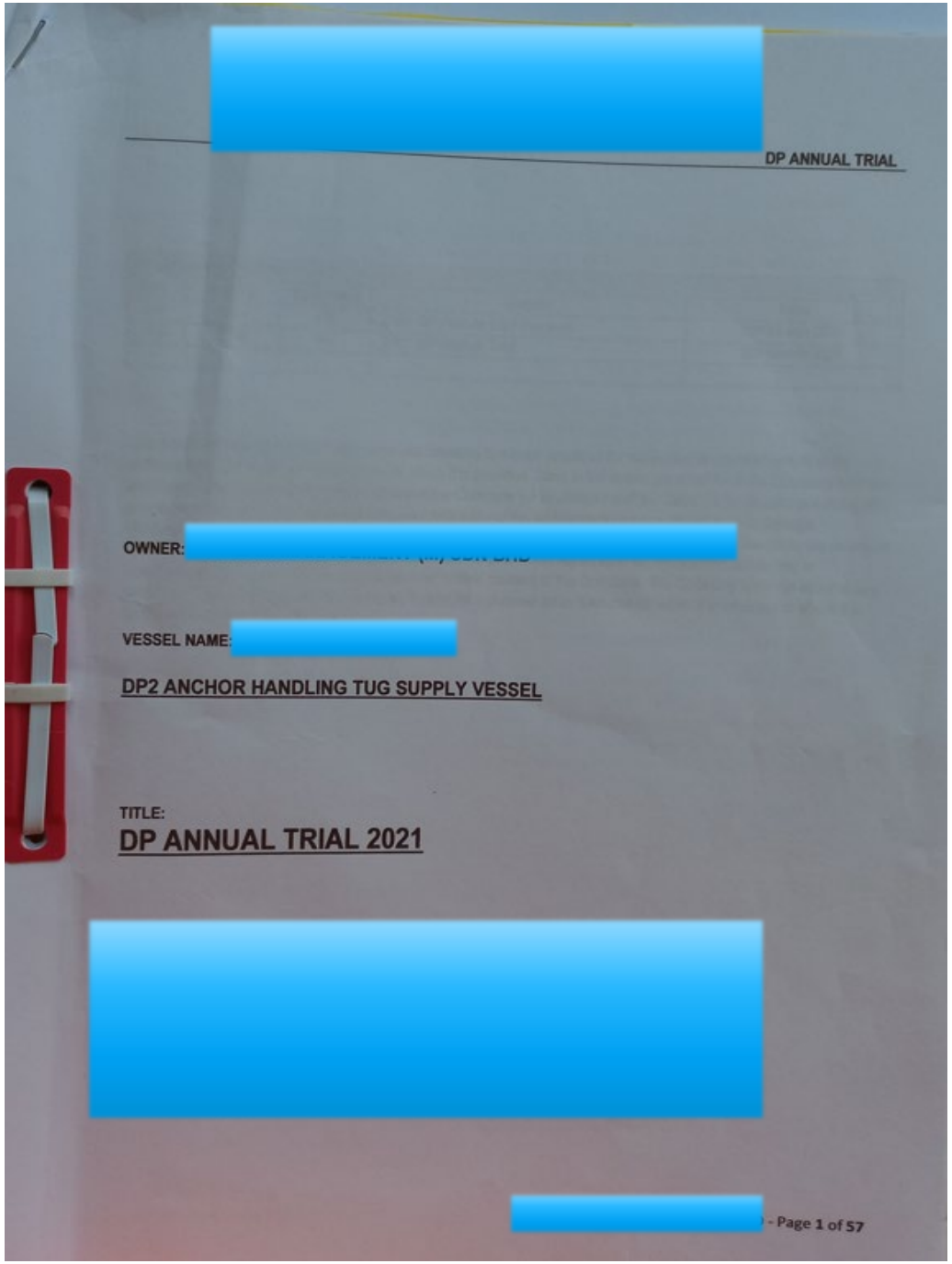
4.4 C – Findings

There is no 'C' level finding observed on board.

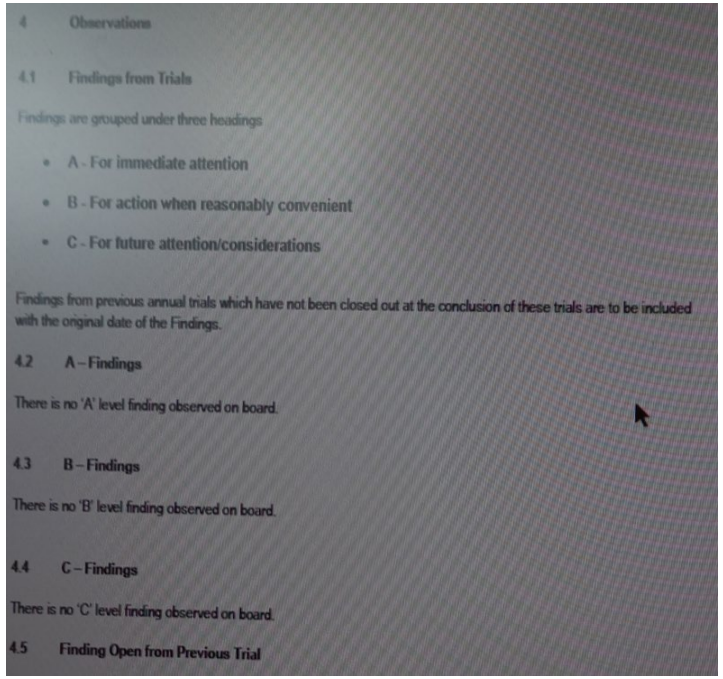
4.5 Finding Open from Previous Trial

Ref.	Finding	Status	Ref
	NIL		



… sometimes it happens ….

From DP annual trials 2020



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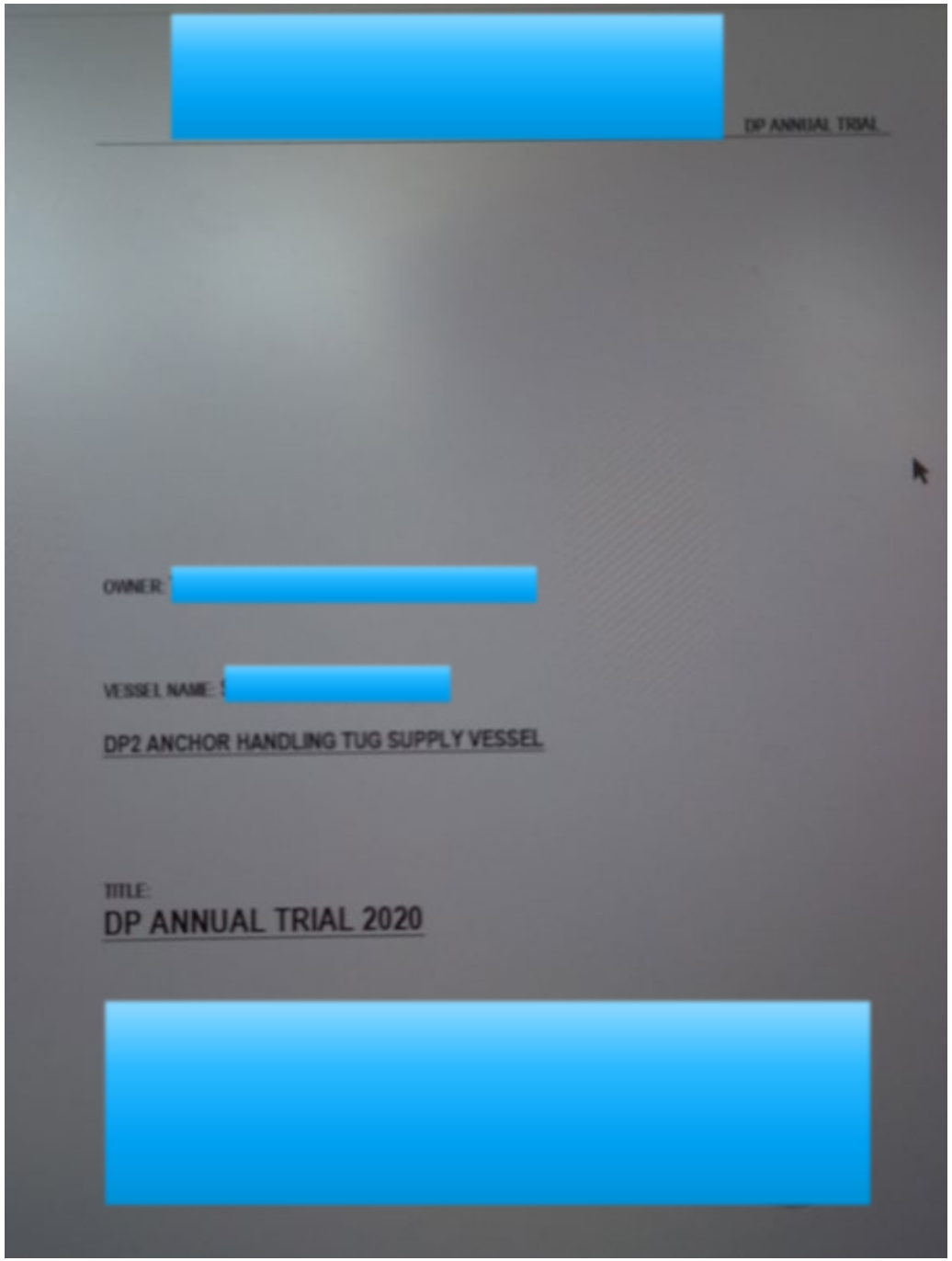
4.5 Finding Open from Previous Trial



DP ANNUAL TRIAL

OWNER:

VESSEL NAME:

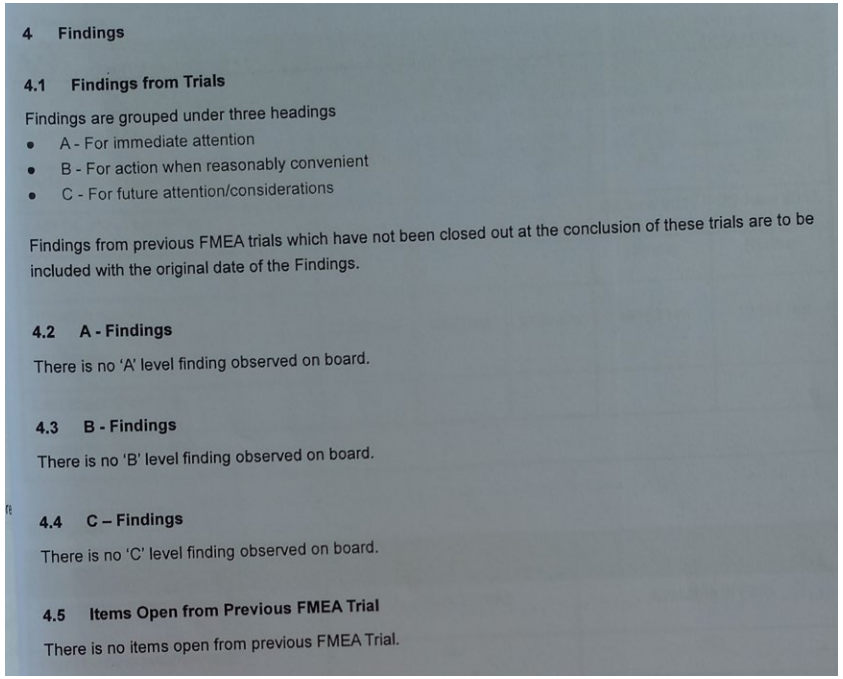
DP2 ANCHOR HANDLING TUG SUPPLY VESSEL

TITLE:

DP ANNUAL TRIAL 2020

… sometimes it happens ….

From 5-yearly renewal trials 2018



4 Findings

4.1 Findings from Trials

Findings are grouped under three headings

- A - For immediate attention
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- C - For future attention/considerations

Findings from previous FMEA trials which have not been closed out at the conclusion of these trials are to be included with the original date of the Findings.

4.2 A - Findings

There is no 'A' level finding observed on board.

4.3 B - Findings

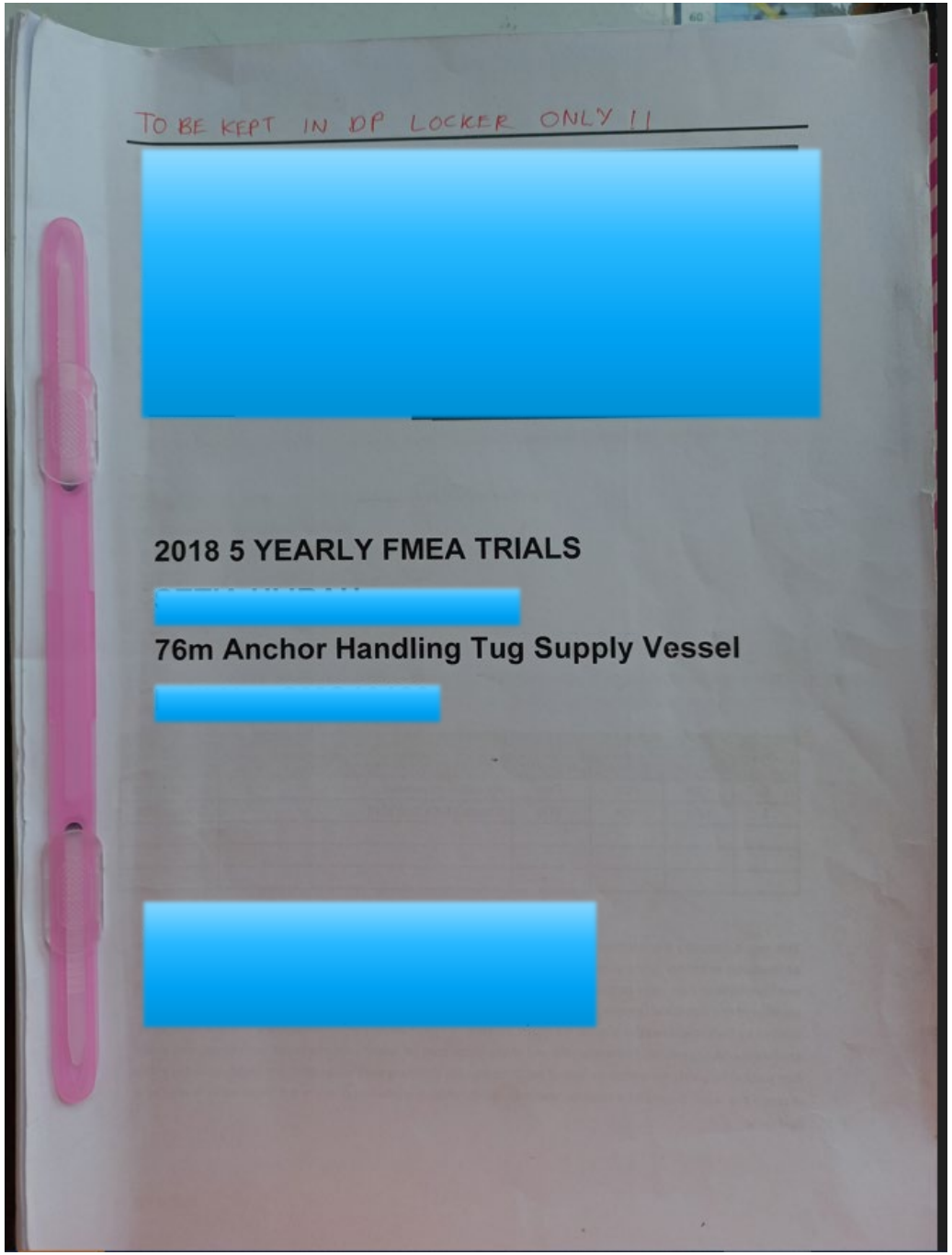
There is no 'B' level finding observed on board.

4.4 C – Findings

There is no 'C' level finding observed on board.

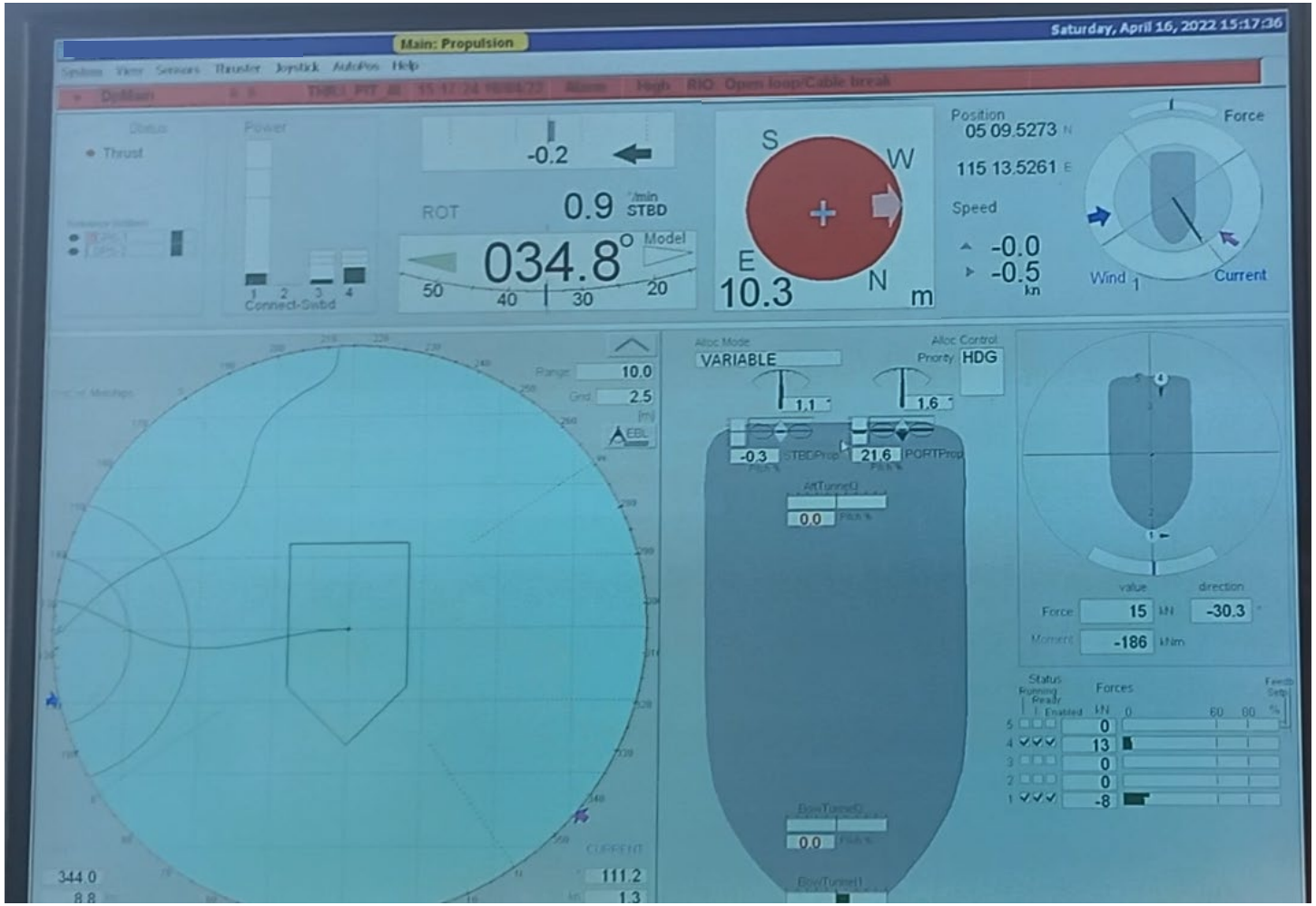
4.5 Items Open from Previous FMEA Trial

There is no items open from previous FMEA Trial.



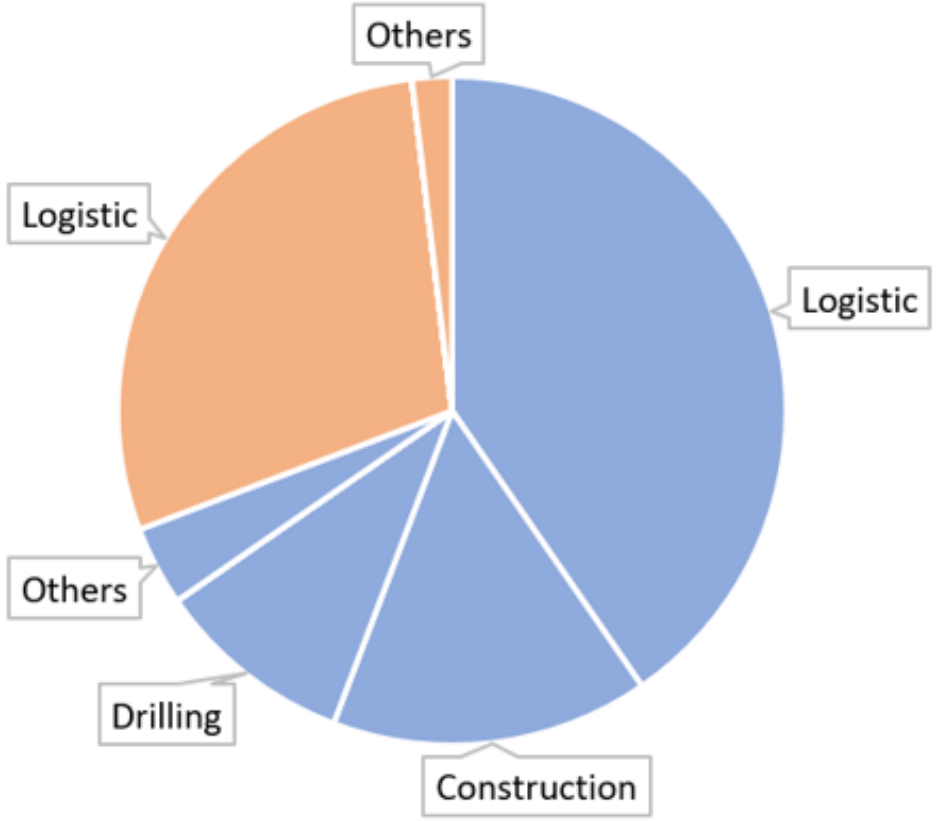
… sometimes it happens ….

…and tested …



Local support: pre-COVID sample

In the pre-COVID sample, less than one third of the trials were provided by local (or not well established) companies.



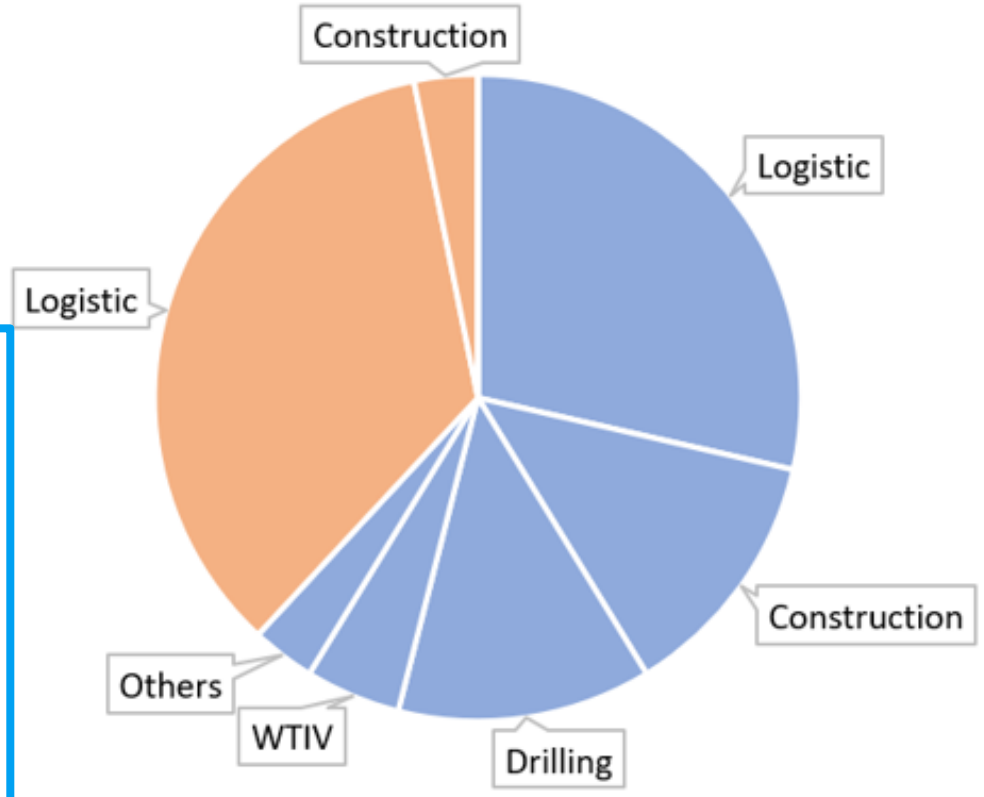
Pre-COVID sample

Global or Well-Established Services Providers: 69%

Local or New Service Providers: 31%

Local support: post-COVID sample

In the post-COVID sample, almost 40% of the trials were provided by local (or not well established) companies



Post-COVID sample

Global or Well-Established Services Providers: 62%

Local or New Service Providers: 38%

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Smart DP trials

Remotely Witnessed DP trials

- During the pandemic, Global Maritime has provided Remotely Witnessed DP trials in seven different occasions:
  - ⇒ 4 PSVs
  - ⇒ 2 Construction Vessels
  - ⇒ 1 Drillship
- Remotely witnessed DP trials represented an opportunity to provide the VTO with witnessed trials, compliant with the indications given in IMCA M190, even during the COVID pandemic.

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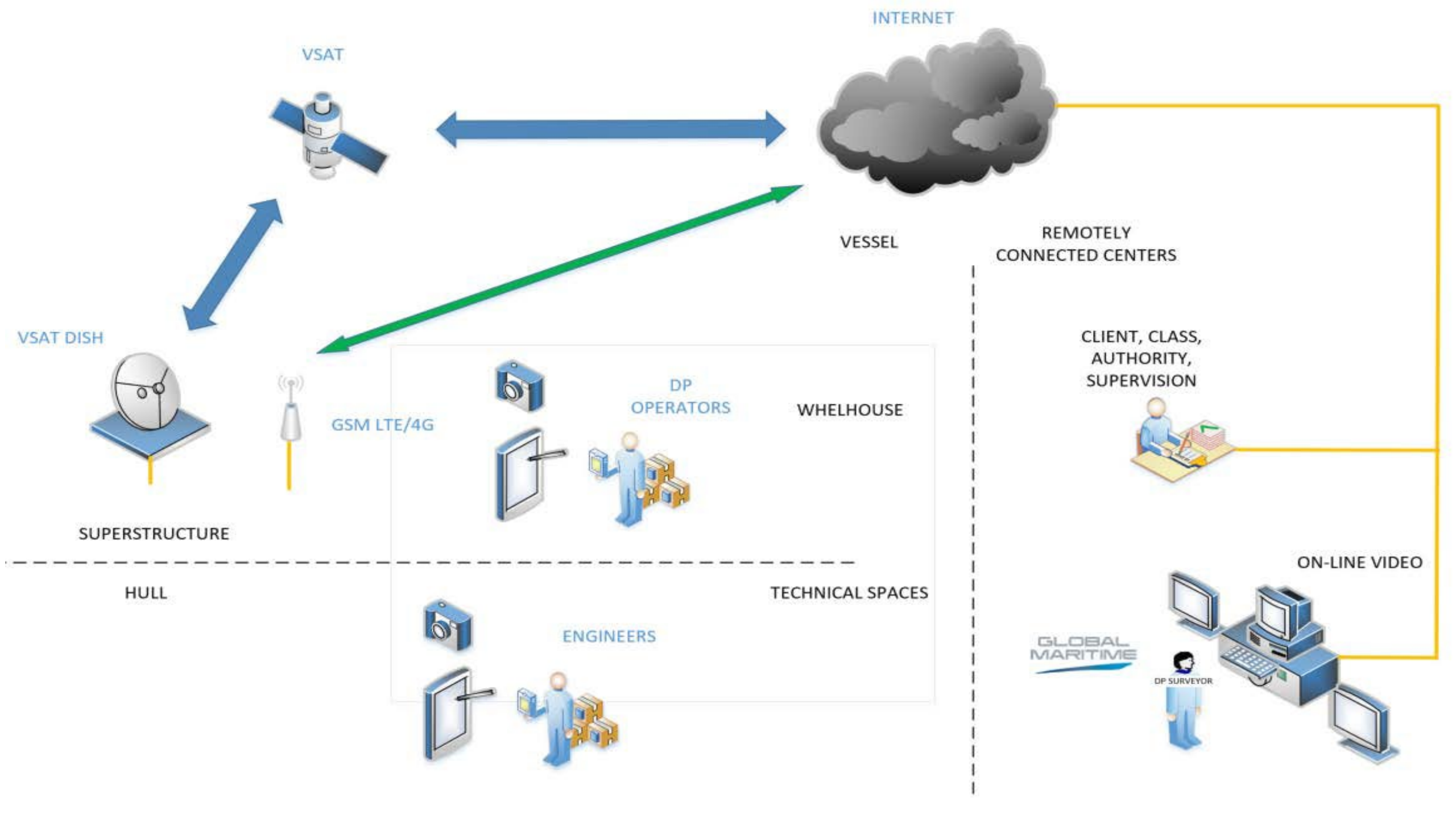
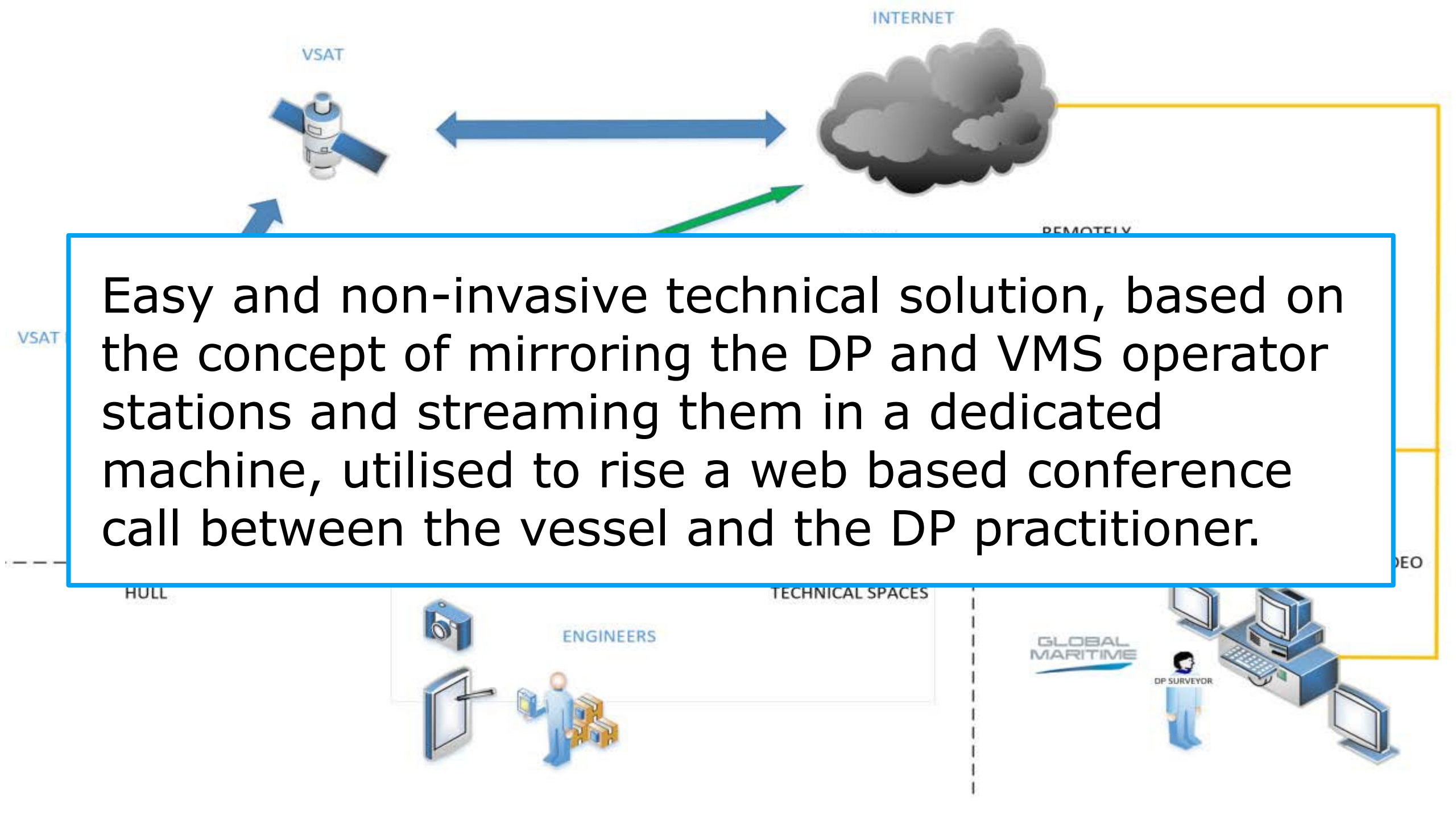

INTERNET
VSAT
VESSEL
REMOTELY
CONNECTED CENTERS
VSAT DISH
CLIENT, CLASS,
AUTHORITY,
SUPERVISION
GSM LTE/4G
DP
OPERATORS
WHELHOUSE
SUPERSTRUCTURE
ON-LINE VIDEO
HULL
TECHNICAL SPACES
ENGINEERS
GLOBAL
MARITIME
DP SURVEYOR



Easy and non-invasive technical solution, based on the concept of mirroring the DP and VMS operator stations and streaming them in a dedicated machine, utilised to rise a web based conference call between the vessel and the DP practitioner.

Conclusions

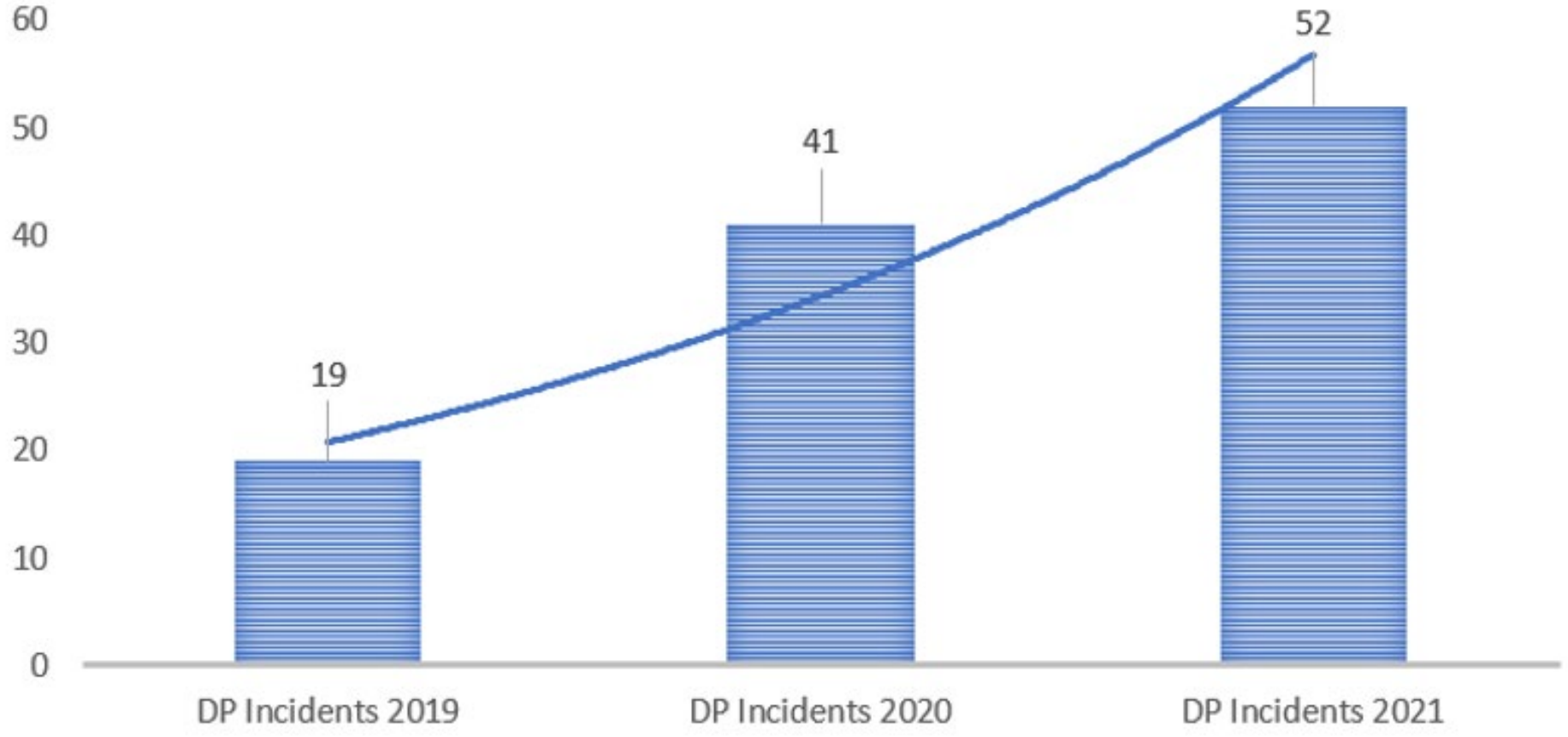
COVID-19 and DP assurance

- The COVID-19 pandemic has worked as an accelerator for the affirmation of trials performed remotely.

- The COVID-19 pandemic has favoured the proliferation of new local realities, sometimes keen to offer a "variegated" service, where the DP assurance no longer represents the core focus of the offer.

Are these new realities and trends enhanced by the advent of the COVID-19 pandemic beneficial to the safety of DP operations, to the safety of those who works offshore, and to the safeguard of environment and assets?

DP Incidents Recorded by IMCA from 2019 to 2021



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Conclusions

- The COVID-19 pandemic has pushed through new methods of DP assurance that are neither standardized nor accepted unanimously by the industry.
- This is happening in conjunction with a significant increase of DP incidents recorded in the last years, which bring us to conclude that the DP assurance came out somehow weaker from the COVID-19 pandemic.

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Conclusions

Changes represent not always adversities, but often opportunities.

Even if the transformation in place seems today an irreversible process, how the DP assurance will look in five years from now, will largely depend on the choices that the DP community will take towards this transformation.

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