

International Marine Contractors Association

Improving performance in the marine contracting industry

Asia Pacific and Middle East & India Regional Webinar

Date: 23 June 2021 starting at 0800hrs GMT

There will be an opportunity for Q&A at the end of the presentations
Please submit questions at any time under the Q&A section on your screen



Welcome

- This is a webinar
- The sound works one way only
—from presenters to you
- Written questions are encouraged
—Q&A box is monitored
- Today's Panelists are online to address any questions
- A recording of today's webinar will be shared with you
- Short survey at the end of the webinar
- Competition Law



- IMCA Marine Technical Expertise Enhanced
- Richard Purser joins IMCA as Technical Adviser – Marine
- 25 years experience in DP
- Chief Engineer in the operation and maintenance of Dynamically Positioned (DP) vessels, power plants, auxiliary equipment, and DP systems.
- Richard worked for DNV as Senior Principal Marine Engineer for a number of years and has a wealth of DP and Marine Engineering knowledge which will enhance IMCA's technical expertise.



Your moderators today



Nick Hough

**IMCA
Technical
Adviser**

Nick Hough

- Nick supports the work of IMCA's Health, Safety, Security & Environment (HSSE) Committee and the Offshore Survey Committee.
- Nick is IMCA's Secretariat Lead for Asia Pacific



Ali Macleod

**IMCA
Technical
Adviser**

Ali Macleod

Ali supports all aspects of IMCA's Diving work.

- Ali is involved in auditing Diving Schools, supporting diving training and the recently introduced CPD scheme.
- Ali is involved with the Middle East & India Committee

Today's speakers



Allen
Leatt

IMCA



Jason
Standing

ADNOC



Alessio
Lombardi

**Global
Maritime**



Graeme
Reid

IMCA

**Q&A
Session**





Allen Leatt

IMCA

Allen Leatt

Chief Executive, IMCA

- Allen is a civil engineer by professional training. His entire career has been in the marine construction industry with leading contractors in technical, managerial, and executive roles.
- Executive VP for the SURF Product Line at Technip.
- CTO at Acergy
- SVP Engineering & Project Management at Subsea 7
- Allen is a Fellow of the Royal Academy of Engineering, a Fellow of the Institution of Civil Engineers, a first-class engineer member of the Smeatonian Society, and a chartered engineer in the UK. He holds a Bachelor of Science degree in Civil Engineering, a Master's in Business Administration, and a Doctorate of Science in engineering.

International Marine Contractors Association

Improving performance in the marine contracting industry

Joint A-P and MEI Webinar

Presenter: Allen Leatt

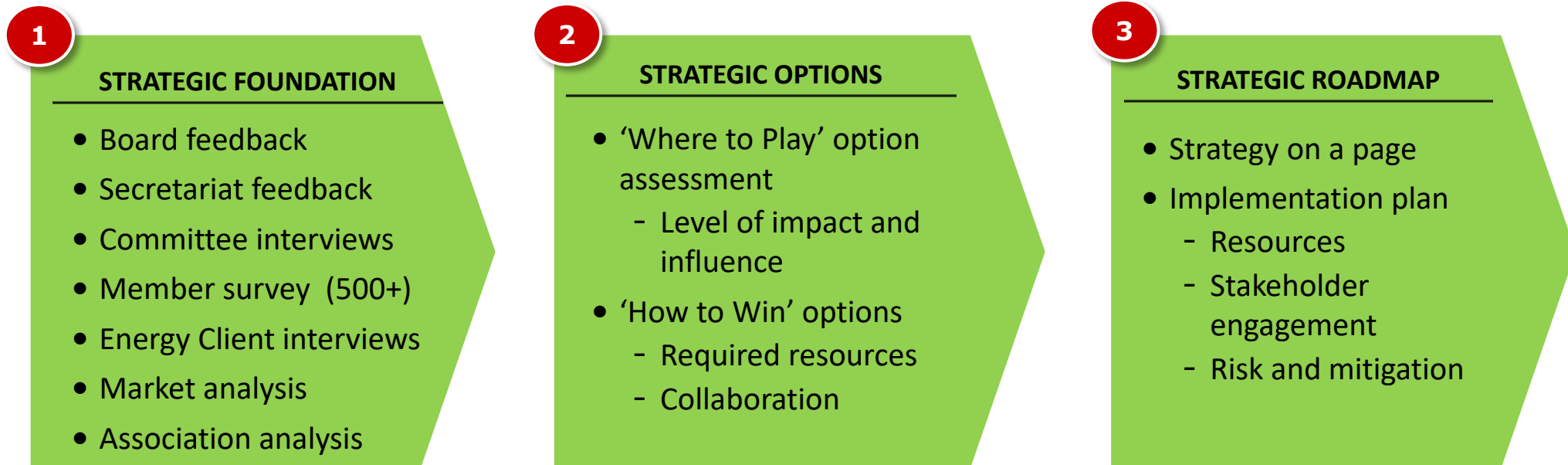
Date: 23 June 2021

The Market

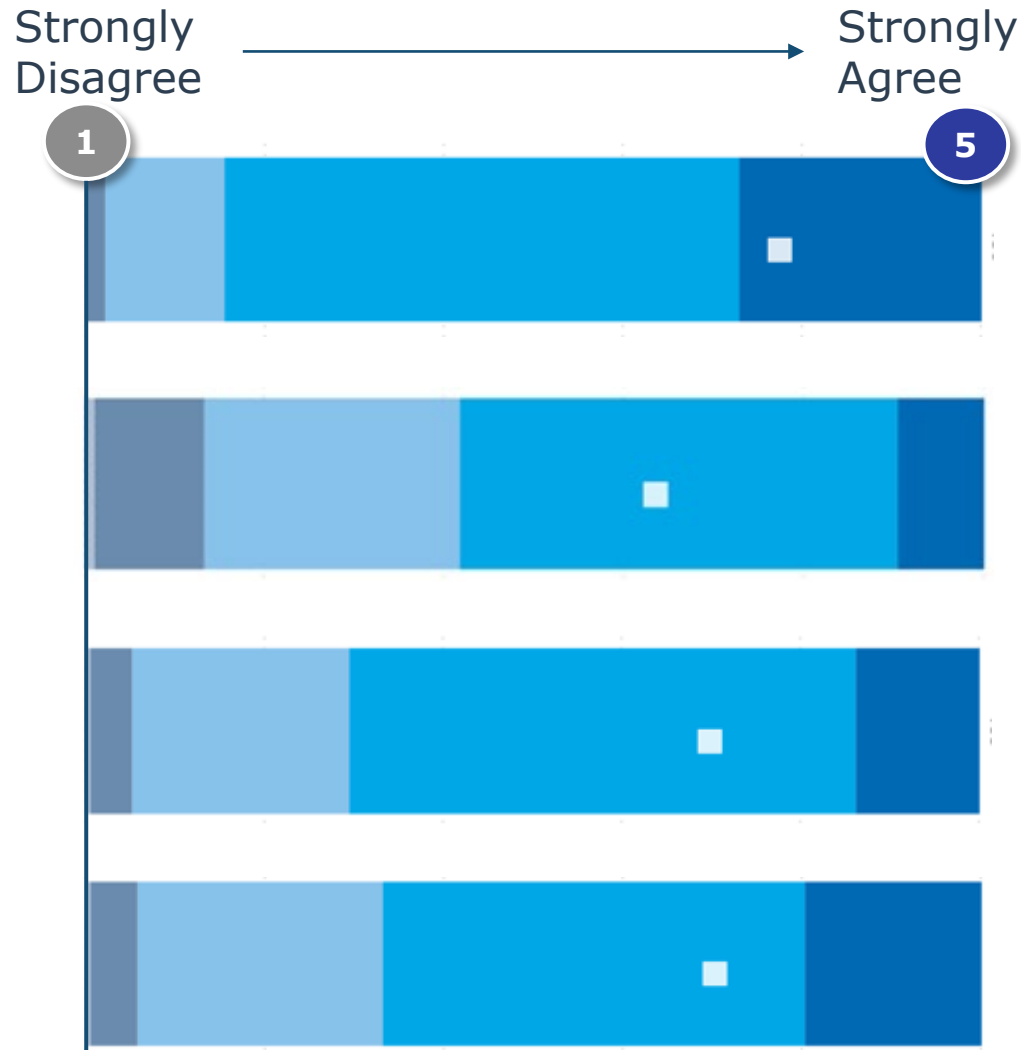
- Seeing encouraging recovery in EPC investments from the significant cuts last year.
- Awards in 2021 could exceed those in 2019.
- Asia and Middle East look promising.
- Plenty of variables in market forecasts, but a much better outlook than a year ago.

Strategic Review

- Earlier this year we completed our strategic review exercise.
- Great feedback and support from our members.
- Recalibrated our review we conducted in 2017.



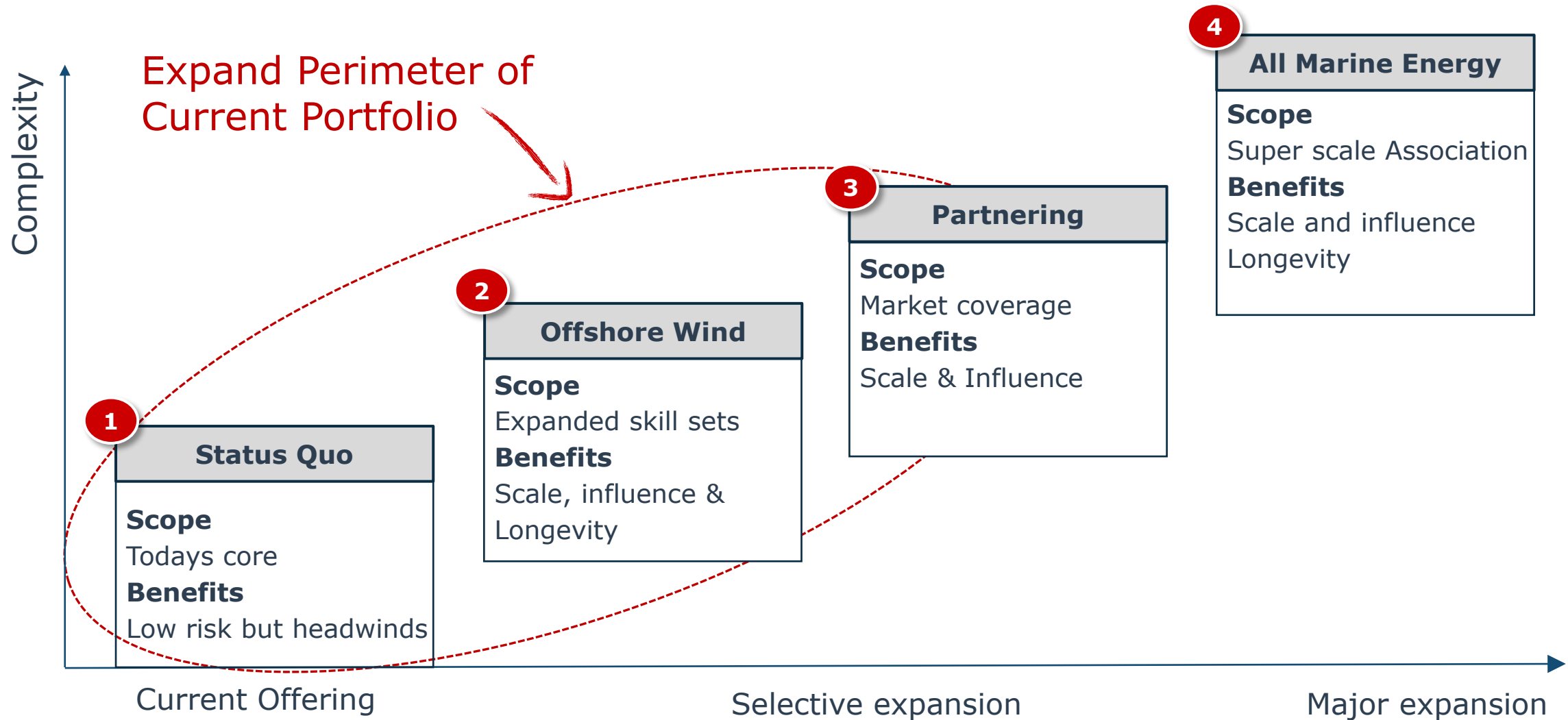
Membership Survey: Market Evolution



- **Environmental sustainability** seen as critical in Contractor and Supplier evaluation.
- **Standardisation** is far more evident.
- **Collaboration** is seen as very positive.
- **Energy Transition** is here to stay.



Strategic Options



Strategy on a Page

VISION

"Become the global reference for developing all forms of marine energy resources."

STRATEGIC THEMES

1

Stewardship of guidance and safety standards

2

Offshore Wind & other forms of marine energy

3

Environmental Sustainability

4

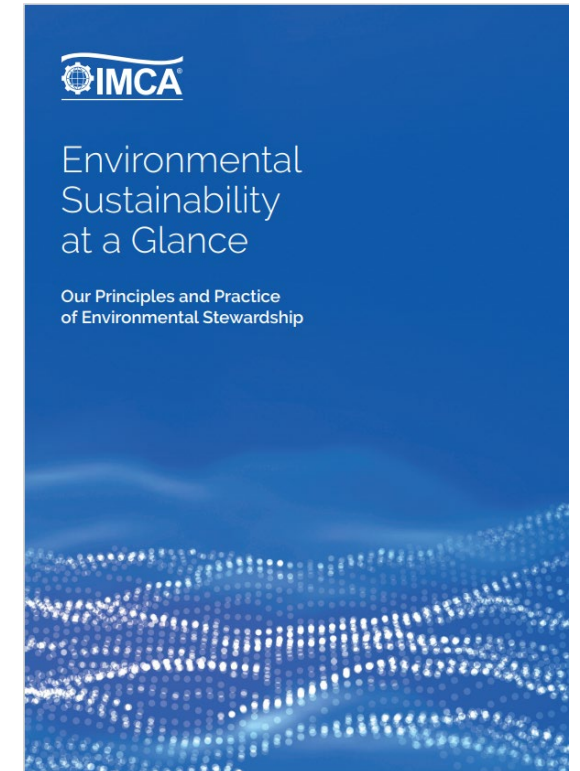
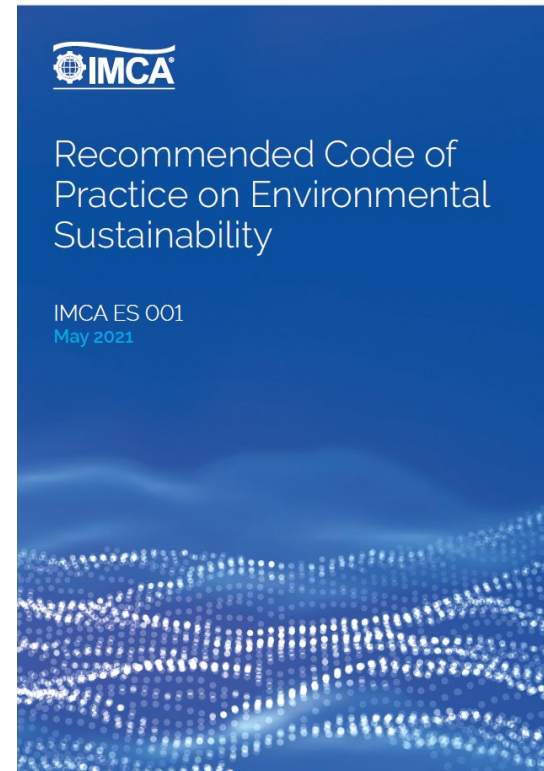
Collaboration with Industry Partners

5

Standardisation across industry

Environmental Sustainability

- Recommended Code published in May 2021 – free for members
- Key areas in the Code:
 - Emissions reduction
 - Energy efficiency and management
 - Life below water
 - Circular economy – waste/EOL assets
 - Supply chain engagement
 - Reporting and disclosure



Sets expectations on our industry to manage key environmental and climate topics associated with marine construction.

Improving performance in the
marine contracting industry

Our guest speakers



Jason Standing

ADNOC

Jason Standing

Team Leader, Diving Marine Services, Subsea

- Jason has over 24 years experience in the diving industry as an Air and Closed Bell Diver and holds an IMCA Air Supervisor qualification.
- He previously worked as a Diving Manager for Fugro, in the Middle East & India region. During his time with Fugro, he was appointed as a Diving Superintendent, Diving Supervisor and Project Manager.
- His diving experience includes onshore work, renewable sector and oil and gas related projects.
- Jason was previously employed as a diver by a number of IMCA Member Diving Contractors on a wide range of diving projects in different regions of the world.
- Jason is a member of IMCA's Middle East & India Committee.



COMMAND & CONTROL CENTER-MUSSAFAH

(Integrated HSE Surveillance in
Shipping & Maritime Logistics)

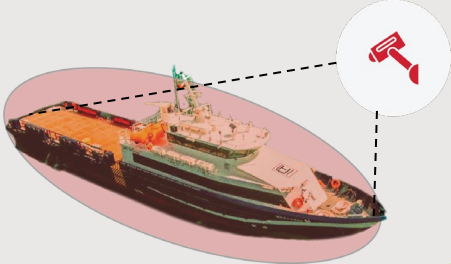
ADNOC LOGISTICS & SERVICES

CORPORATE HSE (MARINE & ONSHORE SERVICES)

A.I SOLUTION SCENARIOS:

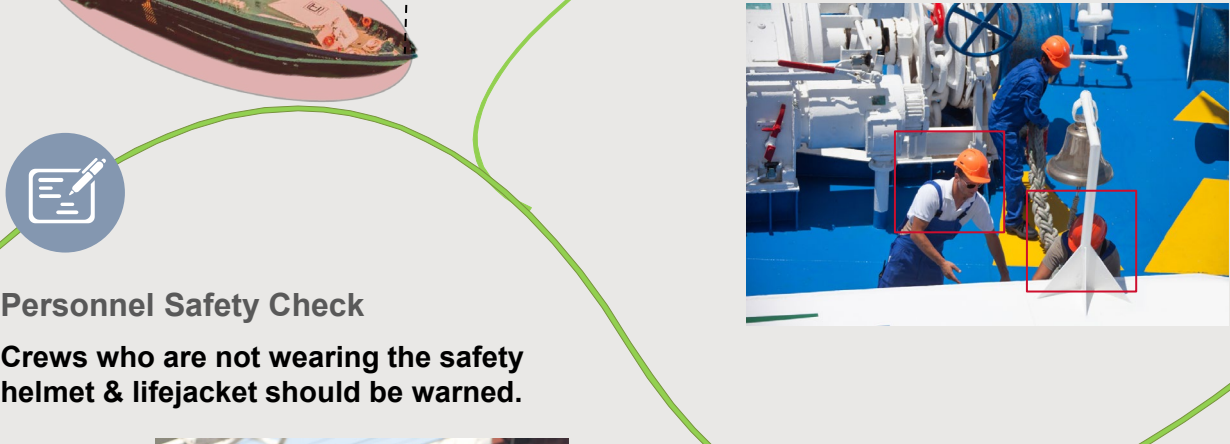
Monitoring full coverage

At present, the monitoring of the ship does not completely cover the whole tanker, and some corners are not monitored.



Detecting Crew Appear

Auto activation of the PA system when detecting Crew Forward



Personnel Safety Check

Crews who are not wearing the safety helmet & lifejacket should be warned.



Slip & Fall detection

Abnormal behaviors like tumble would trigger the alerts.



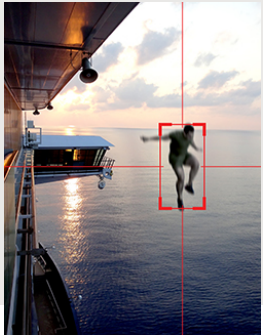
Swell Classification

Detecting the swell levels to classify them as Red, Yellow or Green



Man Overboard

Man Overboard Analytics Detection System can detect man overboard events and provide immediate, actionable data to response personnel.





COMMAND AND CONTROL CENTER



OBJECTIVE : In line with ADNOC's 2030 smart growth strategy and its 100% HSE goals, CCTV Command Center is established as a fully integrated surveillance solution with the latest technology, enhancing safety & security of our offshore vessels and Mussafah base.

PURPOSE: Going beyond conventional by enhancing ability to keep our people, communities, environment and assets safe from harm while ensuring compliance with relevant laws, regulations, international protocols and conventions.



- Operates 24 * 7
- Application/Enhancement planned in phases





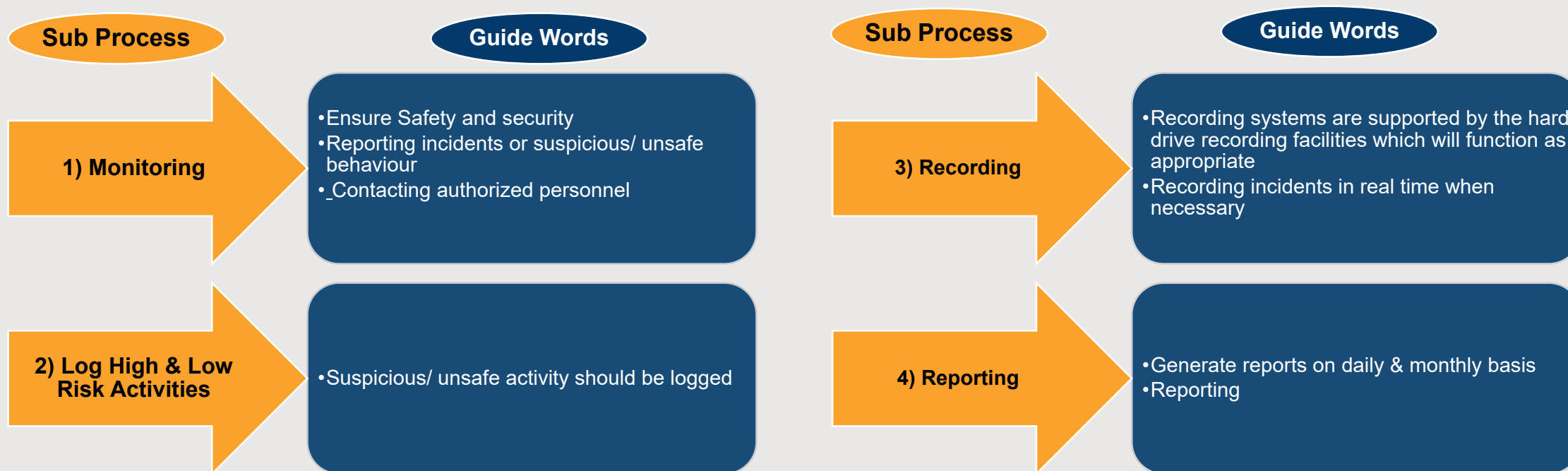
COMMAND AND CONTROL CENTER



METHODS, PROCEDURES, PROCESSES :

-Command and Control center has been established to monitor,

- ❑ Offshore Vessels' CCTV cameras using 4G connectivity along with MPLS.
- ❑ Mussafah base which supports Oilfield Logistics Services including jetties are covered by means of static, pan and tilting type and Automatic Number Plate Reading cameras.
- By means of video wall, live view and playback recording facility, we have procedures/processes to risk assess observations instantly and we communicate/ alert operations in real time to prevent incidents.
- We inform Business Units/ Management observation analysis as defined for events





COMMAND AND CONTROL CENTER



RESULTS, OBSERVATIONS,

Results: Higher ability in,

- HSE governance & administration
- Environment protection
- Operations safety - HSE risk management
- Crisis management & emergency response

Observations:

- We have 4 servers and 4 storages at the site, each storage having 48 hard discs. The capacity of a single hard disc is 6 TB. On the basis of these specifications devices are capable to store continuous footage for a defined period. This enables observations, to the extent of our offshore vessels within operational criticality parameters and Mussafah base with its jetties all the time.

Next projected phases of enhancing Command Center application:

- Observing our deep sea vessels
- Incorporating artificial intelligence (Under Process)

In view of the above we shall need to further assess requirements for:

- Connectivity with vessels
- Upgrading the infrastructure (Software & Hardware),





COMMAND AND CONTROL CENTER

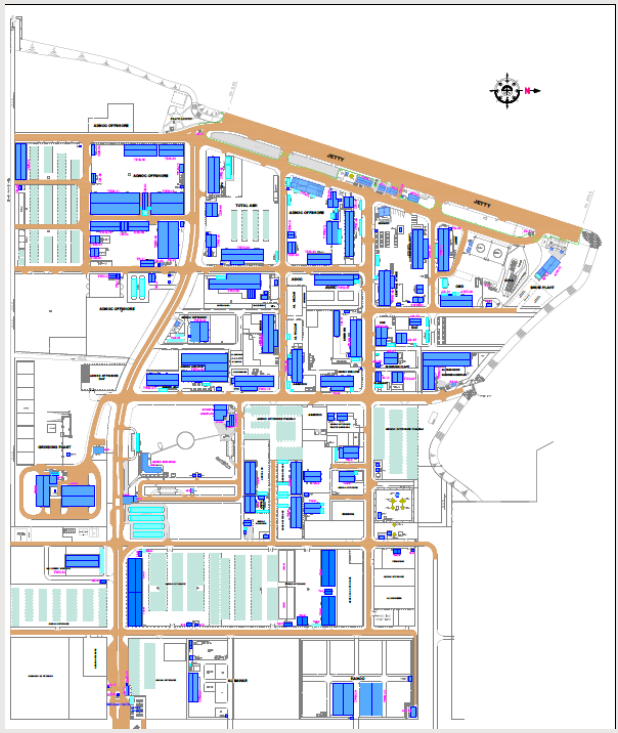
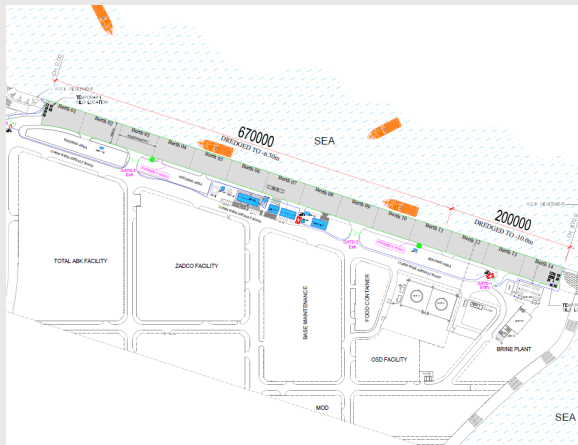


Phase 1: Musaffah base overall

Phase 3: All OMS

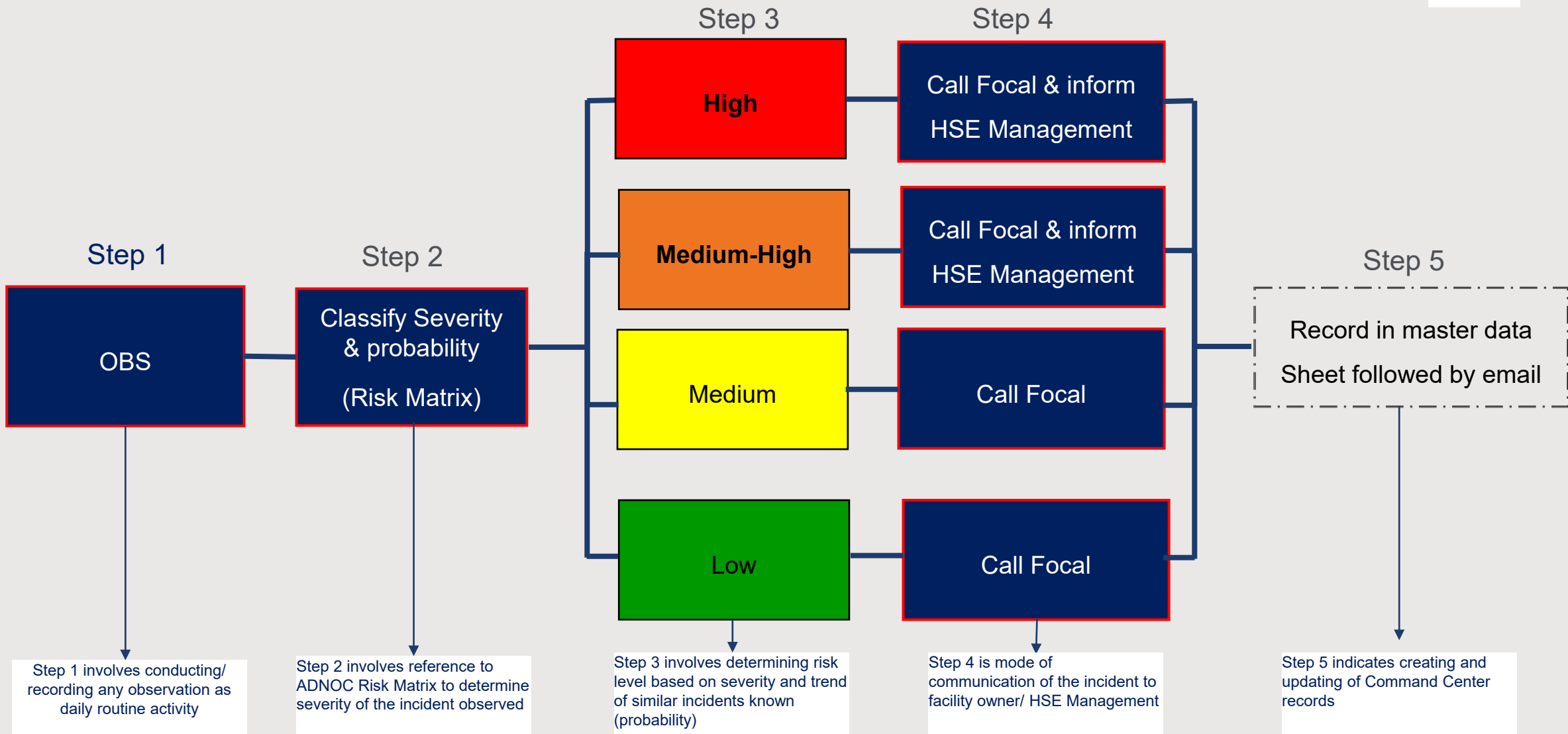
Phase 2: Jetty

Phase 4: Deep sea vessels





COMMAND CENTER- MODE OF COMMUNICATING OBSERVATIONS TO FACILITIES

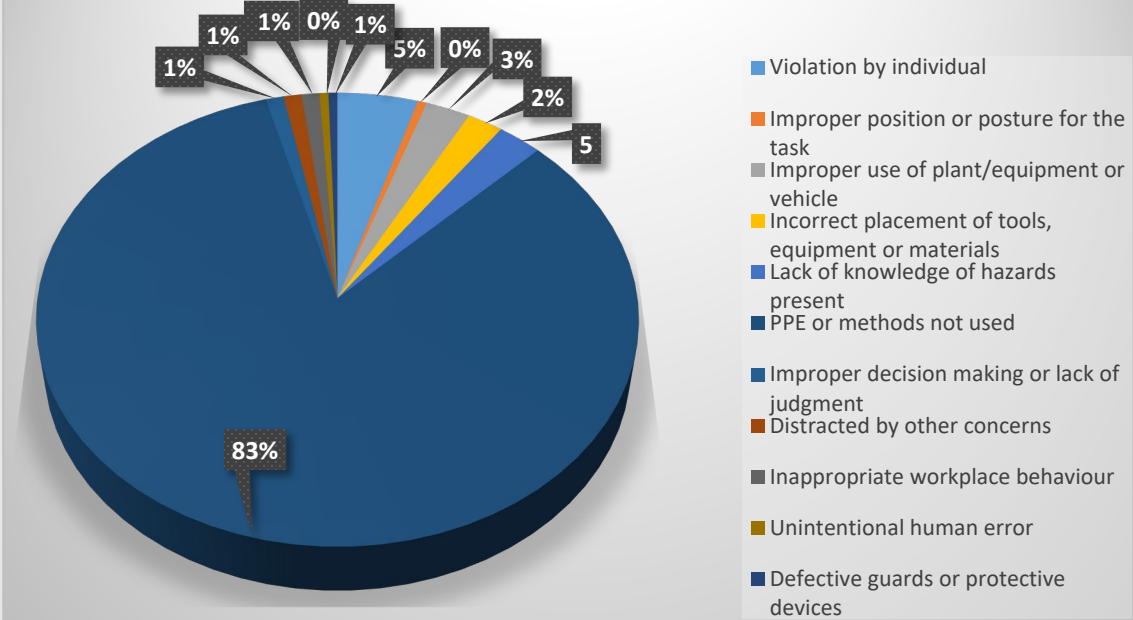




COMMAND AND CONTROL CENTER- SAMPLE OBSERVATIONS ANALYSIS

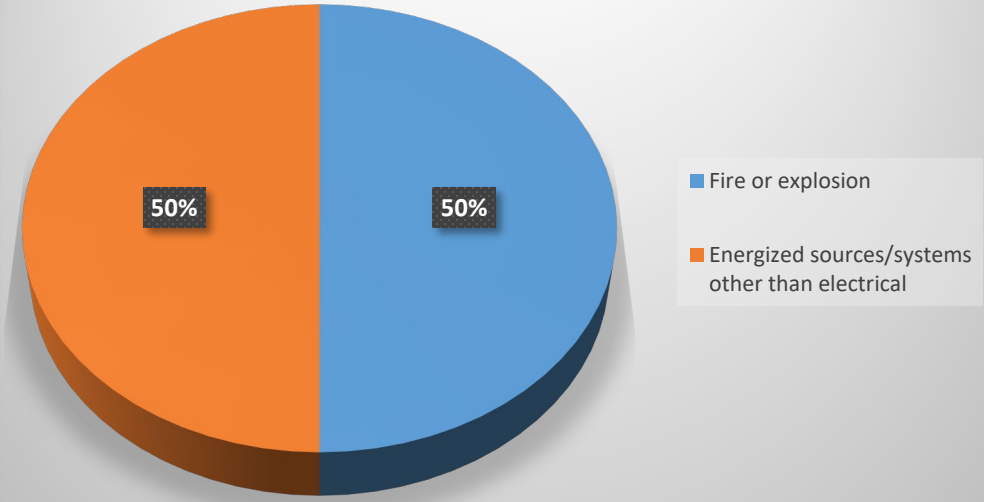


Unsafe Action



SN	Unsafe Action	QTY
1	Violation by individual	3
2	Work or motion at improper speed	1
3	Use of defective tools (aware)	1
4	Lack of knowledge of hazards present	5
5	PPE or methods not used	156
6	Improper decision making or lack of judgment	1
7	Distracted by other concerns	3
8	Defective guards or protective devices	1
9	Defective tools	1

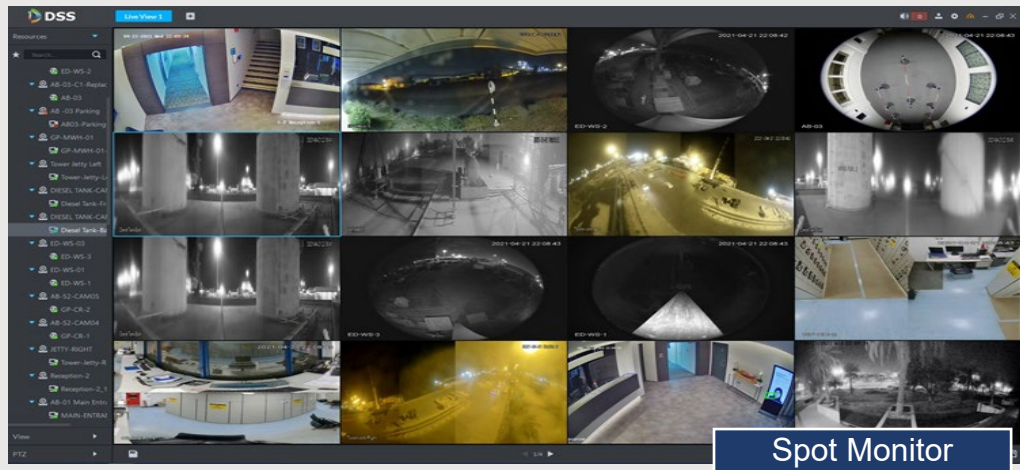
Unsafe Condition



SN	Unsafe Condition	QTY
1	Fire or explosion	1
2	Energized sources/systems other than electrical	1



COMMAND AND CONTROL CENTER



Spot Monitor



CC Work Station



Video Wall



COMMAND AND CONTROL CENTER



CONCLUSION:

- We are in line with ADNOC's 2030 smart growth strategy and 100% HSE aims.
- We have exceeded conventional means of reactive monitoring of safety and security, we are proactive in real time and have higher ability in preventing incidents.

SUMMARY: ACHIEVEMENTS

- Increased employee competence/morale/participation/accountability
- Improved employee administration and utilization – focal points for each shift
- Improvement in terms of observation types and reporting
- Ensuring corrective actions
- Efficient record keeping

NOVEL – ADDITIVE INFORMATION

By establishing Command and Control Center,

- We have a new ability of investigating offshore incidents effectively as we have recording available from vessels' cameras.
- We can conduct safety and security audits remotely.
- COVID 19 compliance measures – we can alert if any violation observed, instantly.
- We have remote eyes even offshore in addition to observations reported by our personnel.
- We have proactive employee and management information system.



THANK YOU

COMMAND AND CONTROL CENTER

ADNOC Logistics & services

Our guest speakers



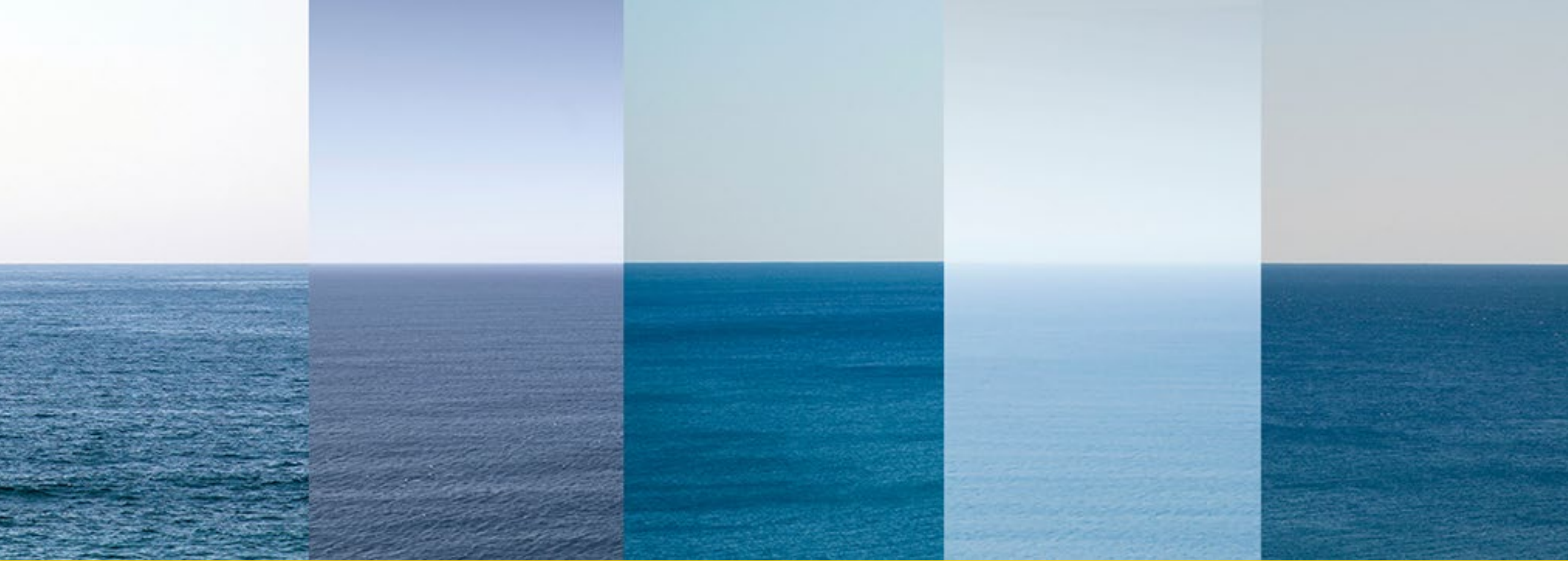
Alessio Lombardi

Global Maritime

Alessio Lombardi

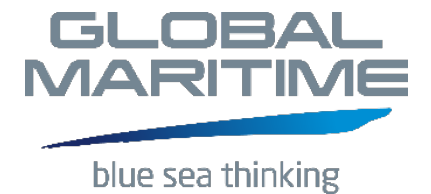
Global Business Development Manager for Marine and Shipping industry sectors

- As a principal electrical engineer with almost 20 years of experience, he has been working for different industry sectors as power generation, transmission & distribution, renewable energy, maritime and O&G, covering the roles of designer, site manager and consultant.
- For 9 years, Alessio has been involved in performing DP assurance for DP2 and DP3 vessels and units, for both newbuilding projects and vessels in operations.
- Alessio has a Master Degree as Electrical Engineer from the Engineering University of Genoa, Italy.



Remotely Witnessed DP trials

Alessio Lombardi, 24/06/2021



Content

- Background
- Pilot projects: methods and challenges
- Pilot projects: feedbacks and lesson learned



Background



Digitalization and COVID 19

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

- Classification societies: remotely witnessed inspections for annual surveys
- OEMs: upgraded products to facilitate remote inspections

Remote and confusion.....

“Remote DP trials”

- No IMCA / industry recognised definition for *Remote DP trials*
 - ⇒ Unharmonized services
 - ⇒ Impact on risk management

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."

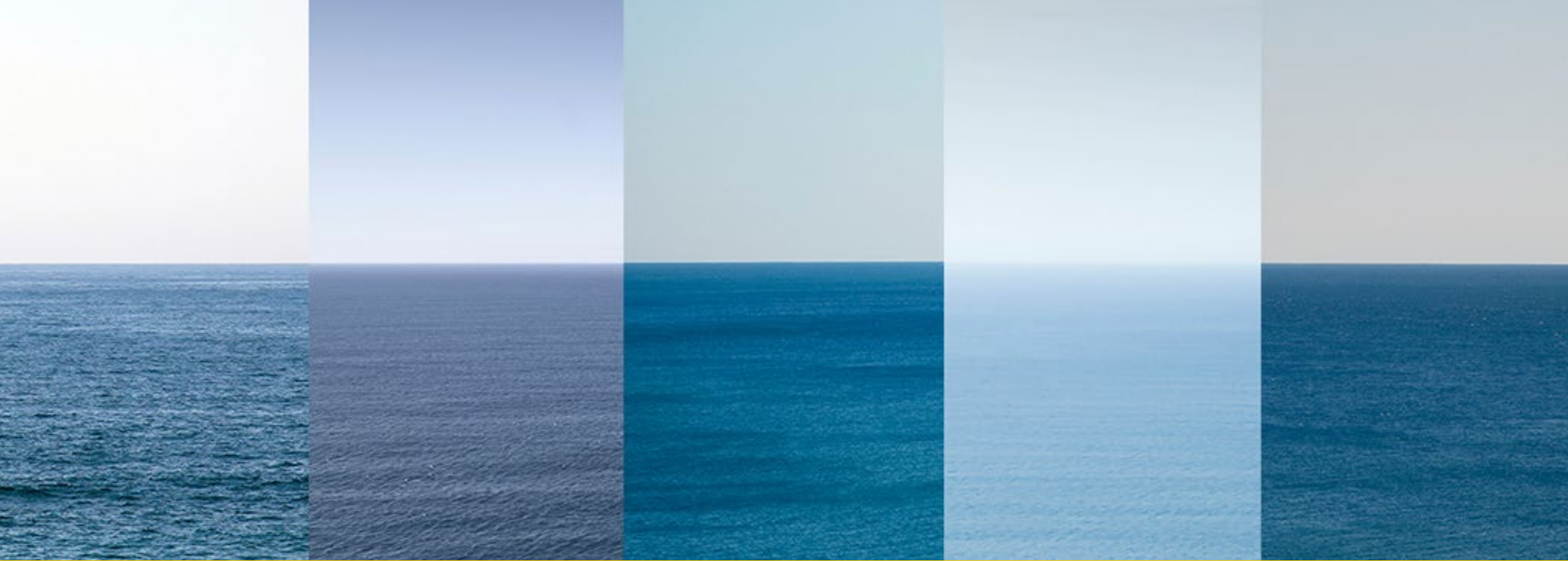
[...]

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.

From IMCA M190 *Developing and Conducting DP Annual Trials Programmes*

Independent Witnesses: The independent witnesses should be sufficiently removed from day to day operational control or responsibility for the DP system and vessel. They should also be familiar with the vessel or type of vessel and with the DP annual trials programme.



RWDP trials – Pilot projects: modalities and challenges



Pilot projects

Pilot projects

- DP2 OSV VOS Prime (December 2020)
 - Global Maritime, Vroon Offshore Services, RINA
- DP2 OSV Sylur (April 2021)
 - Global Maritime, LOTOS Petrobaltic
- Undisclosed DP2 vessel (ongoing)

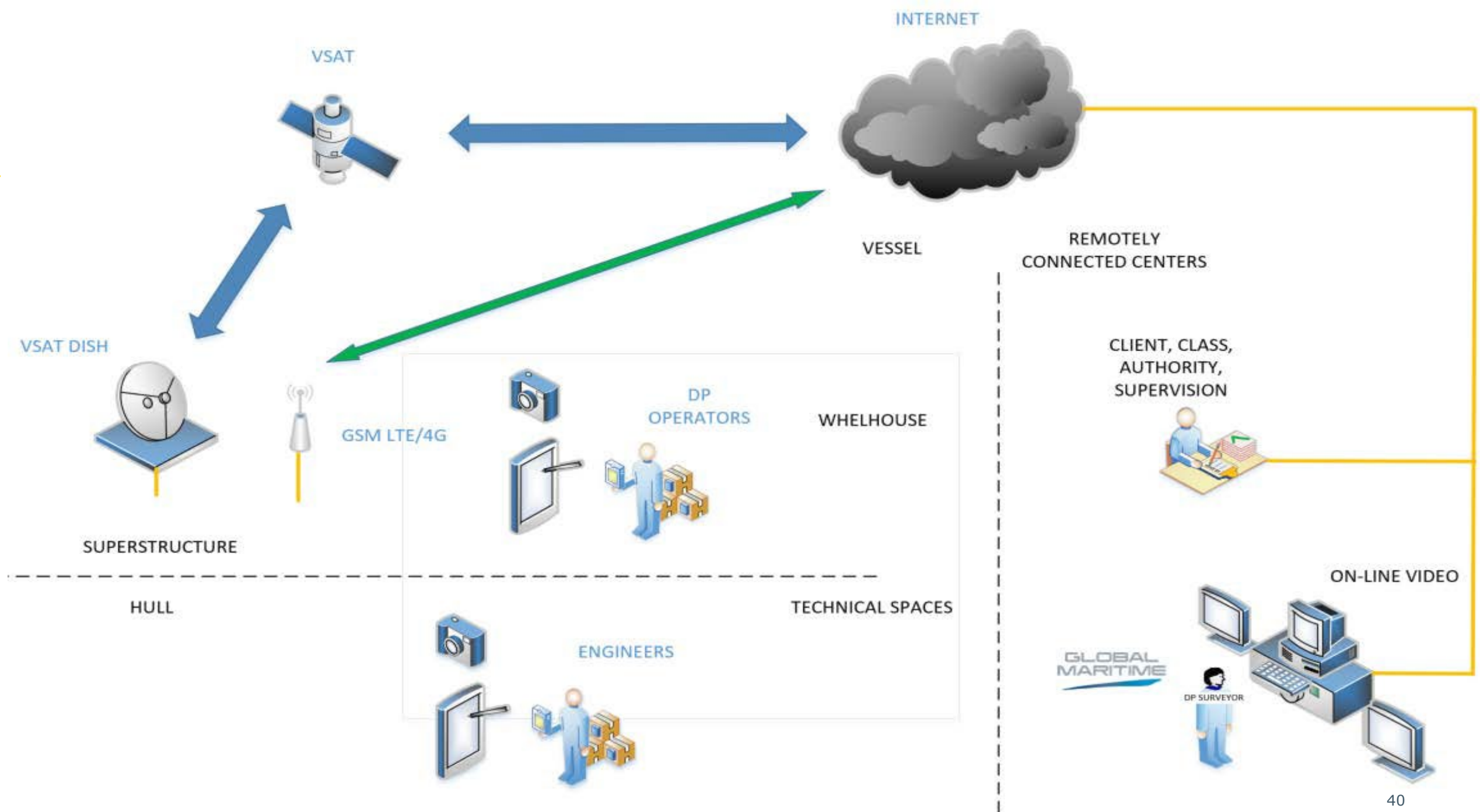




Pilot projects

Pilot projects

- DP2 OSV VOS Prime (December 2020)
 - Global Maritime, Vroon Offshore Services, RINA
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 - Global Maritime, LOTOS Petrobaltic
- Undisclosed DP2 vessel (ongoing)



Remotely Witnessing: two different scenarios

Remotely witnessed inspections (Class, OEM, etc.)

- Onshore (along-side)
- Easy data transmission
- Mostly based on visual inspection
- Low level of crew involvement required

Remotely witnessed trials (DP trials)

- Offshore
- Challenging data transmission
- Mostly based on outcomes from specific tests
- High level of crew involvement required

How to Remotely Witness DP

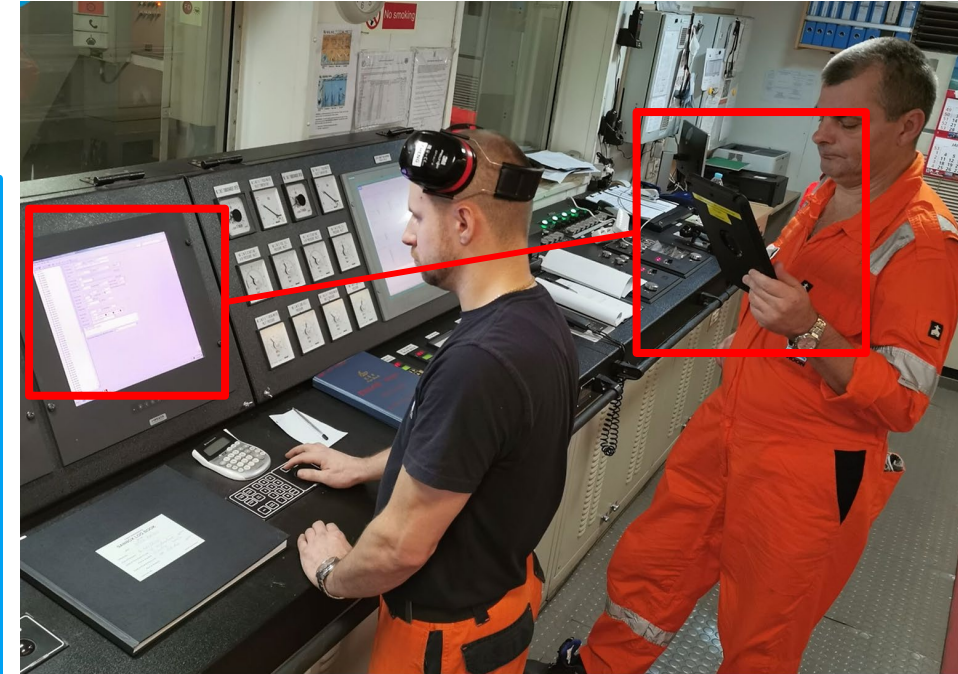
Methods

- Screen on Screen
- Shared Screen(s)
- Mix of the two above

How to Remotely Witness DP

Screen on Screen

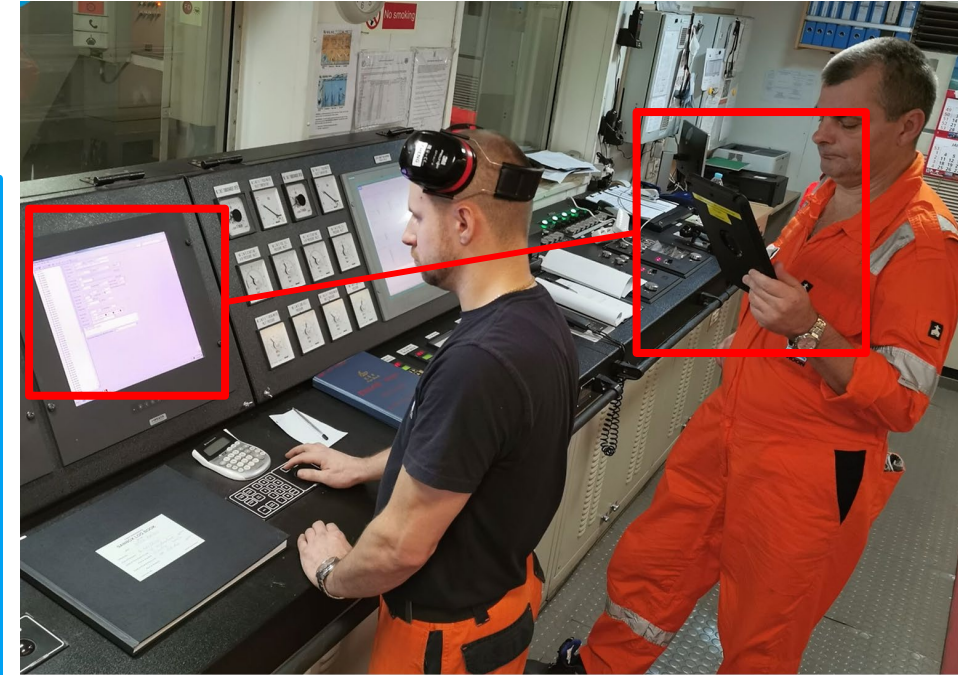
- Quality of data centric evidence
- Data transmission
- Ergonomics
- Implementation
- “Fool proof”
- Cyber security



How to Remotely Witness DP

Screen on Screen

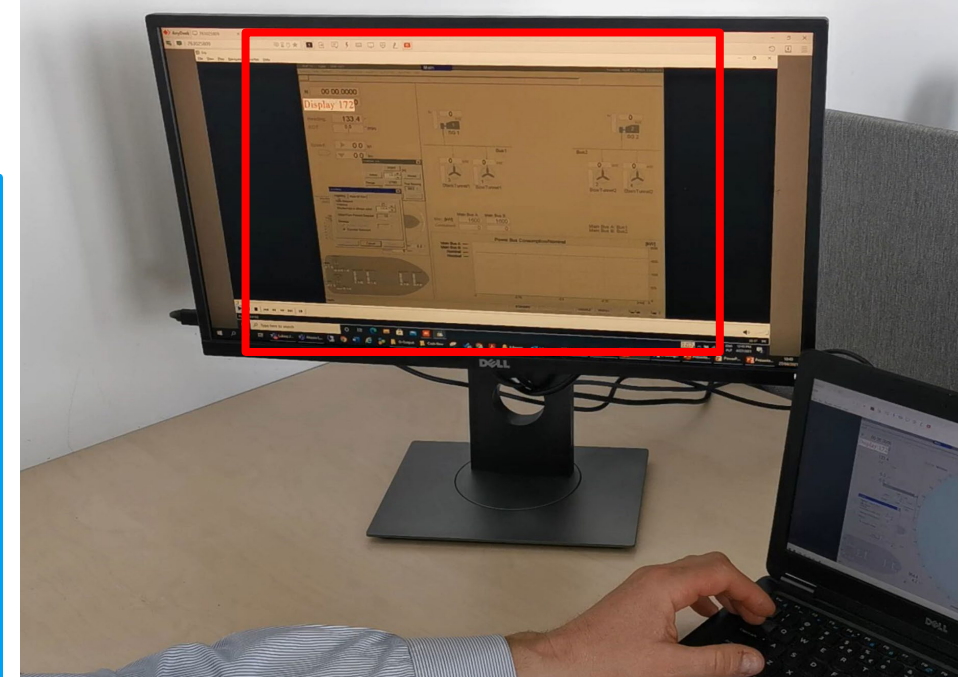
- Quality of data centric evidence ☹️
- Data transmission ☹️
- Ergonomics ☹️
- Implementation 😊
- “Fool proof” 😊
- Cyber security 😊

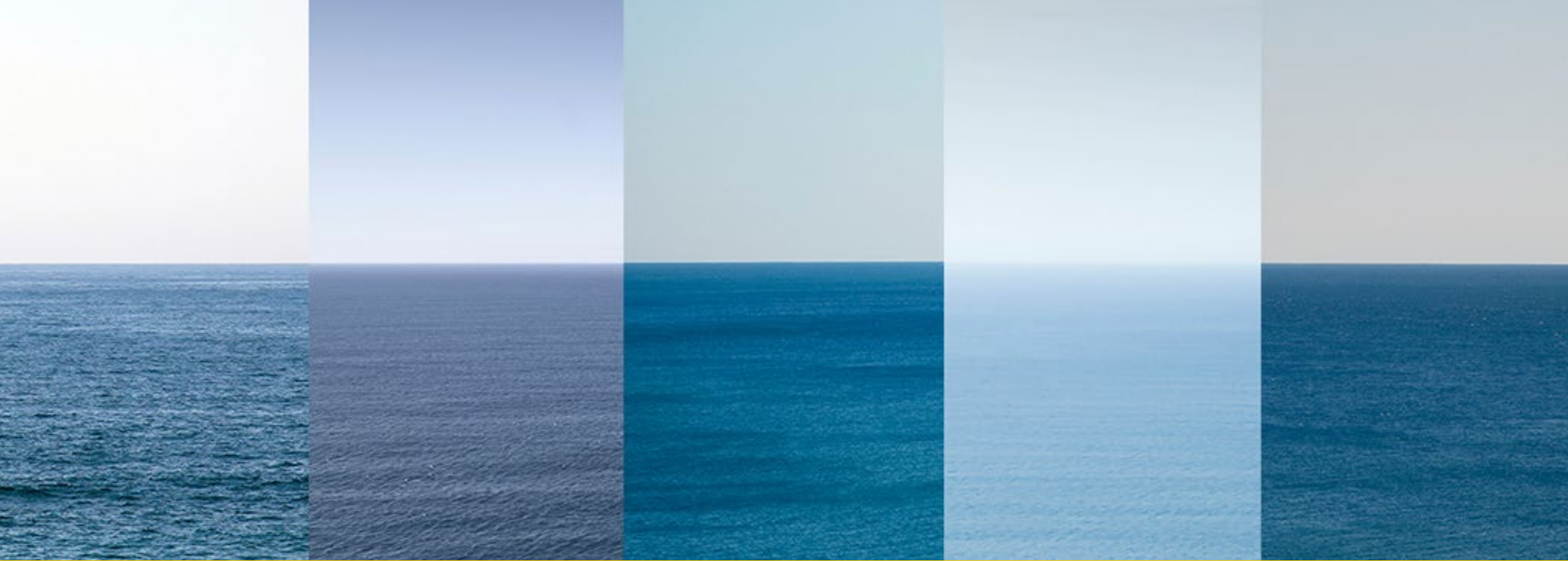


How to Remotely Witness DP

Shared Screen

- Quality of data centric evidence 😊
- Data transmission 😊
- Ergonomics 😊
- Implementation 😞
- “Fool proof” 😞
- Cyber security 😞





RWDP trials – Pilot projects: feedback and lesson learned



Lesson learned

Ergonomic

- RWDP trials shall not cause an uncomfortable working environment for the crew
- Poor ergonomics during the trials reduce the level of focus for both the personnel offshore and the remotely connected surveyor
- Poor ergonomics means a weaker DP assurance associated to the trials

Lesson learned

Technical Solution

- RW DP trials shall be based on an easy to implement and robust technical solution
- Care shall be taken not to interfere with the DP Redundancy Concept of the vessel
- Cybersecurity shall be accounted for

Lesson learned

People

- Personnel witnessing the RW DP trials (i.e. DP practitioners) shall be properly trained.
- Crew that firstly approaches RW DP trials shall be properly (remotely) inducted.

RW DP trials are not intended to replace offshore witnessed DP trials, but can provide a reliable alternative where:

- Travel restrictions are in place**
- Vessels are operating in locations that are logistically challenging**
- Trials do not fit to the vessel schedule**

**GLOBAL
MARITIME**



blue sea thinking



Graeme Reid

IMCA

Graeme Reid

Technical Adviser - Marine, IMCA

- Graeme joined IMCA as Technical Adviser, Marine in May 2018.
- He has been involved in developing the DP Accreditation scheme, DPO CPD, updating many of the key DP guidance documents, supporting IMCA's technical seminar programme.
- He implemented IMCA's quality management system leading to ISO accreditation.
- Graeme started his career as an electrical engineering apprentice before moving into the Marine and Oil & Gas industry.
- During his 25-year career in oil and gas, Graeme has worked with ABB, Poseidon Maritime, Noble Denton and Germanischer Lloyd in a range of technical and senior management positions.
- Between 2010 and 2016 Graeme focused on establishing and developing his own marine assurance, consulting and technical recruitment businesses which he sold in late 2016.

International Marine Contractors Association

Improving performance in the marine contracting industry

IMCA DPO CPD Application

June 2021

DPO Continuous Professional Development (CPD)



Introduction / Concept / Timeline

- Joint Venture to create CPD scheme- NI managing the scheme and IMCA managing the content
- “Modules” of learning are planned to be published 6 monthly
- Each module is designed to take around 4-6 hrs to complete
- Key IMCA guidance documents referenced are directly available within the app
- App content can be “downloaded” so to be available offline.
- App is optimised for the mobile platform



Content

- Content was designed within 6 categories:
 - DP Regulation & Guidance
 - DP Functional Requirements
 - DP Knowledge Enhancement
 - DP Operations
 - DP Redundancy Concepts
 - DP Testing & Trials



– DP Functional Requirements 

– Position Reference Systems Intro

– Hydroacoustic PRS

– DP Redundancy Concepts

– DP Knowledge Enhancement

– Worst Case failure

– Key Personnel Responsibilities

– DP Capability Plots

– DP Capability keeping event reporting

– Open/closed bus operations

– Operational 5 year and Periodical

– Thruster types & failures

– DP Simulation and Emergency Drills

– Thruster allocation modes

– Sensor schematic drawings

– Thruster EM stops

– DP Planned Maintenance

– Blackout Prevention

– Mission specifics

– Operator stations

– Load dependant Start/stop

– Cyber Risk management and

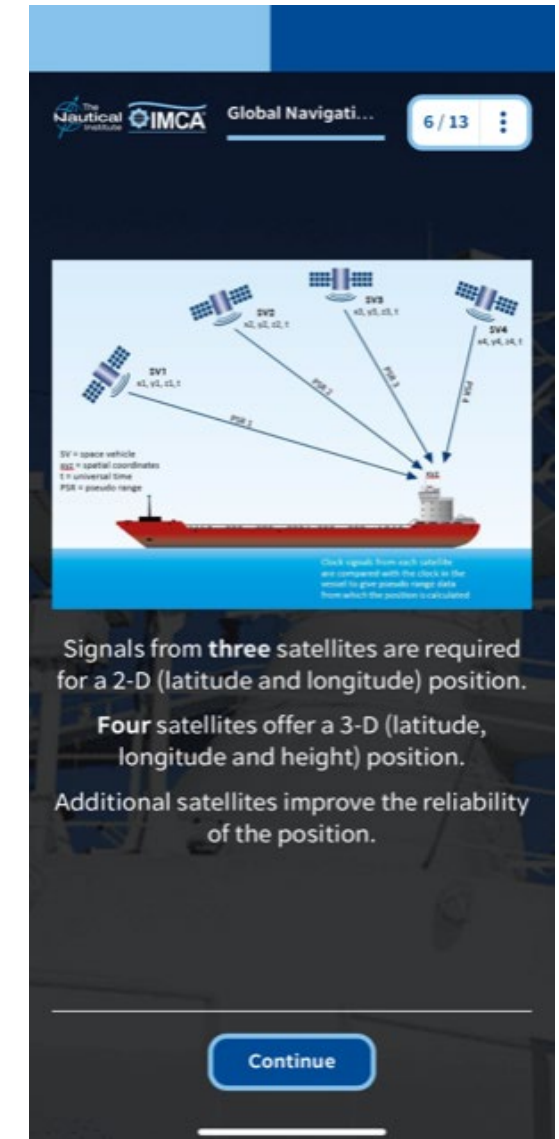
– Effects of mission equipment

– Independent Joystick

– UPS

Registration & Payment

- Candidate registration via new selection on Alexis Platform of NI.
 - Payment based on a “per module” basis via existing NI payment channels
 - Module completion certificate is available directly from edapp for the candidate and notification sent to candidate records on Alexis platform
-
- Demonstration



- Snapshot of feedback to date:
 - 100% stated they enjoyed the app.
 - 87% stated right amount of content and convenient to use.
 - 45% used the offline functionality.
 - 89% stated they would recommend the app to a colleague.

Summary

- The app enables the user to focus on important industry guidance
- It has the most up to date guidance and references from industry
- The app uses content derived from DP event reporting
- It can satisfy vessel owner/operator CPD requirements
- It promotes safe DP working practices for the benefit of all in the DP community
- Assisting our industry to achieve our aim of ensuring safe and efficient DP operations



Improving performance in the
marine contracting industry

Question and Answer Session



Today's panelists



Allen Leatt



Jason Standing
ADNOC



Alessio Lombardi
Global Maritime



Graeme Reid

Moderators



Nick Hough



Ali Macleod

Regional Engagement Contacts Asia Pacific Middle East & India



Darren Brunton



Chris Rodricks

Thank You

- **Thank you** to today's speakers, panelists and Committees
- **Thank you** for your attention
- A recording will be available shortly
- Please complete our short feedback survey

