The role that vetting regimes play in advancing safety and performance in the oil and gas segments of the marine industry

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OCIMF

OCIMF Overview

Who we are and what we do

The Oil Companies International Marine Forum (OCIMF) was formed in April 1970 in response to the growing public concern about marine pollution, particularly by oil. In the 50 years since, OCIMF has grown to become a leading authority on safety for the global marine industry, and today has over 100 member companies and consultancy status at the International Maritime Organization (IMO).

Our mission is to lead the global marine industry in the promotion of safe and environmentally responsible transportation of crude oil, oil products, petrochemicals and gas, and to drive the same values in the management of related offshore marine operations.

We do this by developing best practices in the design, construction and safe operation of tankers, barges and offshore vessels and their interfaces with terminals and considering human factors in everything we do.

Alongside an extensive publications' library, OCIMF provides a portfolio of tools and inspection programmes used by vessel owners, operators, managers and charterers worldwide to enhance the safety of their operations.

This includes the **Ship Inspection Report (SIRE) Programme**, Tanker Management Self-Assessment (TMSA) Programme, Offshore Vessel Inspection Database (OVID) and the Marine Terminal Information System (MTIS).

"Vetting"
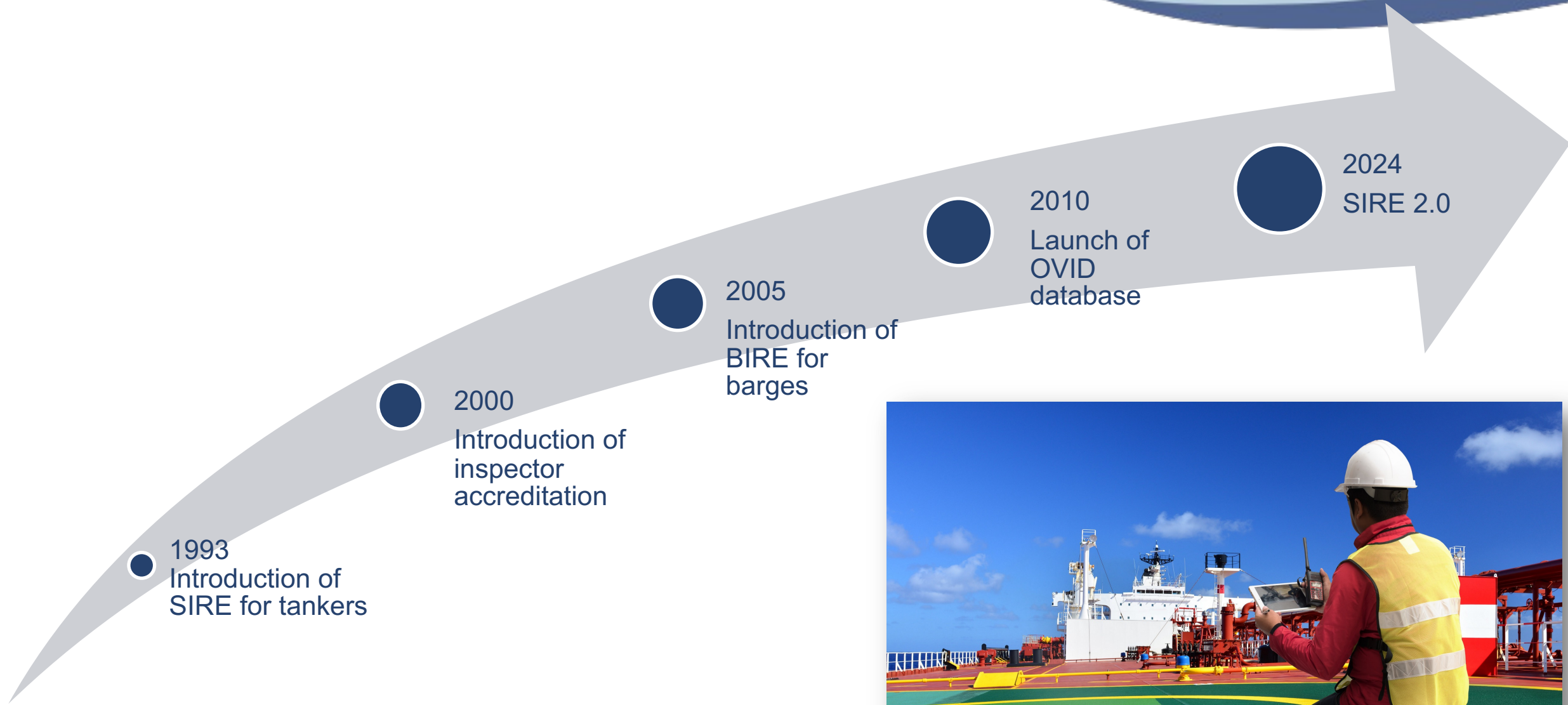
What is it and how does it work?

Prior to engaging any tanker or tank barge to carry their oil, gas or chemical cargo, charterers perform a series of checks to ensure that the proposed vessel can perform the voyage safely in all respects. This is commonly known as "vetting".

The way this is done depends upon the type and size of the organisation involved and ranges from perhaps an experienced staff member manually gathering and reviewing the available information to sophisticated automated or semi-automated computer systems. Whatever the process, a range of data sources is used. These sources include:

- SIRE inspection reports
- PSC reports
- Casualty reports
- Terminal feedback reports
- TMSA submissions
- Incident history

Once the review is complete, a vessel may be approved or rejected for business. SIRE reports form the backbone of any vetting system.

The SIRE journey so far

1993
Introduction of SIRE for tankers

2000
Introduction of inspector accreditation

2005
Introduction of BIRE for barges

2010
Launch of OVID database

2024
SIRE 2.0

SIRE inspections

What are they and how do they work?

A SIRE inspection is a physical inspection of around 8 hours duration, performed by a qualified former senior deck or engineer officer, accredited by OCIMF to inspect oil, gas and/or chemical vessels as appropriate.

The inspection covers all aspects and areas of the vessel's operation, i.e.

- Certification and documentation
- Crew management
- Navigation and communications
- Safety management
- Pollution prevention
- Security
- Cargo and ballast operations
- Mooring
- Engine and steering rooms
- General appearance
- Ice operations

Upon completion of the inspection, the report is uploaded electronically to the OCIMF database from where it can be purchased and downloaded
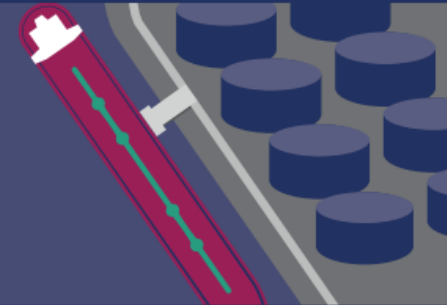
A step change towards OCIMF vision

Global Trend in Oil Spills from Tankers

Governments and industry continue to work towards improving safety & standards of operations

Accidents still happen, but >99.99% of oil transported by sea arrives safely at its destination

Data relates to spills of 7 tonnes and over from 1970-2020

[1] This relates to spills with confirmed volumes
[2] Quantity rounded to nearest thousand

Managing Changing Industry Risks

It was recognised that now was the time to refresh SIRE to :

- enable deeper insight into how processes, systems, hardware and people interact as well as creating a more risk-based approach to vessel inspections.

- adopt an increased focus on human factors.

- create an inspection regime that allows greater interaction between inspector and crew .

- respond more quickly to the changing risk profiles in the industry.

Why SIRE 2.0?
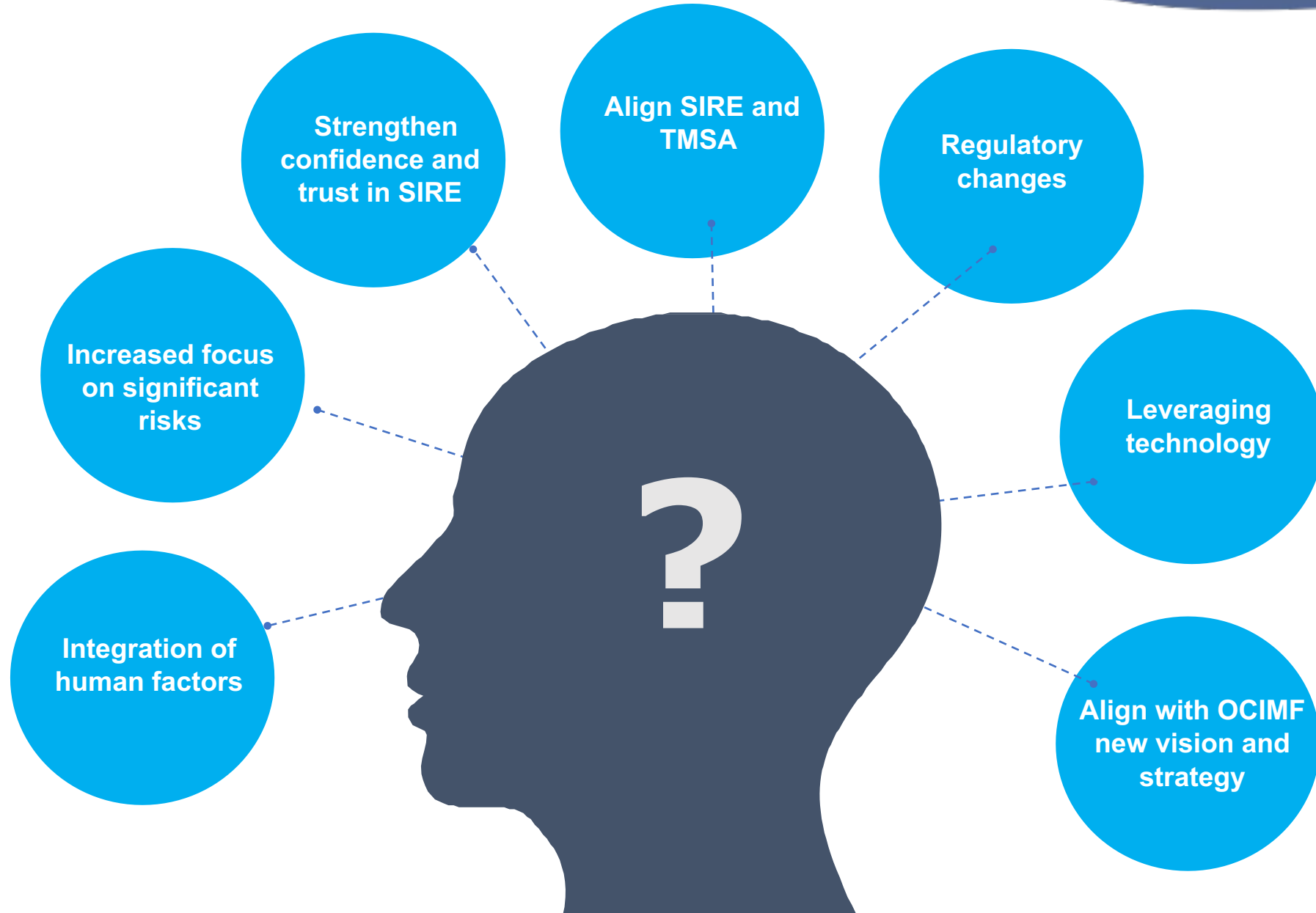
What is new in SIRE 2.0?

o New questions

o New approach to the inspection questionnaire

o Human factors

o New technology

o Enhanced reports

o Tighter controls and oversight of the behaviours of all participants

o Integrated feedback portal to facilitate continuous improvement

A completely new question set, risk based and developed directly from the source material

- Contained in a database known as the SIRE Question Library (SQL)

- Based on barriers identified by a fresh bow-tie analysis

- Each question has a stated objective

- Industry and inspection guidance instantly available to the inspector

- Potential negative observations identified and listed

- Photograph questions to give objective evidence of vessel condition

Approaching and manoevering in port – clearly recognised as high risk

How does SIRE 2.0 address these risks?

4.2.6. Were the Master and navigation officers familiar with the company procedures for testing the navigational equipment, main propulsion, steering gear and thrusters prior to use and prior to critical phases of a passage or operation and, did checklists or logbook entries confirm the required tests had been completed as required?

4.3.2. Were the engineer officers familiar with the company procedures defining machinery space operating mode and, where required to be attended, the machinery space team composition during the various stages of a voyage, and were records available to confirm the machinery space had been operated accordingly?

4.3.3. Were the Master and navigation officers familiar with the company procedures for integrating a pilot (or similar role*) into the bridge team and were records available to demonstrate that the process had been followed?

5.1.10. Were the Master and officers familiar with the shipboard emergency plan for loss of propulsion, and had drills taken place to test the effectiveness of the shipboard emergency response plan in accordance with company procedures?

Risk based questions that address human factors

A few examples from around 400 questions available to the inspection compiler

5.1.11. Were the Master and officers familiar with the shipboard emergency plan for failure of electrical power, and had drills taken place to test the effectiveness of the shipboard emergency response plan in accordance with company procedures?

5.1.12. Were the Master and officers familiar with the shipboard emergency plan for steering gear failure, and had drills taken place to test the effectiveness of the shipboard emergency response plan in accordance with company procedures.

10.1.2. Were the Chief Engineer and engineer officers familiar with the company procedures for testing main propulsion, steering gear, thrusters and power generation plant prior to use and at critical points during a voyage or operation, and were checklists and log book entries completed as required?

10.5.3. Were the Chief Engineer and senior engineer officers familiar with the company and vessel specific fuel changeover procedures, and were records available to demonstrate that fuel grade changeovers had been completed in compliance with the procedures and MARPOL regulations?

Human Factors – the third leg of the stool

o At first SIRE was all about Hardware, then Procedures were addressed. Now SIRE 2.0 has introduced Human Factors into the inspection programme

o The inclusion of Human Factors is a major enhancement to the SIRE programme.

People are part of the system

If you take people away, many systems fail

Performance Influencing Factors

- Organisational
- Social
- Psychological
- Physical
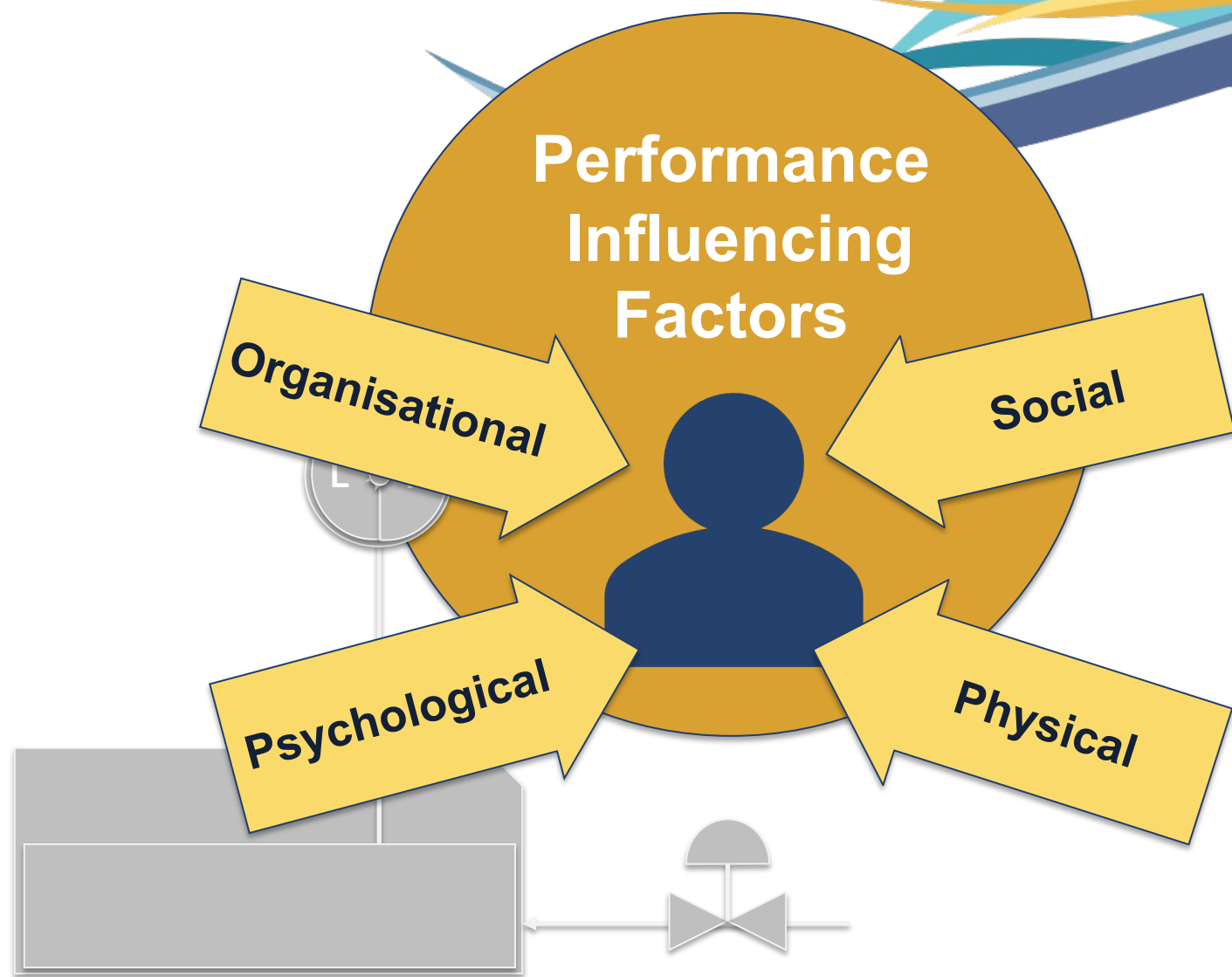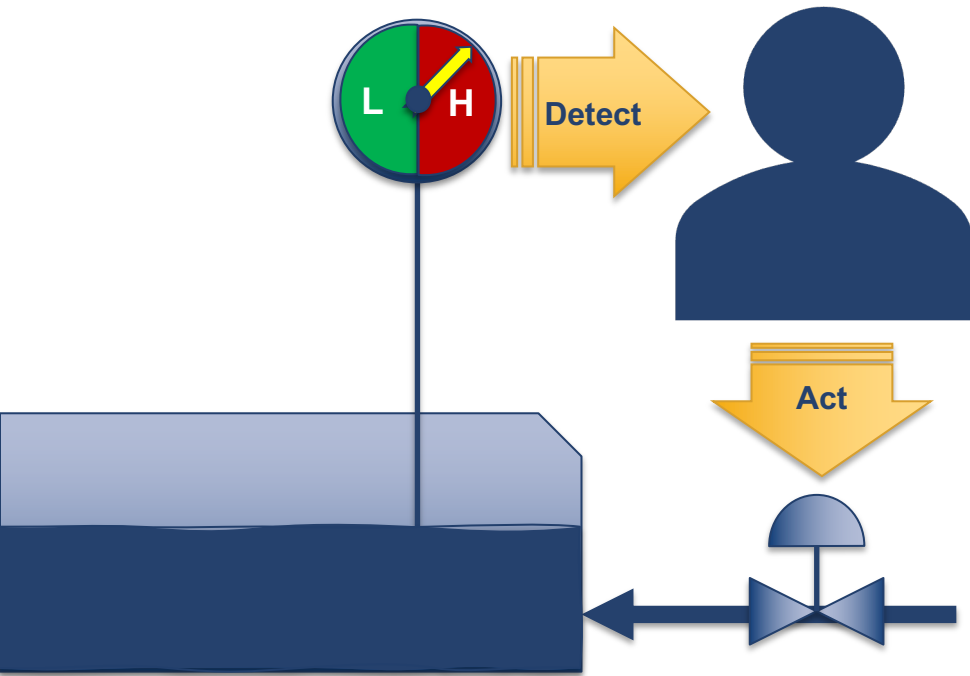
Human Factors are the **physical, psychological** and **social** characteristics that affect human interaction with **equipment, systems, processes, other individuals and work teams**

OCIMF Human Factor Approach

OCIMF guiding principles on human factors

These guiding principles summarise what we know about human factors and how we understand and address them. We use the principles as a simple script to talk about human factors, and as guard-rails for the improvements we make.
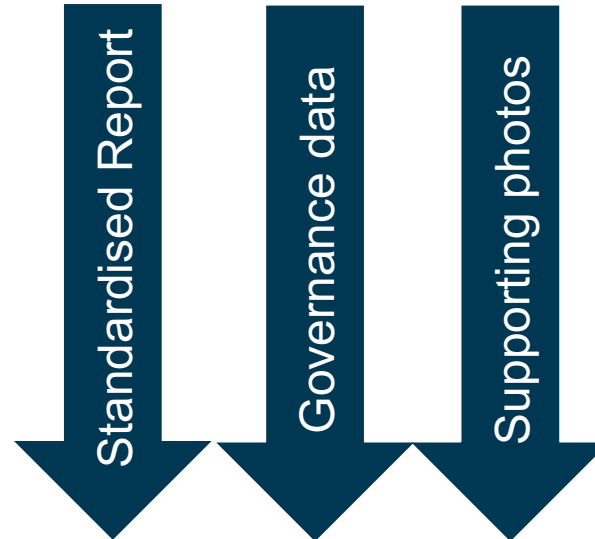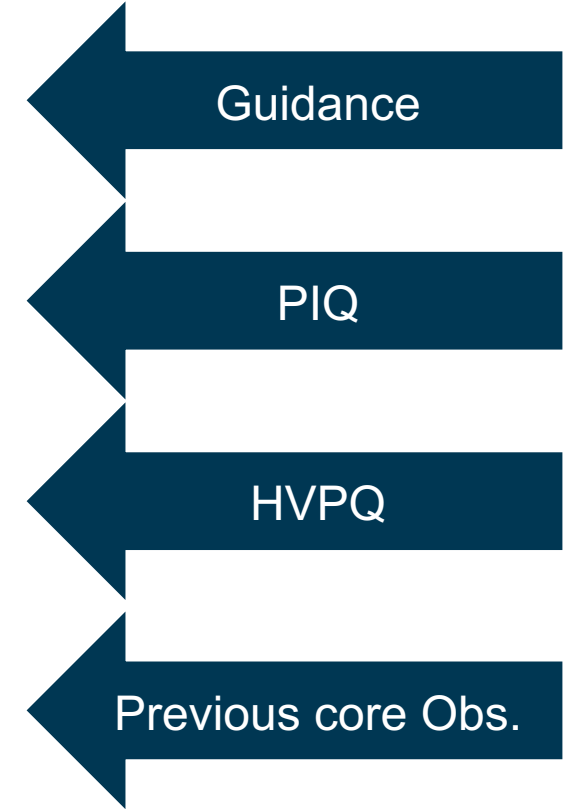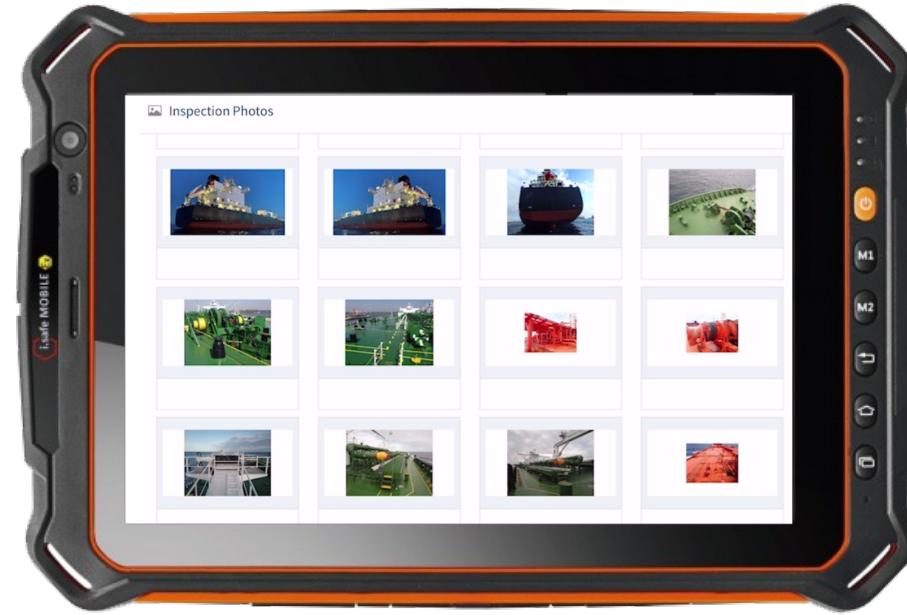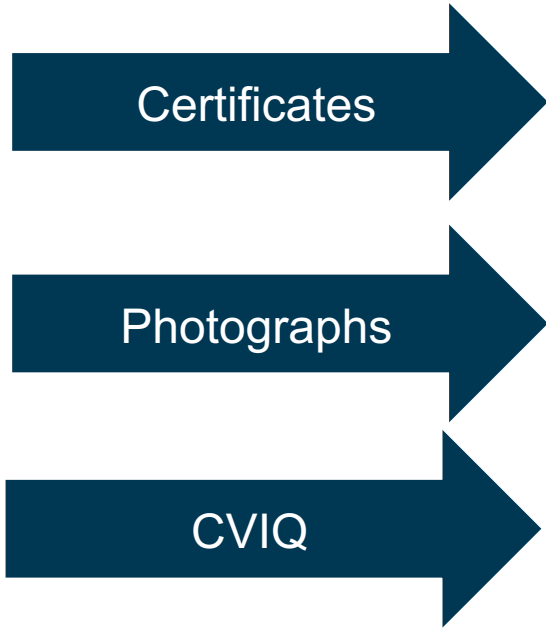
- People will make mistakes

- People's actions are rarely malicious and usually make sense to them at the time

- Mistakes are typically due to conditions and systems that make work difficult

- Understanding the conditions in which mistakes happen helps us prevent or correct them

- People know the most about their work and are key to any solution

- Plant, tools and activities can be designed to reduce mistakes and manage risk better

- Leaders help shape the conditions that influence what people do

- It matters how leaders respond when things go wrong. Take the opportunity to learn

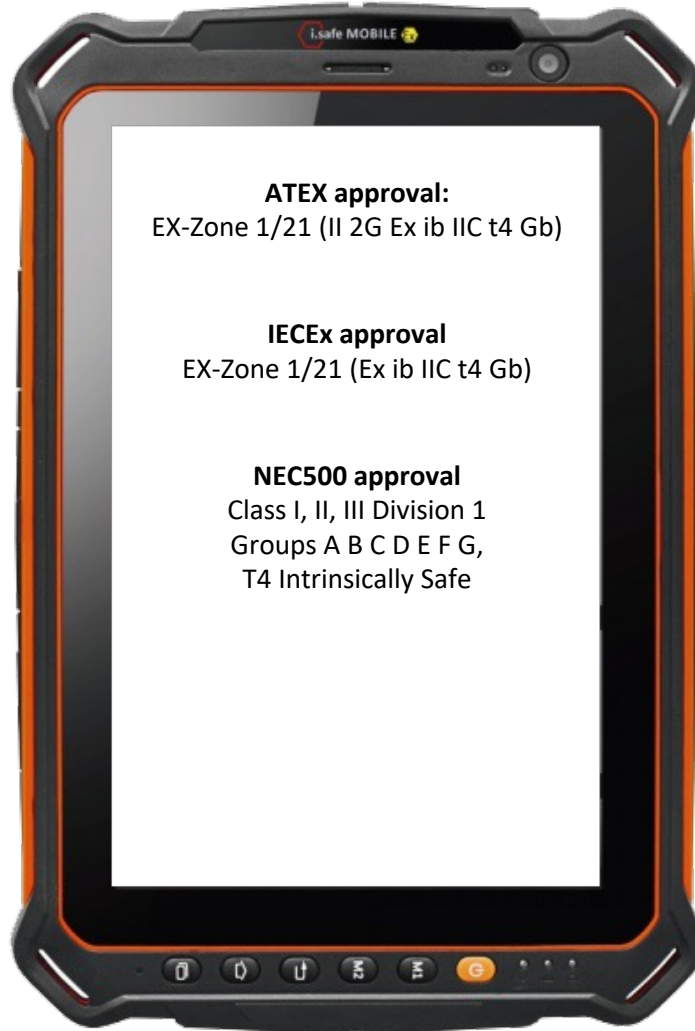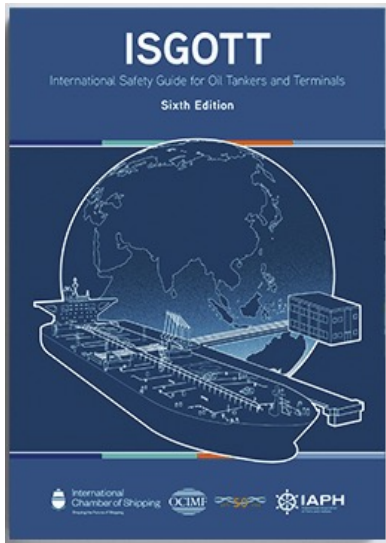# New technology to facilitate enhanced inspections and data security – the tablet

o The tablet - carefully chosen for the task

o A vehicle for OCIMF's proprietary software – the Inspection Editor

o Provides a camera so photographs can support observations

o Allows for real time recording of observations

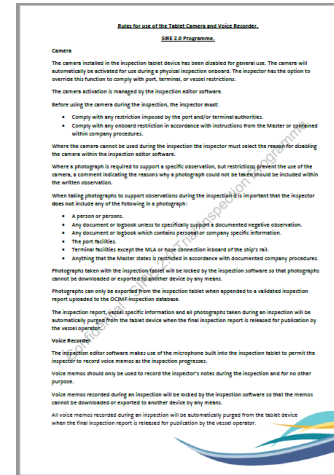o Allows the progress of the inspection to be tracked – time/location

Why use a tablet device for SIRE 2.0?

Certificates →

Photographs →

CVIQ →

← Guidance

← PIQ

← HVPQ

← Previous core Obs.

↓ Standardised Report

↓ Governance data

↓ Supporting photos

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Tablet governance

ATEX approval:
EX-Zone 1/21 (II 2G Ex ib IIC t4 Gb)

IECEx approval
EX-Zone 1/21 (Ex ib IIC t4 Gb)

NEC500 approval
Class I, II, III Division 1
Groups A B C D E F G,
T4 Intrinsically Safe

Rules for use of Camera

Inspector letters

Camera controlled by OCIMF

Only accessible through Inspection editor.

Can be disabled remotely by OCIMF.

Photos cannot be exported, unless included in Report.

Our Vision

**A global marine industry that causes no harm to people
or the environment**

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