

Broader context of Digitalization



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Digitalization, like Decarbonisation, is a ‘buzzword’.

- Is it an opportunity or challenge for the Industry and IACS?
 - Opportunities: improves environmental, safety, and business performance. Helps to optimize existing processes and introduce new technologies, enhancing the entire marine enterprise.
 - Challenges: Adds complexity, addressing human-system interface issues, ensuring proper data management; Engineering safe and dependable digital solutions all require careful attention.
- To realise fully, both aspects need to be managed well by the Marine Industry.
- IACS wants to support the Marine industry to achieve this changeover safely.

Means
different things to
different people



Two main groupings:

- **Digitalization of processes** for business and engineering
 - digitalization of engineering processes makes the engineering of complexity more achievable.
 - requires skills to use digital tools and associated engineering knowledge, using digitalised data/information sharing.
 - train a new generation of onboard staff – or shoreside staff to achieve intended outcome from systems
- **Digital technology embedded in assets and systems**
 - needs appropriate rigour to engineer and assure the digital system, so it can be safe and as dependable
 - consideration of human-system interface, needed skills and training
 - Covers normal and reasonably foreseeable ‘abnormal’ operating conditions

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- Regulation plays an important role both in the use of digitalised processes and digitalised assets.
- Early indications suggest evolution of technology deployed on ships presents a **regulatory challenge** requiring a proportionate response.
 - Advanced digital technology can provide insight into **actual and predicted condition of a ship and its systems**, which may offer an **alternative to traditional time-based survey regimes and survey techniques**
 - Advanced and increasingly complex, often **digital, technology within ships' systems** may **fall outside the normal requirements** prescribed by the Conventions.
- Some solutions introduce new hazards, risks and large-scale potential consequences, so needs managing accordingly e.g. Human-centred engineering

- IACS is considering a strategy to support digitalization which needs to be broad, far reaching and requiring significant flexibility.
- Examples of potential **industry digitalization activities** (external)
 - Through IACS instruments covering data analytics and digital simulation techniques to demonstrate compliance, increased use of digital modelling and analysis techniques to support design appraisal decisions, increased use of sensors and their derivative data in lieu of physical survey of structures and equipment
- Examples of potential digitalization opportunities in **IACS work processes** (internal)
 - reporting processes, data collection processes, data validation and management, and Working Group internal communication and collaboration processes all of which may improve IACS responsiveness to industry needs
- ❖ **Adding digitalization** to any aspect must **add value** or it may not be appropriate.

