



Innovation and Technology: Shipping and Energy Industries

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Let me introduce myself..



Costas Kontes

Managing Director Med Cluster &
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Working experience

- Managing Director of V. Ships Greece since 2016
- Started my career as Project Manager and Business Development Manager for V.Group in 2008 (partly for V. Ships Leisure and V. Ships Greece)
- Before that as Technical & Marine Operations Director for IBEROCRUCEROS (part of CARNIVAL Corp) in Madrid, Spain
- Previously Technical Superintendent for Martinoli SAM in Monaco on their Cruise Ship Division

Studies

- V Group Senior Leadership Development Program from Strathclyde Business School
- MSc in Shipping Trade and Finance from City University 2000
- BEng / MSc Marine Engineering from Newcastle Upon Tyne University 1996-2000





Navigating in the future of
shipping:
Impacts and challenges of
technology innovation

01

How can technology support
shipping

02

Tackle the challenges and seize the
opportunities

03

Key Challenges of Crew Competence &
Human Element due to Technology
Advancements & Innovation

04

Transforming the shipping industry:
Technology solutions

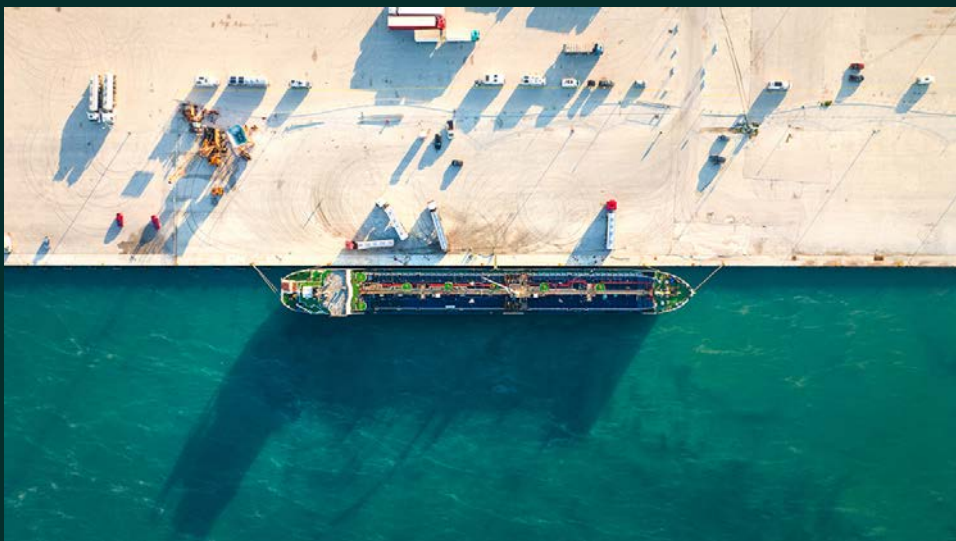
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Innovation leading to maritime
excellence

How can technology support shipping

Shipboard:

- Assist crew onboard in decision making / troubleshooting / real time communication with the managing office.
- Data driven decision making onboard.
- Take examples from the airline industry.
- Training and skill development (e-learnings, simulation software).
- Crew welfare and remote medical support.



Ship management:

- Data analytics and decision support systems.
- Use of Sentinel / use of dynamic modelling to identify risks associated with a ship or sister ships.
- Fleet/vessel performance monitoring (i.e. route optimization, fuel consumptions).
- Predictive maintenance / condition based monitoring.



Tackle the challenges and seize the opportunities

Challenges

Crewing

- ✓ Crew Shortage
- ✓ Diverse Expertise and Different Generations working together
- ✓ Skill gaps in current and future knowledge

Training and Knowledge of Cutting-Edge Technology

- ✓ Rapid Technological Advancement
- ✓ Continuous Education
- ✓ Human-Automation Interaction and avoiding over-reliance on technology

Regulatory Compliance and Environmental Pressures:

- ✓ Environmental Regulations
- ✓ Compliance with Regulations

Opportunities

- ✓ Share current expertise and know how from older generation Masters and Chief engineers so that there is a transfer of knowledge.
- ✓ Leaps in technology allow for on time training while on board.
- ✓ Information exchange between industries is now possible.
- ✓ Data gathering and big data analytics.
- ✓ Advancing fleet, performance and voyage management.
- ✓ Improve telecommunications allow for real time remote medical support.
- ✓ Long term improved budget control and profitability.

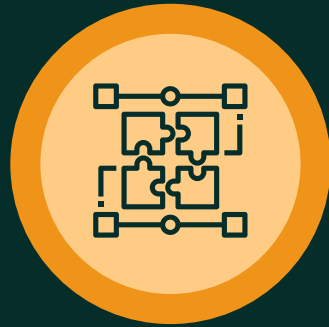


10 Key Challenges of Crew Competence & Human Element due to Technology Advancements & Innovation



Rapid pace of Technological Change

Difficulty in keeping crew up-to-date with evolving systems and technologies.



Skill Gaps

Increased need for specialized knowledge in digital systems, automation, and cybersecurity.



Resistance to Change

Crew's reluctance to adopt new technologies due to fear of job displacement or unfamiliarity.



Training & Upskilling Needs

Higher demand for continuous training programs to address new competencies (e.g. remote operations, AI systems).



Human-Machine Interaction

Balancing human judgment with automated systems to avoid over-reliance on technology.



Cybersecurity Threats

Crew must be trained in cybersecurity practices to mitigate increasing digital threats.



Operational Complexity

Integration of complex systems creates challenges in troubleshooting and problem-solving.



Mental and Physical Well-being

Technology overload and automation may lead to reduced engagement, fatigue, or mental health concerns.



Regulatory Compliance

Ensuring crew competence meets evolving international regulations and standards for technology use.



Communication Challenges

Potential communication breakdowns between crew and shore-based control centers in increasingly automated environments.



Transforming the shipping industry: Technology solutions

1

Shipmanagement one stop ERP model:

- Connect all shipping functions and processes: technical, operations, safety, procurement, crewing and accounting in one single environment.
- Use of dashboards or graphs with statistical data.
- Data driven and risk-based decision making.

2

Onboard capabilities:

- Use of dashboards to provide alerts and information.
- Share best practices with other fleet.
- Sharing of incidents.
- Sharing of port data in real time.

3

Port and terminal automated solutions:

- Automated notifications from the port with approved audited suppliers, port agents, custom information, Port State Control check lists etc.
- Reduce turnaround time and improved efficiency.

4

Enhanced MLC compliance and Crew welfare improvement:

- Digital payment tools.
- Remote medical support (digital diagnostic tools and consultation video conference).
- E-learning platforms.

5

Port community systems and integrated platforms:

- Real time logistic network across ports to share info related to congestion / berth allocation, etc.
- Vessels sailing at optimum speed to meet the requirements of the berth allocation.
- Similar approach to the airline industry.

6

Improved safety and emergency management:

- Build Control Room Centre manned 24/07 with remote monitoring and control systems.
- Real time communication /chat system with vessels
- Immediate support globally combining experience and best practice from larger fleet experience.

7

Integrating 3D scanners with onboard and ashore communication systems:

- Opportunity for enhancing operational efficiency and safety decision making.



Innovation leading to maritime excellence

Why?

To resolve crewing issues in the future, supporting crew competence and skill development.



Optimized logistics and operations:
1. Shipping supporting both advanced economies and more isolated / with limited resources communities.
2. Solutions like autonomous ships, unmanned port systems.



Enhance safety -
Preventing large scale incidents i.e., the Baltimore bridge.



Green Shipping Initiatives:
1. Develop the ideal fuel of the future.
2. Support the emission reduction journey of the industry and meet the 2050 criteria.



How?

Benchmark performance and practices from various industries.



Leverage regulatory support for alignment between maritime goals set and technology advancements & investments.



Strengthen collaboration of various technology firms across industries.



Global shipping footprint and cross-cultural backbone can promote innovation.





Thank you.

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