CSC
CYPRUS SHIPPING CHAMBER

2nd Annual Dissemination and Technical Workshop

Cyprus Shipping Chamber
18 November 2020

"Future Skills and New Education Trends in the Maritime Sector"

About us

- Cyprus Shipping Chamber (CSC) is the shipping industry's Trade Association.

- Established in 1989.

- Today more than 200 Member Companies (ship owning; ship management; shipping-related).

- CSC Members collectively own or manage more than 2200 ships and employ more than 55,000 seafarers.

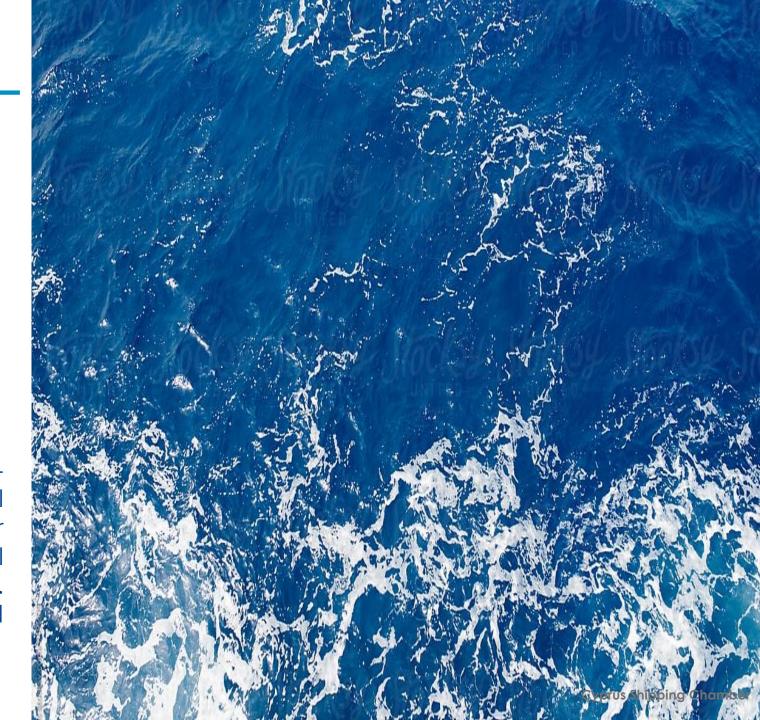- More information please visit www.csc-cy.org

Contents

- **Future Skills & Competence needs**

  - Technology and digitalisation are transforming the shipping industry. 'Smart' ships are coming into service, creating demand for a new generation of competent and highly-skilled maritime professionals.

- **New Education Trends & Covid-19**

  - New education trends like e-learning, utilising simulators, virtual and augmented reality for assessment of maritime training will soon become the new norm. Covid-19 has also affected maritime education and training.

Future Skills & Competence needs

- Maritime professionals' competence and skillsets need to be transformed in response to the rapid development of onboard technologies such as ICT and sustainable technologies.

- Digital transformation and disruptive innovation have become popular terms in recent years. Digitalisation is having a disruptive effect on the industry while it challenges existing business models and creates new opportunities.

- Digitalisation involves topics like: New connectivity technologies, Internet of Things (IoT), Digital twins, Autonomous ships, Blockchain, Artificial Inteligence, Smart port operations, Traffic and Fleet management, Big Data, Cyber security, etc.

Future Skills & Competence needs

What skills would be required:

- **Skills supporting business development taking advantage of technology.**

- **Advanced skills in analytics and use of data in optimisation of the fleet.**

- **Ability to interact with computer systems that respond to difficulties in autonomous systems will be a core competence.**

- **Ability to interact through technology between teams onboard, between ships and between ship and shore.**

Future Skills & Competence needs

- A continuous stream of new technologies is being introduced in the shipping industry to ensure that it meets new operational limitations set by environmental regulations.

- As part of regulatory compliance, a number of technologies are likely to be improved - for example, hydrodynamics, new fuel and energy sources, logistics, and methods for effective port operations.

- **The following competencies and capabilities will then be needed:**
  - **Logistics and optimisation methods to achieve high utilisation of ships**
  - **Operation of complex hybrid and zero emission machineries**
  - **Future onboard power and energy production**
  - **Calculation and documentation of emissions**
  - **Performance management systems**

- Improve seafarers' soft skills in leadership and management with new training programmes aimed at both furthering their onboard career and supporting the transition to an onshore career. The aim is to help bridge the distances between shore-based and seagoing profiles.

Cyprus Shipping Chamber

Future Skills & Competence needs

- Important components for a bright future:
  - Enhance the attractiveness of the sector in order to be high on the list of the most talented people and start-ups .

  - Promote cooperation between various players in the industry including operators, regulators, academic world, universities, government agencies and others.

  - R&D development strategy – R&D including product and technology development will be fundamental for the future of shipping and skills and competencies should be correlated with any R&D strategy.

Cyprus Shipping Chamber

Future Skills & Competence needs

- Important components for a bright future:

  - The IMO's STCW Convention has done much to establish a minimum competence standard needed to operate. We now observe that the gap between the minimum level of high competence required to cope with the pace of technological, regulatory and operational developments and the minimum competence required by the STCW Convention is growing.

This is a huge challenge and this is the reason why the industry through submissions to the IMO, supports that the time has come to consider a comprehensive review of the STCW Convention and Code in view to ensuring the STCW Convention can meet its objective.

Cyprus Shipping Chamber

New Education Trends

- Technology changes maritime education and training towards more flexible and on-demand paths. In line with the rapid technology changes, maritime education and training must seek effective training methods to meet the needs of the shipping industry. Training courses should be accessible from anywhere and at any time.

- E-learning which makes learning more distributed, flexible and adjustable, with multiple training and assessment methods.

- Use of new computer technology such as virtual reality (VR) and distributed computing (simulators) allow seafarers to participate and be examined remotely.

- VR will reshape the interaction practices between seafarers and computer technology by offering new approaches for the communication of information, the visualisation of processes and the creative expression of ideas.

- Simulator-based learning in maritime is booming. Simulators will help seafarers not only to learn the highly contextualised knowledge of work settings but will also provide them with the ability to work together in teams to demonstrate qualities such as critical thinking and leadership. Moreover, technology also enables part-time and distributed learning for seafarers even while they are at sea.

Impacts of the COVID-19 on Maritime Education and Training

- Maritime universities are making significant efforts to maintain their academic programmes introducing various measures and new formats of maritime education and training.

- **Challenges:**
  - Interruption and disruption of the 2019/2020 academic year.
  - Delays to students completing the onboard training component of their maritime education and training (MET).
  - Difficulties for students to get to maritime universities due to movement and travel restrictions.

- **Measures:**
  - Re-design the structure of MET programmes and schedule to reflect new delivery methods.
  - Transition to online teaching and learning as a delivery method of MET where possible and appropriate to the education objectives.
  - Develop new procedures and approaches to assessments and exams.

New Education Trends & Next Day

- Maritime universities need to maintain a close relationship with the global shipping industry, particularly in order to address the impacts of the COVID-19 pandemic.

- Shipowners and operators need to pursue a close relationship with maritime education and training (MET) institutions, and this would also be crucial when working towards the next comprehensive revision of the STCW Convention and Code.

- Article IX on "Equivalents" of the STCW Convention on Equivalency may offer an opportunity to some Administrations that are looking to establish and implement some temporary measures to help address the impacts of the COVID-19 pandemic on MET and certification under the STCW Convention (e.g. recognition of approved simulator time in lieu of seagoing service experience).

New Education Trends & Next Day

- International Chamber of Shipping (ICS) & International Association of Maritime Universities (IAMU) Submission to the IMO MSC 102 - **MSC 102/INF.25**

- The shipping industry and Maritime Education and Training (MET) institutions encourage IMO to:

  - Develop guidance on "temporary measures" that could be established and implemented by Administrations to address the impacts of the COVID-19 pandemic on MET, such as the need for flexibility regarding the mandatory seagoing service (e.g. different service times on board ships, recognition of approved simulator time in lieu of seagoing service experience), refresher and updating training, and revalidation requirements under the STCW Convention.

  - Consider the development of guidance on distance learning and approval of training courses meeting the requirements of the STCW Convention delivered online and/or remotely to reflect that this is a growing trend and likely to be a "new normal" during and after the COVID-19 pandemic.

Thank you

csc@csc-cy.org

CSC

CYPRUS SHIPPING CHAMBER