

STCW Survey 2020

Nautilus Federation report on the International Maritime Organization's International Convention on Standards of Training Certification and Watchkeeping



Contents

3	Introduction
4	The survey
5	Analysis
8	Is the STCW fit for purpose?
10	Is a comprehensive review of STCW the answer?
11	Future proofing
13	Conclusions
14	Next steps

Introduction

The International Maritime Organization's (IMO) International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW). The main purpose of the Convention is to promote the safety of life and property at sea and the protection of the marine environment by establishing in common agreement international standards of training, certification and watchkeeping for seafarers.

The convention was adopted in 1978 and entered into force in 1984. It underwent significant amendments and updating in 1995 to develop a new STCW Code which would contain the technical details associated with provisions of the Convention. And in 2010 'The Manila Amendments' were agreed to keep training standards in line with new technology and operational requirements.

Prior to the adoption of STCW, standards for seafarers were put in place by the various nation states that had merchant fleets. This resulted in vastly differing standards, which presented obvious safety problems as well as administrative issues. It also created competition as some states such as flags of convenience sought commercial advantages from lower standards.

STCW was introduced with the aim of setting minimum acceptable international standards relating to training, certification and watchkeeping for seafarers, which national administrations are obliged to meet or exceed.

Having now been in force for over 35 years, questions have been raised as to whether STCW is continuing to meet this objective and a review has been proposed to determine what changes, if any, are required to ensure that it continues to do so. There have been suggestions within industry that the STCW Convention and Code may be out of date, and that in some instances the competencies stipulated in the Code may no longer be appropriate. This has led to a situation where some STCW qualified officers and ratings do not always possess the skills and competencies required in modern seafaring roles.

There is increased recognition that advances in technology are going to reshape the skillset that is



required for seafarers onboard ships of the future and questions as to whether STCW will be able to remain current and relevant in the face of the increasing pace of change.

Together, these concerns have resulted in calls for a comprehensive review of the Convention.

This survey carried out by the Nautilus Federation seeks to guarantee that the experiences of maritime professionals are considered in any review of the STCW Convention, and to ensure that the international minimum training regime remains fit for purpose now and in the future.

My thanks to all those who contributed to this report and to Nautilus International professional and technical officer David Appleton for his write up of the survey results.

A handwritten signature in black ink, appearing to read 'Mark Dickinson'.

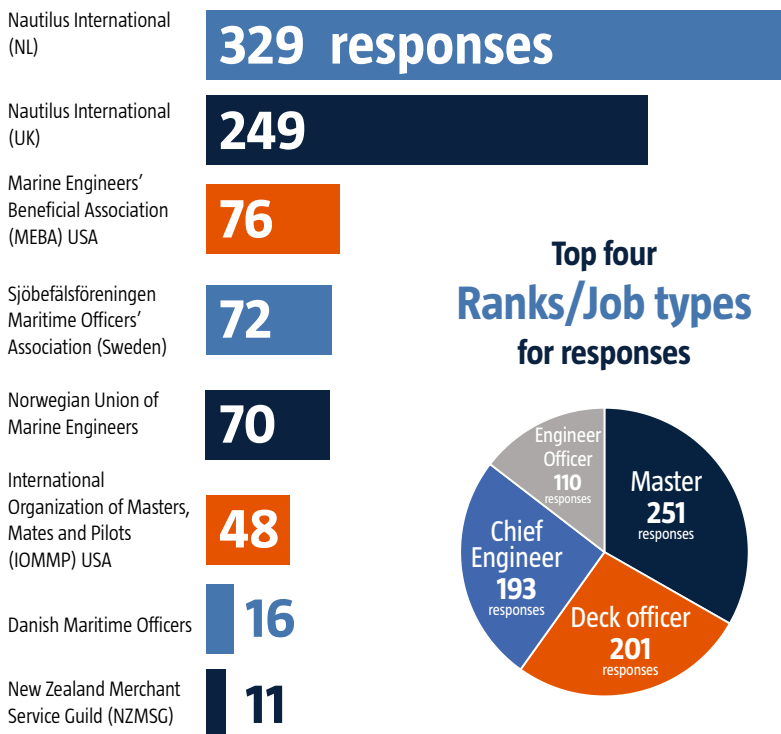
Mark Dickinson
Director
Nautilus Federation

The survey

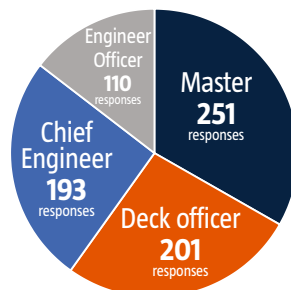


This Nautilus Federation report is based on a survey completed by over 900 maritime professionals from more than 18 different countries. The questionnaire was developed as part of an initiative to gather the views of seafarers and other shipping industry staff ahead of a proposed review of the STCW Convention and to give a voice to the maritime professionals who will be most affected by any future changes to industry training requirements.

Which maritime trade union do you belong to?



Top four Ranks/Job types for responses

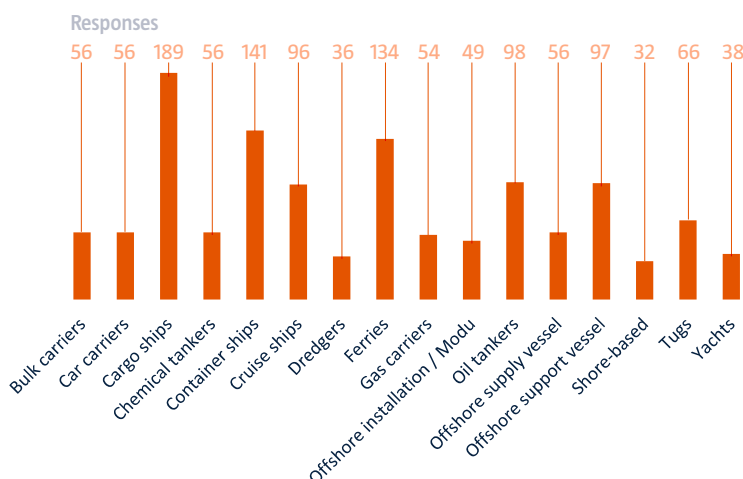


The survey covers a wide and representative sample of maritime professionals, with a significant proportion of highly experienced personnel providing input. The roles most represented within the survey are captains/masters (accounting for 27% of the survey responses), deck officers (22%), chief engineers (21%) and engineering officers (12%).

There was a variety of positions included within the survey – ranging from deckhands and bosuns, to cadets, superintendents, university lecturers and legal professionals.

The majority of the survey participants are employed in the main shipping industry sectors of cargo vessels, containers, ferries, tankers, cruise and offshore supply. But there were also significant numbers serving on tugs, car carriers and yachts, resulting in a broad and balanced view of opinions from across the industry.

From various Vessel types



Survey participants came from more than 18 countries including the Netherlands, the United Kingdom, the United States, Norway, Sweden and New Zealand.

The 33 survey questions sought to address the critical issues around STCW and seafarer training in general and many respondents took the opportunity to go into more depth about their opinions on the issues, offering frank views and observations based on their professional experience and knowledge.

Analysis

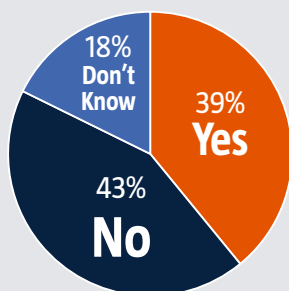
Current STCW

There has been a great deal of interest and discussion in the industry as to how seafarer training can be future proofed in response to the rise of automation and digitalisation and the predicted transformational effects that these phenomena will have on the role of the seafarer. While these considerations are obviously important, it must be remembered that seafarers are being trained to standards that underwent their last comprehensive revision 25 years ago – seven years before the carriage of GPS became mandatory. In order to determine what changes need to be made to meet future needs, it is necessary to identify areas where changes are required now.

Skills gap

When asked if they felt that the STCW covered the skills needed for today's maritime industry, only 39% answered that they did.

Does STCW cover the skills needed for today's maritime industry?



Perhaps unsurprisingly, when asked what skills a seafarer should have that are not covered in the Code, a significant number pointed to the importance of basic IT and computing skills, which is not a problem limited to older seafarers as it might be assumed. One seafarer said:

“Better IT skills are needed.

There are still seafarers leaving school who can't make a simple Excel sheet to calculate 1+1.”

Many participants pointed to the need for an increased focus on interpersonal and social skills and the importance of recognising the signs of stress and fatigue in colleagues.

“Future officers need to recognise when personnel are tired/stressed due to overwork or long hours.”

This perhaps reflects that seafarers are particularly sensitive to the importance of recognising mental health issues as they are more likely to be prevalent in the difficult conditions experienced at sea.

Another key area identified was the lack of sufficient training in ancillary equipment onboard, with only 33% of respondents believing that the training provided for such equipment is sufficient to prevent errors due to incorrect operation. A number of respondents pointed out that training had been virtually non-existent on newly installed equipment including scrubbers and ballast water management systems.

The skills which were identified as not being covered were:

- 1 **Computing/IT skills**
- 2 **People skills (Social, communication etc)**
- 3 **Basic practical skills**
- 4 **Modern machinery**
- 5 **New propulsion systems/fuels**
- 6 **Ballasting**
- 7 **Business skills**

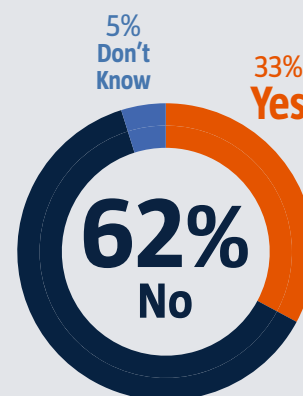
Questions of competency

Having given their views on the suitability of the topics included within the Code, respondents were asked to state whether, in their experience, levels of seafarer competency were adequate for the roles that they were employed in.

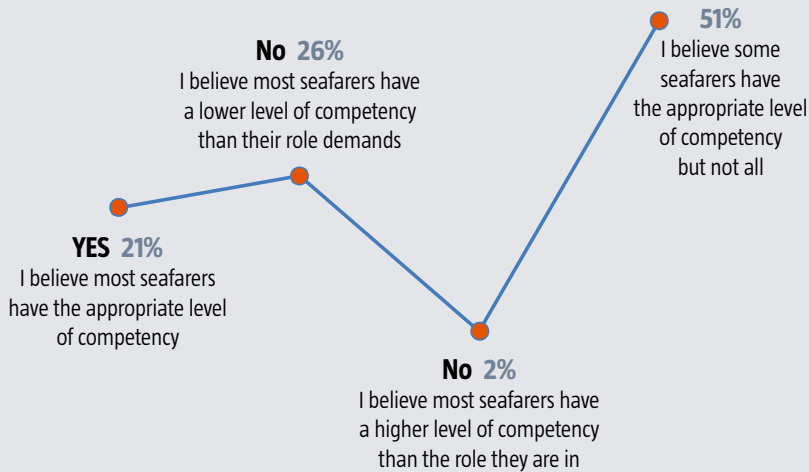


IT Computing & Networking
KEY SKILLS identified for the future

Do you believe that current training provided with onboard equipment is sufficient to prevent errors due to incorrect operation of the equipment?



In your experience are the levels of seafarers' competency adequate for the role they are employed in?



Twenty one percent agreed that most seafarers have the appropriate level of competency, 26% felt that most seafarers have a level of competency lower than required for the role that they are in, and 51% believed that some seafarers have the appropriate level of competency but not all. Only 2% felt that most seafarers have a higher level of competency than required for their role.

When asked why there was a perceived lack of competency amongst some, if not all, seafarers, there was very strong feeling that this was due to inconsistency in STCW implementation among IMO member states and that the training programmes of certain countries produced seafarers of lower competency than others.

One deck officer stated:

“Certain countries issue tickets far too easily and the standard of training provided differs vastly from country to country!”

Whilst another officer asked:

“Many maritime academies are not providing courses which meet the STCW standard. Why is there no independent body to make sure every training centre is meeting the minimum requirements?”



Rather than this being a case of ship owners not getting what they are paying for, a large proportion of respondents were of the opinion that this was a problem that ship owners were well aware of yet were willing to accept, choosing crew purely on cost rather than competency, or as one respondent put it:

“Cheap, cheaper, cheapest.

Transport in general is not allowed to cost money.”

Many respondents questioned how claims made by ship owners regarding their desire for highly trained, competent crew stacked up against their crewing models:

“Ship owners will hire everybody with a certificate, valid or not. Ship owners don’t care about skills, as long the number of people on board the vessel compare with the Safe Manning Cert, it’s fine for them. Money is all. Companies will say ‘Safety is our utmost priority’, but they don’t add ‘as long it doesn’t cost money.’ ”

Others expressed the opinion that quality seafarers are available if that is the company’s priority:

“I don’t think there is a general lack of quality but the ship owner will and always has gone for the cheapest option and you will never change that. It’s all about the profit. Seafarers are treated as absolutely disposable.”

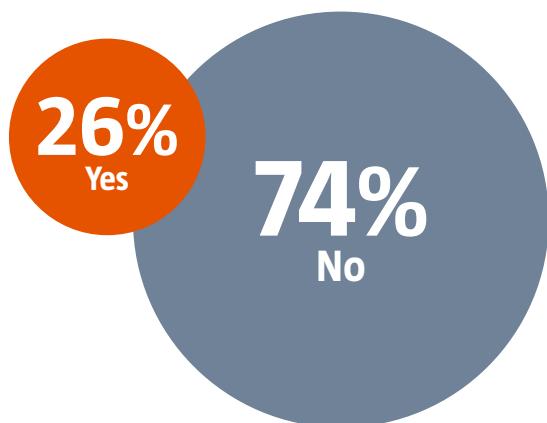
One officer pointed out that the hallowed “level playing field” which is so prized by industry is lacking for the seafarer:

“There is insufficient investment by employers in seafarers’ training and high cost for individual seafarers. There is a need for international enforcement of conventions adopted by the IMO, to create a ‘level playing field’ throughout the Industry.”

The idea that ship owners are failing to invest sufficiently in competent crew was backed up

by almost 75% of respondents who felt that ship owners are not doing enough to ensure that there are enough quality training berths available to meet future demand.

Are shipowners doing enough to ensure that sufficient quality training berths are available to meet future demand for seafarers?



Respondents also highlighted a lack of practical experience/sea-time as a major issue, both in terms of the minimum sea-time required for a Certificate of Competency (CoC), with only 41% believing that this was adequate, and the amount of experience in rank that individuals had before being promoted. One respondent stated:

“Fast tracking through the ranks is an issue. Money could be a big motivator to take on jobs you’re not actually ready for but do have the certification to do so. Also, the lack of seafarers in this industry can force companies to promote people that aren’t actually ready yet.”

A second officer commented:

“There is too high a turnover, there are fewer and fewer incentives to stay at sea throughout one’s career so people with less experience are promoted into higher ranks quicker to be able to fill the gaps.”

Do you believe current minimum sea-time amount is adequate?



There was also concern about a certain level of complacency or insufficient desire for self-improvement among some seafarers, which was also attributed to a lack of motivation due to poor employment practices:

“Too much work pressure, no time for self-study, loss of interest due to amount of procedures and lack of educated crew members.”

Respondents also reported dissatisfaction with having to pay for any additional STCW training themselves, which leads to courses being viewed as an unnecessary expense or even a ‘scam’.

One respondent asked:

“In what other industry do you have to pay to keep up your qualifications every five years? The job is not attractive to the younger generation.”

Another noted:

“It is generally considered by the seafarers I work with that there is no real benefit from having the refresher training at five year intervals when it is a requirement on a regular basis to carry out training onboard for firefighting, lifeboats, etc. It additionally adds a considerable financial burden to seafarers as most companies do not cover the costs of this repeated training.”

The following factors were highlighted as the main reasons behind any lack of competency among seafarers:

- 1 Employers prioritise cost over quality
- 2 Inconsistency in implementation
- 3 Seafarers do not have enough sea-time/experience
- 4 Complacency/low motivation among seafarers
- 5 Academic standards are set too low
- 6 Training programmes are of low quality
- 7 Training is not relevant to the real world

Having discussed the possible reasons for any perceived lack of competency, respondents were asked which areas they thought seafarers were lacking skills in. There was a strong recurring theme in the feedback that basic seamanship and practical skills were severely lacking, which in a large part is down to a general lack of experience and/or “common sense”.

One engineering officer noted:

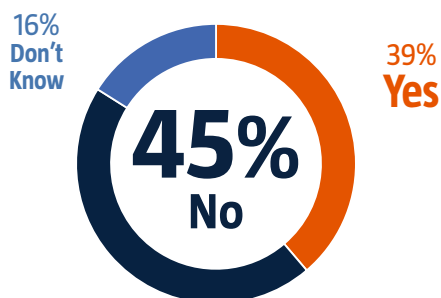
“Hands on and practical knowledge is lacking. It is not uncommon to sail with seafarers who have only a bare minimum amount of hands on experience from their cadetship or training periods. This leaves them greatly unprepared for taking responsibility when they embark a ship as a qualified individual for the first time.”

A lack of general digital and IT skills was noted, and communication and language skills were also highlighted as an area where there is a significant problem.

The areas identified where skills were most lacking were:

- 1 Seamanship/basic skills
- 2 Experience/common sense
- 3 Digital/IT
- 4 Language/communications
- 5 Soft Skills – critical thinking/ problem solving
- 6 Equipment familiarity

Do you believe that STCW in its current form is fit for purpose?



Is the STCW in its current form fit for purpose?

Some 45% of respondents felt that the STCW in its current form is not fit for purpose, with 39% saying it is fit for purpose and 16% unsure.

When asked what was most lacking from the STCW Convention and Code as a whole, respondents again suggested that the differing standards between flag states are the biggest issue and this is caused by lack of enforcement.

As one officer noted:

“International standards vary too greatly. While many international centres provide training to a high standard, many also just provide training to the bare minimum requirements. This leads to a skills gap between officers and crew who have trained in more reputable establishments and those who haven’t.”

Another pointed out:

“Certification of officers of the watch (OOW), mate and master is subject to different interpretations in every country. The way to become an OOW should not be easier in one country than in another.”

Respondents also expressed considerable dissatisfaction with the hours of work and rest regime that is permitted under the Code and the lack of any prescriptive crewing requirements.

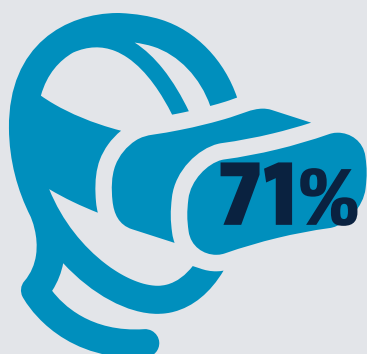
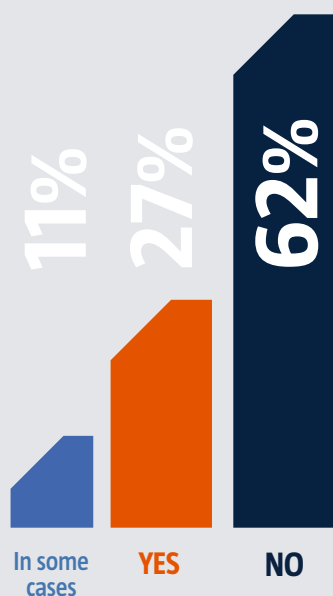
One respondent stated:

“Rest hours — this is the biggest issue we face... rest hour rules and the enforcement of them need major improvement.”

Another commented:

“Hours of rest and work, see the interpretation with 6 hrs on and 6 hrs off watch schedules, some countries accept this whilst others do not. There should be a minimum of three watch officers.”

Are shipowners doing enough to ensure that sufficient quality training berths are available to meet future demand for seafarers?



Simulator training cannot be considered adequate replacement for sea-time

There was clear consensus among respondents that this situation is detrimental to the quality of training that seafarers receive, with only 27% believing that crewing levels are sufficient to allow cadets/trainees to receive adequate training, mentoring and supervision onboard. It is worth noting that 71% were of the opinion that simulator training cannot be considered an adequate replacement for sea-time.

There were also suggestions that the STCW in its current form is outdated and does not relate to the roles as experienced by the modern seafarer.

One deck officer commented:

“The equipment and plant I am expected to maintain on my vessel is above and beyond anything I am officially holding STCW training for. I basically need an engineering CoC as well.”

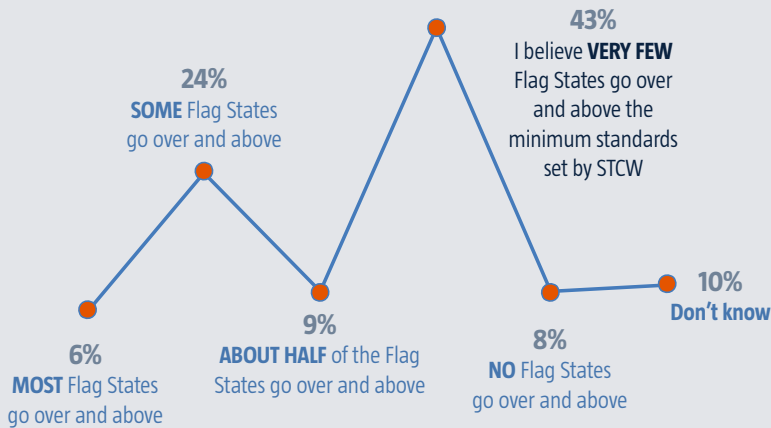
A master mariner stated:

“There is very out of date stuff being taught for mates and masters. It is only there to pass the exam and has no real use in the industry now... It does not relate to the modern job now as it stands.”

The areas where it was felt the Convention and Code as a whole were most lacking were:

- 1 Enforcement/differing standards
- 2 Hours of rest and crewing
- 3 Outdated topics
- 4 The revalidation/renewal process
- 5 General level required too low
- 6 The lack of mandatory requirement for electro technical officers (ETOs)

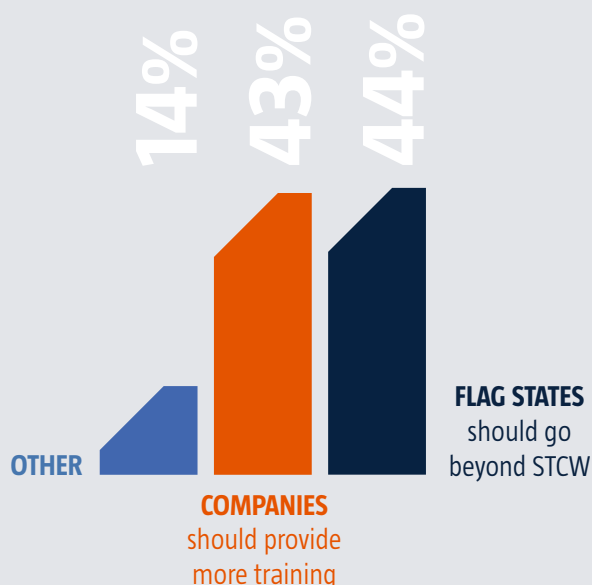
STCW is intended to set minimum standards
Which of the following statements do you believe is true:



Do you believe that a flag states' presence on the IMO whitelist is a reliable indicator that seafarers holding that CoC possess the required level of competency?



Do you believe it is the role of the flag state to go beyond STCW or should companies provide additional training?



Is a comprehensive review of STCW the answer?

Several perceived issues have been reported to IMO relating to seafarer competence and these have been used to justify the need for a comprehensive review of STCW. Yet STCW was only ever intended as a minimum acceptable standard and not the target level of competency. Experience gained on the job is an integral part of competency, along with knowledge and skills gained through training. If ship owners and/or flag states identify areas where additional training is required, they are free to implement any measures they see fit.

It may be that, in the face of ever-evolving training needs, the IMO's amendment process is found to be insufficiently agile to allow STCW to keep pace with developments.

When asked to grade flag state implementation of STCW only 6% of respondents felt that most flag states went beyond the bare minimum, while 33% believed that more than half did so. Another 43% believed that very few flag states went beyond the minimum, while 8% felt that there are no flag states that go beyond the minimum acceptable standard.

In fact, feedback received with regards to the STCW white list would suggest that seafarers are doubtful that some flag states are even meeting the minimum prescribed standards. Only one third agreed that a country's presence on the white list was a reliable indicator that seafarers holding a CoC from that country would possess the necessary competence.

When asked whether the responsibility for implementing standards above and beyond STCW should lie with the flag state or the company, opinion was split with 44% believing that this was flag states' responsibility while 43% believed it was the company's responsibility.

One respondent noted:

“The basic level should already be on a level that not much additional training is needed to create a level playing field amongst flag states.”

Another commented:

“STCW should set an acceptable standard, flag state should not need to add more – companies should want to invest more for improved returns.”

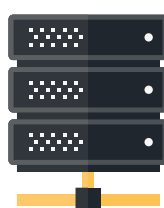
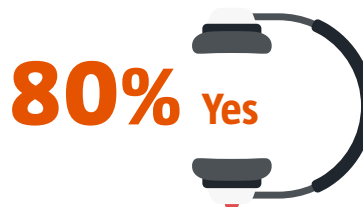
Future proofing

In addition to ensuring that STCW is fit for purpose for current vessels, discussions are also taking place to ensure it remains “future proof” and that seafarers are provided with the skills that will be required as their careers progress. A key part of this discussion is determining how developments in technology and increased automation will affect the skillset that is required from the seafarer of the future.

There was a clear consensus among respondents that STCW would need to be amended to take account of changes due to automation, with 80% in agreement.

When asked which skills would be required as automation increased, there was very strong opinion that general IT skills would be required in addition to more advanced electronic, systems

Should an Electro Technical Officer be a required member of the crew as vessels become highly automated?



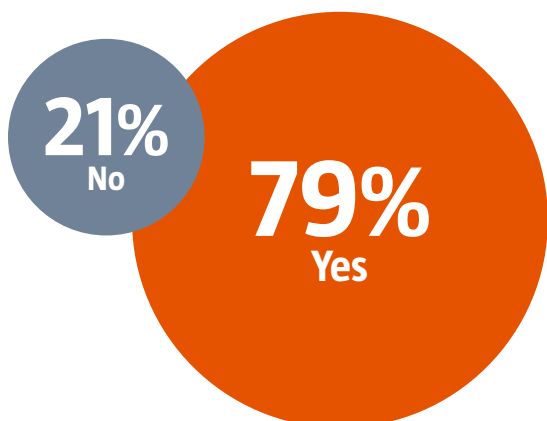
and networking skills, with 40% of respondents indicating a response to this effect. This recognition of the increased importance of more advanced electrical and digital skills translated into support for the mandatory carriage of certificated ETOs, with 80% agreeing that this would become necessary as ships became more advanced.

Several respondents pointed to the fact that as equipment becomes more technologically complex, the traditional division of roles into deck, engine and electrical may cease to be appropriate, with a number advocating for the widespread adoption of dual qualified officers.

One officer commented:

“There needs to be specific training of new/ incoming technologies. Technologies such as augmented reality have the potential to overwhelm unfamiliar users but used properly will greatly aid in a navigation officer’s ability to identify causes of concern. A move to a more dual ticket system may be of consideration for the future. If automation/ smart technologies develop to a point of requiring less bridge time this would allow for crew to carry out other duties. Basic ETO training may be appropriate for maintaining some of these systems.”

Do you believe that STCW will need to be amended in order to take account of changes caused by increased automation in the maritime sector?



It was also noted that as equipment becomes more sophisticated, there will be an increased need for type-specific training on individual systems.

One respondent noted:

“There will need to be more training on equipment. You see now that too many accidents are caused by, for instance, not knowing ECDIS sufficiently.”

Another commented:

“A major skill needs to be the understanding of how the automation/manipulation of data actually works so we can be aware of its limits. For any older slightly tech savvy officer it is actually easier to see the limitation since we slowly grew into it and still remember the old situation.”

The new skills that will be required were identified as:

- 1 General IT/systems/networking**
- 2 System-specific training**
- 3 Increased academic/soft skills**
- 4 Dual qualified/multi discipline seafarers**
- 5 Cyber security**

As part of the ongoing automation debate it has been suggested that there is a possibility of ships of the future being remotely operated from shore. This opens several questions as to what qualifications a shore controller should have and who should be responsible for implementing and enforcing standards.

When asked what qualifications a shore controller should have there was quite a variety of answers. However, a large majority felt they would require at least some practical experience at sea, with the most popular view being that the shore controller should be qualified to at least OOW level.

A significant number felt that master unlimited would be the appropriate level but questioned where the long-term supply of experienced mariners would come from if the concept was widely adopted:

“Shipboard experience is a must. Ideally a masters license, although this is not sustainable as no one would be able to advance if all ships were autonomous.”

There was also significant support for the idea that additional training would be required on top of maritime experience, with one respondent commenting:

“They would need to be the same as a master mariner, plus specialist training regarding automation technology.”

Whilst another stated:

“They must be organised in teams with both nautical and engineering competence. The requirement would be beyond today’s STCW requirements.”

Some even felt that entirely new programmes would need to be developed which could include: ***“A specific training package drawn from all three major specialisations that currently exist (ETO, deck & ME) so system diagnostic can effectively be conducted while maintaining traditional navigational safety oversight.”***

On the subject of who should be responsible for regulating the shore controller the picture was much clearer, with 68% feeling that this should be down to IMO and only 15% stating that this should be the flag state’s responsibility.

Do you believe the qualifications required for potential ‘shoreside controllers’ should be stipulated by STCW or Flag States?

68%
STCW
(via IMO)

17%
Don’t know

15%
Flag states

Conclusions

The results of the survey suggest that seafarers believe the STCW Convention and Code should be revised. Only 39% agreed that the current STCW covers the skills that are needed for today's maritime industry and a similar percentage agreed that the STCW in its current form is fit for purpose.

Respondents identified several areas where skills are lacking in STCW, including IT and computer skills, soft skills and interpersonal skills, familiarity with modern marine equipment and knowledge of new propulsion systems and fuels.

Feedback suggests that seafarers agree about the perceived lack of competence among some seafarers, but their experience suggests that this cannot be put down to shortfalls in STCW alone with ship owner's focus on cost over competence being flagged by many.

When asked which areas seafarers' competencies were lacking, a large proportion indicated that deficiencies in basic skills, seamanship, experience and common sense were major problems. These are all competencies which you would expect a seafarer to have if they had completed a training programme meeting the minimum requirements of the STCW, which suggests that the solution to this problem is not related to the standards themselves but their implementation.

Indeed, feedback from respondents indicated that the primary reason for a perceived lack of competency among seafarers was due to inconsistency in implementation and enforcement of the minimum requirements by flag states, and ship owners knowingly prioritising crew cost over competence. This led to a situation where seafarers' competence is being called in to question by employers while administrations that attempt to rectify the situation by implementing a higher standard are put at a competitive disadvantage by those same employers.

Working conditions onboard play a significant part in the development of seafarers and the quality of training they receive. While this is in large part down to individual ship owners, STCW

has its part to play, as it is the convention from which maximum working hours are derived.

Excessive working hours and insufficient crew levels prevent officers from investing enough time in cadets' training and development. Poor working conditions contribute significantly to a high rate of turnover among crew, which often leads to the loss of highly experienced seafarers and to seafarers being promoted before they have gained enough experience to carry out more senior roles.

As STCW is the instrument that sets out the roles and responsibilities onboard, it would also be the most appropriate place to determine crewing requirements.

Although respondents felt that differences in STCW implementation cause the biggest concern, there was support for raising the overall standard, providing it is properly enforced to ensure a 'level playing field' for seafarers as well as ship owners.

There is clear consensus that STCW will need to be amended to consider the effects of automation and digitisation.

IT computing and networking were identified as key skills that will be in great demand in future and, as a result, there was recognition that the role of the ETO will become increasingly important. Many respondents even suggested that traditional distinctions between deck, engine and electrical departments will become obsolete and that seafarers will need to be multi-skilled.

Seafarers are sceptical about the concept of a remote-controlled ship operated from shore but feel strongly that if the concept does become reality that shore controllers should be an experienced mariner qualified to at least OOW standard, possibly with additional training and education on top.

The majority felt that STCW would continue to be the appropriate place to regulate those in control of merchant ships.

Next Steps

- 1** The IMO should carry out a comprehensive review of the STCW Convention to ensure that it remains relevant to the modern shipping industry and to raise the overall minimum acceptable standard for competent seafarers.
- 2** There should be a review into the system of reporting and monitoring of implementation of the STCW with the aim of introducing a system whereby the information contained in MSC.1/Circ.1163 (STCW white list) can be considered a useful and reliable indicator of the quality of the training provided by parties to the Convention.
- 3** There should be recognition of the responsibilities of ship owners and managers in the training of seafarers which include providing enough time to obtain the necessary experience and a working environment conducive to effective training and mentoring. In this regard, hours of work and rest and crewing should be considered within the scope of the STCW review.
- 4** Implementation of any amendments to STCW should be arranged in such a way so as to minimise the financial burden on individual seafarers.
- 5** Recognition should be given to the increasing importance of the role of ETO by its inclusion on the safe manning certificate and the development of a senior ETO certificate of competency.
- 6** The principle should be established that any shore-side controller should be qualified at least up to OOW level and the standards for their training and certification should be incorporated within the STCW.

Contacts

Nautilus Federation

1 & 2 The Shrubberies
George Lane, South Woodford
London E18 1BD, UK
T: +44 (0)20 8989 6677

www.nautilusfederation.org

Nautilus International (UK)
www.nautilusint.org/eng

Australian Institute of Marine & Power Engineers
(AIMPE)
www.aimpe.asn.au

Australian Maritime Officers Union (AMOU)
www.amou.com.au

ACV – Transcom – Belgium
www.acv-transcom.acv-online.be

Seafarer's Union of Croatia (SPH)
www.sph.hr

Fédération Générale des Transports et de
L'Environnement (FGTE-CFDT)
www.cfdt-transports-environnement.fr

Danish Maritime Officers
www.soefartensledere.dk

The Finnish Ship's Officers' Union
www.seacommand.fi

Merchant Navy Officers's Guild – Hong Kong
(MNOG – HK)
www.mnogk.org

Nautilus International (NL)
www.nautilusint.org/nl

New Zealand Merchant Service Guild (NZMSG)
www.nzmsg.co.nz

Singapore Maritime Officer's Union
www.smou.org.sg

Singapore Organisation of Seamen (SOS)
sosea.org.sg

Officers' Union of International Seamen (OUIS)

International Organisation of Masters, Mates and
Pilots (IOMMP) – USA
www.bridgedeck.org

Marine Engineers' Beneficial Association (MEBA)
– USA
www.mebaunion.org/MEBA

Sjöbefälsföreningen Maritime Officers' Association
www.sjobefalsforeningen.se

Nautilus International (CH)
www.nautilusint.org/ch

Unión de Capitanes Y Oficiales de Cubierta (UCOC)

Unión de Ingenieros Marinos (UIM)

Norwegian Union of Marine Engineers (NUME)
www.dnmf.no

Other important organisations

International Transport Workers' Federation (ITF)
www.itfglobal.org

European Transport Workers' Federation (ETF)
www.etf-europe.org

International Federation of Ship Masters
Associations (IFSMA)
www.ifsma.org



STCW Survey 2020

Nautilus Federation report on the International Maritime Organization's
International Convention on Standards of Training Certification and Watchkeeping



1 & 2 The Shrubberies
George Lane, South Woodford
London E18 1BD, UK

T: +44 (0)20 8989 6677

www.nautilusfederation.org