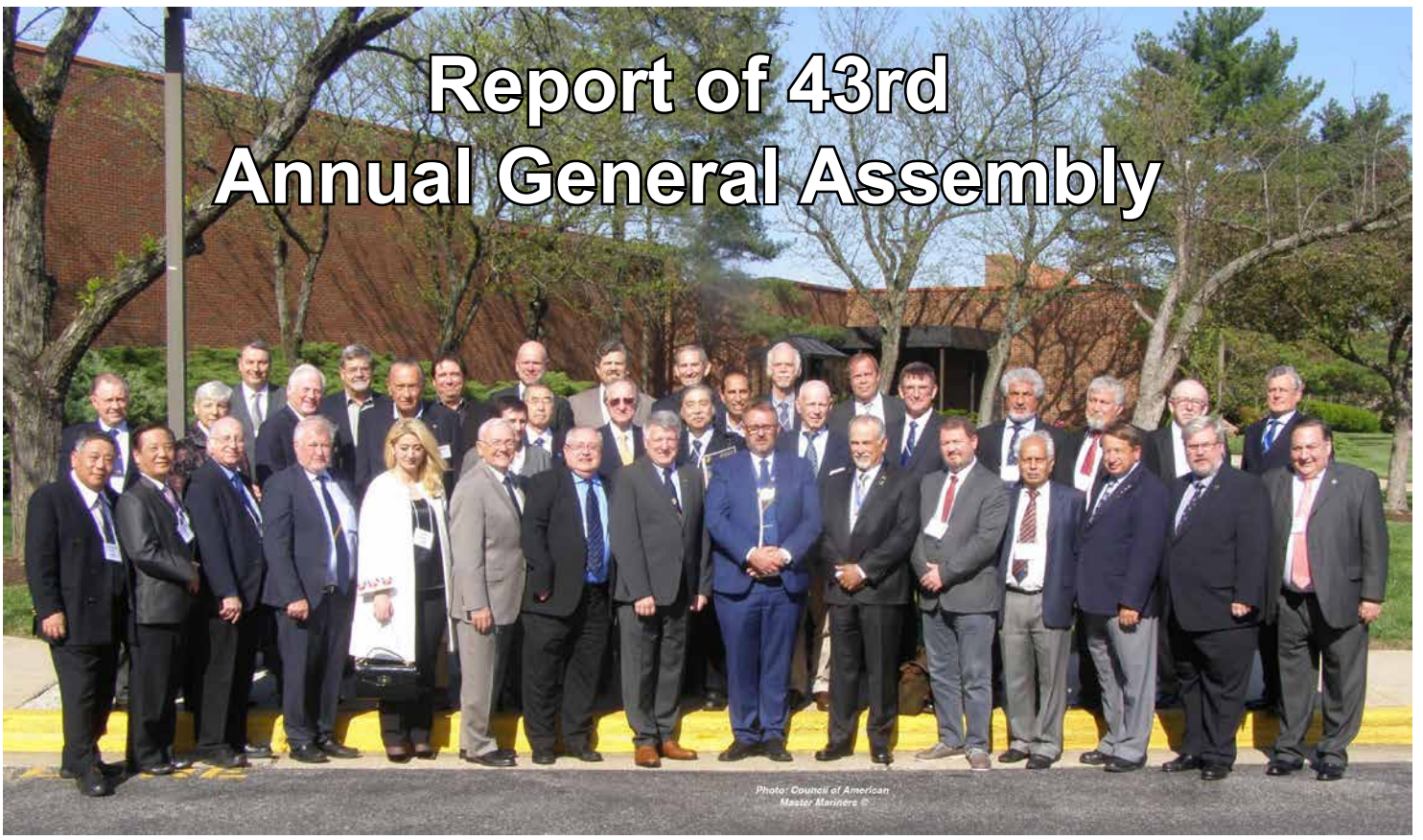



# Report of 43rd Annual General Assembly

## Held at
## MITAGS, Baltimore, USA
### 18th and 19th April 2017

**Table of Contents**



**Annexes**



Other documents from the AGA which are too bulky to include in this document are referenced and linked in the report and available from the IFSMA website.


**International Federation of Shipmasters' Associations**

202 Lambeth Road • London SE1 7JY • United Kingdom
Phone: +44 20 7261 0450 • Email: HQ@ifsma.org • Website: www.ifsma.org
Facebook: www.Facebook.com/ifsma • Twitter: twitter.com/ifsma • YouTube: www.youtube.com/ifsma • LinkedIn: "Secretary General IFSMA"

# MINUTES OF THE
# 43rd ANNUAL GENERAL ASSEMBLY
# held at MITAGS, in Baltimore, USA

*Some of the photographs used kindly provided by CAMM*

The 43rd Annual General Assembly was held at the Maritime Institute of Technology & Graduate Studies (MITAGS), on Tuesday 18th and Wednesday 19th April 2017 at the invitation of IFSMA association member Council of American Master Mariners (CAMM).

## LIST OF DELEGATES

**EXECUTIVE COUNCIL**

| | |
|---|---|
| Hans Sande (Norway) | President |
| Willi Wittig (Germany) | Deputy President |
| Koichi Akatsuka (Japan) | Vice President |
| Marcos Castro (Argentina) | Vice President |
| Fritz Ganzhorn (Denmark) | Vice President |
| Cal Hunziker (USA) | Vice President |

**MEMBERS OF ASSOCIATIONS (Listed by country and alphabetically)**

| | | |
|---|---|---|
| Marcos Castro | CCUOMM & ExCo | Argentina |
| John McCann | CMMC | Canada |
| Juan Gamper | Nautilus | Chile |
| Fritz Ganzhorn | DMO & ExCo | Denmark |
| Danielle Quaini | HYDROS | France |
| Willi Wittig | VDKS & Deputy President | Germany |
| Bob Kieran | IIMM | Ireland |
| Sudhir Subhedar | CMMI | India |
| Koichi Akatsuka | JCA & ExCo | Japan |
| Hasami Yokomizo | JCA | Japan |
| Jadzeps Spridzans | LSMA | Latvia |
| Mark Dickinson | Nautilus International (NL) | Netherlands |
| Morten Kveim | NMOA | Norway |
| Hans Sande | NMOA & President | Norway |
| Mehmet Birol Bayrakdar | TOGSMA | Turkey |
| Tuğsan Işiaçik Çolak | TOGSMA | Turkey |
| Can Kiraç | TOGSMA | Turkey |
| Tuncay Saral | TOGSMA | Turkey |
| Ömer Salci | TOGSMA | Turkey |
| Allan Graveson | Nautilus International (UK) | UK |
| Manny Aschemeyer | CAMM | USA |
| Dave Boatner | CAMM | USA |
| Chris Carson | CAMM | USA |
| John A C Cartner | CAMM | USA |
| Kevin Coulombe | CAMM | USA |
| Jeff Cowan | CAMM, President | USA |
| Curtis Fitzgerald | CAMM | USA |
| Ed Gras | CAMM (Guest) | USA |
| Joe Hartnett | CAMM | USA |

| | | |
|---|---|---|
| Calvin Hunziker | CAMM & ExCo | USA |
| R J Klein | CAMM | USA |
| Peter Langbein | CAMM (Guest) | Germany |
| Rich Madden | CAMM | USA |
| Patrick Maloney | CAMM | USA |
| Richard Moore | CAMM | USA |
| Lyn McClelland | CAMM | USA |
| Mike Murphy | CAMM | USA |
| Sinclair Oubre | CAMM | USA |
| Glen Paine | CAMM, Exec Dir MITAGS & CCMIT | USA |
| George Quick | CAMM | USA |
| George Sandberg | CAMM | USA |
| Christian Spain | CAMM | USA |
| Janet Walsh | CAMM | USA |

**INDIVIDUAL MEMBERS**

| | |
|---|---|
| Koichi Akatsuka | Japan (JCA & Ind Member &Vice President) |
| John A C Cartner | USA (CAMM & Ind Member) |
| Paul Owen | UK (Ind Mem & Secretariat) |
| Sudhir Subhedar | India (CMMI & Ind Member) |

**SECRETARIAT**

| | |
|---|---|
| Commodore Jim Scorer | Secretary General |
| Captain Paul Owen | Assistant Secretary General |

**OBSERVERS**

| | |
|---|---|
| Captain Tair-Chung ANN | Master Mariners Association, RoC |
| Captain Kuo-Liang LEE | Master Mariners Association, RoC |

**GUEST SPEAKER**

| | |
|---|---|
| Tor Husjord | Maritime Forum North, Norway |

A list of apologies received is held at the IFSMA Office.

**AGENDA ITEM 1 – Welcome**

Captain Jeff Cowan, President of Council of American Master Mariners (CAMM), welcomed all present to the 43rd Annual General Assembly, being held in the Maritime Institute of Technology & Graduate Studies in Baltimore, Maryland, USA. Father Sinclair Oubre, the Council's Chaplain, gave an opening prayer. Captain Cowan outlined the programme arranged for members and their partners during the next two days and wished all a fruitful meeting.

Captain Hans Sande, IFSMA President, replied to Captain Cowan, thanking him for CAMM's invitation to the excellent venue at MITAGS and for his warm welcome. He welcomed the two observers from the Master Mariners Association of Taiwan, RoC. He

thanked the Turkish Association for their splendid hosting of last year's AGA and mentioned our Turkish members are celebrating the 40th Anniversary of their Nautical University. Hans introduced IFSMA to those who were not familiar with the Federation. He urged affiliated associations to join us attending at IMO meetings or at least to send their comments prior to IMO meetings so they can be taken into account during the meetings. He highlighted one area, autonomous ships, where he felt we need to take strong action and asked if we should oppose or support this direction for future ships and how should we do it. His final point, we used to talk of Shipowners, today we talk of Shipmanagers, with now 80% of the world fleet controlled by Shipmanagers. The times when the Shipmaster was considered to be the owner's representative have changed dramatically, the introduction of the ISM Code was supposed to address this problem, but sadly it has not done so yet. We must constantly remind ourselves that shipping is not all about nuts, bolts and lots of technology, but also about people. If we do not succeed in ensuring fair treatment of seafarers, and a safe working environment, then the talented youth of the future will not invest their time in our industry. Most of the Shipmasters today are working on temporary contracts and their employment may be terminated for any reason. This causes enormous pressure on Shipmasters and can affect their decision making. During the next two days we will have presentations of professional papers and he thanked all those presenters. He then declared the 43rd Annual General Assembly open.

**AGENDA ITEM 2 – Adoption of Agenda**

The Agenda was adopted without amendment.

**AGENDA ITEM 3 – Establishment of the Drafting Group**

Willi Wittig, Deputy President, introduced this item and proposed that Allan Graveson, Calvin Hunziker join him in the Drafting Group. The proposal was agreed.

***The Secretary General, Jim Scorer, then introduced the first speaker.***

***Questions and Answers (Q&A) sessions are reported in a summarised form.***

**AGENDA ITEM 4 – Administrative Burden**

**Presented by Fritz Ganzhorn,**
**Danish Maritime Officers & IFSMA Vice President**

***See Annex B for slides presented.***

**Q&A** (summarised)

**Pat Moloney** asked why Ukraine was so well represented in the study. **Fritz** replied that the survey was pushed by INTERMANAGER who have lots of Ukrainian officers on board their members' ships. **Jeff Cowan** remarked that non-conformities, when he was sailing, only went one way, if I wrote a non-conformity I was a bad person. **Fritz** responded that in the tanker business it is possible to speak your case, to show that the non-conformity should have been taken care of by the company thereby shifting action to the shore. Danish shipmasters are on individual contracts and have a discussion each year on their bonus so it is important

that any non-conformities are not the masters. **Ed Gras** Companies ashore do not employ former shipmasters. Is this part of problem? **Fritz** agreed that this is a huge problem. He gave the example of garbage bags and spare lantern bulbs not being supplied when a ship is over budget which causes problems for the ship during PSC inspections. **John McCann** asked if there were any conclusions on manning and fatigue. **Fritz** this was not considered. The effect of running a ship on checklists, always focus on being in compliance with checklists which takes away the 'looking out of the window' to see if the ship is still safe. **Peter Langbein** Asked about the European Single Window. **Fritz** agreed there is a discussion on how to use E-Nav, it should be possible to collect data from the vessel automatically to relive the administrative burden on the ship. **Kevin Coulombe** remarked that converting crew evaluations and rest periods to computer data is very time consuming. **Paul Owen** Observation – the Danish Administration announced recently in IMO that they only issue electronic certificates these days. **Kuo-Liang Lee** – Agreed with the study and asked if the results of the study had been sent to the IMO. **Fritz**, replied yes, in 2012, concluded that, in particular, the ISPS code could be better explained to masters. **Sudhir Subhedar** asked if the ISM Code could be revisited to make it better to address the conclusions from the questionnaire. **Fritz** replied that it is important that the human factor is always considered when discussing matters that affect the crew. He mentioned the safety2 study. Have your actions improved safety, often not.

**AGENDA ITEM 5 – Introduction of the new IFSMA Promotional Video**

The Secretary General introduced this topic. The key to the success of IFSMA is to have an effective communications strategy, to raise our profile around the world, to demonstrate to those Shipmasters' Associations who have not yet joined IFSMA why they should join us and IFSMAs battle to improve the lot of the Shipmaster at the very highest level, at the IMO and other international bodies. In recent months, with the help of the Norwegian Maritime Officers' Association and the Danish Maritime Officers, we have been producing a number of short videos we will use to showcase our work on your behalf. He had hoped to show all of these, but unfortunately there has been a slight delay with the person making the videos. However, he hoped they would be in production again before the end of the month.

The aim will be to use these as promotional videos on social and other media. They will be available on our website to enable you to help raise our profile as the international voice of the Shipmaster and we would welcome your feedback on them.

The first of the videos was shown.

**AGENDA ITEM 6 – Maritime Cyber Threats**

**Presented by Tuğsan Işiaçik Çolak, Turkish Ocean Going Masters' Association (TOGMA)**

***See Annex C for the written paper.***
***For a PDF version of the presentation visit*** **http://tinyurl.com/ycv3ozqd**

**Q&A** (summarised)

**Jeff Cowan** remarked that a lot of this can be overcome by having the crew look out the window. **Tuğsan** replied people do need to look out of the window to see what is happening. But these threats are not seen out of the window. **Allan Graveson** commented that increasingly today on ships we are using technology, he asked do you think we can overcome hacking by the development of quantum communications and do you think it will come sooner or later. **Tuğsan** replied not necessarily, communications are all around the world, we must protect ourselves from the threats. **Kevin Coloumbe** asked what is the biggest threat, geopolitical or terrorist. **Tuğsan** replied that she did not think you can separate the two. **Jim Scorer** remarked that this is a very interesting subject. He gave the example of GPS which has a tiny signal which is incredibly easy to interrupt. A jammer the size of a cigarette packet can jam the whole of the Dover Strait. In a trial undertaken in the UK a jammer with 20 watts output was able to jam an area with a radius of 50 miles. He added that it is important to have systems in place to stop jamming. **Tuğsan** suggested that we need a backup to GPS to overcome the jamming threat.

**AGENDA ITEM 7 – Some Thoughts on Autonomous Ships in the Future**

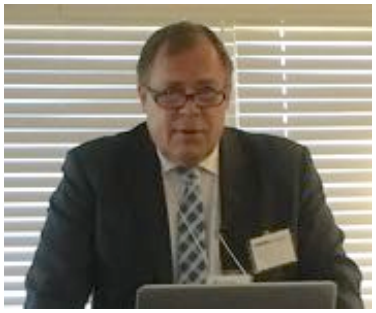
**Presented by George Quick,**
**Council of American Master Mariners (CAMM)**

***See Annex D for the written paper.***
***For a PDF version of the presentation visit***
***http://tinyurl.com/ya4ogrxe***

**Q&A** (summarised)

**Chris Carson** Said he was sceptical of unmanned ships with their technological limitations, radar that can differentiate between ship and rain squall, and every ship has fires. Pirates must be waiting eagerly for these ships. He remarked that he recalled a Maersk container vessel some years ago that tried to sail with 11 crew members, however, with the need to monitor refrigerated containers etc., and fight fires, it was concluded that this was not enough crew. He added that he doesn't believe they are viable and he was against this. **George** replied that vendors are enthusiastic, shipowners are sceptical, crew costs of between 6% - 8% of running costs does not make them viable. **Fritz Ganzhorn** Noted that such vessels would reduce human error. He did not know if those in influence, who have not sailed, know how many times humans have saved the technical part of ship systems, otherwise there could be many more disasters. Shipowners are way ahead of road transport where we will soon have autonomous truck drivers, this would revolutionise the unmanned future and could affect shipping. **Mark Dickinson** Remarked we must stay focused on this future and not be complacent, embracing technology has always been one of our strengths, must focus on the positive benefits and enhancing safety. He emphasised the importance of IFSMA joining with ITF to form a common strategy at IMO to make sure it serves our profession. **George** replied that ITF and IFSMA have always worked closely at IMO.

**AGENDA ITEM 8 – Autonomous Ships in Norway**



**Presented by Morten Kveim, Norwegian Maritime Officers Association (NMOA)**

***See Annex E for slides presented.***

Questions were carried forward to the next agenda item.

**AGENDA ITEM 9 – Discussion on Autonomous Ships in the Future**

Secretary General, **Jim Scorer**, introduced the discussion. He mentioned the UK led Regulatory Working Group (RWG) on the development of Autonomous Ships which in turn was led by the UK Maritime and Coastguard Agency. However, there are many other countries involved, he gave the examples of Sweden, Japan, Korea, United States and others. They are developing a Code of Conduct. He had advised the RCG, who were mostly made up of technicians, that they need a Shipmaster involved to get this right and avoid major problems. This subject had also caught the interest of the IMO Secretary General. He explained that he had been able to give some input into the debate. We need to make people aware of these vessels so they are recognised Internationally, but they have to fit into our environment. He had asked for feedback in our newsletters so your views can be represented, so far he had not received any. We also need your assistance at IMO to put the Shipmasters' view on the technical issues, as we cannot do this on our own in the Secretariat and also to agree our position with the ITF and others. The Shipowners, through the International Chamber of Shipping (ICS) had no representative on the RCG, additionally they were invited to the conference where their view was that there is no business case for these ships. Costs would be high to develop these new types of vessel. Business justification will come at some stage in the future, international regulations and Shipmasters need to be ready. He then invited a discussion on this subject:

**Notes from the discussion** (abbreviated)

**Jeff Cowan** stated that two years ago he participated in a US Navigation Advisory Committee which produced guidelines on collision regulations. They decided to use the "R" flag and Morse Code ".-." to identify an unmanned autonomous vessel which will take all way off the vessel when in vicinity of another vessel. A vessel needs a crew to moor the vessel. Having started the conversation, he invited others to finish it. **Chris Carson**, asked George Quick where will the vessel be piloted or conned from. **George Quick** answered that we don't know, adding that we haven't got there yet. **Allan Graveson** Commented that this was a very interesting debate, we are now embarking on the 4th industrial revolution. He added that water surface transport is the most difficult to automate due to the high density of traffic. Navigation is a difficult area with reliance on GPS. Complex engineering is the main problem. Crew are 6% of costs including capital costs. This technology can either enslave us or liberate us. Regarding existing autonomous vessels, he gave examples of unmanned minesweepers and robots that went into enclosed spaces. He concluded that we should get the technology to work for us, we should embrace it and not fight against it. **Morten Kveim** suggested a step by step approach, e.g. unmanned ships for ocean crossings. **Peter Langbein** Gave feedback from a conference he attended. Mentioned 3D printers for printing a ships'

own spare parts. Driven by technology companies. In adverse conditions masters rely on their skills to make decisions. Wait to see what the technology can provide, but it should not replace our experience or skills. **Fritz Ganzhorn** said his thoughts were in line with Allan Graveson, BUT what will the future be – it is important that IFSMA and ITF join the debate. There is a long way to go. Ultimately, nobody on board, how do we define liability. On another level, we should discuss how to define command of vessels. Education and certification are the key elements. In his opinion on a fully autonomous ship the liability should lie with the manufacturer. **Hans Sande** said there was no logical reason why we should have Autonomous Ships, if there is one thing we will have enough of in the future it is people. We need reliable sensor technology to remove humans. If a vessel was properly managed and manned 80% of existing accidents could be avoided. He added that the manufacturers are driving this autonomous ship campaign. He did not see a sudden change to number of persons on board, but as in the past, a gradual reduction in the number of crew carried.

**Jim Scorer** summed up the discussion and concluded that there is a long way to go.

**AGENDA ITEM 10 – To the Master's Satisfaction.**

**By Allan Graveson, Nautilus International (UK).**

***See Annex F for the written paper.***
***For a PDF version of the presentation visit***
***http://tinyurl.com/y7bx3skq***

Allan commenced his presentation by explaining that his subject was proposed by Nautilus International's members, in particular some of their female members.

**Q&A** (summarised)

**Calvin Hunziker** we are only allowed approved equipment onboard and such approval may be 40 years old, he asked what can you do? **Allan** replied that this is exactly the question he is posing today. There is a duty to lobby and argue with your regulators for updating of standards. **Peter Langbein** Commented that this was a very useful topic which he had not thought about. He serves on a lifeboat in Germany, they are constantly testing new equipment and we give feedback. Asked if crew could be issued with and carry their own equipment, if airlines permit. **Allan** replied that firefighting suits are a difficult situation – as for survival suits, everyone has the right to survive. Not possible for everyone to have their own equipment but suggested there should be a variety of sizes available on board. He concluded that one of the keys to solving the problem is the ***onboard Safety Committee***.

**AGENDA ITEM 11 – New Password Systems for Members' on IFSMA Website**

The Assistant Secretary General, **Paul Owen**, introduced the concept of a Member's Password system to control certain areas of the IFSMA website to limit information pages to viewing by Members only to emphasise the need to be a Member of IFSMA to receive the full benefits of membership, including: IMO Reports, Newsletter, AGA Reports, and other information pages intended for Members only.

He demonstrated one system using a common password for all users and concluded that this was not satisfactory due to the need to change the password every time a member

(Association or Individual) resigned. The alternative was to control access by using a password for each individual member (Association or Individual) with an appropriate database and control system for the issue and deletion of passwords.

**Q&A** (summarised)

In reply to a question on implementation date he replied that it was intended to implement the new password system within two months.

**AGENDA ITEM 12 – Criminalisation of the Shipmaster**

**Presented by John A C Cartner, Council of American Master Mariners (CAMM)**

***No paper available for this presentation.***

**Q&A** (summarised)

**Paul Owen** asked for his views on the Zim Mexico III incident. **John** recalled this was an incident when the Shipmaster was arrested and jailed following the collision of his vessel with the wharf and colliding with a container crane and the wrongful death of a maintenance worker in the crane. The Master was arrested using a 19th century law and eventually released. He added that it is not always clear if criminalisation of the master took place. **Chris Carson** Asked a question on weather related incidents, in particular the loss of the vessel El Faro and mentioned that anyone has the ability to sue the Master for a wrongful death. **John** replied for the El Faro sinking the decisions of the Master may be an issue, whichever side you take, the act of suing is often a way of achieving an insurance pay-out. He added that this was not a new phenomenon. **Allan Graveson** asked if in some cases the financial aspects, in particular the working of P&I or Insurance in English and American markets, as opposed to the way it works in e.g. Scandinavia and China, pervert the process and criminalise the Master for financial gain of one party. Secondly, criminalising, or attacking his reputation, where the Master is lost to cover up for the failings of the regulator for allowing the vessel to be at sea. **John** Replied that the Spanish Government (Prestige) should have been and was rightly embarrassed, they attempted to sacrifice the master, it ruined his career and foreshortened his life. The Government, and ABS, came out smelling bad on this one. With P&I insurance barratry is an insurable item, misbehaviour of the master is rarely questioned, the claim is just paid. Rarely is a case so large as to make a huge difference to the master. He referred to a thesis in the 1990's "Shipmaster, Financial Pawn" where it was demonstrated that the master can be caught in the money game, but the reality is that the insurance company does not care one way or the other, their business is to take in money and pay out, as long the former exceeds the latter, they will have a good year.

**AGENDA ITEM 13 – Search and Rescue in the High North**

**Presented by Tor Husjord, Maritime Forum North**

***See Annex G for the written paper.***
***For a PDF version of the presentation visit***
***http://tinyurl.com/ybk9ecaj***

**Q&A** (summarised)

**Lyn McCleland** Asked what is the relationship with the American Incident Organisation **Tor** Replied that Americans are very active in this area. There are American partners in phase 3. **Lyn McCleland** Continued by asking if there are common parts which can be adapted to fit an incident. **Tor** Replied that they use the same systems. Everything is moving north, oil and gas, fishing, etc. **Fritz Ganzhorn** Remarked that activity in the arctic areas is way ahead of the preparedness of the nations, in Denmark we regulate Greenland, imposed compulsory pilotage and two cruise ships have to go in convoy, is Norway the same? Requirement for the ability to survive for five days with the present state of safety equipment on board, how long can you survive? **Tor** Replied that they have a small group that work with this, in Norway they are looking into two vessel convoys but so far this is not a requirement. We have two Danish partners, we learn a lot from these partners. We are far away from taking care of a big accident when it happens, with a big gap between reality and dreams. **Jeff Cowan** Asked if they have held any drills? **Tor** Replied that a Norwegian drill using a Norwegian Icebreaker will take place this year with about 60 people taken onto ice to see how they survive. **Jeff Cowan** Asked how often such drills be scheduled. **Tor**- Answered that in last four years they have had four drills.

***Due to the unavailability of the original speaker, Agenda 14 changed to the following.***

**AGENDA ITEM 14 – Maritime Labour Convention an ITF Perspective**

**Presented by Mark Dickinson, Nautilus International (Netherlands)**

***The Presentation may be viewed online here:***
http://prezi.com/aifyhtx9wi9a/?utm_campaign=share&utm_medium=copy
***or for a PDF version of the presentation visit http://tinyurl.com/ya6x9g2k***

**Q&A** (summarised)

**Jeff Cowan** commented that with minimum safe manning certificates, either it's safe or it's not. The crew should be able to cover contingencies. **Mark** considered that this term is an oxymoron. The IMO Resolution on safe manning has been revised at least twice, each time the ITF fight to get improvements, to persuade Governments, it's clear it should be safe and not minimum, for example, you have obligations to mount rescue operations in the arctic. Ships are manned to get from A to B and it is wrong, manning should take account of those extra issues. **John Cartner** said this is the minimum number of people to move the ship, and has nothing to do with working cargo, etc. He added that the MLC is best convention he's ever read, saying that it clarifies and reinforces the position of the master as the magistrate of the vessel. **George Quick** said guidelines on minimum safe manning have been updated, regarding the debate on whether we should keep 'minimum' in the title, he couldn't make up his mind. Operational manning is the standard. **Koichi Akatsuka** noted that Japan experiences difficulties for masters to comply with hours of work requirements. Authorities

pick up minor infringements and penalise the master. When ships have three watchkeeping officers for the bridge, masters should be exempted from the requirements of this convention or minimum safe manning should require two masters on board. **Mark** replied that he had a vague memory of discussions with JSU and JSA on the master's responsibilities. Clearly of the view that the MLC would not require the carriage of an extra master. Never made any adjustments to the conventions to take account of master's duties. **Allan Graveson** Added, there is provision in MLC for collective agreements where you can make a delegation. The STCW does not allow exceptions. If more than (98 hours) then you could be in contravention of MLC. **Mark** commented that this was primarily to accommodate short sea shipping. **Allan Graveson** said that on his last ship (RoRo, short sea ferry) the Master was in the habit of handing over command to the Chief Officer/Master in the official logbook, so they effectively had two masters on board.

**AGENDA ITEM 15 – Adoption of the Minutes to the 42nd AGA, Istanbul, Turkey**

Jim Scorer, Secretary General, introduced this item and asked for any amendments or other comments related to the minutes to the 42nd AGA held in Istanbul on 25/26 May 2016, there were none

The minutes were approved on the proposal of Fritz Ganzhorn and seconded by Sudhir Subhedar.

**AGENDA ITEM 16 – Matters Arising from the Minutes of the 42nd AGA**

No matters were raised.

**AGENDA ITEM 17 – Report by the Secretary General**

Jim Scorer, Secretary General, presented the report for his first year as Secretary General.

***See Annex A for the written report.***

**Allan Graveson** – Thanked Jim for his kind words. Have seen three previous Secretary Generals at IMO and you have spoken with competence and authority and have gained the respect and trust of those at IMO and you should be commended. However, he found it particularly distasteful that we are supporting Global Best Management Practices (GBMP) and noted that a significant number of Governments are against this. He continued that you can put your name to a paper or you can sit back and support it with qualification. He thought that it was a scurrilous document that undermines BMP4. Another point he raised is that working with other NGOs you have to be careful, you can play back what delegates to IMO say during the various meetings. He asked why we supported GBMP and suggested that there is a middle road where we can sit back and save our comments for later for the debate. **Jim** Replied that if you wanted to change something it was important to have a seat at the table. We felt it was an improvement on BMP4, he explained that he had taken it to ExCo, explaining the situation, and ExCo had agreed that we sign up to it. ICS have called a meeting next month which he would be attending to further influence and develop GBMP. **Hans** said he was in the Norwegian Working Group that considered this problem, and could not see any difficulties. **Jim** Regarding other NGO's he mentioned that Kitak Lim (SG of IMO) is very keen on the Human Element, such that during his tenure at IMO he wants to bring in something meaningful on the Human Element. He added that all the subjects we need to promote at the IMO are incredibly difficult to raise. If

he can get all the relevant NGOs in one room together to have a frank and free discussion, to see if there are any key issues we can agree on and take the result to Kitak Lim to help us achieve them.

**AGENDA ITEM 18 – IFSMA Accounts 2016**

Paul Owen (acting as Treasurer) drew attention to the financial reports in the booklet handed to attendees. Firstly, he referred to the 2016 Approved Budget page which contained the 2016 budget together with the actual figures for 2016. He remarked that the income from associations is £14,900 below budget which was due to the resignation of two associations, SAMMSA (South Africa) and SINDMAR (Brazil) as well as non-payment of subscription by FILCAPTS, AMOSUP (both Philippines), MSMA and FESMA (both Russia). The Individual Member income was below budget by £1,990 due to (in his opinion) an unrealistic budget figure together with a drop in the number of Individual Members. The over expenditure on accommodation was due to an increase in service charges, the over expenditure on Executive Council meetings was due to increased expenses, the over expenditure on Travel was due to the Secretary General being required to attend additional meetings in Europe and savings on staff costs was due to Secretary General not being appointed until May 2016 and the absence of an Office Manager throughout.

The 2016 Balance Sheet showed total assets of £175,103 which includes £75,000 invested in UK Government Treasury Bonds

He drew attention to the Honorary Auditors Report dated 7th April 2017 which agreed with the figures in the previous two pages.

He noted that the Honorary Auditor, Captain Rodger MacDonald, had agreed to offer his services again for 2017 audit.

The accounts and Honorary Auditor's reappointment were agreed on the proposal of John McCann and seconded by Calvin Hunziker.

**AGENDA ITEM 19 – Proposed Budget for 2018**

Paul Owen (acting as Treasurer), presented the proposed budget for 2018. He noted the figures presented needed one amendment, the Media expenditure for 2018 should be £2,000 and not £200 as presented, the total expenditure should therefore be revised up to £91,494.

The budget for 2018 was approved on the proposal of Calvin Hunziker and seconded by Fritz Ganzhorn.

**AGENDA ITEM 20 – Amendment to Statutes and Bye-Laws**

**Presented by the Secretary General, Jim Scorer**

Jim Scorer gave a presentation outlining the details of, and reasons for, the proposal to amend the Statutes and Bye-Laws to add new membership categories for **Industrial Members** and **Associate Members**.

**Hans Sande** explained that we had discussed this in the Executive Council and asked members to support the proposal.

**Allan Graveson** said he took a neutral position seeking reassurance, there was always a potential for passive control and opportunity for abuse. He gave the example of CHIRP noting that the supporters were sufficiently distant so as not to have a direct influence. The inclusion of Shipowners and P&I clubs would concern him. He applauded links with some organizations. He concluded that if he can have reassurance he will vote yes. **Hans** replied that we do not know the full details of what we are getting into but gave assurance that we will guard against any conflicts of interest. **Jim** added that we have not tested the water yet, so do not know if it will work, but if it does work IFSMA will be more effective. **Sudhir Subhedar** noted that in India they have already introduced corporate membership, adding that two council members are required to approve applications. **Hans** Replied that he believed ExCo was the proper body to approve any applications for the proposed new categories of membership. **Calvin Hunziker** (member of ExCo) stated that they would not allow any shipping company or other company member to become a member if it would detrimental to IFSMA, he believed that he also spoke for the rest of ExCo. **Willi Wittig** stated that his association, VDKS (Germany), has opposition to these new membership categories, and fears the independence of IFSMA as the voice of the Shipmaster might be affected, to avoid this happening we must have a system in place to carefully select who would be approached for these new categories of IFSMA membership and that we need to make sure that there is a fair distribution of these potential members as we are not a supporter of any particular sector in the industry. He concluded that, personally he does not see manufacturers queuing up to become members as they already have access to IMO though their specialised NGOs, and that we should promote our intellectual knowledge to attract them, if they were a member it would be difficult to say no to them. **Jim** Pointed out that access to the database of Shipmasters is not available to IFSMA, this belongs to the Member Associations and this arrangement should be protected. **Mark Dickinson** Stated that, like Allan Graveson, he was neutral on the proposal, but as we have some financial challenges he was prepared to support the proposal. He was a little concerned that we should retain a balance. ExCo and Secretariat need to be free to exercise judgment. **Hans** commented that we might have an industrial member who says 'you must exclude him' but that cannot happen. Our job is to inform the public on the importance of the Shipmasters. Our challenge, or what we are going to sell, is the ability of industry to tap the knowledge of our Shipmaster members who use their equipment or services. He agreed that we need to be careful and not run the errands of Industrial Members. If ExCo practices sound judgement then he believed we would succeed. **Willi Wittig** Stated that returning to Jim's comment on access to members, by extension the new members would also not have direct access to the Shipmaster members, so we could not promise anything. Good will would be required of these new categories of membership.

A Vote was called by secret ballot. See Agenda 24, AOB, item B. The result of the vote was 25 for and 2 against the proposal. The maximum number of votes possible, including for those Associations not represented, was 43 votes. The proposal was therefore agreed.

Hans Sande concluded this subject by confirming that we will draft the changes required to the Statutes and Bye-Laws and distribute to those attending to ensure the amendments are in compliance with the agreement made.

**AGENDA ITEM 21 – Selection of Future Venues for 2018 and Beyond**

**A. Willi Wittig** reminded of his presentation at the last AGA for future annual events. From 2019 we will change to a system whereby, in odd years, we will have a Shipmasters' Conference incorporating the AGA. The AGM part of the meeting will take place at the beginning or end of the AGA.

**B. Marcos Castro,** Vice President (Argentina), presented, with the assistance of a slide show, his proposal for holding the 44th Annual General Assembly in Buenos Aires, Argentina, in celebration of the 100-year anniversary of the founding of Centro de Capitanes de Ultramar Y Oficiales de la Marina Mercante (CCUOMM).

***For a PDF version of the presentation visit http://tinyurl.com/y773fekt***

**The invitation was accepted by acclamation**.

**C. Sudhir Subhedar** then invited IFSMA to hold the 45th AGA, using the new Shipmasters' Conference system, in India at the invitation of the Company of Master Mariners India (CMMI).

***For a PDF version of the presentation visit http://tinyurl.com/ybd5mzpy***

**This invitation was also accepted by acclamation**.

**AGENDA ITEM 22 – The Results of the IFSMA Questionnaire**

**Presented by Willi Wittig, Deputy President**

***For a PDF version of the presentation visit http://tinyurl.com/ybnrudvo***

Willi Wittig introduced the two online surveys which took place in the middle of 2016 and presented the survey results with the assistance of a slide show. The surveys were promoted to all members and non-members via social media. The sample was rather small - 178 members and 130 non-members completed the surveys.

The results had been analysed by one of Willi's students.

The conclusions were:

1/ A clear majority of respondents from the IFSMA 2016 Membership Survey and the IFSMA 2016 Shipmaster Survey indicated that the future challenges of IFSMA are:

- Skills and Competence of Ships' Crews
- Criminalization of the Shipmaster
- Safety Management

2/ The respondents further identified as a future challenge of IFSMA

- Safety Management

3/ Four of the five indicated IFSMA Key Challenges confirmed.

4/ A majority of respondents to the IFSMA 2016 Membership Survey identified as a future challenge of IFSMA

- Public Relations and Communications

5/ The respondents were not aware of all the different IFSMA publications and channels of communication

6/ The respondents preferred social media are now known to IFSMA

7/ The fifth indicated IFSMA Key Challenge confirmed.

8/ The majority of respondents to the IFSMA 2016 Membership Survey and the IFSMA 2016 Shipmaster Survey confirmed the importance of the IFSMA Projects

- Mentoring System for young Shipmasters
- Extended SMCPs for Master-Pilot-Tugmaster Communication
- Introduction of a Code of Conduct for Shipmasters

9/ The respondents clearly communicated the type of support they would expect from IFSMA when detained by any local authority

10/ Clear Signal to proceed with the different IFSMA Projects.

11/ Some 50 respondents to the IFSMA 2016 Membership Survey indicated their willingness and availability to join IFSMA virtual working groups

12/ They further indicated a number of topics for such virtual working groups (i.e. Criminalization of the Shipmaster, ISM related Matters, Unmanned Ship, Training of Young Officers, ...)

13/ 11 respondents volunteered to chair the work of a IFSMA virtual working group

14/ A good resource to start IFSMA Virtual Working Groups and to get Membership more involved in the work of IFSMA!

For full results document see IFSMA website: ***http://tinyurl.com/ybnrudvo***

**Q&A** (summarised)

**Calvin Hunziker** Asked if Administrative Burden questions were addressed in conclusions? **Jim** Replied it is included under one of the key challenges. **John McCann** Asked if fatigue was mentioned? **Willi** Answered yes, but only a few mentioned it as a challenge. **Allan Graveson** Asked can we really make valid conclusions from a one month study, by a Bachelor student. **Willi** Replied that the student only analysed the results, the questionnaire was made by himself with input from the President and HQ. Regarding the non-participation of Nautilus, he regretted this, but it was their decision. He also mentioned that at the time there were parallel surveys underway. **Fritz Ganzhorn** Explained why his members did not participate, also it was a difficult time in the middle of the summer. He did not believe the results would be very different with more respondents. **Willi** Was aware that it was the middle of summer, he explained that the AGA was in May so if we waited it would not have been possible to send it out until October and he wanted to keep it close to end of AGA. **Mark Dickinson** Said he took comfort from the fact that 200 people validated our key challenges. From his experience, it is always a challenge to get members to respond.

**AGENDA ITEM 23 – Introduction of the IFSMA Strategic Plan 2017-2022**

**Jim Scorer,** Secretary General, introduced the Strategic Plan. He apologised that a paper version was not available for the AGA but stated that, when complete, it will be published on the website and sent to all members.

***For a PDF version of the Strategic Plan visit http://tinyurl.com/yd4ahvqq***

**Q&A** (summarised)

**Juan Gamper** Asked when will we start using the Strategic Plan. **Jim** Replied immediately after this meeting. **Fritz Ganzhorn** Commented on the summary, Master Protect scheme, suggested to remove 'all Shipmasters' and replace 'to Shipmasters'. **Mark Dickinson** Noted that no one has seen it yet and asked if it was the ExCo's Strategic Plan. We should note the plan, ExCo will monitor it and next year we need to see progress. It is also a marketing tool for new members. **Jim** Quoted a military saying 'A plan is only a medium for change'.

**AGENDA ITEM 24 – AOB/Report by Drafting Group**

**A. IFSMA Resolution Consolidation**

**Presented by Calvin Hunziker, CAMM & Vice President of IFSMA**

Calvin Hunziker reported that, in the spring of 2014, he started going through the 74 resolutions and realised that many of them covered the same ground. He commented that in CAMM they examine every Resolution every year to decide which are no longer needed or to determine if the wording of a Resolution needed to be updated to reflect the current situation or if it could be incorporated into another Resolution. He proposed to the IFSMA Executive Council (ExCo) in September 2015 that the Resolutions be reviewed to see if they could be removed, combined or updated. ExCo appointed himself and Willi Wittig, Deputy President, to carry out this task. He displayed a spreadsheet showing their proposals, which included reducing from 74 to 30 Resolutions with 27 Resolutions that could be archived. ExCo agreed to this consolidated. It was proposed that the AGA adopt the consolidated Resolutions.

He also proposed that we have a Bye-Law change to state that all Resolutions proposed are submitted to HQ at least 60 days before the AGA, they will then be considered by a Resolutions Sub-committee and accepted or revised with the permission of the proposer or combined with an existing Resolution. They will then be submitted to the following AGA for consideration.

**Lyn McLelland** Asked what action is taken to make a Resolution have full force. **Calvin** Replied that when approved by the AGA it will then be taken forward to the relevant body, be that IMO, ILO, ITF, etc.

The proposals to consolidate the IFSMA Resolutions and draft amendments to the Statutes and Bye-Laws for approval at the next AGA, were agreed by acclamation.

**B. IFSMA Voting Procedures**

**Introduced by Paul Owen, Assistant Secretary General & Individual Member**

Before the vote was called, Paul introduced this subject by briefly outlining the requirements in the Statutes and Bye-Laws (available on the IFSMA website), in particular Bye-Law 8 b.

The President having decided that there should be a secret ballot, the procedures to be adopted were outlined.

The AGA appointed John McCann and Calvin Hunziker to be the adjudicators who would count the votes and present the results.

**C. Report by Drafting Group**

Willi Wittig presented the report by the Drafting Group. They proposed a Statement rather than a Resolution, subject to acceptance by the AGA, this could be used as a Press Release - wording as follows:

**IFSMA 43rd Annual General Assembly Statement**

At their 43rd Annual General Assembly held on 18th and 19th April 2017 at MITAGS in Baltimore, USA, the delegates recognised the importance of the ISM Code, the juncture of the four pillars STCW, SOLAS, MARPOL and MLC, in particular Section 5.2 of the ISM Code which recognises the responsibility of the Shipmaster in support of the Company.

To achieve the five Key Challenges identified in the Strategic plan for the next five-year period, close cooperation was needed between like-minded NGOs in providing effective representation to take them and highlight them at both the ILO, IMO and other meetings on the International Stage.

Future shipping was discussed at length, IFSMA recognised the importance of the industry in the development of the new technology, it is vital that Shipmasters are engaged in this development and that no adverse effects to the safety of shipping and the protection of the marine environment occur.

On criminalisation IFSMA recognises the potential harm to the profession from criminalisation of Shipmasters which can undermine the profession. It is therefore important that all industry players work collectively to ensure that there is no unwarranted criminalisation.

**D. Honorary Membership**

Willi Wittig proposed that IFSMA offers IFSMA Honorary Membership to the Secretary General of IMO, Kitack LIM.

***Agreed by acclamation.***

**CLOSE OF 43RD ANNUAL GENERAL ASSEMBLY**

The President, Hans Sande, sincerely thanked the Council of American Master Mariners (CAMM) for their hospitality in hosting this excellent Annual General Assembly. He looked forward to attending the CAMM meetings during the following two days and encouraged IFSMA members to attend tomorrow.

Jef Cowan, President of CAMM thanked Hans for his kind words and acknowledged the assistance of Captain Manny Aschemeyer in organising the events.

**IFSMA/CAMM ANNUAL DINNER**

The **Annual Dinner** was held on the evening of Friday 21st April following our hosts two-day event at the same venue. During the Annual Dinner, IFSMA Plaques were presented to: guest of honour Rear Admiral Paul Thomas, USCG; Glen Paine, Executive Director of MITAGS and CCMIT; and Jeff Cowan, CAMM President.

A video, sponsored by CAMM, of the Annual Dinner speeches can be found here: Link

During the visit to the MITAGS Simulator facility

# ANNEX A

## Report by Secretary General, Jim Scorer

This report covers the period from April 2016 to April 2017. It provides a summary of events that took place.

**Secretary General's Report**

1. It has been an interesting first year for me getting to understand the workings of the IMO and with the issues that face IFSMA as we move forward into the future.

2. Paul Owen who had the helm temporarily after John Dickie retired, has been invaluable to me with his extensive knowledge and is keeping me on the straight and narrow. I would publicly like to thank him for his help and for all the work he has done for IFSMA over the very many years he has been with us.

3. The prime reason for forming the Federation was to be able to represent you, the Shipmaster as an NGO at the IMO. Many of you will have seen my reports from the various IMO Committee and Sub-Committee Meetings over the last year. Between Paul and me, IFSMA has been to every IMO Meeting and we continue to be very highly regarded. I have been fortunate to have had 2 private one to one meetings with the Secretary General of IMO and have a good working relationship with him and I hope you all appreciated his New Year message to you in the January Newsletter. IFSMA has been asked by him to coordinate other like-minded NGOs to get together and give him a short list of key Mariner issues that we would like to see improved or changed in the next few years under his tenure. You will have seen the issues we raised in the new Strategic Plan and these points are at the forefront of our work. I will keep you informed of any progress we make. I know that for many of you it is very difficult and expensive to come to London to attend IMO Meetings but I do encourage more of you to attend so that we are better represented on the Working Groups and that we have more of an holistic input in key areas. One key area we are involved in at the moment is as a Member of the Correspondence and Working Group for the Liquefaction of Cargos such as Bauxite. There is some very interesting research underway led by the Global Bauxite Working Group which will report to the IMO later this year. Paul and I have had a personal briefing from them and I hope to be able to report later this year some really useful and practical measures that will help the Shipmaster in the safer carriage of these types potentially dangerous cargoes.

4. Paul and I have put a lot of thought into how we can improve the image of IFSMA in the Public Domain and we are indebted to the services and help of a Mr Paul Ridgeway and the work he does for us on the IFSMA Newsletter. I think you will have seen some major changes to it over the last 9 months. I would like to say that this is an important way in which we communicate with you and we would very much welcome your feedback and any interesting articles you might have. Willi Wittig runs our Facebook Page and works hard to keep it populated with interesting issues on a daily basis. We are working hard to ensure that IFSMA is seen publicly as the go to Organisation for Master Mariner issues.

5. Paul and I have been working hard to improve our relations with other International Organisations such as International Chamber of Shipping, INTERCARGO, INTERManager, IMPA etc. We have agreed to get together regularly to discuss which issues we can agree on and what we can take forward together. We also will discuss any difficult areas where we cannot agree, as we need to understand each other's views. This improved relationship resulted in our being asked to become a Co-Signatory on the Guidelines on Global Anti-Piracy to be known as Global BMP and is shortly to be published. It will replace the current ICS Guidelines for Somalia, BMP 4. I will let you know when it is published and available. This is most timely following the recent act of Piracy off Somalia even though this was quickly resolved by Somali Elders and the release unharmed of both Crew and Ship. The ICS and IFSMA believe it sends a very powerful message when Ship Owners and Shipmasters come together. We will look for other opportunities going forward.

6. A number of years ago you may recall that ISFMA, led by Willi Wittig, tried to establish the Master Protect Insurance Scheme and because of cost and perhaps lack of knowledge of the benefits of Shipmasters having Insurance cover in the event of their getting into difficulty through Criminalization etc. and needing Legal Aid and Assistance, there was very little interest in the product. Since my joining last May I have undertaken a review of this and I am attempting to try and revitalise the product at a more affordable cost for the Shipmaster. Discussions are still underway with one Underwriter and one Broker to see if we can provide a viable policy.

    a. I am fully aware that there are some of our Member Associations that provide cover for their Shipmasters and I will ensure that what IFSMA is trying to develop will not clash with this valuable benefit but provide safety net for other Shipmasters plying their trade in areas of the World where instances of Criminalisation of the Shipmaster is increasing as we are an easy target compared to the Ship Owner.

    I will keep you informed as and when I have something firm to put to you.

7. Last year, you will recall that Allan Graveson of Nautilus International gave us a very interesting presentation on SMART Ships and this formed the basis of the IFSMA Policy on Autonomous Ships. In our Newsletter I have reported my involvement in a Group looking at their regulation in the UK and few other Nations Worldwide and encouraged other Member Associations to find out what is happening in their Regions, get involved and let us know in the HQ any progress or news you may have. I have provided a IFSMA Presentation on our website that you can use as a template for IFSMA Policy. This year the subject has been discussed during the AGA and I expect this to continue over the coming years. At the IMO Maritime Safety Committee the UK and a number of other Nations have co-sponsored a Paper to set up a Study to look at what needs to be done to International Codes and regulations to ensure their safe operation and integration into our often congested and dangerous environment. You can rest assured that IFSMA will represent you robustly as this issue develops over the coming years.

8. This year Captain Philip Wake will step down as the CEO of the Nautical Institute. He will hand over to Captain John Lloyd. I know that a number of our Shipmaster are members of the Nautical Institute and that every 2 years they hold number of Command Seminars and Conferences around the World. This year the series of

Seminars culminates with their AGM and Command Conference at Trinity House, London on 17th and 18th May. This will be the last meeting for Philip Wake the CEO before he hands the baton over at the end of the Conference. IFSMA is a Co-Sponsor of the Conference and I will be in attendance. I have already had meetings with the new CEO and he has expressed his wish that IFSMA and the Nautical Institute work more closely together on those issues of a mutual interest.

9. You will have seen an article in this month's Newsletter about the development of a Chartered Master Mariners Qualification which has been developed in the UK by the Honourable Company of Master Mariners in conjunction with IMarEST. IFSMA is one of the Consulting Organisations and as soon as the trial period is over and the process for achieving Chartered Status fully tested we will inform you all of how to apply. I think this new Qualification based on experience will do much around the World to help improve the Status of the Master Mariner.

10. I also reported that IFSMA was last month approached by the International Association of Marine Aids and Lighthouse Authorities (IALA) to be part of the Coordination Group for the E-Navigation Underway Conferences and also in the IALA ENAV Committee meetings. This is good news for IFSMA and our Members as we will be able to bring our practical experience to bear and influence the development of ENAV. We will put an article in the next Newsletter explaining what these Conferences are all about, where they are taking place around the World and urge you to participate and get involved.

11. Finally, I want to mention the issue of Membership Fees and the Income we receive and how it is spent. Over a decade ago the AGA decided that not only should Membership fees be frozen, but reduced to ensure that we remained a non-profit making organisation and to show that the Executive Council was aware of the financial difficulties of some Member Associations. This situation has now culminated where our income is insufficient to represent you as robustly as we should on the International stage and has led to the HQ staff being reduced to just Paul and myself working on a part-time basis. Paul will demonstrate this to you when he presents our Financial situation next. When I joined as Secretary General, the Council directed that I take a look at this in an holistic way by starting with a new Strategic Plan and how the plan could be taken forward. I have produced and presented the Strategic Plan to you earlier and it is quite clear that if the HQ is to take this forward then it needs to be properly resourced by fulltime staff able to communicate more effectively and ensure we have the resource to make a difference on your behalf. This means that our income needs to increase significantly in the very near future. I have put forward a proposal to a change in the Statutes and Byelaws that could achieve this and I very much look forward to presenting this to you after the coffee break.

12. I am happy to try and answer any questions you might have.

# ANNEX B

## AGENDA ITEM 4 – Administrative Burden

**Presented by Fritz Ganzhorn, Danish Maritime Officers & IFSMA Vice President**

**Slide show print-out starts on next page.**

5/3/17

## Administrative burdens

Followup on administrative burdens
IFSMA AGA Baltimore 2017

By
Fritz Ganzhorn, General Secretary
Danish Maritime Officers

## IMO 2015

- The resolution stresses a number of principles for better regulation, such as necessity, consistency, proportionality, resilience and clarity.
- The International Safety Management (ISM) Code, introduced in 2002, is once case where the administrative burden of compliance has been debated by industry. A report commissioned by the IMO at its seventy-fifth session concluded, amongst other points, that:
- "ISM Code compliance could be made easier through a reduction in the administrative process" (IMO Maritime Safety Committee, 2005)"
- It is anticipated that a reduced administrative burden will free up time for seafarers and vessel managers to focus on other duties and improve safety by reducing fatigue.

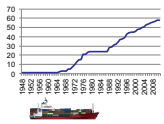
## Survey among danish seafarers and shipowners 2011


- 796 Danish seafarers took part – among them 181 shipmasters
- 72 % of major Danish ship owners contributed
- 95 % of gross tonnage in the Danish merchant marine is covered

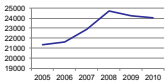
## Reality check…

**Shipping has never been more supervised, inspected and certified than today**
**- and has never issued more documents and reports**

No. of IMO-conventions




Paris-MoU number of inspections




1

5/3/17

Paper overload?

Seafarers Land offices

20 % 9 %

of working time spent on perceived administrative burdens

## Seafarers burdens

| Type of burden | Evaluation area | Average share | Extent of burden |
|---|---|---|---|
| Port- and pre-arrival documents | Very time consuming | 13,7% | Low |
| | Very annoying | 18,3% | Medium |
| **Inspections (incl. vetting)** | **Very time consuming** | **35,6%** | **High** |
| | **Very annoying** | **35,0%** | **High** |
| Drills | Very time consuming | 11,2% | Low |
| | Very annoying | 10,6% | Low |
| **Internal quality assurance systems** | **Very time consuming** | **38,8%** | **High** |
| | **Very annoying** | **39,9%** | **High** |
| **Handling of ISPS requirements** | **Very time consuming** | **21,3%** | **Medium** |
| | **Very annoying** | **39,9%** | **High** |
| Journals | Very time consuming | 15,0% | Low |
| | Very annoying | 10,1% | Low |

## International survey 2012

- Based upon results and findings in the national study on administrative burdens and the following discussions within the industry, the Danish Maritime Authority decided to launch a international questionaire/survey.

DANISH MARITIME AUTHORITY

2

5/3/17

- The data collection process was carried out by using open links on international websites in the period 15 November to 14 December 2012.
- No individual seafarer received an email, and participation in the survey was thus on an entirely voluntary basis. All responses were anonymous.
- Survey "pushed" by Danish Maritime Authorities, Intermanager and Danish Maritime Officers, IFSMA, ITF, ETF and Nordic Navigators Congress.

*Seafarers taking part in the survey (nationality- large samples)*

| Nationality of respondents | # who started survey | # who finished survey | Proportion that finished |
|---|---|---|---|
| Ukraine | 2207 | 1062 | 48 % |
| Philippines | 467 | 405 | 87 % |
| India | 138 | 87 | 63 % |
| Denmark | 86 | 71 | 83 % |
| Other countries | 448 | 309 | 69 % |

Administrative burdens in seven main areas of work

- Preparation of and participation in **PSC, FSC or class inspections** (not vetting)
- Preparation of and participation in **vetting inspections**
- **Handling of ISPS requirements** (International Vessel and Port Facility Security) hereunder filling out ISPS-papers and mandatory watch duties on deck.
- Planning and execution of **exercises and drills** according to ISM/ ISPS codes.
- Using and maintaining **internal management systems** (e.g. QMS, ISM, GSMS, etc.).
- Completion of various **journals** (e.g. garbage journal, oil journal, deviation journal, etc.)
- **Completion of port and pre-arrival documents** – This counts crew lists, passenger lists, crew effects declarations, bonded stores & provisions, vessel stores, vaccination lists, port of call lists, WHO health declarations, special local declarations, etc.

Perceived levels of administrative burdens

- *Are the tasks repeated too often (%)?*

| | PSC, FSC, class inspections | Vetting inspections | ISPS requirements | Exercises and drills | Internal QMS | Journals | Port and pre-arrival |
|---|---|---|---|---|---|---|---|
| Disagreement | 34 | 35 | 34 | 49 | 37 | 41 | 29 |
| Agreement | 66 | 66 | 66 | 51 | 63 | 59 | 71 |

3

5/3/17

## Perceived levels of administrative burdens

- *The tasks require too much documentation and/or paperwork (%)*

| | PSC, FSC, class inspection | Vetting inspections | ISPS requirement | Exercises and drills | Internal QMS | Journals | Port and pre-arrival |
|---|---|---|---|---|---|---|---|
| Disagreement | 24 | 24 | 27 | 37 | 24 | 35 | 21 |
| Agreement | 76 | 76 | 74 | 64 | 76 | 65 | 79 |

## Perceived relevance of the seven areas of work

- *The tasks help us to run a safe and efficient ship (%)*

| | PSC, FSC, class inspections | Vetting inspections | ISPS requirements | Exercises and drills | Internal QMS | Journals | Port and pre-arrival |
|---|---|---|---|---|---|---|---|
| Disagreement | 13 | 17 | 27 | 8 | 16 | 18 | 39 |
| Agreement | 87 | 83 | 73 | 92 | 85 | 82 | 61 |

## Perceived relevance of the seven areas of work

- *The tasks are mainly done for the sake of others (shipowners, customers, regulators) (%)*

| | PSC, FSC, class inspections | Vetting inspections | ISPS requirements | Exercises and drills | Internal QMS | Journals | Port and pre-arrival |
|---|---|---|---|---|---|---|---|
| Disagreement | 44 | 37 | 37 | 55 | 41 | 44 | 30 |
| Agreement | 56 | 63 | 63 | 45 | 59 | 56 | 70 |

## Individual comments

- *"Safety is always good because it will help the seafarer, but paperwork does not help us. So less time spent on paperwork the more time we could spend on safety itself and maintenance of our safety equipment"*
- *"There is too much paperwork - some crews will falsify paperwork to save time. This is not safety and can lead to disaster"*
- *"Work at sea is dangerous - I see no reason to complicate it further with unnecessary paperwork"*

4

5/3/17

- *"Most of the inspections are done by checklist. This has nothing to do with safety".*
- *"In the beginning it was helpful for improving safety of seamen/ships. In the present it has become a kind of needless bureaucracy."*

A large proportion of the seafarers complains about the way these tasks are implemented, but do not doubt the relevance of the tasks themselves.

- **Despite a general acceptance of the need for inspections, seafarers perceive the inspection regime to have grown to a disproportionate level where inspections focus on unnecessary detail.**

- **Seafarers experience that there are significant potentials for standardization and optimization concerning port and pre-arrival documents and processes.**

- **The seafarers acknowledge that QMS is installed for a reason but there is a perception among seafarers that QMS procedures are becoming more and more burdensome.**

5

5/3/17

- The seafarers experience that various incentive schemes in place for those performing inspections lead to increased burdens for well-performing ships and have a detrimental effect on the ability of the inspections to actually serve their purpose.

- The seafarers consider possibilities for the exchange and sharing of inspection data among those responsible to be underutilised.

- Seafarers find that there is a lack of responsiveness to look into the consequences of new procedures and paperwork introduced to the vessels.
-

- It is the sum of burdens that matters. Many seafarers indicate that it is not a specific burden which causes frustration. Instead, it is the sheer sum of burdens which has accumulated over the years. Seafarers indicate that rules and procedures have accumulated over the last 5-10 years to an extent where it is now becoming counter-productive.

6

5/3/17

## IMO 2006

- **ISM Impact Assessment**

The Maritime Safety Committee (MSC), at its eighty-first session (May 2006), reviewed the report of a study on the impact and effectiveness of the ISM Code which was carried out by a Group of Independent Experts selected from administrations, organizations, academia and the shipping industry. Based on the data collected, the group concluded that where the ISM Code had been embraced as a positive step toward efficiency through a safety culture, tangible positive benefits were evident; and ISM Code compliance could be made easier through a reduction in the administrative process.

## IMO 2015 – 13 Recommendations

1 - USE ELECTRONIC MEANS FOR REPORTING

2 - ESTABLISH IMO WEB-BASED INFORMATION PORTAL

3 - RECOGNIZE ELECTRONIC CERTIFICATES

4 - ACCEPT ELECTRONIC RECORD-KEEPING - Electronic recording of information should be accepted as a full alternative to paper versions.

5 - RECOGNIZE ELECTRONIC DOCUMENTS (OTHER THAN CERTIFICATES)

6 - AVOID MULTIPLE REPORTING - Reporting to a single entity should be introduced

7 - ACCEPT OTHER ELECTRONIC SOLUTIONS - Particularly burdensome administrative requirements should be reviewed to ensure universal acceptance of electronic or software solutions.

8 – IMPROVE MARITIME SECURITY AWARENESS - More work needs to be done to explain the reasons ... (ISPS Code), as these are perceived as burdensome and disproportionate.

9 - AVOID ACCUMULATION OF ADMINISTRATIVE REQUIREMENTS

10 - AVOID BURDENS FROM NON-MANDATORY INSTRUMENTS

11 - ADOPT IMO RESOLUTION ON EFFICIENT REGULATION

12 - MONITOR AND REVIEW EXISTING REGULATIONS

#13:

INCREASE EFFORTS TO AVOID FUTURE ADMINISTRATIVE BURDENS

7

# ANNEX C

# AGENDA ITEM 5 – Maritime Cyber Threats

**by Tuğsan Işiaçik Çolak, Turkish Ocean Going Masters' Association (TOGMA)**

**Full Title: Evaluation of New Risk Category: Maritime Cyber Threats**
**Case Study: AIS Threats**

## 1. ISPS CODE

**The International Ship and Port Facility Security Code (ISPS Code) is a comprehensive set of measures to enhance the security of ships and port facilities, developed in response to the perceived threats to ships and port facilities in the wake of the 9/11 attacks in the United States (IMO).**

The ISPS Code is implemented through chapter XI-2 Special measures to enhance maritime security in the International Convention for the Safety of Life at Sea (SOLAS). The Code has two parts, one mandatory and one recommendatory ( ISPS Code, 2003).

The objectives of the ISPS code are to establish an international framework involving co-operation between Governments, Government agencies, local administrations and the shipping and port industries to detect security threats and take preventive measures against security incidents affecting ships or port facilities used in international trade, to establish the respective roles and responsibilities of the Governments, Government agencies, local administrations and the shipping and port industries, at the national and international level for ensuring maritime security, to ensure the early and efficient collection and exchange of security-related information, to provide a methodology for security assessments so as to have in place plans and procedures to react to changing security levels and to ensure confidence that adequate and proportionate maritime security measures are in place (1).

Requirements for ships are including; Ship security plans, Ship security officers, Company security officers, Certain onboard equipment and for port facilities, the requirements include; Port facility security plans; Port facility security officers, Certain security equipment. (1).

## 2. Maritime Terrorism and Review of 2016

According to the Council for Security Cooperation in the Asia Pacific, maritime terrorism is defined as, "…the undertaking of terrorist acts and activities within the maritime environment, using or against vessels or fixed platforms at sea or in port, or against any one of their passengers or personnel, against coastal facilities or settlements, including tourist resorts, port areas and port towns or cities" (2). From 11th June to 1970 to 1st July 2004, there were 212 maritime terrorism incidents. These are some significant incidents that got an extensive media coverage. These are *Santa Maria, Sounion, Shadow V, Rainbow Warrior; Achille Lauro, The Tanker War, The Tamil Tigers; USS Cole; M/T Limburg, Superferry 14;* 9/11 Twin Towers attacks in the United States (2).

Most known maritime crimes are; **Maritime Piracy, Unauthorized entry, Smuggling Exotic plants and animals, Drug trafficking, Illegal Carrying of Weapons and artillery, Tax evasion, Sailing or fishing in unauthorized areas, Human Trafficking (3).**

Since Code was adopted supporters of the ISPS Code argue that it has been successful, as no serious incidents of maritime terrorism have occurred since it was implemented but opponents argue that the code has been little to no help in protecting vessels and seafarers against modern-day piracy (4). Below figures and tables show all piracy and armed robbery


incidents reports to IMB Piracy Reporting Centre during 2016

_Attempted Attack _Boarded _Fired upon _Hijacked _Suspicious vessel

Figure1: All piracy and armed robbery incidents reported to IMB Piracy Reporting Centre during 2016

| Location | | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|---|
| S E ASIA | Indonesia | 81 | 106 | 100 | 108 | 49 |
| | Malacca Straits | 2 | 1 | 1 | 5 | |
| | Malaysia | 12 | 9 | 24 | 13 | 7 |
| | Philippines | 3 | 3 | 6 | 11 | 10 |
| | Singapore Straits | 6 | 9 | 8 | 9 | 2 |
| | Thailand | | | 2 | 1 | |
| EAST ASIA | China | 1 | | | 4 | 7 |
| | South China Sea | 2 | 4 | 1 | | |
| | Vietnam | 4 | 9 | 7 | 27 | 9 |
| INDIAN SUB | Bangladesh | 11 | 12 | 21 | 11 | 3 |
| CONTINENT | India | 8 | 14 | 13 | 13 | 14 |
| SOUTH AMERICA | Brazil | 1 | 1 | 1 | | |
| | Colombia | 5 | 7 | 2 | 5 | 4 |
| | Costa Rica | 1 | | | | |
| | Gulf of Aden* | 13 | 6 | 4 | | 1 |
| | Ivory Coast | 5 | 4 | 3 | 1 | 1 |
| | Kenya | 1 | 1 | | 2 | 2 |
| | Liberia | | | 1 | 2 | |
| | Mauritania | | 1 | | | |
| | Morocco | | 1 | 1 | | 1 |
| | Mozambique | 2 | 2 | 1 | 1 | 1 |
| | Nigeria | 27 | 31 | 18 | 14 | 36 |
| | Red Sea* | 13 | 2 | 4 | | |
| | Sierra Leone | 1 | 2 | 1 | | |
| | Somalia* | 49 | 7 | 3 | | 1 |
| | South Africa | | | | | 1 |
| | Tanzania | 2 | 1 | 1 | | |
| | The Congo | 4 | 3 | 7 | 5 | 6 |
| | Togo | 15 | 7 | 2 | | 1 |
| REST OF | Oman | | | 2 | | |
| WORLD | Papua New Guinea | | | | 1 | |
| | Yemen | | | | | 1 |
| | Total at year end | 297 | 264 | 245 | 246 | 191 |

Table 1: 2016 Annual Report Locations of actual and attempted attacks during 2016

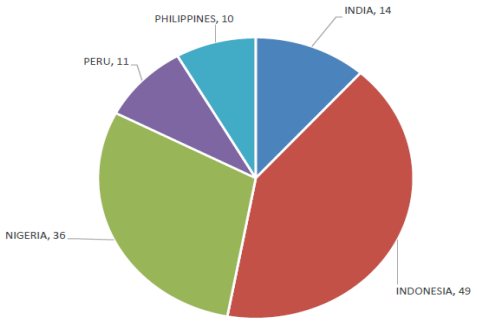



Table 2: Five locations contributed to 63% of attacks from January to December 2016 (total 191)

| Types of Arms | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|
| Guns | 113 | 71 | 62 | 33 | 48 |
| Knives | 73 | 81 | 83 | 97 | 44 |
| Not stated | 104 | 109 | 93 | 108 | 96 |
| Other weapons | 7 | 3 | 7 | 8 | 3 |
| **Total** | **297** | **264** | **245** | **246** | **191** |

Table 3: Types of arms using attacks ( Jan- Dec. 2016)

| Category | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|
| Attempted | 67 | 28 | 28 | 27 | 22 |
| Boarded | 174 | 202 | 183 | 203 | 150 |
| Fired upon | 28 | 22 | 13 | 1 | 12 |
| Hijack | 28 | 12 | 21 | 15 | 7 |
| **Total** | **297** | **264** | **245** | **246** | **191** |

Table 4: Comparasion of the Type Attacks ( Jan- Dec. 2016)

A total of 191 incidents of piracy and armed robbery aganist ships was reported to the IMB PRC in 2016. This is the lowest annual figure since 1998 but the number of crew kidnapped in 2016 was the highest. (Source IMB Piracy Reporting Centre)

### 3. A new risk category: Cyber Attacks and Threats

Piracy and smuggling were the main threats of the day, but soon enough other risks appeared. Today, cyber related risks are unquestionably a large and rapidly growing portion of all the risks our ports, facilities, and vessels face (6). Cyber-technologies have become essential to the operation and management of numerous systems critical to the safety and security of shipping and protection of the marine environment. In some cases, these systems are to comply with international standards and Flag Administration requirements. However, the vulnerabilities created by accessing, interconnecting or networking these systems can lead to cyber risks which should be addressed (7). Vulnerable systems could include, but are not limited to; Bridge systems, Cargo handling and management systems, Propulsion and machinery management and power control systems, Access control systems, Passenger servicing and management systems, Passenger facing public networks, Administrative and crew welfare systems and Communication systems (8). While these technologies and systems provide significant efficiency gains for the maritime industry, they also present risks to critical systems and processes linked to the operation of systems integral to shipping. These risks may result from vulnerabilities arising from inadequate operation, integration, maintenance and design of cyber-related systems, and from intentional and unintentional cyber-threats (8).

### *3.1 Defining Maritime Cybersecurity*

Maritime cybersecurity as measures taken to protect network and computer assets both on ships, terminals, ports, and all computerized equipment supporting maritime operations. A cyber-attack is any "attempt to damage, disrupt, or gain unauthorized access to a computer system, or electronic communications network." Cyber-attacks pertain to the same computer assets on ships, terminals, ports, and all computerized equipment supporting maritime operations. (9).

Afloat and ashore, the maritime industry operates sensitive equipment that is easily accessible through the Internet. Many users of navigational or logistic software, for example, have necessary skills and schooling to operate the equipment, but when faced with technical issues, these same operators usually need information-technology (IT) support. Lacking certain IT skillsets leaves operators defenceless and companies vulnerable to losing information, equipment, or profit (9).

Being aware of the potential threats from cyberattacks for ship boards and terminal operators to recognize an arising issue is very important. In general, there are two categories of cyber-attacks which may affect companies and ships (10):

- Untargeted attacks, where a company or a ship's systems and data are one of many potential targets; or
- Targeted attacks, where a company or a ship's systems and data are the intended target.

Untargeted attacks are likely to use tools and techniques available on the internet which can be used to locate known vulnerabilities in a company and onboard a ship. Examples of some tools and techniques that may be used in these circumstances include:

**Social engineering:** A non-technical technique used by potential cyber attackers to manipulate insider individuals into breaking security procedures, normally, but not exclusively, through interaction via social media.

**Phishing:** Sending emails to a large number of potential targets asking for particular pieces of sensitive or confidential information. Such an email may also request that an individual visits a fake website using a hyperlink included in the email.

**Water holing:** Establishing a fake website or compromising a genuine website in order to exploit visitors.

**Ransomware:** Malware which encrypts data on systems until such time as the distributor decrypts the information.

**Scanning:** Attacking large portions of the internet at random. Targeted attacks may be more sophisticated and use tools and techniques specifically created for targeting a particular company or ship (10). There have been many examples of cyber security incidents in the maritime industry; diverting funds to fraudulent accounts using e-mail spoofing, changing a vessel's direction by interfering with its GPS signal, causing a floating oil platform to tilt to one side, thus forcing it to temporarily shut down, infiltrating cyber systems in a port to locate specific containers loaded with illegal drugs to remove them from the port undetected, infiltrating a shipping company's computer systems to identify vessels with valuable cargoes and minimal onboard security, which led to the hijacking of at least one vessel (11).

In 2015, Lloyd's of London estimated that cyber-attacks cost companies USD 400 billion every year. In addition to financial loss, the consequences are wide-ranging; physical loss of or damage to ships, physical injury to crew, loss of cargo, pollution and reputational damage (11)

### *3.2 Equipment Vulnerabilities On Board Systems*

Many significant cyber threats are the result of vulnerabilities in equipment carried and used by the maritime industry worldwide. Equipment vulnerable to cyberattacks includes navigation systems, and this section reviews four of those critical systems: the automatic identification system (AIS), global positioning system (GPS), industrial control system (ICS), and Electronic Chart Display Information System (ECDIS) (9).

AIS works by acquiring Global Positioning System (GPS) coordinates and exchanging current and up-to-date information (i.e., vessel traffic services [VTSs] located onshore) with ships and maritime authorities via radio transmission (12). AIS information includes but is not limited to ships' positions, names, and cargo, which aids in navigation. Port authorities frequently use AIS to warn ships about hazards, low tides, rocky outcroppings, and shoals that are commonly found at sea. In open sea, AIS-enabled distress beacons are used to signal and locate men who have fallen overboard (12). Providers operating online collect and exchange AIS data with one another for visualization, monitoring, and reporting purposes for free or commercially. Threats that affected AIS implementation are disabling AIS communications (i.e., denial of service [DoS]); tampering with existing AIS data (i.e., modifying information ships broadcast); triggering SAR alerts to lure ships into navigating to hostile, attacker-controlled sea space; or spoofing collisions to possibly bring a ship off course (12).

One of the most important uses of AIS is related to accident investigation. Since AIS provides GPS coordinates, course, ground speed, and additional information, it has proven more valuable in accident investigation compared with the widely used but less accurate radar technology today. Because of this, AIS is widely used in SAR transponders (SARTs). AIS-SARTs are self-contained, waterproof devices intended for emergencies. They primarily aid in detecting and locating vessels and people in distress (i.e., men who have fallen overboard). AIS related threats are (AIS messages are exchanged in 2 forms – Software: Online Providers – Radio-frequency (VHF): 162±0.25 MHz ). AIS threats are shown below in Table 5 (12).

(continued on next page)

| Macrocategory | Threat | Software Based | RF Based |
|---|---|---|---|
| Spoofing | Ship spoofing | Yes | Yes |
| | AtoN spoofing | Yes | Yes |
| | SAR spoofing | Yes | Yes |
| | Closest point of approach (CPA) spoofing | No | Yes |
| | Distress beacon spoofing | No | Yes |
| | Faking weather forecasts | No | Yes |
| Hijacking | Hijacking | Yes | Yes |
| Availability disruption | Slot starvation | No | Yes |
| | Frequency hopping | No | Yes |
| | Timing attacks | No | Yes |

Table 5: AIS Threats

**RF-Based AIS Threats:** CPA SPOOFING: Collision avoidance is one of the primary objectives of using AIS, especially in open sea. CPA spoofing involves faking a possible collision with a target ship. This will trigger a CPA alert, which could lead the target off course to hit a rock or run aground during low tide (13).

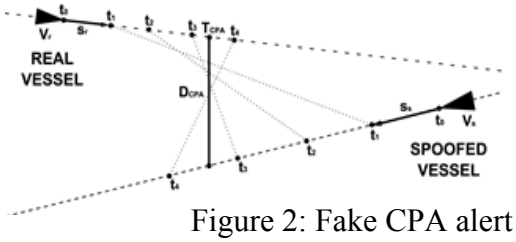



Figure 2: Fake CPA alert

**AIS-SART Spoofing:** Apart from collision avoidance, AIS also aids in SAR operations. They use radio-beacon systems similar to mountaineering equipment to locate and rescue avalanche victims. AIS-SART spoofing involves generating false distress beacons for men who have fallen overboard in specially chosen coordinates by attackers. AIS transponders are required to generate alerts when they receive distress messages. Attacker (e.g., pirates) can trigger SART alerts to lure victims into navigating to hostile and attacker-controlled sea spaces (13).

**Faking Weather Forecasts:** AIS also communicates dynamic data to reflect changing environment conditions such as currents and the weather. It uses a special message format—binary—to convey this kind of information. Faking weather forecasts involves announcing false updates such as a sunny day when a squall is actually expected (13).

**Slot starvation:** This involves impersonating maritime authorities to reserve the entire AIS transmission "address space" in order to prevent all stations within coverage from communicating with one another.

**Frequency hopping:** Attackers impersonate maritime authorities to instruct one or more AIS transponders to change the frequencies on which they operate.

**Timing attacks:** Malicious users can instruct AIS transponders to delay transmission times by simply renewing commands, thus preventing further communications about vessels' positions. This allows vessels to "disappear" from AIS-enabled radars (13).

**Ship Spoofing:** Ship spoofing refers to the process of crafting a valid but non-existent ship. It involves assigning static information such as vessel name, identifiers (i.e., MMSI and call sign), flag, ship type (e.g., cargo), manufacturer, and dimensions as well as dynamic information such as ship status (e.g., underway or anchored), position, speed, course, and destination to the fictitious ship. Ship spoofing provides attackers a wide range of malicious attack scenarios to play with. They can make vessels look like they are within the jurisdiction of an adversarial nation or carrying nuclear cargo while sailing the waters of a nuclear-free nation.

**AtoN Spoofing :** AtoNs are commonly used to assist in vessel traffic management along channels or harbours or warn about hazards, low tides, rocky outcroppings, and shoals in open sea. AtoN spoofing refers to the process of crafting fake information to lure target ships into making wrong manoeuvres. Attackers can place one or more fake buoys at a harbour entrance, for example, to tamper with traffic or trick ships into navigating in low waters.

**AIS Hijacking:** AIS hijacking involves altering any information about existing AIS stations (e.g., cargo, speed, location, and country). Attackers can maliciously modify the information provided by AtoNs installed in ports by authorities for vessel assistance and monitoring. AIS hijacking allows malicious users to alter any information about real vessels.

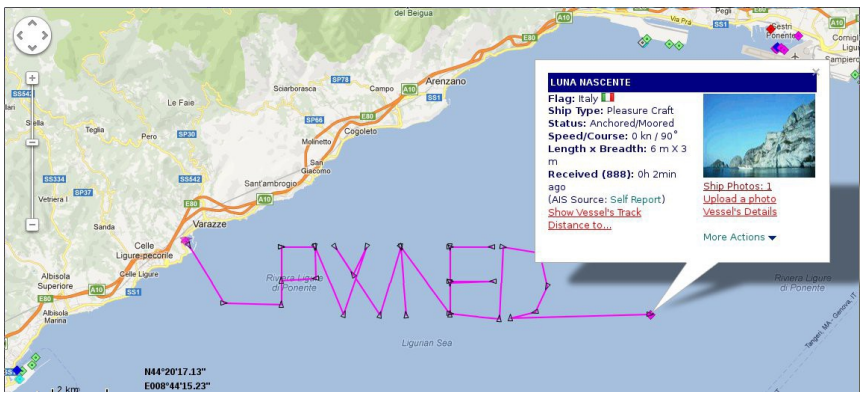



Figure 3: Spoofed ship following a programmed path

Case Study: Reuters exposed the illegal transportation of Iranian crude oil from Iran to China, India, and South Korea. Research exposed there were at least three Iranian ships flying a Tanzanian flag while pretending to be Syrian-owned in an attempt to avoid a boarding and inspection. Getting around international sanctions was easy for the Iranian oil company, which falsified its AIS data to reflect that of a Tanzanian ship. When questioned, officials representing the flagging agency in Tanzania denied these Iranian vessels as part of their

registry. The amount of illegal oil or other goods transported by these ships is unknown and exposes another weakness in technology on which the maritime industry relies (9).

## 4. Conclusion

Cyber-technologies have become essential to the operation and management of numerous systems critical to the safety and security of shipping and protection of the marine environment. The vulnerabilities created by accessing, interconnecting or networking these systems can lead to cyber risks which should be addressed. Vulnerable systems could include, but are not limited to bridge systems; cargo handling and management systems; propulsion and machinery management and power control systems; access control systems; passenger servicing and management systems; passenger facing public networks; administrative and crew welfare systems and communication systems. To mitigate against the 'Cyber Risk' the most vital step is to familiarise maritime cyber security and to increase cyber awareness in the Maritime Industry. Improving new methods to reduce risks, developing contingency plans and a ship management company's awareness programme for ship and shore personnel.

**References:**

1. Conference of Contracting Governments to The International Convention for The Safety of Life at Sea Consideration and Adoption of ISPS Code Consideratıon and Adoption of The Resolutions and Recommendations and Related Matters SOLAS/CONF.5/34 17 December 2002
2. http://cimsec.org/isps-code-maritime-terrorism/12098
3. http://www.marineinsight.com/marine-safety/9-types-of-maritime-crimes/
4. http://www.marineeducationtextbooks.com/blog/ISPS-Code-Yesterday-and-Today
5. http://www.iacpcybercenter.org/news/cyber-risks-in-the-marine-transportation-system-the-u-s-coast-guard-approach/#sthash.CgOgmOlk.dpuf
6. https://www.uscg.mil/.../USCG_Paper_MTS_CyberRisks.pdf
7. Interim Guidelines On Maritime Cyber Risk Management MSC.1/Circ.1526 1 June 2016
8. Draft Guidelines On Maritime Cyber Risk Management MSC 96/WP.9 Annex 2
9. Maritime Cybersecurity: The Future Of National Security,Christopher R Hayes, Naval Postgraduate School, Monterey, CA
10.http://www.maritime-executive.com/article/shipping-industrys-own-cyber-security-guidelines-released
11.http://www.gard.no/web/updates/content/22140110/cyber-security-awareness-in-the-maritime-industry
12. A Security Evaluation of AIS Automated Identification System Marco Balduzzi Alessandro Pasta Kyle Wilhoit makale
13. A Security Evaluation of AIS Marco Balduzzi and Kyle Wilhoit, Trend Micro, Texas, USA,2014

# ANNEX D

# AGENDA ITEM 7 – Some Thoughts on Autonomous Ships

**Presented by George Quick, Council of American Master Mariners**

There has been a good deal of discussion recently about unmanned autonomous ships representing the future of the maritime industry. Primarily driven by EU funded research that sees autonomous and unmanned ships as a key element for a competitive and sustainable European shipping industry in the future. The EU interest may be understandable. They have had a long-term goal of making short sea shipping more competitive with road and rail transport that is under stress from the increasing volumes of internal EU trade that create heavily congested transportation bottle necks. Faced with massive infrastructure costs to upgrade road and rail they are making a concerted effort at the policy level, and with funding, to move large volumes of cargo from land to "motorways of the sea". But, in international trade that driver is missing. Any technological advantage is soon lost as competitors to European shipping also adopt the new technology.

Most of the discussion so far has been based on the ambitious press releases of the equipment manufacturers and potential service suppliers who are now, along with the EU, expanding the concept to include a proposed global automated shipping industry. Driven by technology seeking a new market rather than user demand.

But, there is little doubt that advances in Information and Communications Technology (ICT) and robotics will impact the maritime industry and accelerate changes in the way ships are operated. We have already seen the effects of automation in the manufacturing and distribution sectors and the massive changes they have brought.

The concepts underlying autonomous ships are based on the "Industry 4.0"[1] model recently developed in Germany where cyber-physical systems would monitor sensors, create a virtual copy of the physical world and permit decentralized decisions. Its goal is managing automated production within a "Smart Factory" and the integration of multiple factories, suppliers, distributors and consumers through the internet of things or services. But, it is highly questionable whether a model developed for a tightly controlled manufacturing environment and distribution system can be transplanted to the dynamic, global, uncontrolled and open maritime environment.

Given the unique nature of the maritime industry, any attempt to predict the extent and consequences of automation is speculative at best: any change will come in stages, and each stage will require evaluation.

One stage will certainly include remote monitoring of all functions aboard ships with far greater shore side management of the ship's operation. To some extent, the capability and remote monitoring of some functions has been around for decades. Cost considerations and bandwidth have been limiting factors, but now that is changing. Efforts underway at the IMO to develop and implement technology to support e-Navigation - including interoperability and

[1] "Industrie 4.0" originated in a Working Group organized by the German government to promote the computerization of manufacturing. The final report of the Working Group Industry 4.0 was presented in April 2013.

harmonization of information between ship and shore - could potentially be a precursor to remotely controlled ships. That raises, at least as a concept, the possibility of truly autonomous unmanned ships making its own decisions using artificial intelligence completely independent of human controllers. While this seems like fantasy at the present time, given the exponential rate of increases in the capabilities of technology it cannot be completely ruled out as a possibility in the decades ahead.

The pace and extent of how this will evolve in international shipping will primarily be determined by economics and risks. It is anticipated that the cost of building a ship with the required technology and redundancies for remotely controlled operation may be higher than that of a conventional ship, even with the elimination of the crew's accommodations. The system would also require shore side infrastructure with a global reach for monitoring and control. As well as expensive shore side support for maintenance, repairs and functions now carried out on conventional ships by seafarers from relatively low-cost-labour-supply countries.

Can the additional costs of an autonomous system be offset by substantial reductions in or the elimination of crewing costs? If not, there is no economic justification for ship owners to shift to autonomous ships.

The leading textbook on marine economics estimates manning costs at about 6% of the overall cost of running a ship.[2] Capital costs are about 42% and voyage costs, including bunkers, are about 40%. There can be no doubt that shipping is capital intensive rather than labour intensive.[3]

Even if all manning were to be eliminated, it is not at all clear how a relatively minor savings in crewing expenses could compensate for the additional costs of building and operating a remotely controlled autonomous ship system and its supporting shore side infrastructure.

So far there has been a noticeable lack of enthusiasm among ship owners for autonomous ships. Perhaps they have a better grasp of the economics than the enthusiastic proponents.

Although Maersk has indicated it may be looking at some form of autonomous ships in the 2030-2035 time frame, which would coincide with the end of the useful life of their recent new builds. Ship owners will only embrace autonomous shipping if there is a competitive advantage to be had in reducing manning and the costs of seafarers. As is obvious from the data on marine economics, the extent of any cost reduction accomplished through cuts in manning would be limited at best.

Advocates of autonomous ships are attempting to justify their position based on a shortage and a fictional lack of competency of seafarers. They propose a "solution" they say would lower costs and increase safety through eliminating seafarers and with them the risk of human error. They fail however to acknowledge the very real risk of introducing new sources of error in technical systems, communication links, cyber security, and remote human controllers who are isolated from the reality of the ship and its actual environment.

[2] Marine Economics, 3rd Edition, page 225, Martin Stopford, – *based on 2005 data for a Capesize bulker. At today's bunker rates my rough calculations are manning costs fluctuate between 3-5% based on the volatility of bunker rates impacting voyage costs.*

[3] *These numbers from Martin Stopford are outdated and need updating.*

We should be sceptical of optimistic projections coming out on the future benefits and efficiencies of autonomous ships based on the aspirational views of advocates that have a commercial stake in creating a market for an autonomous ship system. A great deal of investor's money has been lost in the past through bets on over hyped expectations regarding new technology. The "Dot-com" bubble of 2000 is a good example.

There is a misconception that complex, highly automated systems would require highly skilled operators and that in the maritime industry, this offers an opportunity to "upskill" seafarers to the comforts of shore based operators. But neither the experience of other industries nor the academic literature support such a view. Enhanced technical skills are needed only in the early stages of automation. As the technology assumes more complex functions, there is a down skilling of operators as they become dependent on highly automated, self-regulating systems. The more automatic the system, the less is required of the human operator since basic competencies and lower level decision making functions are built into the technology.

The human operator's opportunity to engage in and develop deeper skills and talents through experience, such as assessment and judgment, are lost.[4] The problem with machines that think is that it creates people who don't need to think. This presents a challenge in the dynamic and complex maritime world where assessment and judgment based on experience and total situational awareness are fundamental to the "right" decisions, often made under tight time constraints, that spell the difference between a safe passage or a disaster. The monitoring of displays is a boring task that leads to complacency. When things go wrong the hand over problem between the automated system and the complacent uninvolved human operator with limited situational awareness has proven to be a major problem.

However, there is a need to take a much broader view of automation beyond just its impact on the maritime sector. A realistic view of automations' social and political consequences in the world at large is needed. The assertion that technology is a purely benevolent force, whose only impact on society is a positive one, is clearly erroneous. There is no economic law that says that everyone, or even most people, will inevitably benefit from technological progress. Technology is neither good nor bad. Unlike humans, it has no moral or ethical values. But, technology is a powerful force that can destabilize existing institutions and industries, upset the social contract between capital and labour - as well as the traditional employer/employee relationship - with profound consequences. The changes it brings about have been compared to a fourth industrial revolution[5]. And there is considerable concern in academic circles regarding technology's impact on the future of society, on our economic system and on our political institutions. The issue is not solely of concern to those being replaced by technology - this year at the World Economic Forum at Davos, it was the main topic of discussion among global leaders.

Academics estimate that as much as 50-70% of the labour force can ultimately be replaced by technology. The gains that automation produces from increased productivity with lower labour costs primarily benefits the capital investors that own and control the technology. The resulting profit concentrating effects coupled with technological unemployment, or under employment, are largely responsible for increasing inequality of income that is creating social tensions and political turmoil in the United States and elsewhere. Globalization has been the

[4] *"The Glass Cage, Automation and Us"*, pg. 111, by Nicholas Carr

[5] *"The Fourth Industrial Revolution"* by Klaus Schwab, Executive Chairman, World Economic Forum, Davos

ready scapegoat of politicians, but technological unemployment is responsible for much of the problem.

Technology generated income inequality is also a threat to our free market economic system as it reduces consumer demand by reducing the number of consumers, principally workers, with the ability to purchase goods. Our free market system is based on consumer demand driving manufacturing and production. In past industrial revolutions (steam, mass production, electricity) an increase in demand would create more jobs in production. Those jobs would in turn increase consumer spending and drive up production. This is a classic economic principle that is no longer true in the fourth industrial revolution with technology replacing workers. The cycle between consumer demand, production and jobs has been disrupted. Automation now allows a scaling up of production with few if any increase in jobs. This is evident in the economic data. Corporate profits and the stock market going up, while worker income and consumer demand is near stagnant.

While globalization has already had a significant impact on the maritime sector, so far technological unemployment has not (although the radio operators might take exception). That may be about to change. Of primary concern are the consequences of the change in the nature of work, the distribution between capital and labour of the enormous gains in productivity from technology, preservation of the traditional employer/employee relationship that provide stability and social benefits, and the effect on the future of society as a whole from technology and robotics replacing or down-skilling workers.

In a globalized industry these are not issues that lend themselves to easy solutions. They are economic and political issues on the distribution of the gains in productivity attributed to technology that impact society at large. In our democratic free market system economic decisions are determined by individual self-interest, matters of a common interest to the welfare of society at large need to be addressed on a political level through good governance. Where technology ultimately takes us will be decided within the political institutions, legislative bodies, regulatory agencies and international organizations such as IMO and ILO. What is needed is a common understanding of the issues and a coordinated effort to protect the interests of not only workers, but also to shape the future of our society.

Whether there will be a future shift in shipping to autonomous ships will be determined by economics as well as political and technical considerations. These thoughts have touched primarily on the broader economic and social issues. There is a great deal more left to be said on the technical aspects - legal and regulatory, ultimate responsibility and liability for risks, human factors and man/machine interface issues, software quality, cyber security, reliability of the communication/data links, and engineering, sensor and technical systems that will be left for another discussion.

# ANNEX E

## AGENDA ITEM 8 – Autonomous Ships in Norway

**Presented by Morten Kveim, Norwegian Maritime Officers'' Association (NMOA)**

**Slide show presentation starts on next page.**

5/7/17

# Autonomous ships in Norway

Some facts and some thoughts

- Autonomous ships at the national level
- Ongoing activities
- Some local projects
- The role of NMOA

NFAS Norsk Forum for Autonome Skip

The Norwegian Forum for Autonomous Ships (NFAS) is an interest group for persons or organizations that are interested in the subject of autonomous ships. Membership in NFAS is open to individuals and organizations established in Norway.

SINTEF

SINTEF Ocean is an independent research institute that specializes in problems related to fisheries and aquaculture, oil and gas exploration, shipping, ocean energy and other sectors. Autonomous ships will create opportunities for new vessel designs and new business models.

1

5/7/17

NFAS Norsk Forum for Autonome Skip

- Norwegian Maritime Authority and Norwegian Coastal Administration
- Seventeen suppliers of maritime equipment and services
- Six universities, research institutes etc.
- Insurers, harbours, classification societies, seafarers' associations +++

NFAS Norsk Forum for Autonome Skip

- The objectives of the organization are to:
  - strengthen cooperation
  - contribute to the development of strategies
  - be a common voice for the development and use of autonomous ships based on the interest organisations objectives
  - strengthen the Norwegian interest group's influence

NFAS Norsk Forum for Autonome Skip

Definition

- Autonomous Surface **Vessels** (ASV) are all surface vessels that are partially or completely autonomous. Autonomous **ships** are larger vessels capable of carrying cargo and/or passengers as part of a commercial operation.

NFAS Norsk Forum for Autonome Skip

Main working groups:

- Class and international regulations
- Market strategies for members and NFAS
- Norwegain strategy for development of autonomous ships
- Technology gaps, standards and needed developments

2

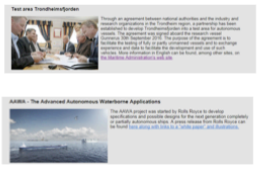
5/7/17

NFAS Norsk Forum for Autonome Skip

Om oss Medlemmer Grupper Konferanser Prosjekt Annet Intranet

Other working groups

- Acceptance criteria (societal)
- Insurance, liability.
- Port and fairway infrastructure
- Social effects (safety, environment, workers, the public ...)
- International mirror committee.






Safety

- Controlled environment
- Sensors
- «Fail-to-safe»

3

5/7/17

## Security

- Hacking
- Screening of crew

## Should we be the modern «Luddites»?

- Wikipedia about Luddites: «The term has come to mean one opposed to industrialization, automation, computerisation or new technologies in general».
- Richard Conniff in Smithsonian Magazine: «They wanted these machines to be run by workers who had gone through an apprenticeship and got paid decent wages.»

## The role of NMOA

- Safety
- Security
- Labour practices

4

# ANNEX F

# AGENDA ITEM 10 – To the Master's Satisfaction

**Presented by Allan Graveson, Nautilus International (UK)**

International regulation by its nature is a compromise to achieve acceptance and implementation. In relation to ship's safety equipment, compromise is based on immediate cost rather than a detailed analysis of the benefit of an additional spend (investment). Furthermore, regulations are updated infrequently and fail to keep pace with technological innovation. Fire Fighting Equipment (FFE) and Life Saving Appliances (LSA) are usually purchased at a minimum cost with little incentive to buy newer and more satisfactory equipment.

Other than high profile vessels FFE and LSE is not a major, if at all, consideration of the owner/manager. The builder's yard provides a 'cost efficient package' endorsed by Class and sanctioned by Flag State. With owners outsourcing to managers, incentivised by competitive forces to ensure costs are kept to a minimum, the same equipment is retained for the life of the vessel and is replaced on a 'need to do' basis and then only when it is so shabby that it will not get past a Port State Control (PSC) inspection. The quality of Flag State Inspection (FSI) is dependent upon the attitude of Flag State to safety, with the conflicted imperative to maintain and grow the registry.

FFE, and to a lesser extent LSA, are rarely used in earnest. But when used, should be fit for purpose and aid the desired outcome. This should apply not only to emergency situations but also to training and exercise drills where seafarers are placed at risk of injury. The dangers of inadequate equipment, particularly lifeboat launching systems and hooks, are well documented. However, that of protective equipment used as FFE and LSA are rarely, if ever, refereed to.

Seafarers are frequently exposed to ill-fitting and poor quality equipment. This is particularly apparent when using fire suits, where one-size-fits-all, and helmets and harnesses are not fit for the individual designated to don them, be they male or female, large or small. Equipment used in everyday occupational work on-board, i.e. Personal Protective Equipment (PPE), may only be marginally better.

The master is the representative of the owner and agent of the charterer. These responsibilities come with obligations, not only to one's principals, but also to the safety of the ship, including passengers, cargo and crew and to the protection of the marine environment. The responsibilities are not mutually exclusive, to the contrary, in order to fulfil the ambitions of both owner and charterer – i.e. requiring a successful outcome to the venture - the ship and crew need to be equipped to respond to whatever call is made of them, including emergency situations to ensure incidents are speedily dealt with and loss, including loss of life, is avoided or kept to a minimum.

Masters have no say on what FFE and LSA they find on-board, yet have the responsibility for those using them and those that depend on those using them, i.e. passengers, cargo owners, and other marine economic and environmental interests. Masters generally choose not to speak out against inadequacies. Is this through ignorance or fear or, perhaps both? While fixed equipment may be difficult to rectify, personal FFE and LSA should be able to be addressed.

Accident investigations routinely fail to recommend either to regulators or companies the need to invest in up-to-date equipment. Recommendations are confined to some minor change to procedure such as a 'toolbox talk' or 'risk assessment'. Reports rarely question the acceptance of type approved equipment that meets prescriptive carriage requirements.

At the United Kingdom (UK) Chamber of Shipping Dinner in London, February 2017, their President, Dr Grahaeme Henderson, stated that seafarers were 20 times more likely to be killed than shore workers. Actual UK published figures indicate this to be around 15 times for merchant seafarers and 112 times for fishers. So much for statistics, the reality is that ships are built to an approximate risk of loss factor of $10^{-4}$ whereas aircraft are built to a much higher level of risk factor of $10^{-9}$. The acceptance of possible failure at such a relatively low level of safety places considerable importance on the mitigation from the carriage of adequate FFE and LSA so as to reduce loss should an incident occur.

The ship is designed and built to regulatory requirements and Class Rules, however inadequate. The crew are engaged, again however inadequate, at the discretion of the owner/managers. FFE and LSA are assigned by international, regional and national regulation dependent upon type and size of vessel. International standards have become norms with respect to equipment fitted, unless an owner wishes to go beyond the minimum regulatory requirements; few choose to do so.

Attention in recent years has focused upon the adequacy of lifeboats and in particular 'hooks'. An industry that cannot solve a simple issue such as 'hooks' lends itself to the accusation as to its ability to ensure any level of safety. FFE and LSA in general have been neglected for decades, with innovation focused on reducing costs. An example being Mass Evacuation Systems (MES), where rather than improving equipment to ensure a reasonable prospect of survival – this being a requirement of the offshore hydrocarbon industry – reduced cost and retention of revenue generation space are the predominant factors.

FFE is somewhat the poor relation to LSA. Fixed systems have seen changes, such as 'high fog' yet little attention has been paid to personal equipment provided onboard for fighting fire. Enclosed space rescue is completely neglected – hoping that the FFE will do. Personal equipment for shore firefighters has made significant advances in recent years and is readily available for emergency services and in hazardous and specialised industries. Improvements in equipment at sea are largely confined to government-owned ships, specialist vessels and some passenger ships.

Personal Protective Equipment (PPE) and personal equipment used in emergencies have many similarities on-board ship and in some instances, are interchangeable. There is no question that what is provided complies with prescriptive requirement, including type approval. The problem is the legislative requirements are dated and minimal with type approval set in stone many years ago.

Masters who are aware of equipment inadequacies; what should they do? They are unlikely to produce a signed article for one of the professional journals, even if the editorial board would publish to the disquiet of their industrial sponsors and from a fear of incurring the displeasure of the industry. Similarly, they are unlikely to bring it to the attention of flag state authorities who are content to enforce current measures and no more, due to fear of loss of tonnage to flag and being branded as a 'gold plating' authority.

The International Management Code for the Safe Operation of Ships and Pollution Prevention (International Safety Management (ISM) Code) adopted on 23 November 1995 and progressively introduced from 1 July 1998 provide the authority for masters to request and be provided with the necessary equipment, specifically in Section 5.2: "The Company should ensure that the SMS operating on board the ship contains a clear statement emphasizing the Master's authority. The Company should establish in the SMS that the master has the overriding authority and the responsibility to make decisions with respect to safety and pollution prevention and to request the Company's assistance as may be necessary." The provisions contained in the ISM Code are rarely utilised.

The option should be a simple one – given the provision of the ISM Code – notify the Designated Person Ashore and all should be fixed. If only it were so simple. There may well be companies that respond positively, many will not, citing compliance with dated regulations knowing that is all they need to provide in order to avoid sanction. Yet given the ISM Code and human rights legislation, is this sufficient to avoid civil litigation? Opinion may well be split as to this course of action. Would individual seafarers, perhaps with union support (rare but not impossible), interest groups representing passengers or environmentalists seek civil litigation? The usual players representing cargo owners and shippers are more likely to settle under present arrangements, often by arbitration and in secret.

If legislative and company procedures fail, the master should contact the Union or Professional Body seeking what? Hopefully, taking up the issue on the master's behalf. If concerned at this course of action, the master may wish to choose to use a confidential reporting facility such as the 'The Confidential Hazardous Incident Reporting Programme' (CHIRP) in the UK. CHIRP will only take forward an issue where the individual cannot be identified and confidentiality maintained. Highly technical issues could be identified to specific personnel, but it should be possible to pursue concerns over either PPE, personal protective FFE or LSA without the reporter being identified by the company.

Looking to PPE, safety harnesses for working at heights, some – regrettably, few - have two securing lanyards so that one can always be secured whilst moving around aloft. Few vessels carry rescue harness for evacuating a person to the deck.

Looking to FFE, helmets and air bottles are rarely suitable for enclosed space rescue. Similarly, stretchers are far from satisfactory for enclosed space rescue or for transferring the injured ashore. Designated Fire Fighting Suits, usually, the minimum is carried and one size fits all and frequently not the assigned person on the muster list. Large or small – male or female, poorly fitting is the order of the day.

Looking to LSA, survival suits generally one size fits all. Small or large, male or female, you do not survive.

At marine educational establishments and training schools seafarers may be exposed to state of the art equipment or what is commonly found on-board. The arguments for using either are equally justifiable. However, in the UK to satisfy the accreditation system of the Merchant Navy Training Board students are expected to be exposed to or made aware of the latest equipment that is available to industry and suitable for use on-board.

In some instances, the equipment used is positively dangerous such - as survival lifejackets when working lifejackets are more appropriate for Fast Rescue Craft (FRC). Similarly, on-

board ship, where rigging of gangways without lifeline and harness and/or the absence of working lifejackets.

Following an incident involving death or serious injury - where investigated, few satisfactorily - the conclusion and recommendations rarely if ever suggest a change in regulation and/or improvement in equipment. Instead, a 'toolbox talk', imported from the offshore energy sector, or an improved risk assessment. There is an acceptance that the equipment provided is either adequate or cannot be challenged. This should come as no surprise, and is sadly little different when a vessel is lost; rarely are recommendations made for structural changes unless an element of civil litigation is present.

The P&I Clubs estimate that each death at sea costs $100,000. This is relatively low due to the employment of seafarers from low-cost labour-supplying countries. Therefore, there is little incentive, unlike the offshore energy sector employing higher cost labour, to improve safety. Unions and professional bodies generally, with a very few notable exceptions, rarely challenge a death on-board and seek either additional compensation or prosecution. It is the seafarer's fault; they were killed or someone else on-board, frequently the Master. The owner/manager rarely will come into the frame of consideration. Exceptionally, when this is a large company and/or a recognisable name, action is taken; this depends on the flag state and jurisdiction of the incident.

The Master has limited recourse being between a 'rock and a hard place'. In the ideal world, this should not be so, as provided for in the ISM Code. A Master should expect to be provided with a 'well-found' vessel and where deficiencies exist, upon notification for them to be rectified. This requires a clear line of communication and a responsive management. Expectations can be high and will need to be managed; there is not a limitless amount of cash. To ensure a 'level playing field', this requires legislation. As identified, this presents problems. A goal-setting approach is open to abuse by interpretation. Therefore, legislation that requires 'what is reasonable and practical consistent with availability and general use', may be a possible way forward. No doubt this would be bedevilled by endless discussions concerning type approval and what is the meaning of the term, 'reasonably practical'. If there was a will, requiring a major mind change, there would be a way.

The use of equipment generally used in other sectors of industry and by emergency services need not be significantly more expensive - and possibly cheaper due to economy of scale. Looking at some equipment on-board ship today, one asks oneself, "who else uses this stuff"? Museums come to mind.

The Master may be in a weak position where there is no protection afforded by an association/union or professional body. The flag state may not have 'whistle blowing' protection laws, as exist in a number of developed countries. Because compliance with prescriptive requirements is the norm, little traction is likely to be achieved. However, in countries with a combination of international, sometimes regional and national regulations, the legal environment exists where it may be possible to effect change.

In the UK considered opinion is that the failure to provide equipment that is fit for individual seafarers to carry out their duties effectively could result in a charge of 'corporate manslaughter'. Other charges may follow, such as environmental ones. Unseaworthiness, with all its connotations, may be taking things a little far - but the consequences could be significant in financial terms. The loss of a passenger ship, compensation under the Protocol to the Athens Convention, together with wreck disposal under the Nairobi Convention, add

up. As with the tankers, subject to the MARPOL Convention and regional regulation, these financial swords appear either by intent or accident to ensure a better standard of equipment in the passenger vessel sector. However, there are significant deficiencies in all sectors when it comes to accommodating the requirements for women's protective clothing.

For many trading vessels, the equipment is standard, ill-fitting and simply not fit for purpose. The present regulations fail so many seafarers, placing them and their ships in danger. International regulation needs to change. That change should be such as to encourage the carriage of new and additional innovative equipment without undermining current prescriptive requirements. Naturally, there will be those that seek to prevent or delay change, yet the force of one's argument, given current legal thought, should eventually prevail.

Unwarranted criminalisation of the ship master is rare, but some would argue increasingly commonplace. The master is undoubtedly the scapegoat for failure by regulatory authorities and an industry that places little value on a seafarer's life. If Masters are unable to speak out, surely their associations/unions and professional bodies should do so. This requires: organisations insisting companies provide the proper equipment; notifying P&I Clubs of perceived deficiencies; informing seafarers of the latest equipment available, so as to protect their lives. Organisations representing their interests have a duty to make masters aware and to speak on their behalf.

# ANNEX G

# AGENDA ITEM 13 – SAR in the High North (SARiNOR)

**Presented by Tor Husjord, Maritime Forum North (Norway)**

SARiNOR is a joint venture between public and private partners that in sum represent a considerable amount of competence, experience, needs and requirements for search and rescue in the High North.

The High North is a top priority area for the Norwegian government.

90 % of Norway's ocean territory is in this area where approximately 80% of all arctic activity is currently taking place.

Increased arctic traffic and activity introduces higher risk of larger accidents with the potential loss of human lives and/ or environmentally damaging consequences.

Norway has through the Arctic Council's SAR agreement accepted the responsibility for a search and rescue capability for an area that is far greater than the Norwegian territory, and that stretches all the way to the North Pole.

The question we raise is: Are we prepared for this responsibility?

The Norwegian Parliament's white paper for long-term policies, "The High North - visions and strategies" from 2011 states that "The government shall secure Norway's ability to perform rescue services in our own and neighbouring rescue responsibility areas by maintaining and reinforcing our capacity to conduct efficient search and rescue operations"

The white paper further states:

> "It is the responsibility of each business operator and their associations to systematically strive towards reducing risk of accidents and to a larger extent control crisis by themselves than what is required in other waters."

The SARiNOR project is a direct answer to this appeal.

With SARiNOR, industry actors join forces to solve a national challenge.