

# IFSI/A NEWSLETTER

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#### International Federation of Shipmasters' Associations

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**Cover**: Cape Agulhas Lighthouse, South Africa. Illustration kindly provided by Transnet National Ports Authority ©

#### **Secretary General's Report**



A very Happy New Year to you all. I know that Christmas and New Year are celebrated differently all over the world, and every country has their own traditional way of celebrating the holiday season, but I do hope that some of you were able to spend some time with your families over this period. For many of us mariners though, it will

be another busy period at sea keeping Global Trade moving.

As the last Newsletter went to press, the President and I were invited to a meeting by the Secretary General of the International Maritime Organization (IMO) to discuss the issue of Mixed Mass Migration in the Mediterranean with United Nations Humanitarian Agencies and the Head of the NATO Military Operation off Libya. That we were one of only four NGOs invited to attend shows the high standing in which we are held at the IMO. We were able to emphasise to the UN the tremendous pressures on Merchant Navy Mariners as they respond to emergencies to rescue tens of thousands of migrants each year. We also highlighted the potential safety and security risks as merchant shipping is not configured to take on large numbers of migrants. The UN recognised that more needs to be done by Nations to try and significantly reduce the flow of Migrants and increase SAR support in the Mediterranean.

You will all want to join with me and congratulate Captain Hans Sande, IFSMA President and Director General of the Norwegian Maritime Officers' Association, who has been invited to sit on the Advisory Board of Seafarers' Rights International. This is an enormous honour for IFSMA and for Hans and is a very clear recognition for our increased standing in the International Arena.

Finally, you will have seen all the emails from Paul Owen about the AGA in Argentina. Plans are moving ahead and I have no doubt it will be a great success and I look forward to seeing many of you there.

## **Checking the Lights: Ensuring quality of service**

#### By Link Powell. Assistant R&D Engineer, R&RNAV

A light measurement is an essential quality control procedure used to determine the luminous intensity, rhythmic character and azimuth/elevation profiles of a light. The Research and Radionavigation (R&RNAV) directorate of the General Lighthouse Authorities of the UK and Ireland carry out in-situ, or field, measurements to test potential new light sources when re-engineering a lighthouse or to audit existing lights.

It is impractical to dismantle and transport the optical equipment in a lighthouse to a laboratory and so when a confirmation of the light performance is required, it must be conducted in situ. It is also possible to calculate the performance of a light, however a field measurement yields results with higher certainty and it is therefore the preferred option.

Compared to a laboratory measurement on a light range, a field measurement is inherently more difficult because the available methods to manipulate the light are very limited. The measurement procedure requires the use of custom-made equipment as well as coordination between personnel at the lighthouse and at a measurement site some distance away. An overview of the field measurement procedure is presented here.

#### Measuring the light

The human eye (technically the entire visual system including the eye and brain) takes some time to perceive the full brightness of a light. Because of this, an observer perceives only a fraction of the brightness of a flashing light compared to the same light when continuously on. The nominal range of a flashing light is determined by its effective intensity; a measure that takes the response of the visual system into account. IALA Recommendation E200 Part 4 presents methods to determine the effective intensity of a light from its measured intensity (note effective intensity and intensity are distinct parameters).

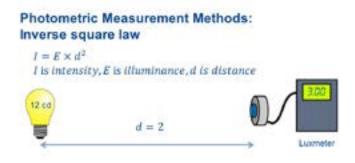


Figure 1 - Measuring intensity with a luxmeter using the inverse square law method

A simple technique to measure the intensity is to use the inverse square law. The light is measured at a known distance using a luxmeter, a device that measures the amount

of light falling on a square metre. The result is multiplied by the square of the measurement distance to obtain the light intensity in candela. However, this method does not take into account the effects of the atmosphere and therefore introduces large errors if the measurement distance is large. Measurements of the atmospheric effects can be made and used to correct the results, however detectors typically measure in the immediate area only, and cause further errors if the effects vary between the light and the measurement site. This method may be acceptable for use at short distances, ideally less than 100 metres.

#### Photometric Measurement Methods: Substitution

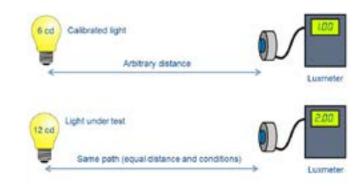


Figure 2 - Measuring intensity with a luxmeter using the substitution method

The distance from the lighthouse to a suitable measurement location is often much greater than 100 metres and so R&RNAV use the substitution method, a technique that accounts for atmospheric effects along the measurement path. In the substitution method, the light to be measured is compared against a temporarily installed reference light (a light source of known intensity). The lighthouse light is measured with a luxmeter and the value is recorded. Immediately after, the reference light is switched on and measured with the luxmeter.



Figure 3 – Prisms frames temporarily installed at a lighthouse

Using the ratio between the recorded values and the known reference light intensity, the intensity of the lighthouse light can be determined. For example, if the recorded values were 1 lux for the reference light and 2 lux for the lighthouse light, then it is known the lighthouse light is twice the intensity of the reference light. Therefore if the reference light is known to have an intensity of 6 candela then the measured intensity of the lighthouse light is 12 candela. Because both lights are measured over the same path in quick succession, the effects of the atmosphere on each measurement are assumed to be the same and so, when the ratio calculation is performed between lux measurements, the atmospheric effects are cancelled out. To simplify the process, R&RNAV use a custom-built measurement unit and software to record and process the luxmeter output. This allows the intensity values to be logged with time allowing the flash character and profile of each flash to be captured.

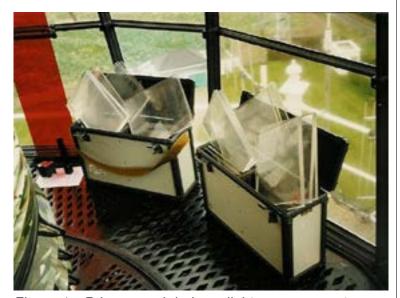


Figure 4 – Prisms used during a light measurement

During a field measurement, the vertical beam profile is also measured to determine whether the beam is pointing in the correct direction. That is to the horizon and to enable calculation of the peak beam intensity if the measurement site could not be situated in line with the beam. When measuring the vertical beam profile in the R&RNAV labs, the optical system is placed on a motorised table which tilts up and down while the luxmeter output is recorded. This method cannot be used in the field, so instead, a set of prisms are used to refract the beam up and down. Two types of prisms are used and by placing them in various combinations the beam can be refracted through a range of angles in half degree increments. A measurement is taken at each increment allowing the vertical beam profile to be plotted. The prisms are supported in a frame and blanking curtains hung around the frame to ensure that only light passing through the prisms is measured. Since some light is obstructed by the prism frames and blanking, the beam profile is only presented as a relative plot; as a percentage of the measured peak intensity. When all measurements for the vertical beam have been taken, the prisms, prism frame and curtains are removed and the nominal performance of the light is measured.

A demonstration of the field light measurement was car-

ried out on the Torre de Hércules lighthouse, A Coruña, Spain, during the IALA Conference in May 2014 to share the techniques used by R&RNAV and also to promote the benefits of field measurements among lighthouse authorities around the world.



Figure 6 - Torre de Hércules Lighthouse

This lighthouse has a rotating fourth-order optic with four catadioptric lens panels. The light source was a 400 Watt metal halide lamp. The measurement site was located 4.5 km to the east, across the bay and on ground where the luxmeter could be mounted in a stable position. The elevation of the measurement site was slightly lower than the light.



Figure 7 – Torre de Hércules Lighthouse Optic

The reference light used during the measurement was calibrated at 416,800 candela. From the recording screen it was seen that the peak intensity of the flashes is approximately twice the intensity of the reference light. The software converts the recorded values from the luxmeter to intensity values using the calibrated reference light intensity and reference light recording. The flash profile plot showed the peak is just over 800,000 candela. The recorded flash profiles were then further processed using the methods set out in IALA Recommendation E200 Part 4 to calculate the effective intensity of each flash. From this, the corresponding nominal range may be looked up from the table or formula provided in IALA Recommendation E200 2. Further details of the in-situ light measurement are given in IALA Recommendation E200 3.

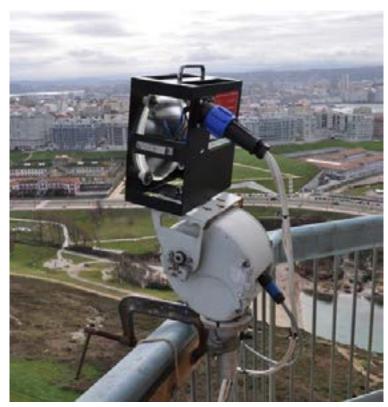


Figure 8 – Reference light and pan and tilt head temporarily installed at the lighthouse

#### Conclusion

The R&RNAV field measurement system has been used by the General Lighthouse Authorities of the UK and Ireland for many years, and has been used to confirm that the service provided meets the quality requirements for safe and reliable navigation. Readers requiring more information on the techniques used or the service provided by R&RNAV are invited to contact the author c/o The Editor at Trinity House, Tower Hill, London EC3N 4DH. (pridgway@globalnet.co.uk)

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# **KVH Videotel introduces Cyber Security** at Sea Training Programme

#### **Produced with BIMCO**

New programme designed to help seafarers recognise and respond to cyber threats

KVH VideotelTM has launched a cyber security training programme, produced in association with BIMCO, to address the threat of ransomware and other computer system breaches that could severely affect the safety of ships' crew, systems, and operations.

The maritime industry is in the midst of a focus on cyber security, and the IMO recently announced that it will soon be mandatory for companies to ensure that cyber security procedures are properly addressed in their ship's Safety Management System (SMS).

To create the training programme, KVH Videotel partnered with BIMCO, which has been active in recent years in researching maritime cyber security. BIMCO published guidelines in 2016 that have become an industry reference on the subject, and released an updated version in July of this year.

The main topics covered in the new Cyber Security at Sea training programme are:

- The nature of cyber security threats
- How to assess the risks to the ship's IT and OT (operational technology)
- How the risks to individuals and ships can be reduced
- How to respond to a cyber security breach or attack

In the words of Mark Woodhead, KVH senior vice president, EMEA: 'A cyber-attack can severely impact and impair vessel performance. Many cyber incidents onboard are triggered accidentally by seafarers opening phishing email attachments or hyperlinks, or using infected removable media, so this training programme explores how to minimise these risks by making personnel more aware of the types of malware.'

For more information readers are invited to see here: <a href="http://tinyurl.com/ycfxfmcr">http://tinyurl.com/ycfxfmcr</a>

#### Denmark and Japan sign maritime accord

#### Strengthening of Danish-Japanese cooperation

Areas where Denmark and Japan have many shared interests, such as the environment, digitalisation and quality shipping, were included in a Denmark – Japan agreement signed as we went to press with NL 017.

Denmark's Minister for Industry, Business and Financial Affairs Brian Mikkelsen said: 'Through this agreement we aim to strengthen Danish-Japanese relations within, inter

alia, green technology, the environment and digitalisation. In the longer term, this may enhance exports and create increased growth for companies in both countries. I am therefore very pleased that, with this agreement, we now put action behind our good intentions and specifically follow up on our visit to Japan earlier this year.'

The Memorandum of Cooperation was a follow-up on the visit to Japan by Minister for Industry, Business and Financial Affairs in April 2017. The agreement follows up on a strategic partnership agreement that was concluded between Denmark and Japan in 2014 and covers a wide number of areas, including the maritime area.

Specifically, the Memorandum of Cooperation concerned, *inter alia*, Denmark and Japan's intention to share knowledge and experiences within areas such as big data and digitalisation of certificates, which present an array of new possibilities for shipping.



The Memorandum of Cooperation was signed by the Danish Ambassador to Japan on behalf of the Danish Government, as illustrated.

#### **US Navy releases collision report**

#### USS Fitzgerald and USS John S McCain collisions

On 1 November the US Navy released a report detailing the events and actions that led to the collision of USS *Fitzgerald* (DDG 62) and *ACX Crystal* off the coast of Japan on 17 June and the collision of USS *John S McCain* (DDG 56) and merchant vessel *Alnic MC* on 21 August this year.

Chief of Naval Operations (CNO) Admiral John Richardson said: 'Both of these accidents were preventable and the respective investigations found multiple failures by watch standers that contributed to the incidents. We must do better.

'We are a Navy that learns from mistakes and the Navy is firmly committed to doing everything possible to prevent an accident like this from happening again. We must never allow an accident like this to take the lives of such magnificent young Sailors and inflict such painful grief on their families and the nation.

'The vast majority of our Sailors are conducting their missions effectively and professionally – protecting America from attack, promoting our interests and prosperity, and advocating for the rules that govern the vast commons from the sea floor to space and in cyberspace. This is what America expects and deserves from its Navy.

'Our culture, from the most junior sailor to the most senior Commander, must value achieving and maintaining high operational and warfighting standards of performance and these standards must be embedded in our equipment, individuals, teams and fleets.

'We will spend every effort needed to correct these problems and be stronger than before.'

#### **USS** Fitzgerald

The collision between *Fitzgerald* and *Crystal* was avoidable and resulted from an accumulation of smaller errors over time, ultimately resulting in a lack of adherence to sound navigational practices.

Specifically, *Fitzgerald*'s watch teams disregarded established norms of basic contact management and, more importantly, leadership failed to adhere to well-established protocols put in place to prevent collisions. In addition, the ship's triad was absent during an evolution where their experience, guidance and example would have greatly benefited the ship.



Photo reproduced by kind permission of the US Navy ©

#### **USS McCain**

The collision between *John S McCain* and *Alnic MC* was also avoidable and resulted primarily from complacency, over-confidence and lack of procedural compliance.



Photo reproduced by kind permission of the US Navy ©

A major contributing factor to the collision was sub-standard level of knowledge regarding the operation of the ship control console. In particular, *McCain*'s commanding officer disregarded recommendations from his executive officer, navigator and senior watch officer to set sea and anchor watch teams in a timely fashion to ensure the safe and effective operation of the ship.

With regard to procedures, no one on the bridge watch team, to include the commanding officer and executive officer, were properly trained on how to correctly operate the ship control console during a steering casualty.

In order to download the US Navy's report for the USS *Fitzgerald* and USS *John S McCain* collisions readers are invited to see here:

http://tinyurl.com/y6wd34dw

Collision map graphics are available here:

http://tinyurl.com/yapnmm4t

#### **US Navy's Fleet Comprehensive Review**

On 2 November, the US Navy released a Fleet Comprehensive Review conducted by Commander, US Fleet Forces Command, Admiral Phil Davidson.



Collisions between USS Fitzgerald (DDG 62) and mv ACX Crystal and between USS John S McCain (DDG 56) and mv Alnic MC, along with other similar incidents over the past year, indicated a need for the US Navy to undertake a review of a wider scope to better determine systemic causes.

The US Navy's *Comprehensive Review of Surface Force Incidents*, to give it its full title, completed on 26 October represents the results of this effort. This review represents a summary of significant actions needed to fix the larger problems and their causes leading up to these incidents.

The Secretary of the Navy, Hon Richard V Spencer, and the Chief of Naval Operations, Admiral John Richardson,

are committed to adopt suggested recommendations and to make every effort to ensure these types of accidents and attendant tragedies do not happen again. Doing so will ensure the Department of the Navy remains what it calls the pre-eminent naval force maintaining security and deterrence through sustained forward presence.

For the complete 177 page document *Comprehensive Review of Surface Force Incidents* conducted by Commander, US Fleet Forces Command, Admiral Phil Davidson, readers are invited to see here: <a href="http://tinyurl.com/yb3mpphw">http://tinyurl.com/yb3mpphw</a> In particular sections 3.2 and 3.3 will be of interest.

#### Cargo operations: fatal accident in port

## (UK) Marine Accident Investigation Branch (MAIB) report

On 18 December 2016, the bulk carrier *Graig Rotterdam* was discharging a deck cargo of packaged timber at anchor in Alexandria Port, Egypt.

At 1109, the bosun, a Chinese national, fell overboard after the timber deck cargo stack on which he was standing partially collapsed. He fell into a barge that was secured alongside. Although the ship's crew provided first-aid following the accident, the bosun later died of his injuries.



Photo: © MAIB.

#### Safety Issues

The MAIB report stated that poor stevedoring practices probably contributed to the unsecured cargo stack collapsing, and no measures were in place to prevent the bosun from falling overboard as a result

With the deck cargo lashings removed, the cargo packages had insufficient racking strength to counter the effects of ship movement, cargo repositioning, dunnage displacement, barges securing to deck cargo stacks, and cargo discharge operations over a prolonged period

Poor stevedoring practices that had previously been witnessed by the ship's crew were not discussed and so were allowed to continue

#### Recommendations

MAIB's report (see link below) continued by stating that Graig Ship Management Limited has been recommended (by MAIB document No 2017/149) to reinforce and, as appropriate, modify its Safety Management System with respect to the carriage of timber cargoes to ensure that:

- (a) a lifeline or other means for attaching a safety harness is available to counter the risk of ship's crew or shore stevedores falling from the top of a deck cargo stack or as a result of a deck cargo stack collapse;
- (b) where possible a master or chief officer should be appointed with experience of the cargo type being carried, and
- (c) ship's crew should proactively engage with shore stevedores for the purpose of maintaining a safe system of work during cargo operations.

Furthermore, Norlat Shipping Limited AS has been recommended (by No 2017/150) to ensure that all cargo information, as required by the IMO's Code of Safe Practice for Ships Carrying Timber Deck Cargoes, is provided to the master or his representative prior to loading cargo for all ships that it charters to carry timber deck cargo.

To see MAIB Accident Investigation Report 25/2017 readers are invited to take a look at the link here: <a href="http://tinyurl.com/y9ewfjom">http://tinyurl.com/y9ewfjom</a>

## **Denmark and Ghana cooperate on safety at sea**

Authority-to-authority cooperation has been initiated between the maritime administration of Denmark and that in Ghana to contribute to enhanced safety at sea and to develop the maritime sector in Ghana. This was reported by the Danish Maritime Administration on 10 November.

As part of ongoing cooperation between the maritime administrations in the two countries, five Ghanaian ship surveyors visited the Danish Maritime Authority in week commencing 5 November. During this visit, the two countries' ship surveyors exchanged knowledge and experience about their responsibilities when acting on behalf of their maritime administrations.

On the visit, a number of workshops were held, and together the Danish and Ghanaian ship surveyors carried out a number of practical exercises on board the ferry to the island of Samsø and the ferry between the two towns of Hundested and Rørvig.

This visit was a follow-up on the Danish ship surveyors' visit to Ghana earlier this year and is merely one of several activities indicating cooperation between the two administrations. In the words of Director General Andreas Nordseth from the Danish Maritime Authority: 'International regulation of shipping is paramount to creating safety at sea and a level playing field in the global maritime sector.

'But regulation only has an impact if it is actually implemented and enforced all over the world. Therefore, it is of the utmost importance that we cooperate across the borders and learn from each other.

'Consequently, we are pleased to share our knowledge and experience in areas where Ghana requests our assistance for developing its maritime sector.'

Ghana is one of the States at the centre of the positive political and economic development that has taken place in large parts of Africa during the last decade. It is clear that the maritime sector plays a major role in the continued development of Ghana, while the Danish shipping industry also has a large presence in West Africa.

#### A three year programme

Authority-to-authority cooperation is implemented in close partnership between the Danish Maritime Authority, the Ministry of Foreign Affairs of Denmark and the maritime authorities in Ghana. This cooperation, which dates from 2015 and will continue to August 2018, aims to support a continuous sustainable development of Ghana and Danish business activities in West Africa.

More specifically, work here is being carried out within three sub-projects, namely: (a) implementation and enforcement of international maritime regulation; (b) strengthening of pilotage in Ghana, and (c) the introduction of digital navigation instruments.



To support development, the Danish Maritime Authority has commenced maritime cooperation with the maritime authorities in Ghana in order to help strengthen the development of the Ghanaian maritime sector.

Photo: Danish Maritime Authority©

#### **eManifest Project update**

The European Maritime Safety Agency (EMSA) reported in its November newsletter that the Agency is running a pilot project in cooperation with the European Commission to demonstrate how an electronic, harmonised eManifest including different cargo formalities could fulfil reporting requirements in a harmonised manner by way of a European Maritime Single Window (EMSW).

It has been learnt that the EMSW prototype, developed by EMSA, is enhanced and used for the purpose of testing the eManifest involving industry representatives and the member state authorities concerned.

In September, member state maritime representatives met with the Electronic Customs Coordination Group (ECCG) members representing the customs authorities involved in the eManifest project to discuss progress and decide on the way forward.

EMSA presented some new eManifest principles of the next phase including a revised eManifest data set. Testing with stakeholders is scheduled for early 2018, it is understood.



Graphics reproduced by kind courtesy of EMSA ©

#### Inmarsat Launches SafetyNET II

In mid-November Inmarsat announced that it has launched a vital new service, SafetyNET II, for Maritime Safety Information Providers (MSIPs), marking a key stage in upgrading the Global Maritime Distress and Safety System (GMDSS), which helps to save thousands of lives at sea each year.

Inmarsat's new generation international broadcast and automatic reception service for Maritime Safety Information (MSI), enables MSIPs to transition their communications to web-based messaging. As a web-based service it is understood that SafetyNET II introduces broadcast scheduling, continual monitoring, message cancellation, multiple text input methods, among other functions and improvements for users.

It has been reported that following exhaustive testing with six host countries, SafetyNET II is now fully available for the delivery of safety-related messages to vessels including weather forecasts, navigational warnings and piracy alerts.

Furthermore, the new service is claimed to provide additional reassurance to Masters of ships in distress, by modernising the infrastructure supporting the IMO's GMDSS in a way that can enhance search and rescue operations.

Another enhancement reported sees the introduction of read-receipts, so Search and Rescue (SAR) personnel know whether messages responding to distress calls have been received. This may appear a seemingly small change, but one that assists in SAR decision-making.

During the trial period, SafetyNET II was instrumental in saving lives, with its use proving pivotal in two rescues overseen by authorities in New Zealand\*.

In the words of Peter Broadbent, Senior Vice President, Safety & Security, Inmarsat Maritime: 'SafetyNET II is an important and highly effective, next generation safety service. Direct input from MRCCs and other MSI providers was instrumental in developing and refining the solution to fit end-user requirements.'

'Most MSIPs are familiar with web-based interfaces which means the training requirement is lower. They can focus on new functionalities, such as the ability to schedule navigational warning repeat messages."



Peter Broadbent, Senior Vice President, Safety & Security, Inmarsat Maritime

Photo kindly provided by Inmarsat ©

Using a web-based platform MSIPs do not need to spend on specialised hardware or divert stretched resources for IT upkeep. Inmarsat recognised that the new system needed to be future-proofed and backwards compatible (that is to say it employs software that can operate with that of the same type but created earlier).

SafetyNET II is no longer limited to ships featuring Inmarsat C terminals. Ships with FleetBroadband will automatically benefit from enhanced resilience, as messages will have multiple pathways to reach the bridge.

To ensure redundancy, SafetyNET II is supported from two custom-built and synchronised data centres, one in London and the other in Burum (The Netherlands).

#### **About Inmarsat**

Inmarsat plc is the leading provider of global mobile satel-

lite communications services. Since 1979, Inmarsat has been providing reliable voice and high-speed data communications to governments, enterprises and other organizations, with a range of services that can be used on land, at sea or in the air.

Inmarsat operates globally with a presence in the major ports and centres of commerce on every continent.

#### **About SafetyNET II**

- For more than 20 years, SafetyNET has been the international service for broadcasting and automatic reception of Maritime Safety Information (MSI), transmitting up to 360,000 messages each year.
- All MSI messages from shore-to-ship are received on board free of charge.
- SafetyNET II has been named as a finalist in the Lloyds List Global Awards 2017 in the category identifying innovative technology or projects that have the potential to move shipping forward – whether in safety, environment or operational efficiency.

\*During trials SafetyNET II proved pivotal in the recovery of three men in a 15-foot wooden boat off the Marshall Islands, after Rescue Coordination Centre New Zealand (RCCNZ) asked its Marine Operations Centre in Wellington to supplement aerial searches with SafetyNET II alerts.

The master of a bulk carrier en route to Panama posted additional look-outs, spotting the stranded crew and allowing RCCNZ to coordinate retrieval.

In a second incident, a fishing crew of six were rescued after three days adrift in the Pacific Ocean, 200 nautical miles off Tonga. A SafetyNET II broadcast led to the crew's rescue by the German cruise ship MS *Albatros*.



## China: Mobile phone inspection by the authorities

In recent weeks Britannia P&I Club reported from London that it had been informed of an incident that took place in October. A non-Chinese flag ship alongside in Ningbo was boarded by the Immigration Authority. The entire crew were told to surrender their mobile phones.

Content from each of the crew phones was uploaded to the Immigration Authority's agent's laptop for inspection. Later, the agent explained the reason behind the search was a nationwide anti-terrorist campaign and that the search was for videos, files concerning terrorism or any other criminal-related activity. The ship was also advised that the same searches may continue as a routine inspection in the future.

Although the Immigration Authority claimed that they did not download any personal information, the situation is disturbing. The flag State of the ship in question is now considering making a formal protest to the Chinese Government, it is understood.

Members of the Britannia P&I Club have been advised to be aware of the situation and to make their own risk assessments about what kind of data their seafarers are storing in their mobile phones.

This incident could have been related to security surrounding the 19<sup>th</sup> National Congress of the Communist Party of China that took place in Beijing from 18-24 October.

#### When a ship is missing an anchor

#### Requirements by CG authorities in Argentina

News in recent weeks from Britannia P&I in London indicates that in Argentina when one of a ship's anchors is missing, the action outlined below has to be taken into account by Owners:

- If the ship is arriving in Argentine waters lacking one or more anchors, to load at any terminal within the Parana River, the ship should report this to the Coast Guard Authorities when entering.
- The ship will be inspected by the PSC (Port State Control) and, if arriving in ballast, the deficiency will be recorded requesting certain actions described in the PSC form as 99, 40, 50, 70 (that is: restricted ship operation, to report next port, to confirm whether the flag state has been informed as well as the class society).
- The ship arriving in ballast will not be detained and, in general, she will be authorized to proceed to the roads of the loading port or to the loading terminal located within the Parana River.
- However, once the ship reaches the roads of the loading port and she anchors waiting for a berth, she will be required by Coast Guard Authorities to be escorted by a tug at all times. She will also be required to have a tug once in laden condition to escort the ship from the loading port/terminal up to Recalada Pilot Station (located at Lat: 35° 06′35′′ S Long 55° 57′65′′W in the open River Plate close to the port of Montevideo, Uruguay) as navigation is in restricted waters (navigational channels).
- It should be noted that operating in the above manner will be an expensive exercise as tugs will charge a return-to-base rate, most-commonly by the hour.
- On some occasions the Coast Guard will also require a pilot to remain onboard when at roads.

Owners should be aware that if they are on the Parana River and an anchor is lost, tug assistance may be required. There have been a number of cases recently where the above has not been clearly communicated and Owners have not informed the Coast Guard promptly, it is understood.

#### **ICS and OECD**

## Shipping must be economically sustainable if it is to deliver on environmental sustainability

Addressing government trade negotiators in the OECD Working Party on Shipbuilding at a workshop on green growth in Paris on 20 November, the International Chamber of Shipping (ICS) asserted that the shipping industry could only be environmentally sustainable if it is economically sustainable too.

In the words of ICS Director of Policy Simon Bennett: 'The perennial challenge facing shipowners is overcapacity, aided and abetted by government subsidies and support measures that encourage shipyards to produce ships that are surplus to requirements.



Simon Bennett, ICS Director of Policy and External Relations.

Photo: © ICS.

'If governments are serious about helping the shipping industry deliver on the United Nations Sustainable Development Goals, the OECD needs to reboot efforts to have a global agreement on the elimination of market distorting measures from shipbuilding. Despite being in existence for over 50 years it is disappointing that the working party on shipbuilding has still made little progress, with the last round of negotiations on a new OECD agreement having been suspended several years ago.'

ICS also set out the progress that is being made to further improve the shipping industry's environmental performance.

With regard to successfully implementing the UN IMO Ballast Water Management Convention, Bennett said, whenever possible, shipowners should only install treatment systems that have been approved in accordance with the revised and more robust type-approval standards adopted by IMO in 2016, even though their use is not yet mandatory, in order to ensure that it would be fit for purpose in all operating conditions worldwide.

On the 2020 global sulphur in fuel cap, ICS explained that in conjunction with other shipowner associations it is working on a proposal to IMO that the carriage of non-compliant bunker fuels should be banned in order to ensure fair competition.

On the development by IMO of a suitably ambitious strategy for the reduction of CO<sub>2</sub> emissions by the international shipping sector, Bennett commented: 'The vision of ICS is zero CO<sub>2</sub> emissions as soon as possible using alternative fuels and new propulsion technologies. But so long as ships are dependent on fossil fuels, IMO Member States need to be both politically and technically realistic about what can be achieved in the short term if this is to be compatible with the legitimate concerns of emerging economies about the impacts on trade and their sustainable development.'

#### **ABB Ability™ Marine Pilot Vision**

#### Looking beyond human vision for ship automation

ABB has unveiled a new situational awareness tool that could make vessel operations safer and more efficient. It is reported the device can be used by officers anywhere on board a ship and could mark the next step towards remotely controlled and ultimately autonomous ships.

Known as ABB Ability™ Marine Pilot Vision the equipment (*illustrated*) takes advantage of advances in sensor technology and computer vision to offer multiple real-time visualizations of a vessel's surroundings and new ways of perceiving its situation.



A virtual model of the ship is superimposed on real surroundings, making it possible to see the operation from a third person's perspective. The officer can switch between views instantaneously, making it easier to predict vessel motions and be alert to previously hidden obstacles or collision risks. The resulting improvement in situational awareness could have significant benefits for safety and operational efficiency, it is reported.

'Launch of ABB Ability™ Marine Pilot Vision addresses an important step in the ongoing digitalization of ship operations,' said Juha Koskela, Managing Director at ABB Marine & Ports. 'This new solution indicates an important landmark in ABB's digital strategy and offering for our customers. It also demonstrates the aspiration and technology leadership that ABB has to offer for the maritime industry.'

There is no doubt that computer vision has advanced significantly in recent years.

# Container ship load planning systems' vulnerability

Ethical hackers Pen Test Partners have highlighted a vulnerability in the load planning processes used by container ships.

In the words of Senior Partner, Ken Munro: 'Intercepting and modifying the messaging used in bay planning can be relatively straightforward if you know what you are doing. When asked to investigate this, we noticed a lack of security in the validation of the message's integrity and a simple phishing attack is all it takes to gain access.'

By modifying the messages, and therefore the loading plan itself, a hacker could cause a vessel to list by swapping the order that containers are loaded leading to instability.



Illustration kindly provided by Pen Test Partners: <a href="https://www.pentestpartners.com">www.pentestpartners.com</a> ©

Hackers could also cause environmental damage and incur heavy fines for shipping lines by forcing emergency discharge of ballast water as a result of unexpected out-oftrim situations caused by bay plan manipulation.

Refrigerated containers could be switched off spoiling thousands of pounds worth of perishable food, and so the list goes on.

Not only that, but Pen Test Partners have discovered that USB sticks are commonly used to transfer the load plans from ship to port. This poses a major security risk as a USB infected with malware could cause series issues for port authorities.

Munro added: 'Ship security has a long way to go to catch up with the level of security we expect in corporate networks. They are remote, difficult to update, and their IT hardware is often old and not well maintained. Ship owners and managers need to have a cyber security plan in place and should review their current IT systems to make sure that any potential weak points open to attack are closed as soon as possible.'

Pen Test Partners LLP is a penetration testing company that specializes in security testing of maritime, automotive and utility control systems. It provides unbiased testing and appraisal of any and every environment, whether a container ship, a connected vehicle, the latest smart fridge or even connected toys.

The company also advises on incident response, in real time, when needed.

More information including security tips, good practice advice and fascinating hacking examples are to be found at <a href="https://www.pentestpartners.com/">https://www.pentestpartners.com/</a>

With examples of chaos that can be created in the marine business see here: <a href="http://tinyurl.com/yadlgbr5">http://tinyurl.com/yadlgbr5</a>

#### **IMO Bravery Awards**

#### Houston maritime pilots

Two maritime pilots (*pictured*) who defied fire to bring a burning ship to safety, averting a major maritime catastrophe, received the 2017 IMO Award for Exceptional Bravery at Sea\* during the 2017 IMO awards ceremony, held at HQ in London on 27 November.

Pilots Captain Michael G McGee and Captain Michael C Phillips, from Houston, were recognized for their role in averting a major tragedy in September 2016. The ship they were piloting, the 247 metres loa tanker *Aframax River*, broke down in the Houston Ship Channel in the middle of the night and burst into flames after colliding with mooring dolphins.







Captain McGee and Captain Phillips were surrounded by a towering wall of burning fuel as the raging fire quickly spread across the channel, threatening other tank ships and nearby waterfront facilities.

Both pilots remained at their stations on the bridge of the ship during the fire. Captain McGee managed to manoeuvre the stricken and blazing vessel away from surrounding ships and facilities. Captain Phillips coordinated communications and firefighting efforts with the United States Coast Guard and numerous local fireboats. Captain Phillips rushed to grab a fire extinguisher and put out a fire raging on the port bridge wing.

The inferno was finally extinguished after 90 minutes, leaving both pilots exhausted and suffering minor burns. Captain McGee, using tugs, was then able to bring the damaged tanker safely to a mooring facility.

Both pilots were nominated by the International Maritime Pilots' Association (IMPA). The Award was decided by a panel of judges and endorsed by the IMO Council at its 118<sup>th</sup> session in July this year.

Presenting the pilots with medals and certificates, IMO Secretary-General Kitack Lim said they had been faced with a challenge which was out of the ordinary and required great initiative and heroism.



Accepting the Award, Captain Phillips agreed that the incident on the night of 6 September, 2016 was not something that they encountered in routine piloting duties.

He said, 'It's also not something that we train for or practice. Frankly, we didn't have a lot of time to even think about what we needed to do. We just did it.

'We'd like to think, however, that we did what we did in large measure because we're state pilots. We're used to taking control when we climb aboard a ship. Pilots don't sit back and wait for others to tell them what to do. We also feel a deep responsibility for protecting our port.

'We are proud to be state commissioned pilots and proud of what state pilots do in safeguarding their respective ports. In that respect, we accept this award on behalf of our fellow pilots in Houston and everywhere else in the world.'

#### **Certificates of Commendation**

During the award ceremony, certificates of commendation were also presented to the following:

Boatswain's Mate First Class Jacob M Hylkema, crew member of the 52-foot motor life boat *Invincible*, United States Coast Guard. He was nominated by the USA, for risking his own life in rescuing the master of the sailing vessel *Grace* during rough seas, driving rain and strong winds off the west coast of the United States of America, near Westport, Washington, on a night in October 2016. Admiral Paul F Zukunft, Commandant of the United States Coast Guard received the certificate on his behalf.

**Vice-Captain Damir Rikanovic** (a Croatian national) and **Marina Team Leader Kurt Dreyer** (a German national), crew members of the passenger ship *Crystal Esprit*. They were nominated by the Cruise Lines International Association (CLIA), for rescuing, at great risk to themselves, eight people from the catamaran *El Diablo* which had been grounded on a reef off the Seychelles Islands during severe weather in February 2017.

Vice-Captain Rikanovic was at the ceremony in person to receive his certificate. Mr Gustaf Gronberg, Senior Vice President, Marine Operations and Newbuilding, Star Cruises Ltd, received Mr Dreyer's certificate on his behalf.

Mr Lee Gwang Hee, Chief Engineer of the fishing boat 2015 Bogyeongho. He was nominated by the International Transport Workers' Federation (ITF) for his courage and determination while fighting a fire that had broken out in the engine room of the fishing boat which was off the coast of the Republic of Korea at the time. The fire was quickly spreading. After initially being unable to put out the fire, Mr Lee, a national of the Republic of Korea, courageously re-entered the engine room, closing ventilators and the entrance door, and extinguished the fire, saving the lives of his fellow seafarers.

Mr Branko Berlan, Accredited Representative to IMO, ITF, received the certificate on his behalf.

#### **Letters of Commendation**

Letters of commendation have been sent to:

**Captain Lu Guoqiang**, Master of the patrol boat *Haixun 0611*, Lianyungang Maritime Safety Administration, nominated by China, for rescuing seven crew members of the sinking cargo ship *Sulianyunganghuo 1667*.

**Captain Patrick Norrgård** and the crew of mv *Norstream*, nominated by Finland, for rescuing seven crew members of the sunken cargo vessel *Fluvius Tamar*.

**Captain Amir Janbod** (posthumously), Master of mv *Golafruz*, nominated by the Islamic Republic of Iran, for his role in the rescue of eight crew members of the yacht *Trekker II*. Sadly, Captain Janbod passed away on the *Golafruz* three days later, following a heart attack.

The **crew of the rescue helicopter** *Pesca II*, Galicia Coast Guard Service, and the crew of the rescue helicopter *Helimer 211*, Spanish Maritime Safety Agency, nominated by Spain, for their role in the coordinated rescue operation of twelve crew members of the sunken fishing vessel *Gure Uxua*.

The **crew of the fast rescue boat** *Kiyem 5*, Turkish Directorate General of Coastal Safety, nominated by Turkey, for rescuing all ten crew members of the sailing boat *Acadia 7*.

**IMO** Award for Exceptional Bravery at Sea This annual Award was established by IMO to provide international recognition for those who, at the risk of losing their own life, perform acts of exceptional bravery, displaying outstanding courage in attempting to save life at sea or in attempting to prevent or mitigate damage to the marine environment.

For 2017, 33 nominations were received from 16 Member States and five non-governmental organizations. If you wish IFSMA to nominate a person(s) for this prestigious award, please contact hq@ifsma.org.

#### IMO prize presented to Koji Sekimizu

On 27 November the prestigious IMO Prize for 2016 was presented to Koji Sekimizu, former Secretary General of the IMO, and Honorary IFSMA Member, for his contribution to the work of the organization over many years.

IMO Secretary-General Kitack Lim made the presentation at the IMO awards ceremony and said: 'Mr Sekimizu has dedicated his career and his lifetime to promoting safety of life at sea and protecting the marine and atmospheric environment. He is truly deserving of the International Maritime Prize.'

The IMO Council unanimously decided in July to award the Prize to Mr Sekimizu, IMO Secretary-General Emeritus, in recognition of his invaluable contribution to the work and objectives of the Organization and the international maritime community as a whole. Mr Sekimizu, a Japanese national, had a long and distinguished career with IMO, culminating in his four-year stewardship as Secretary-General for the four years from 2012 to 2015.



Kitack Lim, William O'Neil, Koji Sekimizu, Efthimios Mitropoulos

Accepting the prize, Mr Sekimizu expressed his gratitude for the honour and reflected on more than a quarter of a century spent working at IMO. He said: I spent the whole of my professional life in the development of international rules and regulations at IMO for safety at sea and prevention of pollution from ships and ensuring maritime security. It was a great honour for me to serve IMO and the international maritime community as the Secretary-General and I am proud of my life totally devoted to IMO.'

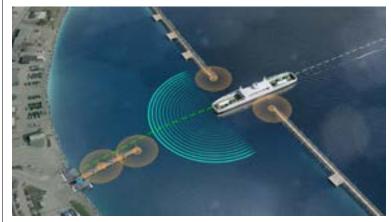
Mr Sekimizu was nominated for the prize by the Government of Japan, who highlighted his contribution as director of both the Maritime Safety and Marine Environment Divisions, and as IMO Secretary-General.

Former Secretary Generals, William O'Neil and Efthimios Mitropoulos, also attended the ceremenony to congratulate Koji Sekimizu.

## Space technology to drive autonomous ships

It was reported by the European Space Agency (ESA) from Paris on 30 November that Director General Jan Wörner had signed a Memorandum of Intent with Rolls-Royce, as the two entities agree to investigate how space technology can be used to develop autonomous and remote-controlled ships.

The partners will pool their expertise to analyse and implement space-enabled services for autonomous and remote-controlled shipping, which reduces the opportunity for human error and allows ships' crews to concentrate on more valuable tasks.



An autodocking system automates the first and last phases of the crossing right up to the quay.

It is understood there are plans to study the applications of various space assets to autonomous shipping, such as satellite-based positioning, better situational awareness using Earth observation data, and satellite communications (satcom) services for improved onboard connectivity.

Collaboration with the Rolls-Royce Ship Intelligence division aims to develop and validate new ship-to-shore integrated land-based and satellite-based systems.

ESA has been working on these for some time under its Satellite for 5G (S45G) initiative.

S45G aims at developing and demonstrating integrated satellite- and terrestrial-based 5G services, across multiple vertical markets and various use cases.

It was reported that the 5G next generation of communication services will rely on this harmonious integration of networks, driving a convergence of fixed and mobile services, including satellite communication services.

#### Weaving together terrestrial and space services

Furthermore, it was reported that ESA is supporting the technological and supply chain evolutions that are required to weave together terrestrial and space services, with a focus on the transport sector (maritime, aviation and land based), and on other markets such as public safety and media.

This unified space-and-ground service is what will enable the operation of commercial autonomous shipping, as well as drive innovation in future commercial marine vessels, cargo logistics and smart ports, it is understood.

The two partners, ESA and R-R, have agreed to cooperate to test, validate and innovate on satellite communications connectivity technologies and applications between vessel and shore, as well as to support the testing and modelling of the safety-critical software that would make self-operated ships viable.



Autodocking systems use additional sensors to assess proximity to harbour structures such as moles at the entrance, and distance to the berth. The propulsion system is adjusted by the system to bring the ferry safely and with minimum energy consumption to and from the docks.

Future Rolls-Royce navigation and telecommunication equipment will be able to be tested at ESA's technical centre in The Netherlands, capitalising on the centre's spacegrade facilities.

Jan Wörner said: 'Space technologies provide tangible benefits for the citizens of Europe. Partnerships, such as this one with Rolls-Royce, take solutions originally developed for the unique challenges of the space environment and bring them down to Earth.

'Space 4.0 and ESA's Satellite for 5G initiative enable, support and foster developments, validations and trials of products and applications in diverse areas of the maritime industry, and this partnership between ESA and Rolls-Royce will enable satellites to serve ship intelligence, marine operations, navigation, cargo logistics, maritime safety, healthcare, passenger and crew communications.'

Photos: Copyright: Rolls-Royce Plc ©

#### **IMO Council 2018-2019**

IMO announced on 1 December that the Assembly had elected the following States to be Members of its Council for the 2018-2019 biennium:

**Category (a)** 10 States with the largest interest in providing international shipping services:

China, Greece, Italy, Japan, Norway, Panama, Republic of Korea, Russian Federation, United Kingdom, United States.

**Category (b)** 10 States with the largest interest in international seaborne trade:

Australia, Brazil, Canada, France, Germany, India, Netherlands, Spain, Sweden, United Arab Emirates.

**Category (c)** 20 States not elected under (a) or (b) above, which have special interests in maritime transport or navigation and whose election to the Council will ensure the representation of all major geographic areas of the world:

Bahamas, Belgium, Chile, Cyprus, Denmark, Egypt, Indonesia, Jamaica, Kenya, Liberia, Malaysia, Malta, Mexico, Morocco, Peru, Philippines, Singapore, South Africa, Thailand, Turkey.

The Council is the executive organ of IMO and is responsible, under the Assembly, for supervising the work of the Organization. Between sessions of the Assembly, the Council performs all the functions of the Assembly, except that of making recommendations to Governments on maritime safety and pollution prevention.

#### **Election of Council Chair**

The newly elected Council met on 7 December and elected Mr. Xiaojie Zhang (China) as Chair for 2018-2019. The election of the Vice-Chair was postponed until July 2018. The Council expressed its deep appreciation for the outstanding efforts and achievements of the previous Chair, Mr Jeff Lantz (United States).

#### **IMO Assembly**

The 30<sup>th</sup> Assembly of IMO gathered in meeting in London at IMO HQ on 27 November sitting to 6 December 2017.

All 172 Member States and three Associate Members\* are entitled to attend the Assembly, which is IMO's highest governing body.

The intergovernmental organizations with which agreements of co-operation have been concluded and international non-governmental organizations (of which IHMA is one) in consultative status with IMO are also invited to attend.

The Assembly normally meets once every two years in regular session. It is responsible for approving the work programme, voting the budget and determining the financial arrangements of the Organization. It also elects the Organization's 40-Member Council.

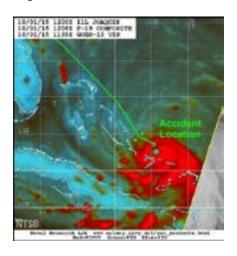
\*Faroes, Hong Kong China and Hong Kong Macao.

#### El Faro loss

#### **US NTSB accident report issued**

It was announced at a public meeting in Washington on 12 December by the National Transportation Safety Board (NTSB) that the deadliest shipping disaster involving a US-flagged vessel in more than 30 years was caused by a captain's failure to avoid sailing into a hurricane despite numerous opportunities to route a course away from hazardous weather.

The 790 ft loa cargo vessel, ss *El Faro*, en route from Jacksonville, Florida, to San Juan, Puerto Rico, sank on 1 October 2015, in the Atlantic Ocean during Hurricane Joaquin, taking the lives of all 33 aboard.



Colour-enhanced satellite imagery of Hurricane Joaquin taken close to the accident time. El Faro's track is identified by the green line.

Illustration kindly provided by NTSB ©

In the words of NTSB Chairman Robert L Sumwalt: 'We may never understand why the captain failed to heed his crew's concerns about sailing into the path of a hurricane, or why he refused to chart a safer course away from such dangerous weather, but we know all too well the devastating consequences of those decisions.'

NTSB investigators worked closely with the US military and federal- and private-sector partners to locate the wreckage, photo- and video-document the ship and related debris field, and recover *El Faro*'s voyage data recorder from more than 15,000 feet under the surface of the sea.

El Faro departed Florida on 29 September 2015, and had a range of navigation options that would have allowed her steer clear of the storm that later became a Category 4 hurricane. The captain, consulting outdated weather forecasts and ignoring the suggestions of his bridge officers to take the ship farther south and away from the storm, ordered a course that intersected with the path of a hurricane that pounded the ship with 35-foot seas and winds of hurricane force 12.

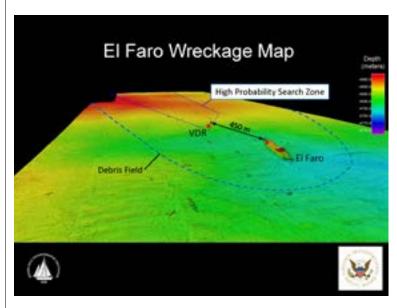
As the ship sailed into the outer bands of the storm, about five hours prior to the sinking, its speed decreased and it began to list to starboard due to severe wind and seas. In the last few hours of the voyage, the crew struggled to deal with a cascading series of events, any one of which could have endangered the ship on its own.

Seawater entered the ship through cargo loading and other openings on a partially enclosed deck in the ship's hull, pooled on the starboard side and poured through an open hatch into a cargo hold. The hold began to fill with seawater, and automobiles in the hold broke free of lashings and likely ruptured a fire main pipe that could have allowed thousands of gallons of seawater per minute into the ship – faster than could be removed by bilge pumps.

About 90 minutes before the sinking the listing ship lost its propulsion and was unable to manoeuvre, leaving it at the mercy of the sea. Although the captain ordered the crew to abandon ship when the sinking was imminent, the crew's chances of survival were significantly reduced because *El Faro* was equipped with life rafts and open uncovered lifeboats, which met requirements but were ineffective in hurricane conditions.

The NTSB also said that the poor oversight and inadequate safety management system of the ship's operator, TOTE, contributed to the sinking.

Added Sumwalt: 'Although El Faro and its crew should never have found themselves in such treacherous weather, that ship was not destined to sink. If the crew had more information about the status of the hatches, how to best manage the flooding situation, and the ship's vulnerabilities when in a sustained list, the accident might have been prevented.'



El Faro wreckage map.

Illustration kindly provided by Woods Hole Oceanographic

Institution/NTSB ©

As a result of the 26-month long investigation, the NTSB made 29 recommendations to the US Coast Guard, two to the Federal Communications Commission, one to the National Ocean and Atmospheric Administration, nine to the International Association of Classification Societies, one to the American Bureau of Shipping, one to Furuno Electric Company and ten to TOTE Services.

The complete accident report will be available in several weeks, it is reported. The executive summary, including the findings, probable cause and safety recommendations is available here: <a href="https://go.usa.gov/xnRAn">https://go.usa.gov/xnRAn</a>

Additional information related to this investigation, including news releases, photographs, videos, and a link to the accident docket containing more than 30,000 pages of factual material, is available on the *El Faro* accident investigation page at: <a href="http://go.usa.gov/xnRTW">http://go.usa.gov/xnRTW</a>

### The IMO Assembly 30th Session

#### 27 November to 6 December 2017

The IMO Assembly met for its 30<sup>th</sup> session at IMO HQ from 27 November to 6 December. The Assembly was the largest-ever gathering at IMO, attended by some 1,400 participants, including 56 at the ministerial level, from 165 Member States, as well as observers from inter-governmental and non-governmental organizations and from the World Maritime University (WMU) and the International Maritime Law Institute (IMLI).

The Assembly normally meets once every two years in regular session. It is responsible for approving the work programme, voting the budget and determining the financial arrangements of the Organization. It also elects the Organization's 40-Member Council.

#### Strategic directions and vision adopted

The Assembly adopted its strategic plan for 2018-2023, including a revised mission statement, a vision statement (included for the first time) and seven newly-identified strategic directions for IMO, placing the Organization firmly en route to supporting the implementation of the UN Sustainable Development Goals (SDGs) and the 2030 Agenda for Sustainable Development.

The strategic directions are:

- Improve implementation ensuring regulations are effectively, efficiently and consistently implemented and enforced.
- Integrate new and advancing technologies in the regulatory framework – balancing the benefits derived from new and advancing technologies against safety and security concerns, the impact on the environment and on international trade facilitation, the potential costs to the industry, and their impact on personnel, both on board and ashore.

- Respond to climate change developing appropriate, ambitious and realistic solutions to minimize shipping's contribution to air pollution and its impact on climate change.
- Engage in ocean governance engaging in the processes and mechanisms by which the use of the oceans and their resources are regulated and controlled.
- Enhance global facilitation and security of international trade addressing such as arrival and departure formalities, documentation and certification, and generally reducing the administrative burdens that surround ship operation.
- Ensure regulatory effectiveness improving the actual process of developing regulations, to make them more effective; gathering more data, and being better at using it to make decisions; getting better feedback from Member States and the industry and improving the way IMO learns from experience and feeds those lessons back into the regulatory process.
- Ensure organizational effectiveness increasing the overall effectiveness of IMO, including the Member states, non-governmental organizations, donors, the Secretariat all the many stakeholders in the Organization as a whole.

#### Vision statement

'IMO will uphold its leadership role as the global regulator of shipping, promote greater recognition of the sector's importance and enable the advancement of shipping, whilst addressing the challenges of continued developments in technology and world trade; and the need to meet the 2030 Agenda for Sustainable Development.

'To achieve this, IMO will focus on review, development and implementation of and compliance with IMO instruments in its pursuit to proactively identify, analyse and address emerging issues and support Member States in their implementation of the 2030 Agenda for Sustainable Development.'

#### Focus on marine plastic pollution

The Assembly recognized that the ongoing problem of marine plastic pollution required further consideration as part of a global solution within the framework of ocean governance. This is in line with the UN SDG 14 (Conserve and sustainably use the oceans, seas and marine resources for sustainable development) which has a target to prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution by 2025.

IMO's MARPOL treaty addresses garbage under its Annex V, which bans the discharge of plastics from ships into the oceans. The treaties which regulate the dumping

of wastes at sea (London Convention and Protocol) also have a role to play in addressing plastic in the oceans from land-based sources.

The Assembly recognized the role that the Organization has and continues to play in addressing this problem. The Assembly encouraged Member States, Parties to MAR-POL Annex V and international organizations to submit concrete proposals to the next sessions of the Marine Environment Protection Committee and the meeting of the Parties to the London Convention and Protocol which meet during 2018.

#### Polar code second phase welcomed

The IMO Assembly welcomed the planned work within the IMO Maritime Safety Committee (MSC) to build on the already-adopted Polar Code and move forwards with looking at how vessels not currently covered by its requirements might be regulated in future.

The Polar Code, which entered into force on 1 January 2017 under both the SOLAS and MARPOL treaties, provides additional requirements for safe ship operation in polar waters and the protection of the polar environment.

The work on the second phase, to address other vessels, including fishing vessels and smaller ships not covered by the SOLAS treaty, will be initiated at MSC 99 in May 2018.

#### Port State Control – revised procedures adopted

Port State control plays a crucially important role as the second line of defence against sub-standard ships. The Assembly adopted revised Procedures for Port State Control

The resolution contains a comprehensive compilation of guidelines relevant to Port State Control. It updates the previous Procedures for PSC adopted in 2011 (resolution A.1052(27)). The revisions include, in particular, guidelines on the ISM Code; the certification of seafarers, hours of rest and manning; and procedures regarding voluntary early implementation of amendments to the 1974 SOLAS Convention and related mandatory instruments.

#### Ratification of 2010 HNS Protocol urged

The Assembly adopted a resolution calling on States to consider ratifying a key treaty which will provide a global regime for liability and compensation in the event of an incident involving the international or domestic carriage by sea of Hazardous and Noxious Substances, such as chemicals, LPG and LNG.

The resolution calls on States to consider ratifying, or acceding to, the 2010 HNS Protocol and to implement it in a timely manner. It also urges all States to work together towards the implementation and entry into force of the 2010 HNS Protocol by sharing best practices, and in resolving any practical difficulties in setting up the new regime.

#### Launching missiles without warning condemned

The Assembly endorsed the decision of the IMO Council to strongly condemn recent missile launches by the Democratic People's Republic of Korea which posed clear and serious danger to the safety of shipping in international trade.

#### IMO budget adopted

The Organization's results-based budget and work programme for 2018 to 2019 was adopted by the Assembly.

The budget includes an assessment on Member States of £31,864,000 for 2018 and £33,242,000 for 2019.

#### **Election of Council Chair**

The newly elected Council met on 7 December and elected Mr Xiaojie Zhang (China) as Chair for 2018-2019. The election of the Vice-Chair was postponed until July 2018.

The Council expressed its deep appreciation for the outstanding efforts and achievements of the previous Chair, Mr Jeff Lantz (United States).

#### Resolution

Below will be found a selection of resolutions adopted which may be of interest to Members of IFSMA:

**A.1116(30)** Escape route signs and equipment location markings

A.1117(30) IMO Ship Identification Number Scheme

**A.1118(30)** Revised Guidelines on the implementation of the International Safety Management (ISM) Code by Administrators

A.1119(30) Procedures for Port State Control, 2017

**A.1120(30)** Survey Guidelines under the Harmonized System of Survey and Certification (HSSC), 2017

**A.1122(30)** Code for the transport and handling of hazardous and noxious liquid substances in bulk on offshore support vessels (OSV Chemical Code)

**A.1123(30)** Implementation and entry into force of the 2010 Hazardous and Noxious Substances Protocol.

# IMO global network of centres of excellence in marine technology launched

It was reported from IMO HQ on 4 December that the Directors of five regional Maritime Technology Cooperation Centres (MTCCs) have signed a Memorandum of Understanding to establish the global maritime technology centre network.

This network of MTCCS – in Africa, Asia, the Caribbean, Latin America and the Pacific – is the mainstay of the GMN\* maritime technology project, run by IMO and funded by the European Union.

MTCCs are expected to provide leadership in promoting ship energy-efficiency technologies and operations, and the reduction of harmful emissions from ships.

Through collaboration and outreach activities at regional level, the MTCCs will help countries develop national maritime energy-efficiency policies and measures, promote the uptake of low-carbon technologies and operations in maritime transport and establish voluntary pilot data-collection and reporting systems.

Speaking at the signing, IMO Secretary-General Kitack Lim offered his congratulations to all five MTCC representatives, MTCC host institutions, host countries and regions, the European Union, and the IMO Team for the rapid progress made in forming the GMN since the project was first mooted two years ago.

His Excellency said: 'The GMN project brings together two of the most important themes that IMO and its member states are pursuing as we move into a new era. These are developing new and innovative technology and building the necessary capacity, the latter especially directed to the developing world, to be in a position to take up that technology and then use it to its best advantage.

'Today, we live in a world in which new technology seems poised to have a transforming impact on all our lives. Shipping is no exception. Technology holds the key to a safer and more sustainable future for shipping.'

The GMN project supports IMO's work in meeting three key UN Sustainable Development Goals:

SDG 13, which includes a commitment to combat climate change and its impacts;

SDG 7, which commits to ensuring access to affordable, reliable, sustainable and modern energy for all; and

SDG 9 on industry, innovation and infrastructure.

The GMN project promotes international cooperation to facilitate access to clean energy research and technology, in particular energy-efficiency and advanced, cleaner fossil-fuel technology, and fosters investment in energy infrastructure and clean-energy technology.

Following the signing ceremony, MTCC Directors and other representatives from the MTCCS, as well as from the European Union and IMO are meeting in the project steering committee this week.

On 7 December, the first meeting of the Global Stakeholders Committee will be held, it is understood.

The Global Stakeholders Committee brings together technical experts to share ideas and provide long-term strategic guidance to the project. Participation in the stakeholder committee is on a voluntary basis and no fees are paid.

The five MTCCS are:

MTCC-Africa – hosted by Jomo Kenyatta University of Agriculture and Technology, Mombasa, Kenya

MTCC-Asia – hosted by Shanghai Maritime University, China

MTCC-Caribbean – hosted by University of Trinidad and Tobago, Trinidad and Tobago

MTCC-Latin America – hosted by International Maritime University of Panama, Panama

MTCC-Pacific - hosted by Pacific Community, Suva, Fiji

The following signed the MoU: Dr Robert Kiplimo, Director, (MTCC-Africa); Professor Jin Yongxing, Director, MTCC-Asia; Ms Vivian Rambarath-Parasram, Director, MTCC-Caribbean; Mr Eladio Peñaloza, Head, MTCC-Latin America; and Mr Thierry Nervale, Director, MTCC-Pacific.

Also present at the signing ceremony was Ms Magda Kopczynska, Director, Directorate-General for Mobility and Transport (DG MOVE) of the European Commission.



\* Global Maritime Technologies Cooperation Centres (MTCCs) Network: Developing countries and, in particular, Least Developed Countries and Small Islands Developing States, will be the main beneficiaries of this ambitious initiative. See also: <a href="https://gmn.imo.org">https://gmn.imo.org</a>

## Somalia signs Jeddah Amendment on illicit maritime activity

On 4 December IMO announced that Somalia had become the 14<sup>th</sup> signatory\* to the Jeddah Amendment to the Djibouti Code of Conduct – the instrument developed and adopted by countries in the Western Indian Ocean and Gulf of Aden that has been a key factor in repressing piracy and armed robbery against ships operating in that region.

This Amendment significantly broadened the scope of the Djibouti Code when it was adopted at a high-level meeting in Jeddah, Saudi Arabia in January 2017.

The document covers measures for suppressing a range of illicit activities, including piracy, arms trafficking, trafficking in narcotics, illegal trade in wildlife, illegal oil bunkering, crude oil theft, human trafficking, human smuggling,

and illegal dumping of toxic waste.



Photo (c) IMO

HE Mariam Aweis, Minister of Marine Transport and Ports, Federal Government of Somalia, deposited the instrument with IMO Secretary-General Kitack Lim at IMO Headquarters in London on 1 December.

\* Signatories are: Comoros, Djibouti, Ethiopia, Jordan, Kenya, Madagascar, Maldives, Mozambique, Saudi Arabia, Seychelles, Somalia, United Arab Emirates, United Republic of Tanzania and Yemen.

#### Collision between Tug and Ship

ATSB report: Collision between the tug *Arafura Sea Delta* and general cargo ship *Thorco Crystal*, Weipa Harbour, Queensland, 24 June 2017

On 6 December the Australian Transport Safety Bureau released the final report into its investigation of a collision between the tug *Arafura Sea Delta* and general cargo ship *Thorco Crystal* in Weipa Harbour, Queensland on 24 June 2017.

Summarised here are the events that day that have been investigated. *Arafura Sea Delta* and another tug were assigned to assist *Thorco Crystal*'s berthing at Weipa Harbour. *Arafura Sea Delta* came alongside *Thorco Crystal* near the ship's port quarter and made fast. The tug then experienced a sudden sheer to starboard towards the cargo ship. Despite actions by the tug master it collided resulting in an 80 mm long-breach in *Thorco Crystal*'s hull and minor damage to the tug.

The ATSB investigation found *Arafura Sea Delta*'s position, at the ship's port quarter, placed it in the low-pressure zone surrounding *Thorco Crystal*'s stern making the tug vulnerable to the effects of hydrodynamic interaction. Sudden sheer to starboard experienced by *Arafura Sea Delta*, that led to the collision, was likely caused by the hydrodynamic interaction forces generated by the flow of water around the *Thorco Crystal*'s hull.

The final ATSB report: Collision between the tug Arafura

Sea Delta and general cargo ship Thorco Crystal, Weipa Harbour, Queensland, 24 June 2017, is available here: <a href="http://tinyurl.com/yb6mcd9u">http://tinyurl.com/yb6mcd9u</a>

Operators are encouraged to review procedural guidance and risk assessments to ensure that they reflect the hazards and associated risks of interaction.

Further guidance on interaction and its effects can be found in Marine Guidance Note (MGN) 199 (M) – *Dangers of interaction* published by the UK's Maritime and Coastguard Agency in 2002. (See here:

http://tinyurl.com/yb5ssyux)

#### IALA Seminar on Arctic Navigation

IALA hosted a seminar on Arctic Navigation from 9 to 10 November 2017 at its HQ in St Germain-en-Laye, 78100, France. This event was following-up a meeting held in February 2010 at IALA attended by Arctic nations where a number of actions were agreed by participants.

Following that first meeting IALA informed IMO that nations should take the opportunity to:

- Initiate the establishment of a common Arctic ship reporting and data sharing system;
- Develop a common approach to marine traffic awareness and monitoring;
- Move towards a single, harmonized system of marine aids to navigation; and,
- Anticipate and mitigate risk to maritime traffic and the environment.

In this further meeting (9 & 10 November 2017) on Arctic navigation the views on the challenges of ensuring safe navigation in Arctic waters of all Arctic nations and international organizations having an interest in the field were discussed.

Thirty-eight delegates, representing eight countries\* and six Sister organisations\*\* attended and the seminar was structured with presentations on relevant topics.

**Conclusions** were agreed on the second day and these appear here:

- **1.** A harmonized approach should be adopted for marking polar routes and providing digital services with common standards of provision, web-based services and other means.
- **2.** IALA-NET is a suitable platform for exchanging and storing historical AIS data for statistical analysis and the use of Risk Management tools.
- **3.** Since connectivity is a primary enabler for development in the Arctic, the limited communication infrastructure continues to be a major challenge.

- **4.** VDES-SAT could provide virtual aids to navigation (AtoNs) and other e-navigation services in the Arctic. The frequency allocation needs to be supported at ITU.
- **5.** A multi-system approach should be developed for resilient PNT, using a mixture of GNSS and terrestrial systems and a multi-system receiver.
- **6.** There is a significant shortage of hydrographic survey data to give a comprehensive set of (simplified) ENCs for Arctic voyages. Crowd sourcing of hydrographic data can give a significant contribution.

The output documents were forwarded to the IALA Council to note and to all IALA Committees for future development.

#### To the Final Report were added two Annexes:

**ANNEX A** Resolution of the meeting between Canada, Denmark, Norway, Russian Federation, the United States of America and IALA on 10-12 February 2010.

**ANNEX B** Seminar on Arctic Navigation – Abstracts of presentations.

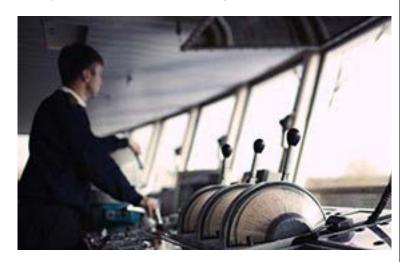
The Seminar Report is available here: <a href="http://tinyurl.com/y7dh35tt">http://tinyurl.com/y7dh35tt</a>

\*Canada, Denmark, Finland, Norway, People's Republic of China, Russia, Sweden and the United Kingdom.

\*\*CIRM, ICS, IHO, IMPA, NI, WMO.

## Danish call for autonomous ships' regulation

A new report on regulation of autonomous ships recommends that regulation should be decided at an international level. This was reported by the Danish Maritime Authority (DMA <a href="https://www.dma.dk">www.dma.dk</a>) early in December.



Maritime regulation, the report suggests, should be made more flexible if it is to support the development of autonomous ships. The DMA document identifies where changes in maritime regulation are needed and it is understood that it will be used as a platform for future effort by the Danish Maritime Authority to develop regulation and make it digitalisation-ready. It is reported that the overall approach to regulation is that autonomous ships must be at least as safe as conventional ships. The document, prepared by the consulting company Rambøll and CORE Law Firm for The Danish Maritime Authority, provides a clear recommendation that regulation in this area should be agreed upon internationally and more specifically in the IMO. Denmark is already working hard in moving this topic to the top of the agenda at international level.

#### Specific recommendations

The report provides a number of specific recommendations on how Denmark can facilitate and prepare the regulation of autonomous technologies by, *inter alia*, looking at the regulation on manning, the definition of the term Master and permission for a periodically unmanned bridge and electronic lookout.

#### Molly Manx grounding,

#### Otago Harbour, 19 August 2016

In August 2016, bulk cargo ship *Molly Manx* was inbound to Dunedin (Ravensbourne pier) with a harbour pilot on board. On approach to the narrow passage between the Halfway Islands, the ship ran aground on a sandbank. Damage was limited to the bottom paintwork. Nobody was injured.

At about 0600 on 19 August 2016, the bulk carrier *Molly Manx* arrived off Port Otago after an overnight passage from Lyttelton. A harbour pilot boarded the vessel at about 0630 and, after exchanging information with the master, the vessel entered the narrow channel taking it to its berth.

*Molly Manx* was the maximum permitted length for vessels navigating the upper portion of the channel.

The vessel had just passed Port Chalmers and was approaching a narrow passage between two islands known as the Halfway Islands with the pilot conducting the navigation of the vessel. Two tugs were in attendance: one connected to the stern of the vessel and one ranging ahead of the vessel, waiting to assist.

As the vessel neared the Halfway Islands it deviated from the intended track and grounded on a sand bank. With the aid of the vessel's engine and the tug connected to the stern, the vessel was able to move astern off the sand bank, after which it was manoeuvred stern-first back to Port Chalmers for assessment.

There was no breach of the hull, and damage was limited to the bottom paintwork. Nobody was injured.

#### **Findings**

 The Transport Accident Investigation Commission found that the vessel grounded because the bridge team lost situational awareness. Because the bridge team was not adequately monitoring its progress using

all available means, they did not realise that the vessel had deviated so far to starboard from the intended track.

The Commission also found that: there was no formal shared understanding between the pilot and the vessel's crew on what passage plan would be used; the vessel's navigation equipment was not correctly configured for navigating in a narrow channel; and the standard of bridge resource management on the bridge leading up to the grounding did not meet good industry practice.

#### Safety Issues

The Commission identified four safety issues relating to the standard of passage planning and performance of the bridge team.



The Molly Manx at Ravensbourne Fertiliser Terminal in Dunedin. © TAIC photo

#### Recommendations

The Commission made three recommendations to the Director of Maritime New Zealand to address those safety issues identified. These concerned:

- 1. The need for Port authorities to produce and publish passage plans
- 2. Passage plans to be uploadable to a vessel's ECDIS
- Provision of a website offering passage plans for download

#### Key lessons arising from this inquiry include:

- There must be an absolute agreement and shared understanding between the vessel's bridge team and the pilot as to the passage plan and monitoring against that plan
- Vessels' bridge teams must actively promote and use the concept of bridge resource management, including the incorporation of pilots into the bridge teams, to manage voyages properly, and
- A vessel's electronic chart display and information system (ECDIS) is an important system for monitoring the progress of the vessel and warning the bridge team when things could go wrong. It is essential that it be

configured correctly for the phase of navigation and the proximity to navigation hazards.

The full investigation report and map can be found on the TAIC Webpage at:

https://taic.org.nz/inquiry/mo-2016-204

# Canadian Coast Guard prepares for Great Lakes icebreaking operations

The Canadian Coast Guard, in partnership with the United States Coast Guard and the Ontario Provincial Police reminded users that icebreaking operations were due to commence in the third week of December 2017.

Dates and routes were subject to change with little or no notice, due to weather, ice conditions, shipping schedules or other unexpected situations.

Useful information is available here: <a href="http://tinyurl.com/owyfogx">http://tinyurl.com/owyfogx</a>



The CCGS Pierre Radisson is based in Quebec. She can proceed through metre-thick ice at 6 knots and has a range of 140 days or 15 000 nautical miles. In winter, Pierre Radisson is assigned to icebreaking and ship escort operations in the Gulf of St Lawrence and on the St Lawrence River and Saguenay River. In late winter, she carries out icebreaking and ship escort operations in the St. Lawrence Seaway and on the Great Lakes.

Every summer, the vessel travels to the Canadian Arctic to escort commercial ships and recommission and maintain aids to navigation. While in the Arctic Pierre Radisson also serves as a primary search and rescue unit and provides support to scientific missions when possible.



Photos: Canadian Coast Guard ©.

#### **IMO Workshops on Stowaways**

IMO is continuing to assist countries with the highest number of stowaway incidents recorded by spreading knowledge of effective port security measures, and, thereby, helping to facilitate the free flow of international maritime traffic.

This was reported from IMO HQ a few days before 2017 / 2018 Festive Break. In previous weeks workshops had been held in the ports of Abidjan, Côte d'Ivoire (from 11 to 15 December) and Dakar, Senegal (from 18 to 22 December 2017).

At those gatherings participants from the relevant national authorities were trained to plan and conduct effective self-assessments and to undertake internal / external audits of port facilities, in line with IMO guidance on voluntary self-assessment.

Consultants assessed ports' compliance with stowaway provisions under IMO's Facilitation Convention and with recommendations adopted by a regional conference on stowaways held in 2014.

Both workshops followed similar workshops that took place in Freetown, Sierra Leone, and Tema, Ghana, in November 2017. These were funded by the Government of Denmark and carried out in conjunction with Côte d'Ivoire's national authority for maritime affairs and ports (DGAMP) and Senegal's national agency for maritime affairs (ANAM).

To find out more about IMO's security work see here: http://tinyurl.com/y939syd8

And to read about why facilitating the free flow of maritime traffic matters, see here: <a href="http://tinyurl.com/y8t3ulpj">http://tinyurl.com/y8t3ulpj</a>

# Canada's options to protect the North Atlantic Right Whale from further harm

## 12 North Atlantic Right Whale deaths in the Gulf of St. Lawrence from June to September 2017

Canada's commitment to protecting the North Atlantic Right Whale was emphasised at a roundtable meeting led by the Hon Dominic LeBlanc, Minister of Fisheries, Oceans and the Canadian Coast Guard. This was reported from Monckton, New Brunswick on 10 November.

Minister LeBlanc met representatives from fishing organizations, marine transport industries, cruise lines, ferry associations, indigenous peoples, whale experts and scientists, as well as the United States National Oceanic and Atmospheric Administration (NOAA), to discuss concrete actions which can be taken to better protect the right whale in Canadian waters.

This roundtable is just one part of a comprehensive ap-

proach to ensure these marine mammals are protected for future generations.

Moving forward, the Government of Canada will work with partners on many of the specific proposals that were discussed throughout the day, which include:

- Actively exploring opportunities to adjust existing fishing gear immediately to reduce the risk of entanglements.
- Testing new gear technologies that would reduce the amount of rope in the water and lower the risk of whale entanglements.
- Adjusting fishing seasons to avoid periods when right whales congregate.
- Implementing measures to reduce lost fishing gear that poses a risk to whales and other species.
- Enhancing whale sighting and detection information, and timely sharing of this information among all those concerned.
- Considering seasonal speed restrictions in target areas and adjustments to shipping lanes based on accurate and timely whale sightings information.
- Improving the collaboration and coordination across industry sectors, governments and non-governmental organizations to leverage the expertise on the protection and recovery of the North Atlantic Right Whale.

The collective expertise gathered in this forum and the proposed actions will help inform Canadian government policy on reducing the impacts of human activity on right whales and to protecting the nation's waters and marine life for generations to come.



In the words of Minister LeBlanc: 'Everyone around the table understood the urgency of this situation, and the need to take concrete actions to protect the North Atlantic Right Whale. Having experts, industry representatives, scientists and Indigenous communities participate in these meetings brings a more diverse and complete understanding of the situation. This discussion was profoundly helpful in assessing the long-term options available to our government. We will work quickly to ensure the survival and recovery of this iconic species'.

#### **Background**

This roundtable meeting stems from an unprecedented 12

North Atlantic Right Whale deaths in the Gulf of St. Lawrence from June to September 2017.

The Government of Canada's \$1.5 billion investment in the Oceans Protection Plan includes measures that will address threats to marine mammals in Canadian waters and enhance capacity to respond to marine mammal incidents.

In summer 2017, Canadians were invited to share their views through the Let's Talk Whales consultation aimed at helping the recovery of the North Atlantic Right Whale, the St. Lawrence Estuary Beluga and the Southern Resident Killer Whale. Almost 20,000 people participated and contributed over 200 ideas in response to the question: 'How can we, as Canadians, take action now to reduce impacts on at-risk whales and help their recovery?'

#### Students visit IFSMA

On 23 November we were very pleased to meet a group of 15 maritime students from Bremen University visiting London with Captain Associate Professor, Willi Wittig, Deputy IFSMA President. We were able to give them an introduction to IFSMA with information on where our members come from and what IFSMA does to support them, with emphasis on IMO as they also had a visit to the IMO Headquarters.

While in London they took the opportunity to visit as many international maritime organisations as possible to enhance their understanding of the shipping world.



The Students on a visit to IMO.

These students, although mainly from Germany, included some from Ecuador, Cameroon, Afghanistan, Croatia and Poland.

In the words of Captain Paul Owen, Assistant Secretary General of IFSMA: 'It was a pleasure to meet them and they showed a good interest in IFSMA indicated by the questions they asked. We look forward to welcoming them as members in due course once they become Shipmasters.'

#### From the Office.

From the previous article you will have noticed that we had a visit by a group of students from Germany, these visits are always welcome to break up our routine. It was interesting to see the mix of nationalities amongst them.

The end of year period is always a busy time for the office, especially this year with this Newsletter, notice of Executive Council Elections (to take place during the next AGA) to prepare and send out, AGA Registration Forms to organise, Hotel details in Buenos Aires to obtain, preparations for the next Executive Council meeting in February, and the Annual Subscription invoices to send out, this final item will be a little delayed this year.

We are also preparing for another year of IMO meetings, the first will be the Ship Design and Construction (SDC) sub-committee towards the end of January. Items of particular interest to us will be the carriage of more than 12 personnel on board vessels engaged on international voyages, safe mooring operations, subdivision and damage stability, the availability of passenger ships' electrical power supply in cases of flooding from side raking damage.

An ongoing subject for the SDC sub-committee you may not be aware of is the subject of Wing-in-Ground Effect craft where consideration of a Guideline document will be discussed. These craft can be considered to be half ship and half aeroplane, the draft Guidelines mention up to 450 passengers at various heights above the sea (or land) and I recall the speeds these craft have achieved in the past are in excess of 100 knots.

This website gives links to information on these craft: <a href="https://en.wikipedia.org/wiki/List\_of\_ground\_effect\_vehicles">https://en.wikipedia.org/wiki/List\_of\_ground\_effect\_vehicles</a>

The end result of the WIG craft deliberations is likely to be a document similar to the High Speed Craft Code

The final version of the amended Statutes and Bye-Laws, as agreed by the last Annual General Assembly in Baltimore, has now been published on the IFSMA website.

Papers for presentation at AGA requested by 5th Feb.

Articles of interest to Shipmasters for publication here always welcome, send to hq@ifsma.org.

From the office may we wish you a Happy, Healthy and Prosperous 2018 with calm seas.

Paul Owen Assistant Secretary General.