

INTERNATIONAL FEDERATION OF SHIPMASTERS' ASSOCIATIONS



42ND ANNUAL GENERAL ASSEMBLY

ISTANBUL, TURKEY, 25-26 MAY 2016

MINUTES

ANNEXES

APPENDIX

42nd AGA Proceedings

With the Compliments of
The Secretary General

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MINUTES OF THE 42nd ANNUAL GENERAL ASSEMBLY

Istanbul, Turkey

The 42nd Annual General Assembly was held in the Double Tree Hilton Hotel, Kadikoy, Istanbul, Turkey, on Wednesday 25th and Thursday 26th May 2016 at the invitation of IFSMA Association member Turkish Ocean-Going Masters' Association.

LIST OF DELEGATES

EXECUTIVE COUNCIL

Hans Sande (Norway)	President
Willi Wittig (Germany)	Deputy President
Koichi Akatsuka (Japan)	Vice President
Marcel van den Broek (Netherlands)	Vice President
Fritz Ganzhorn (Denmark)	Vice President

MEMBERS OF ASSOCIATIONS (Listed alphabetically by country)

Dimitar Dimitrov	BSMA	Bulgaria
Ivan Conev	BSMA	Bulgaria
Boudewijn Baert	KBZ	Belgium
John McCann	CMMC	Canada
Juan Gamper	Nautilus	Chile
Fritz Ganzhorn	DMO	Denmark
Martin Bjorkel	FSOU	Finland
Willi Wittig	VDKS & Deputy President & ExCo	Germany
Suresh Bhardwaj	CMMI	India
Koichi Akatsuka	JCA	Japan
Jadzeps Spridzans	LSMA	Latvia
Marcel van den Broek	Nautilus International & Exco	Netherlands
Fredrik van Wijnen	NVKK	Netherlands
Morten Kveim	NMOA	Norway
Hans Sande	NMOA & President	Norway
Mats Jäderland	MOA	Sweden
Mehmet Birol Bayrakdar	TOGSMA (President)	Turkey
I. Arif Bostan	TOGSMA	Turkey
Cem Yilmaz	TOGSMA	Turkey
Kory Karagöz	TOGSMA	Turkey
Kamil Mamat	TOGSMA	Turkey
Zafer Akbulut	TOGSMA	Turkey
Özgür Çetin	TOGSMA	Turkey
Ömer Salci	TOGSMA	Turkey
Ertan Gencay	TOGSMA	Turkey
Can Kiraç	TOGSMA	Turkey
Tuğsan İşıaçık Çolak	TOGSMA	Turkey
Ismail Akpınar	TOGSMA	Turkey
Yilmaz Onur	TOGSMA	Turkey

Salih Zeki Çakir	TOGSMA	Turkey
Saim Oğuzülgen	TOGSMA	Turkey
Bülend Temur	TOGSMA	Turkey
Erkan Dereli	TOGSMA	Turkey
Mutlu Dünder	TOGSMA	Turkey
Bülent Karamahmutoğlu	TOGSMA	Turkey
Hasan Can Gümüş	TOGSMA	Turkey
Cengiz Karabüber	TOGSMA	Turkey
Alev Tunç	TOGSMA	Turkey
Miran Akçar	TOGSMA	Turkey
Rekik İakdoğan	TOGSMA	Turkey
Allan Graveson	NautilusInt(UK)	UK

INDIVIDUAL MEMBERS

Sudhir Subhedar	India
Vlodoymyr Melkonyan	Malta
Owen, Paul	UK (Ind Mem & Secretariat)

SECRETARIAT

Commodore Jim Scorer	Secretary General
Captain Paul Owen	Assistant Secretary General
Mrs. Roberta Howlett	Retired

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

AGENDA ITEM 1 – Welcome

Captain Birol Bayrakdar, President of Nautilus (Chile), welcomed all present to the 42nd Annual General Assembly, being held in the Double Tree Hilton Hotel, Kadikoy, Istanbul, Turkey. He outlined the programme arranged for members and their partners during the next two days and wished all a fruitful meeting. His written address may be found at [Annex A](#).

Captain Hans Sande, IFSMA President, replied to Captain Bayrakdar, thanking him for his warm welcome and gave his opening address. He introduced the recently appointed Secretary General, Commodore Jim Scorer. He then opened the 42nd Annual General Assembly. His written address may be found at [Annex B](#).

AGENDA ITEM 2 – Adoption of Agenda

The Agenda was adopted without amendment.

AGENDA ITEM 3 – Adoption of the Minutes to the 41st AGA

The Minutes to the 41st Annual General Assembly held in Viña Del Mar, Chile, on 16-17 April 2015, were adopted without amendment. They were published on the IFSMA Website shortly after the event, including the Resolutions passed. The minutes were accepted on the proposal of John McCann, seconded by Willi Wittig.

AGENDA ITEM 3a – Matters Arising from the Minutes to the 41st AGA

Juan Gamper commented that he is still encouraging his country's Administration to accept the Maritime Labour Convention. **Fredrik van Wijnen** commented on the ports of refuge situation - the **Acting Secretary General** replied that the EU had implemented measures to coordinate amongst EU countries access to a Port of Refuge to vessels in need. **Jim Scorer** added that the IMO Secretary General had encouraged other nations to follow the lead of the EU measures.

A **Turkish delegate** raised the subject of minimum manning onboard, he quoted the case of a container feeder ship entering port, the bridge crew had not rested due to the busy schedule, with no sleep for at least two days. He added that while the so called minimum manning may be acceptable in open waters, it should not be accepted in busy waters, such as around the Turkish Straits. **The President** assured him that safe manning is something that will be debated, he added that 80% of the world fleet is manned, not by owners, but by ship managers who are driven by the need to maximise their profits. He further commented that minimum manning is, in many cases, treated as maximum manning.

Jim Scorer commented that he had recently met with the Secretary General of IMO, Kitack Lim. During their one-hour meeting, he had informed him of the strategies that we are going to discuss later today, and he was very keen on our ideas for the future. Kitack Lim said he is very keen on seafarer issues and wants to see change in the industry and told Jim that he wanted IFSMA to be at the lead of the NGOs to try and find key areas where we can agree to press for change, he has offered the services of his Maritime Directorate and a meeting room at the IMO. After he has settled into his new job Jim said he needs to take charge of the group of NGOs, then to then go back and see Kitack Lim to tell him what we want the IMO Members to consider. He added that he believes one of the top items will be to remove the Shipmaster from Watchkeeping duties and additionally, to remove the 6on-6off watchkeeping routine. He concluded by saying that the President will outline the above aims in the afternoon when discussing IFSMA's Key Challenges for the future.

The President introduced a Norwegian made video on the subject of safe manning. The video was then shown.

AGENDA ITEM 4 – Establish Drafting Group

The Drafting Group was established and comprised: Willi Wittig and Fritz Ganzhorn.

AGENDA ITEM 5 – Secretary General's Report and Hon Auditor's Report**SECRETARY GENERAL'S REPORT**

The **Acting Secretary General** (Paul Owen) explained that since John Dickie left IFSMA he had taken on the responsibility of acting as Secretary General, and it was therefore his responsibility to give the Secretary General's Report. He referred to the written report handed out to all attendees.

He explained how IMO worked, in particular about how subjects can be raised at IMO Committees, which requires a full IMO Member to propose new agenda items. However, NGOs can co-sponsor papers and comment on existing agenda items. He added that IMO is a secretariat and it is the IMO Members (countries) that make all the decisions at the various meetings. In response to questions he replied that all the IMO NGOs are listed on the IMO

Website, there are around 77 NGO organisations listed. Regarding how to know what subjects will be raised at IMO, there is an IMO Documents website where all meeting papers may be read and/or downloaded, access to this website requires registration and the issuing of a username and password. IFSMA Members can request access to this website via email to hq@ifsma.org

He next explained the idea behind IMO Maritime Ambassadors, IFSMA has sponsored several applications, all successfully. Attendance at other meetings, subject to reasonable costs, and also free conferences which we often request member associations to attend on our behalf. When we receive a report on conferences attended then we can publish this information on our website to the benefit of all members.

He referred to a recent email he had sent out to all members reminding on the information available on our website. This includes the IFSMA Log, the IMO Reports, and Newsletters, from a show of hands it was confirmed that many members were aware of, and used this source of information. He emphasised that this is how we report to the membership and encouraged all members to visit these pages on a regular basis.

At the conclusion of his report he showed a short video, made by Rolls Royce, as an introduction to Autonomous Ships which will be the subject of a paper the second day.

Link to YouTube video <http://tinyurl.com/juaa9gf>

The Acting Secretary General provided details of example IMO Documents to show the varying lengths and how those submitting the documents are recorded.

Jim Scorer then gave a brief report on his attendance at IMO Maritime Safety Committee. He emphasised that, with 11,000 members, we need to gather the experience of our members so it can be used in our work at IMO and at other relevant events. He thanked those who assisted in attendance at this important Committee, namely - Allan Graveson, Morten Kveim and David Appleton. As usual, a full report on the MSC is posted on the IFSMA website.

AGENDA ITEM 6 – IFSMA ACCOUNTS

Paul Owen (acting as Treasurer) drew attention to the reports in the booklet handed to attendees. Firstly, he referred to the 2015 Approved Budget page which contained the budget together with the actual figures for 2015. He remarked that the income from associations is £13,593 ahead of the budget which was due to one Association paying several years of subscriptions in advance. Regarding the expenditure, the main difference to the budget was a reduction in staff costs from £62,000 down to £48,770, this was due to the fact that we do not at present have an office manager and only one staff member in the office since the resignation of the Secretary General at the end of August 2015 until 1st May. There were no questions. The 2015 figures were approved on the proposal of Dimitar Dimitrov and seconded by Marcel van den Broek. He then referred to the Balance sheet as of 31st December 2015, which shows our reserves are maintained at the same level of £75,000 invested in UK National Savings Bonds.

AGENDA ITEM 7 – Proposed budget for 2017

Paul Owen then introduced the proposed budget for 2017, this gave a total income of £105,000 and a total expenditure of £102,000 which included a budgeted amount of £10,200 for media to better promote the Federation. Postage has been reduced significantly by

dispensing with the Postal Franking machine and communicating mainly by email and our website. There is an extra item of £4,000 for an office move which will take place in the second half of 2017 when our landlord gives up occupancy of our building. If our current office share with CIRM continues, then we can once again reduce the costs of office space considerably. At this time we are unable to predict the increase in rental and service charges.

One member asked about 2016 figures, Paul Owen explained, that as we are only half way through the year, there were no meaningful figures to present at this time. He added that the 2016 budget was approved by the General Assembly last year. The 2017 budget had been approved by the Executive Council and he now asked for approval from the General Assembly. The 2017 budget was approved on the proposal of Dimitar Dimitrov and seconded by Marcel van den Broek.

Willi Wittig drew attention to the Hon Auditors report.

The Secretary General's Report, Treasurer's Report and 2017 budget were all **approved** by acclamation.

It was proposed and agreed to reappoint Rodger MacDonald as the Hon Auditor for another year.

AGENDA ITEM 8 – Selection of Venue for 43rd AGA in 2017

Paul Owen announced that we had received one invitation for next year from the Council of American Master Mariners (CAMM) to hold the Annual General Assembly in Charleston, South Carolina, on the East Coast of USA. He then invited **Jim Scorer** to address the meeting – Jim said that although the President of CAMM had hoped to attend, other commitments prevented him from doing so. He had asked Jim to give the invitation, on behalf of CAMM, to host next year's event, see letter of invitation at Annex C. CAMM had provided a short video introducing Charleston which was played for members. **The invitation was accepted by acclamation.**

A selection of introductory videos to Charleston may be found on the following webpage:

<http://tinyurl.com/h37tcuy>

AGENDA ITEM 9 & 10 – Presentation & Discussion of IFSMA Future Strategy Plan

The President presented **5 Key Challenges** that IFSMA has to face in the future. He explained each one in turn. Members commented on, and discussed, each Key Challenge as they were presented.

Key Challenge 1 - Skills and Competence of ships' crews and in particular:

- To learn from our membership where crews are lacking in practical skills and competence and
- Influence STCW amendments accordingly
- To enable the Shipmaster to undertake their mentoring responsibilities.

Key Challenge 2 – Criminalisation of the Shipmaster:

- Influence International Regulations to reduce the incidence of Criminalisation of the Shipmaster
- Create sufficient support amongst the membership for the Shipmasters Protection scheme.

Key Challenge 3 - The Role of the Shipmaster in the Operation of Ships of the Future:

- Both afloat and ashore and
- Influence the use and development of Ships of the Future
- To influence the regulations of Ships of the Future at IMO.

Key Challenge 4 - Safety Management:

- Development of improved Manning Levels in ships,
 - to influence the change of bridge Watchkeeping rosters - (6 on, 6 off)
 - by removal of the Shipmasters from the watch keeping roster
- Raise awareness and reduce the Administrative Burden of the Shipmaster
- Ensure the shipping industry is aware of its responsibilities to meet the objectives of the ISM Code.

Key Challenge 5 - Public relations and Communications Strategy:

- Sharing of information between Shipmasters
- IFSMA should be seen as the International Voice for Shipmasters
- Bring the IMO's attention to the practical and operational knowledge of our 11,000 Shipmaster members.

After Key Challenge 2 Hans Sande invited the Deputy President, Willi Wittig, to give a review the Master Mariner Protect insurance scheme.

The five Key Challenges were agreed by the General Assembly as IFSMA Policy for the future.

Day 2 – Thursday 26th May

Willi Wittig, Deputy President, welcomed all to the second day of the General Assembly. He thanked our hosts for the excellent arrangements and a splendid time the previous evening at the Annual Dinner. This was supported by a round of applause by all present. He also welcomed Roberta Howlett, the former Administration Officer for IFSMA, who joined us for a farewell visit.

Written Papers are available in the IFSMA Annual Review except for “Smart Ships”, Agenda Item 14, which is appended to this document (APPENDIX).

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

AGENDA ITEM 11 – Recognition for the Professional Mariner

Presented by Captain John McCann, CMMC, Canada

Q&A

Allan Graveson said he viewed this as Continuing Professional Development (CPD). He asked if they link a Certificate of Competency to an academic qualification? **John** answered not yet. He added that they are not saying that members are not competent. He explained that this was still the early days and outlined future plans. **Marcel van den Broek** asked how many people were involved? **John** answered five volunteers are signed up. They are learning as they go. If any other Associations were following this routine he would be pleased to hear from them. **Jazeps Spridzans** asked what 20 credits meant? **John** replied – 20 credits are required to be gained in one year, they hold a number of conferences for which members receive credits for attendance, also business management courses, or for writing papers on, e.g. E-Navigation. **Suresh Bhardwaj** commented that similar debate was presently going on in India, he asked how are a degree and competency combined? **John** replied that he wasn't the right person answer that. **Suresh Bhardwaj** commented that we need to have CPD in place and build up proficiency. **John** said that he agreed with this comment. **Will Wittig** commented that he very much appreciated what they are doing as a body of professional master mariners, in Germany, as long as he could remember, seagoing personnel always complained that in their vacation time they have to do courses. You have to invest in your own future and not remain where you started out. Most likely that others will follow you to push further development. He was looking forward to hearing in the future how they are progressing. **John McCann** replied that they are looking at cadet programs, and now have a cadet membership; they also participate in the Nautical Institute skills program. They have added Associate Membership to encourage the next generation.

AGENDA ITEM 12 – Analysis of Ballast Water Convention & Evaluation of Ballast Water Treatment Systems.

Presented by Tuğsan Işıaçık Çolak, Turkish Ocean Going Masters' Association

Q&A

Koichi Akatsuka asked if the Turkish Government had ratified the Ballast Water Management Convention. (Secretariat - Yes). **Tuğsan** noted that, so far, 34.79% of the world's tonnage have ratified the Convention, whereas at least 35% is required for the Convention to come into force. **Sudhir Subhedar** stated there are lots of gaps in ballast water treatment and asked what is the way forward. **Tuğsan** replied that it is not easy to fit these system, perhaps in 2020-25 we are ready. **Allan Graveson** noted that Nautilus as an organisation advocates the UV treatment system because it was less hazardous to Engineers, but he noted that combining this with the filter system will give improved security. He thanked Tuğsan for an excellent paper which he found very informative.

AGENDA ITEM 13 – Container Weight Verification Problems for Maritime Administrations**Presented by Sudhir Subhedar, Individual Member, India****Q&A**

Dimitar Dimitrov Said that he is involved in this industry, he agreed there are problems with container weights, and thinks that this is nothing new in industry, just a way to stop fraudulent practices. He added that we, as shipmasters, are interested in having this rule implemented. He noted there is the option for a shipper to use any weighing method, but it must be realistically stated. **Sudhir** replied that the problem needs to be addressed more pragmatically and informally across the world, we need more time, at least another year, to sort this out. **Allan Graveson** reminded that seven years ago he attended a conference in Geneva, India also attended, all present agreed to the new weighing system. At IMO the Government of India did not object to the proposal. Industry said it needed more time to implement, a three-month transition period was agreed as a concession. International trade must comply with international rules. **Sudhir** replied we can see what happens on 1st July **Jim Scorer** remarked that at IMO Vanuatu was the only nation that said they needed more time. None of the major nations raised objections. The IMO Secretary General did emphasise at the recent MSC meeting that if a nation had any problems they should bring it to the attention of IMO.

AGENDA ITEM 14 – Smart Ships**Presented by Allan Graveson, Nautilus International, UK****Q&A**

Jim Scorer Said he believed Shipmasters Associations can play an important part in the future of these ships – he added that he knows about a working group in UK involved with this and that he intends to be involved. He asked for information to be forwarded to IFSMA so any knowledge gained by members can be used in any international forums. **Allan** stated that there is no point in opposing Smart Ships as history tells us they will come anyway, so let's try to influence their proper introduction. **Boudewijn Baert** Agreed with the views expressed and added that in Belgium they have already started a working group on unmanned vessels which is looking at this subject in a positive way. One aspect is missing with manning, how to clean cargo holds between cargoes without a crew onboard. He did not think it was financially viable to have a ship idle while cargo spaces were cleaned by shore personnel. **Allan** answered that he believed ships will become more specialised so that cleaning will not be required or perhaps they will be self-cleaning. He added this will be better for the environment as well. We need to get away from the idea that ships in the future will continue to be operated as they are now. **Fritz Ganzhorn** agreed with Allan, adding that we can discuss to what scale this will happen. Maersk line, from financial analysts, are studying if they will they be able to exist in the future. Possibly Amazon, or similar companies, will appear with new ideas. Discussion – will engineers will be the last ones on board? Perhaps ships will have indicator lights when maintenance is needed. **Allan** said gave way to steam - maybe autonomous ships will give way to manned ships. **TOGMA** In case of an accident with a technology ship, who will be responsible? **Allan** The obvious persons to blame is the Shipmaster. We have to argue this point strongly. If you include the naval architect, then human error is more than 90% responsible. The only way to change this is to

change the insurance market. **Juan Gamper** asked how can officers gain experience with so few crew on board. **Allan** suggested this could be achieved with the use of training vessels, simulation, military vessels, training ashore, virtual reality, etc. **Fritz Ganzhorn** said if we need this technical progress then crewing will have to be organised to suit the youngsters. **Allan** added that there are tremendous opportunities. **Willi Wittig** agreed that we cannot stop progress in this area, he supported Jim Scorer's idea to gather experience from Members, to influence the system we need to talk with one voice. He suggested that his proposed FaceBook Group could serve this purpose and further suggested that each association designate one person to be responsible for monitoring and providing information to the FaceBook Group. **Jim Scorer** agreed, it will take a little time, he suggested that we need to appoint a Group Chairman, create a policy paper and that this is what the Associations work to.

AGENDA ITEM 15 – The Dangers of Electrostatic Discharge in Ship's Tanks

Author Dominique Perrot (ACOMM)

Due to time constraints, and the absence of the author, this paper was not presented. The written version of the paper may be found in the Annual Review document.

AGENDA ITEM 16 – For Effective Practice of the BRM – Are you sure about your BRM?

Video Presentation - Introduced by Koichi Akatsuka, Japan Captains Association

Q&A

Willi Wittig asked if the video could be purchased. **Koichi** replied that anyone interested in obtaining a copy of the video should please contact him. captka@kud.biglobe.ne.jp **Allan Graveson** remarked that the first JCA video he saw was on synchronised rolling, he found that for the more commercial videos he does not so easily remember the content, but the videos produced by JCA he always remembers. They have been very good over the years. **Fritz Ganzhorn** said that if he knew how many of his own members attended BRM courses it would be helpful and suggested that, regarding **Key Challenge 1**, it would be of great assistance if this question could be included in the Questionnaire.

AGENDA ITEM 17 – Paper Vs Action, Theory Vs Experience

Presented by Dimitar Dimitrov, Bulgarian Shipmasters Association

Q&A

Marcel van den Broek remarked that basically it sounds so logical to have something like this that one wonders why it isn't there already. The ship gets a well prepared pilot onboard and the pilot can concentrate on his key task. **Willi Wittig** from what he understood pilots operate in this way in many areas of the world already, before he boards he receives a set of information and the ship receives information from the pilot station. Perhaps it's a matter of learning from good practice. **Dimitar** replied that he already has a unified standard form for the master pilot exchange which could be sent electronically. **Fritz Ganzhorn** thanked Dimitar for his presentation, and suggestion for a Resolution. He agreed that in some ports he could imagine this was a problem. Instead of sending a Resolution to IMO he suggested it would be better to show the value of IFSMA as an organisation, and as a first step to discuss

this with IMPA and if we agree, to see if we can do some trouble shooting together with IMPA and make an IFSMA/IMPA Guideline instead of addressing it through the IMO. This might even be quicker. **Dimitar** added that he had already discussed this with the President of IMPA so they are aware of the problem. **Jim Scorer** commented that this would make a good subject for the NGO Group that IFSMA organises. **Vlodymyr Melkonyan** Stated that Harbour Masters are in charge of Port entrances. In his experience, in the Persian Gulf, five documents come onboard with the pilot. As an active Captain his main issue is a compromise between saving money, saving time and safety.

AGENDA ITEM 18 – Technology Integration in Modern Ship Management Practices

Presented by Suresh Bhardwaj, Company of Master Mariners of India.

Q&A

Jim Scorer remarked that often you don't know what questions to ask because you do not know the technology. He gave an example of bathymetric data displayed on ECDIS which can merge dotted contour lines into a solid line. **Suresh** recounted the experience with the Royal Majesty grounding when the GPS aerial lead become disconnected. **Allan Graveson** added that shipping is the centre of globalisation, the ship-owners are not saying we need this, they are not driving technology. The technology is being imposed upon them. **Suresh** replied that this was very true, the drive for technology comes from regulation. He gave the example of aircraft, there are only Airbus and Boeing aircraft so that an aircraft operated in Bangladesh is as good as an aircraft from anywhere else, this is not true in shipping. **Fritz Ganzhorn** noted that there was very good research behind the presentation. Following on from Jim Scorers suggestion yesterday, perhaps we could have a Working Groups, including CMMI and yourself, to meet at least one of the key challenges. **Jim Scorer** added that during the last 48 hours the 11,000 seafarers IFSMA have, has been referred to and this enormous intellectual property they have on what it is really like at sea. Is this something that, if we liaise with industry properly, the industry will actually use and want to be involved in. **Suresh** replied that SRI (in Cardiff) come to India to seek the voice of the seafarer. He concluded that as an industry we need to promote research.

AGENDA ITEM 19 – MV Karadeniz Sailing to European Ports in 1926 for Trade Fair

Presented by Refik Akdogan, Turkish Ocean Going Masters Association

Following this fascinating and very interesting historical presentation there was a round of applause. In thanking Captain Akdogan the Deputy President presented him with an IFSMA tie and lapel badge.

AGENDA ITEM 20 – Drafting Group Report and Any Other Business

1. DRAFTING GROUP REPORT

The Drafting Group reported back to the AGA with three AGA Statements, the third Statement was in support of the 5 Key Challenges agreed earlier. The Statements were agreed. See [Annex E](#).

2. ANY OTHER BUSINESS

A. Proposal for Future Annual General Assemblies

Deputy President Willi Wittig, presented a booklet with the proposal. It involved a change in the way we schedule AGAs and also a change to the content. He explained that at present we do not show our face to the industry in the outside world. Therefore, the proposal is to introduce a change in the format of our AGAs. It comprised of two different formats, one for even years and one for odd years.

Even years – to hold a brief one day AGA, just to cover what we have been doing with a reduced number of papers. This will save time and money.

Odd years – to hold a formal maritime conference over two and a half days, industry would be invited to this event and it would focus on elements which are important to us.

He also proposed that, to enhance the visibility if IFSMA, the introduction of a **Young Shipmaster Award** be considered. To help us grow, the young shipmaster needs to be involved. He added that with 40-50,000 vessels at sea, there are at least 60,000 shipmasters out there, so there is still a challenge ahead of us.

If agreed the above proposals could be introduced in 2019.

He then invited discussion on the proposals (summarised comments follow):

TOGMA suggested meeting in the UK in some years, and combining with London Shipping Week. Also parallel with IMO events. **Willi Wittig** said this was valid point. At the same time there might be risk of losing our identity at such events. The IMO Day of the Seafarer could be a focal point. Suggested we hold the events in countries where IFSMA has no affiliates yet, to promote IFSMA. **TOGMA** suggested young colleagues would be encouraged, and a few percent will become members. **Willi Wittig** Universities are one potential host. **Allan Graveson** endorsed the proposal saying it was very forward thinking, he sees problems holding the AGAs at the same time as other major events. We should also include nautical academies/colleges. **Fredrik van Wijnen** said 2.5 days is a bit long, involving extra nights in a hotel. As for which days to hold the meetings, he suggested to keep away from weekends (Tue/Wed/Thurs better). He noted that this would bring a lot of work for the organizers, and sponsors would be extremely difficult to find. **Willi Wittig** acknowledged these points, but noted that combining odds and evens the expenditure should be the same as a present. He suggested that if we publish proceedings Papers will reach more people in the industry. **Fritz Ganzhorn** noted there is a cost issue, and was concerned about even years. Content and costs, suggests biannual. **Willi Wittig** noted that at present some of papers are just for the sake of informing about a particular topic. We need a more focused way of holding the conference part of meetings. **Boudewijn Baert** Said it was difficult to decide now, and asked for the subject to be brought forward again next year. He suggested if we change to cut down AGAs many people will not attend. **Willi Wittig** suggested a biennial Young Shipmaster of the Year award. **Fredrik van Wijnen** felt it was important for members to gather every year. **Hans Sande** noted that we need to improve promotion to members. **Dimitar Dimitrov** excellent experience from previous years, he still preferred every year. **Willi Wittig** said that the idea is that IFSMA sets the topic. **Fredrik van Wijnen** suggested that if you organize something big you need sponsors, they will need to express their views and present their products. **Willi Wittig** replied that his experience is totally different, it is important how you come to terms with the sponsors. **Fritz Ganzhorn** agreed

with Hans and Willi, IFSMA sets the stage and needs to communicate better. If we have the right topic the press and sponsors will come. Also agreed that there could be a staff issue on how to organize. **Suresh Bhardwaj** Added that the challenge is that the voice of the seafarer is missing; we have the capacity and ability to have this voice. We need to focus on this. **Jim Scorer** said that with 11,000 shipmasters, we need to find a way to bring that to bear. **Juan Gamper** supported the proposal adding that it will be rather difficult for many of us to come to an AGA for only one day. **Willi Wittig** acknowledged that this was a valid point. One possible solution is to meet virtually. **Fredrik van Wijnen** noted that it's the meeting where things are decided. In Cork he remembers important things were agreed, very important. **Hans Sande** recounted the experience with NMOA in Norway. He invited members to acknowledge the ideas. **Jazeps Spridzans** noted that the average age of his members is 57, young captains are now joining. This was a business trip for him. He thought Dimitar Dimitrov's idea was good. The 6on-6off problems today for masters for example. We need to concentrate on such problems, and asked can we achieve change or not? He thought we needed more time to discuss this subject. **Hans Sande** reassured that we are not changing anything now.

B. Communications and Discussions With and Between Members

Willi Wittig described a system using a FaceBook forum whereby communications and discussions could take place between Members. He proposed three separate groups. He added that other systems, besides FaceBook, were available to host such forums. There was a brief discussion on this subject. Development of the idea and a suitable platform will continue.

C. IFSMA Resolutions Consolidation

Willi Wittig introduced this subject and referred to the Resolution Booklet which is available on the IFSMA Website. He explained that this booklet was getting bigger and bigger, with currently some 40 pages, and that he, together with ExCo Member Calvin Hunziker (USA), met and reviewed the collection of IFSMA Resolutions to see which ones addressed the same subjects. There were quite a number of issues repeatedly addressed. They formed them into clusters of similar subjects and said they would like to combine such Resolutions into a single new Resolution on relevant subjects. This should make it much easier for the Secretariat and other members, attending IMO and other meetings, to look up IFSMA Policy on a particular subject. Willi requested support for this proposal, by a show of hands **the majority were in favour**, the proposal was therefore supported.

D. Statements and Resolutions Committee.

Willi Wittig introduced this subject, which had been proposed to the Executive Council by Calvin Hunziker (USA), the objective being to become more organised when formulating IFSMA Resolutions in advance of an Annual General Assembly taking place. The wording for the proposal was displayed for members to read. See Annex D. He added that this would also help us to improve the wording of Resolutions. Willi asked for comments. **Dimitar Dimitrov** agreed with the proposal. **Fredrik van Wijnen** agreed with the proposal as a framework but added that the final wording should come from the AGA. **Marcel van den Broek** noted that this was a proposal which had been transferred from CAMM, he requested that the proposed document be present with correct IFSMA wording before a final decision was made. **Fritz Ganzhorn** summarised that this was an idea to streamline the Resolutions that are accepted by the AGA, it is workable, and also that there should be an evaluation as to whether the action is met or fulfilled the year after the AGA or perhaps over a longer period.

He also noted that it is already within the mandate of the ExCo to set up a working or drafting group, he asked if it was proposed to make a change to the Statutes and Byelaws. **Willi Wittig** replied that the purpose was twofold, firstly - to make the wording available at the meeting, and secondly - to keep track of progress in implementing IFSMA Resolutions and report such progress to the next subsequent AGAs. On the second day the final version of the wording was distributed.

E. Honorary Membership

Paul Owen announced that it was customary to award outgoing Secretary Generals, Honorary Membership. He reminded that **Captain John Dickie** had stepped down from the post at the end of August last year and asked the General Assembly for agreement to award John Honorary Membership, this was **agreed by acclamation**.

F. Retaining Members

Dimitar Dimitrov reported that he had difficulty retaining members. He requested that at the next AGA we include the theme “How to Retain Members – What do IFSMA Associations do to Retain and Recruit Members”.

Close of 42nd Annual General Assembly

The Deputy President, Willi Wittig, summarised the events of the last two days. He thanked our hosts Turkish Ocean-Going Masters Association who had done an excellent job of the arrangements for the AGA and also the delegates for making it such a successful General Assembly.

He looked forward to seeing all at next year’s Annual General Assembly in Charleston, South Carolina, USA, and wished everyone a safe journey home. The Deputy President then closed the 42nd Annual General Assembly.

ANNEX A**Welcome Address by Captain Birol Bayrakdar
President of Turkish Ocean-Going Masters Association**

Distinguished Delegates, Ladies and Gentlemen

Hosting this, the 42nd Annual General Assembly of the International Federation of Shipmasters' Associations here in Istanbul is both an honour and a responsibility. Not least is the issue of our dear guests security. Your attendance is not only a sign of your support, but also proof of our mutual resolution to resist the intent of terrorism. So it is with extra appreciation that we acknowledge your solidarity in joining us here today.

As we are all aware terrorism aims to manipulate and repress through fear and with this the cogs of civilizations start to falter.

Our job is about crossing oceans and seas and connecting continents. We ensure those cogs of civilization keep turning, we create stability by aiding trade, we cure illnesses by transporting medicines, in our endeavour we facilitate democracy, economic growth and prosperity. It is also our ships that bring aid, relief and hope to people in dire need. We are connecting cultures and languages with every new port and with every cargo that is united with its destination. Often we act as state persons representing our nations in far off lands setting an example in trust and courage.

The invisible lines that we draw across the world's seas are a unification and a global connection; indeed, if only we could transport ideas and tolerance along with our cargo the world would see vast improvement in every aspect.

It is with great pleasure that I welcome you here today.....

ANNEX B**Opening Address by Captain Hans Sande
President of IFSMA****Welcome to Istanbul Turkey**

Good Morning to you all and welcome to this the 42nd Annual General Assembly of IFSMA.

I would like to start by thanking our hosts for putting on this event here in Istanbul and to say how very grateful we are to the Turkish Ocean-Going Masters' Association for inviting us to this beautiful and vibrant city of Istanbul. On behalf of IFSMA I welcome you all to Istanbul, Turkey, especially to our new Secretary General Jim Scorer and others who are attending an IFSMA AGA for the first time.

I would also like to take this opportunity to once again thank last year's hosts of the AGA, Nautilus Chile, for their hospitality in Viña del Mar, beside the port of Valparaiso, Chile. A long way to travel for those not based in South America, but I'm sure that those of you who were able to attend will agree it was well worth the effort. Personally, I was unable to attend, so it gives me great pleasure to meet you all here in Istanbul.

The International Federation of Shipmasters' Associations was founded in 1974 by eight National Shipmasters' Associations. The objective was to unite the world's serving Shipmasters into a single professional co-ordinated body.

IFSMA today, is the only fully international professional organisation that unites and represents the world's serving Shipmasters. Our Federation represents over 11,000 Shipmasters from 60 countries either through their National Associations or as Individual Members, and to these I would like to welcome our new members including the KPIP Association from Indonesia.

We are a non-profit making, apolitical organisation, dedicated solely to the interests of the serving Shipmaster. Our objectives as a Federation are to ensure safe operational practices, to prevent human injury, to protect the marine environment and to ensure the safety of life and property at sea and the role of the shipmaster in achieving these objectives. The master is the one single position on board with a superior responsibility. Unfortunately, we see too often a master being detained for negligence.

I am extremely honoured to be the President of your Federation and along with the Executive Council from 9 Nations worldwide and our new Secretary General we want mark 2016 as a year of renewal for IFSMA. Key to this is the development of a new Strategic Plan which we will outline to you later in today's session. This Strategy will become the foundation of how we are going to move forward for the next few years and, with your help, we will develop a plan to be more open and inclusive in how we represent you, the Shipmaster, on the World Stage.

Our industry is, without doubt, one of the most important in the world. 95% of the World's Trade is moved by sea and despite the recent global recession, tonnage continues to increase in both numbers and size. In the last 5 years the number of Officers required to man this increased tonnage has grown by 24% and there is currently a 2% shortfall in supply. What is worrying to me is that the latest BIMCO prediction is that by 2020 the requirement for Officers will have increased another 12% and by 2025 a further 8% but the shortfall will increase from 2% to 11.7% in 2020 and to 18.3% by 2025.

There is no doubt that we at IFSMA need to work with others to encourage the training of more Officers worldwide, but we will have to watch very carefully the effort that comes from Ship Owners to continue their drive to reduce manning and competence levels in ships. This issue will be at the very centre of our Key Objectives in the Strategic Plan which will highlight aspects of SOLAS and the various International Codes, to cover Manning Levels in Ships, the Administrative burden of Shipmasters, the drive to remove Shipmasters from the bridge watchkeeping system, skills and competence of ships' crews and the Criminalisation of the Mariner.

I am of no doubt, as are you, that our Shipmasters are under increasing pressure to get their vessels and cargo or passengers to ports around the world in the most efficient and cost effective manner possible. Our seas are becoming more crowded with increased shipping, and the continued drive for Offshore Renewable Energy is reducing the space in which ships are able to navigate. Piracy continues to be a serious problem but I am pleased to say that in the last year the threat is starting to show encouraging signs of reduction. Nations have increased their efforts to achieve a greater understanding of what is happening in their Territorial Waters through the deployment of varying new sensor systems and greater military presence at sea. Whilst this improvement in technology helps in many areas it can also add increased pressure on our Shipmasters, as the very technology that should make our industry safer has enabled the ever increasing interference from shore management into the prime role of the Shipmaster – Command – and all that comes with that ultimate responsibility.

It is very easy for IFSMA to focus on the negative parts of our industry as we strive to make improvements for the benefit of our Shipmasters and all Mariners. However, we must never forget that over the centuries the Sea has provided opportunities for many millions of people and it is our responsibility to make sure that it does so in the future. When I look back over the years at what IFSMA has been able to do in influencing the change in Regulations for the better at International level, I feel extremely proud of the progress that has been made in improving conditions for Mariners at sea. However, be in no doubt that there remains much to do as there will always be those who try to take advantage of loopholes in the Worldwide Legislative System, and IFSMA will strive to identify and help close those loopholes. We have made huge progress over the years, but there is a lot of work to be done by us all.

At the AGA this year I hope you will find the Presentations we have tomorrow will prove to be both topical and informative and will leave you with food for thought for the future. What I hope they will do is to stimulate debate, particularly with what some might call, a couple of our futuristic presentations: "Technology Integration in

Modern Ship Management Practices” and “Smart Ships”. Both of these areas are developing at pace and we, the Shipmasters, need to be right at the heart of influencing how these areas are brought forward into our Environment. We are the ones with current and in depth knowledge of our Environment at sea, so it up to us to make sure our voice and influence is heard and acted upon.

With that, it gives me great pleasure to open the IFSMA 42nd Annual General Assembly.

ANNEX C

**Letter of Invitation from Council of American Master Mariners
To hold the 43rd Annual General Assembly in
Charleston, South Carolina, USA**

See next page

The Council of American Master Mariners, Inc.
 30623 Chihuahua Valley Road; Warner Springs, CA 92086-9220
 Phone: 951-767-3037; Fax: 951-767-3048; Web site: www.mastermariner.org

17 May 2016

Captain Jim Scorer, Secretary General
 International Federation of Ship Masters Associations (IFSMA)
 Licensed Master Mariner, Merchant Navy, United Kingdom
 202 Lambeth Road, London, SE1 7JY, UK

Secretary General Scorer:

Having recently been elected as the National President of the Council of American Master Mariners (Camm) I extend our congratulations and best wishes on your recent appointment to serve as Secretary General for IFSMA. Given your background and experience, we are confident that you will prove to be an asset to IFSMA and its members (including those of us at Camm).

As Camm's National President, it is my honor and privilege to extend an invitation to IFSMA to join us at our 2017 Annual General Meeting and Professional Development Conference. Our meeting will be held in the Port of Charleston, South Carolina, USA. The exact date is yet to be determined, but we expect it will be in April.

This invitation is extended with the hope that IFSMA will conduct its 2017 AGA in concert with Camm's AGM. It has been ten years since we last held a joint meeting and it is time we do so again. We look forward to sharing our joint interests.

Sincerely and respectfully,



Captain Jeff Cowan, MM, MNI
 National President
 Council of American Master Mariners
captcowan@mastermariner.org
www.mastermariner.org

Copy: Camm BoG



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Membership Chair

Captain Elizabeth Clark
captmm@bellsouth.net

Positions Committee Chair

Captain Frank Zabrocky
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Sidelights Magazine Chair

Captain RJ Klein
sidelights@mastermariner.org

Constitution & By-Laws Chair

Captain Pat Moloney
mmpat@earthlink.net

IFSMA Representative

Captain Cal Hunziker

ANNEX D

Statements and Resolutions Committee

1. The Resolutions Committee during the course of the operating year shall consider and recommend appropriate resolutions to be taken by the members at the Annual General Assembly in implementing its Resolutions. Such positions shall encompass, but not be limited to, existing, pending or proposed legislation; shall represent matters of major significance in keeping with the objectives of the Statutes and Bye-Laws; and shall include suggested action to be taken by the Executive Council, Secretary General, and Members.
2. Recommended resolutions shall be submitted to the Executive Council through the President. The Executive Council shall be given ten days for submitting official comments or objections. These shall be given full consideration at the time the Annual General Assembly takes appropriate final action.
3. The Resolutions Committee is constituted as the Resolutions Committee for purposes of the Annual General Assembly and shall receive from members, proposed resolutions on any subject which falls within the scope of the objectives of IFSMA. Such suggested resolutions shall be presented to the President or Secretary General in ample time to permit the Resolutions Committee properly to consider the scope and text of such resolution prior to the Annual General Assembly. The Resolutions Committee shall carefully consider all proposed resolutions submitted to it and may, on its own initiative, formulate and recommend additional resolutions. Unless the scope of any proposed resolution be clearly outside of or in conflict with, the broad objectives of IFSMA, the same shall be reported out by the resolutions committee to the Annual General Assembly. If the resolutions committee is unable to agree unanimously on the merits or text of any resolution(s), it shall present to the Annual General Assembly provided that there shall be at least two members of the committee subscribing to the minority report, who shall be given any opportunity to present and argue their views before the Annual General Assembly.

Captain Calvin C. Hunziker (Edited by Paul Owen)

Past National President Council of American Master Mariners
www.mastermariner.org Vice President IFSMA

ANNEX E

Annual General Assembly Statements

The 42nd AGA accepted the offer from Turkish Ocean-Going Masters Association, Turkish Maritime Pilots Association and University of Bahçeşehir Turkish Straits Application and Research Center to IFSMA to search and study together on Safe Manning Requirements on oceangoing vessel in transit of congested waters

The 42nd AGA encouraged the Executive Council to contact and work together with IMPA in order to take a unified action in developing standard electronic exchange form for pilot card, master-pilot exchange form/plan and other relevant information to be acknowledged by both ship and pilot which to be sent to the other party before ship's arrival in port and after acknowledgment electronically to be treated as acknowledged and signed.

The 42nd AGA debated the future work and strategy of IFSMA and concluded on the following five key challenges:

Key Challenge 1 - Skills and Competence of ships' crews and in particular:

- To learn from our membership where crews are lacking in practical skills and competence and
- Influence STCW amendments accordingly
- To enable the Shipmaster to undertake their mentoring responsibilities.

Key Challenge 2 – Criminalisation of the Shipmaster:

- Influence International Regulations to reduce the incidence of Criminalisation of the Shipmaster
- Create sufficient support amongst the membership for the Shipmasters Protection scheme.

Key Challenge 3 - The Role of the Shipmaster in the Operation of Ships of the Future:

- Both afloat and ashore and
- Influence the use and development of Ships of the Future
- To influence the regulations of Ships of the Future at IMO.

Key Challenge 4 - Safety Management:

- Development of improved Manning Levels in ships,
 - to influence the change of bridge Watchkeeping rosters - (6 on, 6 off)

- by removal of the Shipmasters from the watch keeping roster
- Raise awareness and reduce the Administrative Burden of the Shipmaster
- Ensure the shipping industry is aware of its responsibilities to meet the objectives of the ISM Code.

Key Challenge 5 - Public relations and Communications Strategy:

- Sharing of information between Shipmasters
- IFSMA should be seen as the International Voice for Shipmasters
- Bring the IMO's attention to the practical and operational knowledge of our 11,000 Shipmaster members.

APPENDIX

SMART SHIPS – BACK TO THE FUTURE

By Allan Graveson – Agenda Item 14

The subject of ‘autonomous’ or ‘smart’ (semi-autonomous) ships has recently emerged as a future concept for the shipping industry. While the terminology is still being debated, it is generally accepted that ‘autonomous’ ships are those without marine professionals and utilising advanced technology, whereas ‘smart’ or ‘semi-autonomous’ refers to ships where marine professionals utilise the advanced technology onboard.

Initially, limited interest was shown by a few economists, trade unionists, maritime professionals and industry commentators. As this technology gains more visibility, more questions are being asked as to its possibility and viability.

It is not this generation, or any generation, that forgets the challenges the last generation faced – that is either a fond memory or a nightmare best forgotten – it is the experience of the generation before the last generation that is forgotten. Technological change can take place at such a slow rate that it may not be readily apparent. Equally, it can occur at such a rate it is difficult to assimilate. The lessons of history suggest that it is futile to resist change and much better to embrace it in a way that it serves society and those working within the industry.

Looking back to the period of European expansionism, shipping made it possible and technology made shipping possible. This was not without considerable risk to those involved - both financially and at considerable personal risk to the seafarers. The 18th and 19th centuries were a period of considerable technological advance, which furthered commercial growth.

In navigation a breakthrough came with a functional solution to the ‘Longitude’ question by John Harrison in 1761/64, with trials of Chronometer H4. The high cost delayed routine carriage by the United Kingdom (UK) Royal Navy until 1825. Such was the cost and distrust of reliance on the Chronometer by commercial shipping, the use of the Lunar Distance Method remained an option until 1907 when the production of tables ceased.

In engineering, steamships were developed in the early 1800s and the first voyage of an iron ship in 1822 (Aaron Manby). But it was not until the first iron hull screw-driven ship (SS Great Britain) in 1847, that steam ships became commercially viable. Unreliability and ‘free wind’ meant masts remained a feature until the opening of the Suez Canal in 1869. Clipper ships co-existed with steam ships, albeit on different routes from the 1850s to 1900 and beyond.

The 20th century witnessed a change from coal to oil, the development of engine control systems and navigation equipment including the gyro compass, radar/ARPA, and terrestrial navigation systems. These developments, while hastened by two world wars, took decades to be universally adopted in commercial shipping such was the reluctance to incur cost and trust in new technology.

In communications a breakthrough came in the early 1900s with wireless telegraphy, but it was not until the 1980s with satellite communications that navigation changed after 200 years. This fundamental change was not resisted by marine professionals, despite the obvious de-skilling. The worry was taken out of navigation – self-interest, one's life! The shift to satellite communications not only improved search and rescue communications, but opened up new possibilities for the commercial operation of ships and the social welfare of seafarers.

Technology can be a liberating influence or a further means of making work a virtual prison with an incarceration of ideas and freedom of thought. Smart ships utilising both existing and new technology can reduce human error, improve safety and provide an alternative lifestyle for maritime professionals far removed from the near slave-like conditions experienced by some seafarers today. The 91/98 hour week and isolation from friends and family should be but a distant memory to future generations.

Shipping is the servant of trade and trade will demand the utilisation of new technology at an affordable cost. The potential for high-value jobs concentrated in 'hub ports', manufacturing and onboard ship is enormous. The concern is the nature of change, the rate of that change and the outcome of that change.

Change in shipping has historically been slow and remains relatively slow compared with other sectors of industry. Why is this?

Shipping is a contradiction, in that risk exists in every sea voyage, yet when it comes to the adoption of new technology the industry has shown not only a lack of willingness to accept, but often outright hostility. There is commercial risk and technological risk. The two are inextricably linked. Shipping is a capital-intensive industry where commercial risk is potentially great. Hence there is a reluctance to adopt new technology and jeopardise current income and profit. While there are early adopters, universal acceptance usually takes a considerable time.

The industry is more comfortable with commercial risk, despite the unpredictability of the predictable 'downturns' due to over-capacity and the cycles of world trade. The endless battle over the retention of paper charts in preference to electronic charts is just one recent illustration of the reluctance to accept technological change. Eventually, with a little regulatory help, electronic charts became a favourable option.

There are specific areas where autonomous vessels have been identified as immediately useful. One area is the extension of Remote Operated Vessels (ROVs) currently used for underwater survey work as intelligent seekers. These are referred to as low-cost Unmanned Autonomous Vehicles (UAVs); costing less than 100,000 Euros and capable of being launched by one person. Internet-connected UAVs will be capable of sending observations of seabed and water to data centres for evaluation and transmission to marine users. The potential for their use in the dredging industry for improving efficiency and effectiveness may be considerable. Other possibilities, including the recovery of persons from the water, have yet to be considered. The possibilities are the limit of imagination, yet the constraints remain economic rather than the technical.

In the military, at sea as in the air, the ability to keep humans out of harm's way has already been recognised with the procurement of mine sweeping vessels; extending to surface vessels to detect and hunt submarine incursions.

Drawing on the experience of drone technology in aviation and military commissioning Rolls-Royce in the UK are developing control systems and designing bridges for merchant shipping of the future. European countries, Japan, and the United States are conducting similar research.

In the UK at the University of Southampton, Building 176, alongside the new Lloyds Register Building, researchers are exploring the use of already developed 'drone technology' used by the military in the air. The University of Southampton includes within its mission statement, "... flexible education, which train students for jobs not even thought of." In reality the student researchers are creating the jobs of the future.

Turning to jobs not even thought of, let's explore and offer some assistance - going beyond specialist autonomous vessels, looking realistically at smart or semi-autonomous ships for the transport of goods, be it liquid bulk, dry bulk or containers. No one is suggesting – well, not yet - unmanned passenger and ro-ro passenger vessels; although robotics has been shown capable of mixing a cocktail, 'shaken not stirred'.

The transformation of labour structures with displacement and creation of new jobs will be unsettling for the current generation of seafarers and possibly resisted by an immediate past generation now working ashore. However, for a new generation where uncertainty is the norm the opportunities are endless.

Take a container vessel of 16,000 teu sailing from either Rotterdam or Liverpool to New York with a complement of eight; senior master and an alternative master on each watch accompanied by a supporting officer. Two other positions comprise of a specialist ETO and Catering/Medical support. A mooring gang and pilot, both in Rotterdam/Liverpool and New York, board for river transit, docking and undocking. Limited maintenance is undertaken during shore-supervised discharge and loading. Masters and officers are accommodated ashore. The vessel returns to Rotterdam/Liverpool with the same complement and they take leave. This is not the end of the seagoing rating - passenger vessels in an ever-increasing number will require personnel of all disciplines, as will specialised vessels such as dredgers and, no doubt, the opportunities for salvage will remain. Employment opportunities will be created in the repair facilities for smart ships and the handling of small specialist autonomous units.

The specialist bridge and watch pattern should reduce risk and fatigue. Duplication of systems and withdrawal from service for planned maintenance would be necessary. Engineering maintenance would be transferred to the shore. This would necessitate the building of specialist workshops and repair berths. Maintenance ports would develop at key ports and focal points on trading routes similar to aviation. All of which would require significant capital investment in infrastructure and personnel with the skills to install, maintain and operate equipment.

Requirement for pilotage services would depend on experience and frequency of port call, not dissimilar to the present system of pilot exemption certificates that

operate today. Mooring gangs would continue until more precise safer systems could be developed and installed appropriate to vessel type.

A shift of jobs from ship to shore and a shift in skills with a requirement for up-skilling both onboard and ashore are to be expected. There would be winners - but there need not be losers. As documented in research studies and explained in text books, managing change is not easy. The challenge is to ensure that the outcome benefits not only capital but labour shares in the new-found prosperity which is both financial and social. Ideally, the objective should be a balanced lifestyle that is safer and healthier, and financially secure.

It is with some irony that many individual seafarers and organisations representing those seafarers endorse a career at sea, but those individuals hark back to a time when port stays permitted extensive shore leave. A career in shipping rather than a career at sea is increasingly the norm - i.e. limited time at sea before obtaining employment ashore.

Merchant seafaring affords an opportunity to acquire skills, similar, but different from the military. Yet self-confidence, resourcefulness and all the other attributes that come from a disciplined and balanced education/training programme equips individuals for what life has to throw at them.

Technical risk can be reduced by installing duplicate or multi systems onboard. The weakness is in the capacity of existing communication and the vulnerability of position-fixing satellite systems. With the smart vessel concept communication is less significant and vulnerability of position fixing systems can be mitigated. An onboard position-fixing system, modelled on earlier inertia navigator systems, with accuracy close to that of current satellite systems is estimated to be 10 years away. If developed, in this timescale it is unlikely to be made immediately available for commercial use at an acceptable cost. The 'smart' ship option appears the sensible way forward rather than accept the risk associated with totally new and unproven equipment.

Before any step can be taken towards either smart or autonomous shipping the issue of fuel needs to be addressed. Liquefied Natural Gas (LNG) is one option that facilitates this, in that the fuel requires no 'conditioning' and maintenance can be more easily managed.

Commercial risk is inextricably linked to technical risk. Shipping is a capital-intensive industry. Capital is readily obtainable, as demonstrated so frequently by over-tonnage in the endless repetitive cycle of boom and bust of trade. Multi-billion streams of capital are readily available, given the temptation of a rate of return of 15% that is rarely obtainable elsewhere in industry or payback within 20 months. This is when the sun is shining on a particular sector, not when the clouds of recession are gathering.

The move to smart ships would require substantial investment, and even more for autonomous ships. Cost savings on labour would be minimal given the relative low unit cost of labour as a result of economy of size and a fractured global labour market. Labour costs may well increase due to the scarcity of specialised labour

required to construct, fit-out, operate and maintain this new technology. This will be a factor in the speed of adoption.

Interest amongst marine professionals and their representatives could be described as cautious, concerned and sceptical. Predictably, the International Transport Workers' Federation (ITF) has identified, rightly so, the threats to present seafarer employment. The International Chamber of Shipping (ICS) has remained silent; usually this is an indication of grudging acceptance, but 'not for us now'. Amongst the professional bodies the Nautical Institute has held a conference, understandably no firm direction at this time. The court of nautical opinion is undecided at best, with gathering opposition. This is despite the repeated lessons of history - namely, 'opposition is futile'.

The focus has been on the possibilities of the technology with little consideration of the economics or social implications. The economist Martyn Stopford has examined the possibilities and concluded, predictably, that economics will determine the rate of adoption. Others that have addressed this issue have come to a similar conclusion. Yet nobody has considered the social implications. Is this a feature of an industry so conditioned that it considers the workforce as disposable commodities?

Currently, short distance – line of sight communication affords capacity and reasonable security for specific uses. Where satellite communications are involved the risk of interruption is considerable from solar flares, meteorite strikes and sabotage. Therefore coastal shipping would be more readily adaptable to autonomous ships given the reduced risks. Addressing this sector of the industry would remove the greatest abuse of seafarers, namely, excessive working hours from the master and one officer on a 6-on/6-off interrupted watch pattern causing acute and chronic fatigue with serious long term health effects.

Increased satellite capacity and onboard broadband are pre-requisites to technological advance. The three requirements for communications provided as a package: Search and Rescue (SAR); Commercial (access to real-time shore databases and equipment manufacturers, including specialist advice); Social 24/7 internet for seafarers (access would remove social isolation and afford access to education/training material).

Today's generation relies on technology more than any other. Those of past and immediate past generations in referring to navigation readily cite the 'mark one eyeball'. That is fine providing the visibility is good. However, limitations in human sight and interpretation exist. Intelligent use of a range of sensing and computing equipment can facilitate an optimum and safe decision. Similarly, in the engine room sensing and diagnostic tools can help prevent incidents and find solutions to emerging situations.

The helmet of an F35 pilot provides 360 degree vision in differing conditions of light and visibility. The potential to commercial shipping, without the helmet, affords the opportunity to increase situational awareness and hence improved decision-making. This could be transferred to a remote location ashore. This is unlikely until the technological and commercial risks are acceptable, and the extensive regulatory hurdles are overcome.

Remote sensing ashore of engineroom equipment affords the opportunity for expert assistance from manufacturers, so improving maintenance and efficient operation. This is readily acceptable, whereas such monitoring of navigational equipment and support is resisted. In ever-congested surface waters, direction of shipping is inevitable. This already exists in compulsory pilotage areas, albeit via the 'advice' of the pilot or Vessel Traffic Services (VTS) under the authority of the harbour master. It is a small step from direction of a smart ship to control of an autonomous ship in coastal waters and in territorial waters the international regulatory complexities are absent.

What position should marine professionals take – if any? Change is going to happen. By not only accepting change but advocating change in a particular direction it is possible to set the agenda and better steer that change towards an acceptable outcome. The autonomous option is likely to be initially limited to specific specialised purposes. Development of autonomous ships for coastal waters has arguably less commercial and technological risk than deep sea with direct remote control from shore. The risk of choosing the autonomous option remains high, particularly away from land. Given the absence of regulatory impediments, the smart or semi-autonomous option appears preferable. If change is managed properly, it affords the opportunity for improving life at sea and creating new highly skilled jobs - both afloat and ashore.

Allan Graveson & Marcel van de Brock
Nautilus International.

Recent Published Articles -

Richard Clayton – *Autonomous Shipping, Step by Step*. HIS Fairplay: 17th March 2016.

Allan Graveson- *Embrace change – secure employment*. The Naval Architect: September 2015.

Michael Grey – *Autonomous Herrings*. www.lloydslist.com

Martin Stopford – *Revolutions can be slow*. The Naval Architect: September 2015