

CONFEDERATION OF EUROPEAN SHIPMASTERS' ASSOCIATIONS

CESMA NEWS



SEPTEMBER 2022



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SECRETARIAT:

MUNTPLEIN 10
NL-1012WR AMSTERDAM
THE NETHERLANDS
Tel.: SEE LIST OF BOARD MEMBERS BELOW
e-mail: cesma-eu@introweb.nl
website: <https://www.cesma-europe.org>

PRESIDENT:

CAPT. D. DIMITROV, BULGARIA
MOB : +359 888 340 160
e-mail: mitko652012@gmail.com;
mitko652012@yahoo.com

DEPUTY PRESIDENT:

CAPT. G. RIBARIC, SLOVENIA
MOB: +386 31 375 823 Home: +386 56 772 642
e-mail: jrg.ribaric@gmail.com

VICE PRESIDENT:

CAPT. M. BADELL, SPAIN
MOB: +34 680 321 138 Home: +34 934 089 288
e-mail: mariano.badell@gmail.com

SECRETARY-GENERAL:

CAPT. H. ARDILLON, FRANCE
MOB: +33 609 450 057 Home: +33 235 801 505
e-mail: hubert.ardillon@gmail.com

ADMINISTRATOR:

CAPT. H. AMMERLAAN, NETHERLAND
MOB: +31 646 260 098
e-mail: h.ammerlaan56@gmail.com

HON. VICE PRESIDENTS:

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CAPT. W.VON PRESENTIN

HON. MEMBERS:

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ADVISORS:

PROF. J. SPAANS CAPT. W. MUELLER

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DO WE NEED TRADITIONAL AIDS TO NAVIGATION

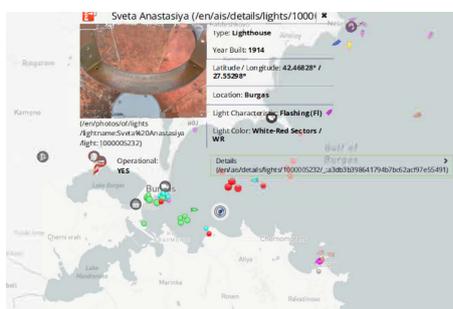
Sometimes official events gave us motive and reason to evaluate our professional goals and to think about the future. World Marine Aids to Navigation Day was celebrated on July 01st, 2022 in Burgas, Bulgaria. Delivering one of the opening speeches an idea came to my mind to compare and oppose the traditional aids to navigation with the modern ones. One of IALA's officers interviewed me based on my suggestions that we have to keep the balance between tradition and modern technology. We see phase out of the use of paper charts for navigational purposes. More and more we see ships without any paper charts on board. There are very few ships with official paper charts but even there we see unofficial use of electronic charts or other electronic means to navigate safely. Should we completely reject availability of paper charts on board?

My general idea during my interview was that we have to use the modern technology. I would say we cannot navigate safely today in the congested waters and quickly changed marine environment without all the modern electronics available on board. We have precised GPS systems based on satelite data combined with electronic charts and the watch keeping officer is not engaged in putting lines on the chart, considering the errors when the lines do not coincide. In general seems more easy today. But it's not. First of all the ships are getting bigger and bigger. We have ultra large container ships, giant passenger ships, ultra large oil and ore carriers and their number is increasing rapidly. Coastal water are full with oil rigs and wind mills. Most of the ports are with the same dimensions like before and accommodating bigger ships is more and more challenge for the port operation and the companies delivering services in the port like tug companies, pilots, mooring gangs. The time for executing a operation like controlling the ship when approaching, time to make fast the tug, time to send line ashore is shortening and all that requires all the information to be considered, evaluated and actions to be in time in order sailing in congested waters, coastal areas and port approaches to be successful. Integrated bridge systems allow the information from the charts, position fixing systems and radar information to be seen in one screen, so the navigating officer, captain and pilot to watch in one screen and to get all the information simultaneously with one glance. At the same time more and more administrative actions become compulsory distracting the bridge team from their most important task to navigate safely.

In all the above said we can say that doing navigator's job on board is not becoming easier. The modern captain, pilot and watch keeping officer should be familiar with available electronic systems on board ships. In addition we have precise systems in the traffic control centers and portable pilot units with valuable information. But as the time for reaction is becoming less and less sometimes captain, pilot and even navigating officer has no time to look at the screens. Then what is the solution? Constant situational awareness looking at the surrounding environment is crucial. In that available traditional aids to navigation are very important and for the time being they cannot be superseded by any electronic systems. They have to be used together with the new systems and complexed approach is vital for the success of any venture. The balanced approach is necessary either to bridge team members or to regulatory bodies like IMO and all the parties controlling the safe operations like classification societies, port and flag state controls, etc.

All traditional aids to navigation and modern technology systems cost money and it's a matter of their users to develop and maintain them. As most of the systems are used by multinational companies and professionals the decision is taken on international basis and requires combined efforts of all the participants and stakeholders in the industry. Risk assessment and risk evaluation is becoming more and more important as one accident or incident could disturb one region and maybe entire world economy. We have most recently the Ever Given case where Suez Canal was closed for a week and world logistic chain was distorted. Now we face global warming, fall of the level of the rivers and many more new challenges we have to live with. All that means more extraordinary situations and new challenges to all the professionals at sea. We have not

to make small savings increasing the risks. That is very important on educational and training level. The youngsters are concentrating on new and easy to use technologies and systems and we face sometimes neglect of traditional aids, systems and technics. It's understandable but in crucial moments all the means available have to be used to solve the problems arisen. To be able to do that the marine professionals have to be trained to use either modern or traditional aids and of course the aids to be available and in good order. Thanks to IALA we have support to both modern and traditional aids to navigation. I really appreciate the classic lighthouses with their architecture and beauty. They are expensive to be maintained but they are priceless in many critical situations. One good example is the lighthouse Sveta Anastasiya in Burgas, Bulgaria. The territory of the island was abandoned many years and the lighthouse was maintained by the Navy as all the other aids to navigation along the Bulgarian coastline. The island was concessioned to the community of Burgas, the ruined buildings on the island were transferred to touristic attractions like museum, interactive entertainments for children, restaurant and thus funds could be raised for maintenance of the important traditional lighthouse assisting navigators during the approach to the port of Burgas. For tourists the island is chance to learn the old history of the island and the region, good food and entertainment to the children but for the stakeholders in the maritime industry it is important means to increase safety.



During the celebration of World Aids to Navigation Day 2022 there took place official ceremony for presenting the Lighthouse of the Year award. It was awarded to the Homigot Lighthouse in Pohang, with a total height of 26,4 meters, making it the tallest lighthouse in the Republic of Korea. So, we have good examples of successful management of the traditional aids to navigation all over the world. We, navigators, captains, pilots, tug masters, watch keeping officers relied, rely and will rely on those important means for safety of navigation. We have to support both traditions and modern technology on institutional, regulative, commercial and professional level for safe, efficient and effective maritime transport.

**Capt. Dimitar Dimitrov, PHD, FNI, Pilot in the port of Varna, Bulgaria
President**

CESMA IN THE WORLD MARINE AIDS TO NAVIGATION DAY 2022, ON 1ST JULY, BURGAS, BULGARIA

World Marine Aids to Navigation Day was celebrated on July 01st, 2022 in Burgas, Bulgaria, hosted by Bulgarian Ports Infrastructure Company. CESMA was represented by Capt. Dimitar Dimitrov, PHD, FNI, and President of CESMA during the conference and accompanying events.



World Marine Aids to Navigation Day (WatoN Day) is celebrated every year on the 1st of July and is organized by International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA) and hosted by member states of IALA. The principal objective is to promote greater awareness of IALA and its work by bringing to the attention of the wider public the role of Marine Aids to Navigation and the significance of IALA's technical work in enhancing the safety of navigation worldwide. In 2022 the event took place in Burgas after two years of on line celebration due to COVID-19 pandemic. The event began with a nice presentation of young Bulgarian girl reading a fairy story about a sailor saved by the Burgas lighthouse opened for operation in 1899.



The opening speeches were delivered by Capt. Milen Todorov, Head of Bulgarian Vessel Traffic Management and Information Services, Mr Francis Zachariae, Secretary-General of the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA), Commander Vanio Musinski Head of department in the Bulgarian Navy and Capt. Dimitar Dimitrov, President of CESMA and IMO Goodwill Maritime Ambassador for Bulgaria.

The conference, which was part of the prestigious event, gathered together marine experts from the UK, Belgium, Spain, France, Iceland, Republic of Korea and began with the presentation of Capt. Milen Todorov, Director of Vessel Traffic Services Authority, BPI Co.: "Management,

Information Services and Provision of Navigational Safety in the Maritime Spaces and Ports of Bulgaria – Systems, Innovation and Future”. The presentation is available in the web page of BPIC <<http://www.bgports.bg/bg/page/81>>. Detailed information for the Aids to navigation and VTS Service in Bulgarian coastline was presented together with the latest developments of the information services connected with safety of navigation. The below slides explain the role of VTS in favor of shipmasters sailing in Bulgarian coastal waters.

Aids to Navigation in Bulgarian Ports

IALA Buoyage System region A with lateral and cardinal marks in the approaches, channels and water areas of the ports



Lighthouse facilities in the approaches and port entrances



Vessel Traffic Services Authority




- Monitoring and Management of ship traffic and navigational decision support;
- Collecting, storing and providing information (navigational, meteorological, etc.);
- Provision of Bulgarian part of the GMDSS and dissemination of maritime weather forecasts and maritime safety information;
- Digitalization of the B2G dialogue by provision of digital information systems;
- Provision of data exchange with European systems for maritime safety and security.

Integrated system for safety of navigation

MONITOR

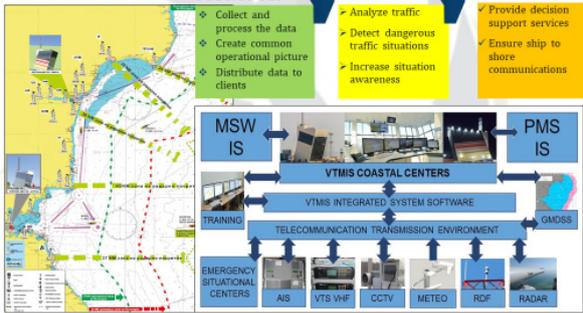
- ◆ Collect and process the data
- ◆ Create common operational picture
- ◆ Distribute data to clients

ALERT

- Analyze traffic
- Detect dangerous traffic situations
- Increase situation awareness

RESPOND

- ✔ Provide decision support services
- ✔ Ensure ship to shore communications



Virtual Aids to Navigation

Use of AIS capabilities to broadcast virtual and synthetic AtoN

- Visualization of AtoN information for new or temporary objects and dangers to navigation directly on the displays of the ship's navigation systems (ECDIS);
- Significantly improved awareness of the navigational watch.

An example of a practical result of using such a system is the "Mopang" fuel drain operation in the TSS in the approaches of port Burgas. A vessel sank on 30.06.1921 and started leaking fuel oil in the summer of 2018 in an area of heavy ship traffic. After broadcasting the virtual and synthetic AtoN the navigation situation has improved significantly.



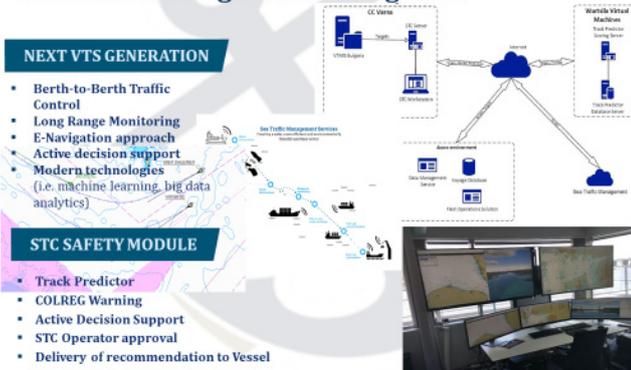

Artificial intelligence in navigation

NEXT VTS GENERATION

- Berth-to-Berth Traffic Control
- Long Range Monitoring
- E-Navigation approach
- Active decision support
- Modern technologies (i.e. machine learning, big data analytics)

STC SAFETY MODULE

- Track Predictor
- COLREG Warning
- Active Decision Support
- STC Operator approval
- Delivery of recommendation to Vessel



In the new trends artificial intelligence is used to assist navigators in congested areas and to provide them with information and suggestions in solving the problems of passage planning and execution.

Lt Cdr Nikolay Lyaskovski, Assistant Director of Bulgarian Navy Hydrographic Service, presented “Opportunities for modernization of the Aids to Navigation at the Bulgarian Navy Hydrographic Service”. As per national law the Bulgarian Navy is responsible for maintaining aids to navigation and admiralty charts in Bulgarian waters.

The conference continued with presentations of Mr Minsu Jeon, Technical Operation Manager (IALA), on IALA activities and plans and Mr Omar Eriksson, Dean of the World-wide Academy and Deputy Secretary General (IALA), on the activities of the World-wide Academy. The main goal of IALA is to establish and coordinate world standard for aids to navigation and the objective of the Academy is to develop and promote the use of the IALA model training courses.

The event included an official ceremony for the awarding of the Lighthouse of the Year award. It was awarded to the Homigot Lighthouse in Pohang, with a total height of 26.4 meters, making it the tallest lighthouse in the Republic of Korea.

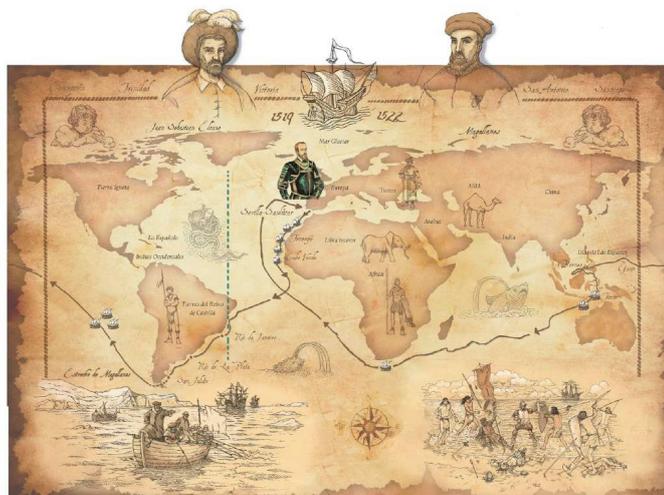


The participants of the conference saw the very nice exhibition “Lighthouses and other means of navigation support on the Bulgarian Black Sea coast” in the lobby of the congress center, then they were taken to Burgas VTS tower where they were acquainted with newest technologies used to observe, control and manage the traffic. The lunch was in the small island St. Anastasia in the bay of Burgas where all attendees were able to get acquainted with the exciting history of the island and to visit the local lighthouse.

**Captain Dimitar Dimitrov
President**

III INTERNATIONAL CONGRESS BILBAO – 17th to 19th May 2022

500 YEARS OF THE FIRST ROUND THE WORLD



Organized by our colleagues from the AVCCMM (Asociación Vizcaína de Capitanes de la Marina Mercante), the CESMA was invited to speak on the last day. Below is a report of all the presentations we attended as representatives of CESMA (Vice President Captain Mariano Badell and Secretary General Captain Hubert Ardillon).

Apart from that made by the Secretary General, the presentations are summarized following the notes taken. The report being a bit long, it will be published in three parts. Not all congress presentations are reported here, as there were two different rooms running at the same time, and we chose to follow the ones we thought would be of interest to captains.

Tuesday, May 17th (part 1 on 3)

HISTORY

1- Magellan-Elcano. First trip around the world – 1519-1522

by D. Manuel Sieira Valpuesta, Commercial University of Deusto

First, a few reminders on the historical and maritime situation. Renaissance period (15th and 16th centuries). Known World (Ptolemy Map, Silk Road, Spices Road). Fall of Constantinople, end of the Byzantine Empire and arrival of the Ottoman Empire. Search for new trade routes. Maritime expansion of Portugal (African Route – Alcaçovas 1479, African coast, Cape of Good Hope, India, Moluccas). Discovery of America (Columbus 1492, Treaty of Tordesillas, Meridian of demarcation between Spain and Portugal). Discovery of the Pacific (Vasco Nuñez de Balboa).

Vessels and equipment

Two types of ships for the high seas: the caravel and the nao. The Magellan expedition includes 4 naos and 1 caravel – Trinidad (110 tons, captain Magellan), San Antonio (120 tons, captain Juan de Cartegena), Concepcion (90 tons, captain Gaspar de Quesada – master Juan Sebastian Elcano), Santiago (75 tons, captain Juan Serrano) and Victoria (85 tons, captain Luis de Mendoza). The five ships form a total crew of 237 men (including only 91 survivors counting the San Antonio which turned back). Magellan is appointed supreme commodor of the expedition.

The ships are equipped with compass, astrolabe, probe and hourglass. Also charts by Toscanelli, Juan de la Cosa and Waldseemuller.



The objectives of the expedition

Magellan, although Portuguese, is “sponsored” by Diego Barbosa on behalf of Carlos I of Spain (future Emperor Charles V). The instructions received are:

- 1- Sailing in the Atlantic towards the south coast of the American continent, further south than the last expedition of Solís (Río de Solís or de la Plata, in 1515)
- 2- “Seek the strait of these seas” and go to the South Sea to reach the Spice Islands
- 3- “Not to call or discover land, or anything else within the limits of the Most Serene King of Portugal, my very dear and beloved uncle and brother, nor to his detriment...”
- 4- Once in these islands, make “...peace settlement and deal with the king or lord of the land...”

The supreme objective for Crown of Spain is to resume the trade of the precious spices.

Several hypotheses on the return had been considered before leaving Seville, but no one gave the order to go around the world, nor indicated how to return to Spain.

Atlantic Ocean

The expedition left Seville on August 10, 1519, calling at Sanlúcar, then heading to Tenerife and Brazil. Arrival at the end of December in the bay of Santa Lucia (current Rio de Janeiro), then sailing to the south after exploring the Rio de la Plata. At the end of March 1520, Magellan decided to winter in Patagonia in an estuary called San Julian. On April 1, a mutiny broke out under the leadership of Juan de Cartagena, Luis de Mendoza and Gaspar de Quesada, who doubted the chances of survival in these regions. Magellan puts down the rebellion, Mendoza is killed, Quesada executed and Cartagena abandoned. Forty mutineers are pardoned, including Elcano, Magellan not being able to continue the journey if a fifth of the crews is executed.

Strait of Magellan

During the summer, Magellan sends out a reconnaissance ship in the passage to the Pacific Ocean. The recognition lasts more than a month. The Santiago runs aground and is abandoned. The pilot of the San Antonio rebels and puts his captain in irons and decides to return to Seville, with all his food, where he arrives on May 6, 1521.

Pacific Ocean

After going out into the Pacific, Magellan sailed up the Chilean coast under various storms, then the calm returned turned west. The situation is almost desperate, no more water, no more food, arrival of scurvy which would have caused only 9 deaths, probably thanks to the wild celery harvested in the strait. Finally arrived at “the island of thieves” (current Guam) on March 6, 1521 where a supply is possible and sailing to Cebu where its king converts to Christianity. But the island of Mactan refuses to submit, a conflict breaks out and Magellan is killed by a poisoned arrow on April 27, 1521. Following this, on May 1, the king of Cebu ambushed the officers of the

ships and made them all kill, except two who manage to join the ships at anchor. There are only 113 men left for three ships. Taking on water, the Concepcion is burned in front of Bohol. The Victoria and the Trinidad arrive in Borneo in mid-July then head for the Spice Islands, Tidore in the Moluccas. After taking provisions and loading, the two remaining ships sailed, but the Trinidad took on water in turn and remained for repairs. There then remained the Victoria, with 60 men on board, under the command of Elcano who left Tidore on December 21, 1521 towards the Cape of Good Hope, which they doubled on May 19, 1522.

Back to Spain

After calling for supplies in the Cape Verde Islands, a Portuguese possession where twelve men were to be held prisoner, the Victoria, under the command of Elcano, reached Sanlucar on September 6, 1522, thus completing the first circumnavigation of the globe.

2- Juan Sebastian Elcano, the sailor, the man, the leader

by Dr.D. Daniel Zulaika, Doctor of medicine, Advisory Committee of Elcano 500 fundation

Elcano's words still resonate in our ears: "... and moreover Your Majesty will know that what we must esteem and have the most is that we have discovered and traveled all the roundness of the world, that in going west we have returned to the east."

It is not by chance that Juan Sébastian completed the first circumnavigation of the globe. Native of Getaria, he learned very early the art of sailing and the command of men.

Sailor, entrepreneur and merchant

In Getaria, a town of 1,700 inhabitants overlooking the Bay of Biscay, there are sailors, but also an economic and social network of several centuries (merchants, transporters, investors, insurance companies, shipyards, etc.). He is part of a family of sailors and merchants. As for Juan Sébastian, of whom there is no portrait, he took part in various acts of war in the Levant (Italy) and in North Africa in his youth with a 200-ton ship acquired by loan from Savoyard merchants, the guarantee being the boat itself. But while the king has not paid him the costs of his participation in these wars, he must return his ship to foreign lenders, which is then a crime because the ship could be used as a warship against the country itself. Problematic situation such that one of the first actions he will do after going around the world is to ask the king for forgiveness. Another characteristic of Elcano is that he does not give up in the face of adversity. Following this bankruptcy, he went to Seville and followed the construction of the Victoria in January 1519, as master. This is the first time his name appears in the maritime records. Then in March, he was appointed to the Concepción.

Following the continuous clashes between Magellan, Portuguese, and the other captains, Castilians, an open conflict breaks out. In the Bay of San Julian (Argentinian Patagonia), on April 1, 1520, Juan Sebastian took an active part in the mutiny. Magellan crushes the rebellion and condemns 40 mutineers to death and spares most of them, including Elcano who is demoted to sailor on the Victoria and condemned to hard labor, this during the five winter months spent in San Julian, and probably until death from Magellan to the Philippines a year later where he resumed command of the Victoria, with which he arrived in Seville. This incident provides information on its extraordinary capacity for resistance.

In addition, Elcano is a far-sighted and organized man. After the death of Magellan and the dismissal of Carvalho, in addition to captain, he was appointed treasurer and accountant of all goods. From then on, the exchanges with the natives of the islands are recorded in the book of the accountant and treasurer, which did not happen with Magellan or Carvalho.

Leader

When he is made captain, one of his first acts is to make it clear to the crew where they are going and what the purpose of the expedition is. Things that both Magellan and Carvalho did

not and which were one of the causes of the mutiny against Magellan. He is also a captain who consults his men on important decisions. On at least two occasions, he asked the crew's opinion. First towards the end of the crossing of the Indian Ocean, when the situation is complicated by scurvy, leaks, cold and lack of food. Should we dismount in Mozambique (Portuguese possession). Elcano submits the proposal to a vote and the majority decides to continue without disembarking. He accepts the decision. Ditto in Cape Verde with a situation so desperate that with a majority of votes, they decide to disembark with the risk of being captured by the Portuguese. Attitude that has nothing to do with Magellan's extremely stiff steering. Elcano is also capable of making difficult decisions and imposing them when necessary. When the Victoria leaves the Moluccas Islands alone, the captain and the pilot of the ship, both Greeks, defend the return by the "route of the Portuguese", therefore the north of the Indian Ocean, a route better known from a point of view nautical. However, "the Biscayan captain", will impose his criteria to take a southern route in the Indian Ocean, unknown, with unknown winds and currents too. Above all, do not fall into the hands of the Portuguese, because only they know of the existence of a road, the Strait of Magellan, to reach the Spice Islands from the west. And if they are captured by the Portuguese, this valuable information will not reach Seville first.

Elcano's leadership is particularly evident in his interest in his men. When on arriving at Sanlúcar he writes to the king to inform him of his arrival, he does not ask favors for himself, but asks him to intercede with the king of Portugal so that he frees his thirteen men who have were imprisoned by the Portuguese in Cape Verde.

Elcano therefore has many of the qualities of a modern leader: initiative, ambition, orderly mind, sense of organization, not giving up when faced with adverse situations, setting clear objectives, involving employees in decisions, and worry about them. In addition to being a discreet man, he commands, he is practical, efficient and tenacious. He sets goals and does everything to achieve them. It is not surprising that he was chosen captain by his men.

Man

Two more intimate sides of his personality can be highlighted: his religiosity and the relationship with five women who, in one way or another, influenced his life. A deeply religious man, like the society of his time, a large number of churches, hermitages and hospitals appear in his will, including ten in Getaria. In addition, when arriving in Seville, the first thing the crew does is go to the Church of Nuestra Señora de la Victoria in Triana and then to the Cathedral to keep the promises made in memory of two terrible moments suffered on the way back from Tidore, a cyclone in the Indonesian seas and a strong storm off the Cape of Good Hope (broken foremast).

In his will, Elcano tries to remedy and make amends for the wrongs he feels he has committed throughout his life, and then gives us relevant information about five women who had special meaning for him. First, Mari Hernández de Hernialde, de Getaria and mother of his son Domingo, his heir. Then her newborn daughter, followed by her mother Maria de Vidaurreta ("for the liberation of my conscience"). Then he mentions Isabel del Puerto, a cousin. Finally, he quotes his mother, Catalina del Puerto, naming her universal heiress. This clearly shows the affection and respect that Juan Sébastian had for her.

3- Elcano and his leadership

by D. Jose Maria Blanco Nunez, Secretary General of the Spanish Commission on Military History

Leadership considerations

Leadership means "talent of command", a very old and well-known concept in the Navy. One exercises command with a "talent" or without, while applying the same laws, regulations, etc. The captain must make his way of leading (solitude of command) coexist with his "popularity" (addressing the crew, boosting their morale, favoring initiative and confidence).

Juan Sebastian Elcano

Juan Sebastián Elcano was a fisherman and certainly practiced “smuggling with the ports of neighboring France”. Thanks to this, he saved the money necessary to buy a ship of two hundred tons, which he put in the service of the Crown in various campaigns in 1509. Then he joined the army in Italy, but not receiving the stipulated money, he is ruined, hence the loan from Savoyard merchants, offering his ship as collateral. Serious crime, as Carlos I reminded him, when he was pardoned in 1523. He therefore has a criminal record (confiscation of half of his property and imprisonment) which will weigh heavily thereafter. Despite this, he goes to Seville to see Magellan who is trying to arm his fleet. He is enlisted as master of the Concepción, for his maneuvering qualities. In the Atlantic, he remained anonymous until the arrival at the Patagonian port of San Julián, where the squadron was to spend the winter. There he appears as part of the plot against Magellan and is known to have readied his ship’s artillery for battle in an attempt to sink Magellan’s ship Trinidad. Which earned him the death penalty and his immediate pardon, Magellan not being able to do without men to achieve his goal.

In this analysis of J.S. Elcano’s style of leadership, we can wonder about the existing relationship between these two characters which, until they arrive in the land of spices, are on opposite sides. In San Julian, Gonzalo Gómez de Espinosa, the chief usher of the army of Magellan, goes on order to kill on board the captain of the Victoria. And yet Elcano will keep it afterwards to fulfill Magellan’s mission.

How did Elcano come to command the Victoria?

Following the death of Magellan, the crews chose Duarte Barbosa, also Portuguese, as their new captain general, assisted by the Spaniard Juan Rodríguez Serrano. On May Day, King Humabón of Cebu (converted and baptized) until then an ally of the Spaniards, offers a banquet to the new commanders of the army with the main officers, except for those recovering from wounds, such as Pigafetta, and those who are on watch on board, such as Elcano. In the middle of the banquet, on a signal from Humabón, armed men arrive and kill the Spaniards, except Gonzalo Gomez de Espinosa and Juan Lopes Carvalho who flee on a skiff. Espinosa puts the Trinidad ready for battle, Carvalho the Victoria and he orders Juan Sébastian Elcano to prepare the Concepción. Carvalho takes command and sets sail.

Once calm, the three ships meet and Carvalho is appointed as captain general, on the Trinidad flagship, Espinosa commands the Victoria and Elcano the Concepción, but the Concepción having its keel and ribs worm-eaten, Espinosa brings Elcano back on the Victoria as master.

Then after Brunei, Carvalho did not show a great sense of command, seizing Filipino boats loaded with women and installing a harem on his ship, which shocked the sacred principles of the Spaniards who immediately dismissed him, appointing Gomez de Espinosa, in command of Trinidad, and Elcano in command of Victoria. In November 1521, the two ships successfully reached Tidore, avoiding the Portuguese. By this time almost half of the men embarked at Seville had been lost.

The return

For the return route, it is necessary to take into account the Indian Ocean monsoon regime, rainy season and NE wind from November to March (Elcano will leave in December), the coolest period of the year, and the dry season warmer with SW winds from April to October (Espinosa will leave in April, but unable to follow Elcano’s wake will attempt the return trip to the East).

The two ships are loaded with spices “to more than freeboard”, in particular cloves and are preparing to return via the Cape of Good Hope. At this time, the Portuguese were returning via Cochin and, in fleets, passing between Madagascar and the African coast, with supporting ports in Mozambique, then ascending via Good Hope.

Unfortunately, the Trinidad takes on water as soon as she sails and returns to the anchorage where Espinosa has decided to give her some list to seal her off after unloading her cargo. Elcano will also leave some of its precious cargo waiting for a better opportunity.

The first circumnavigation of the world begins to materialize

Elcano stops at Mutir (or Mare) from where he ships wood to Espinosa and continues to Timor, seeing hundreds of islands, and after suffering a violent storm (October 1522), they reach the island of Mallua. At the beginning of December 1522, they brought food to Buru. In the letter written to the Emperor from the anchorage of Sanlúcar, he states that they discovered many very rich islands.

From the statements of two crew members of the Victoria, deserters in Timor and taken prisoner by the Portuguese, the firm character of Juan Sebastián Elcano clearly emerges. In Timor they find food for the long voyage to come. Finally, on Tuesday, February 11, 1522, they set off from Timor, Cape OSO. A problem soon arises. The cattle on board drink a respectable amount of fresh water every day and the men are short of it. Moreover, having no salt, the meat putrefies and must be thrown overboard. Some, especially the sick, want to land in Mozambique, a Portuguese establishment. The ship is taking on water, it is cold, and there is nothing left but rice and no more drink. On March 18, they made a shelter stop at anchor in front of the future island of Amsterdam. They do not go ashore, because lack of vegetation and feeling of being uninhabited, therefore a high probability of finding neither food nor water.

In the crossing of the Indian Ocean, they would have reached the latitude of 40°30'S. Then they rounded the Cape of Good Hope after having spent nine weeks offshore, in the storm, westerly and northerly winds, furling sails, and broken foremast. And they finally take advantage of the Benguela current which brings them back to warmer latitudes.

Cape Verde, as a last resort

After crossing the equator on June 8, they anchored on June 17 towards the Rio Grande (today in Guinea Bissau). Unfortunately, the mangrove prevents them from drinking and feeding. After several unsuccessful anchoring attempts, on July 1 they decided to sail to Cape Verde to get supplies, despite the Portuguese danger.

For the first time, in a chronicle (the one held by Albo), a date problem is recorded. The crew is persuaded to be a Wednesday when the date is a Thursday; the date line does not yet exist. This poses a problem for the crew because the religious precepts (on Fridays and Sundays) may not have been respected.

The supplies carried out in San Miguel will allow 18 members of the crew of the Victoria to reach Seville alive. 18 only because a Cape Verdean merchant demanded payment in "cash" and a Spanish sailor said they didn't have enough to pay. And when the Governor learned of this, he immediately ordered these Spaniards to be arrested. Then Elcano, learning of it, ordered the moorings to be cut and to cast off with the twenty-two men on board, four of whom would die in this last crossing, leaving thirteen prisoners to the Portuguese.

To Spain

On July 16, they are back on the road. On the 28th they pass Tenerife. On September 1 they are off Cape San Vicente. They entered Sanlúcar Bay on September 6, with 18 crew members. From the departure from Sanlúcar, until the return, they will have covered more than fourteen thousand four hundred and sixty leagues, making the complete tour of the world, always sailing from east to west.

In his letter to the emperor, Elcano shows the style of commander he was, simple, unflattering. It begins with a brief description of the journey and its difficulties, and continues: "...Your High Majesty will know what we are more likely to value and have is that we have discovered and completed all the roundness of the world, going west and coming back from the east. I pray and

ask for mercy from your High Majesty for the many labors and sweats and hunger and thirst and cold and heat that these people of your people have spent in your service, have mercy upon them. »

The captain of the ship shows concern for his crew, the eighteen who arrived and the thirteen who remained in Cape Verde. Then, just as the last thing Magellan did before leaving Seville was to confide in Our Lady in the chapel of Santa Bárbara in the Church of Santa Ana de Triana, Elcano and his family went to prostrate themselves in the Cathedral, in front of the image of Our Lady of Antigua.

Back to sea.

In the summer of 1525, Elcano left La Coruña for the Spice Islands. Again his “original sin” will deprive him of the general command of the expedition, this one is given to a noble, having only sailed a little, Elcano receiving the command of the Sancti Spiritus (240 tx) and being designated to succeed the captain general for the return, this one having to remain governor of the Moluccas. In the Strait (of Magellan), a strong SW wind pushed the Sancti Spiritus ashore, with the loss of nine men and her provisions. Elcano becomes captain of the Santa María de la Victoria. On May 28, only four ships emerged into the Pacific. The captain general died on July 30, 1526. He was replaced by Juan Sebastián Elcano, who died of scurvy seven days later.

MARITIME TRANSPORT

4- The effects of Covid-19 on the world wide cruise market

by Mr. David Selby, Managing Director Traveleyields Ltd.UK.

On 3 February 2020, an outbreak of COVID-19 had been reported on the Diamond Princess Cruise ship off the Japanese coast. After docking near New Taipei City, on January 31, the ship arrived in Yokohama, Japan. Initially, 10 people were confirmed to be infected with the virus. By 20 February, 619 passengers had become infected. The decision was made to evacuate and more than 3,000 passengers left the ship, mostly air-evacuated by their respective countries. By 24 February, two of the passengers had died. The following day, the Japanese health ministry ordered a 14-day quarantine period for everyone on the ship and rushed to close its ports to all other cruise ships.

Things progressed rapidly and the cruise industry effectively suspended operations in mid-March 2020 following the pandemic declaration by the World Health Organization. Then following the introduction of vaccines, and rigorous health and safety protocols whether on board, at ports or in destinations, the industry has tentatively restarted.

2019 – PRE-COVID – A Strong Industry with Sound Growth Fundamentals.

The Global Cruise Market

Cruising has been growing over decade 2010. In 2020, without COVID had not got in the way – the global market for cruising was predicted to be 34.2 million passengers, which is an increase of 64% since 2012. 23 new ships were delivered in 2020 driving the overall market up 6.7%, with a similar growth assured for at least the next three years. The market would have reached 40 million passengers by 2024, without COVID.

Expected Growth of Cruising Globally before COVID-19

Year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Global Volume	20,9	21,3	22,3	23,1	25,2	26,7	28,5	30,0	32,0	34,2
% Growth	1,0%	1,9%	4,7%	3,6%	9,1%	6,0%	6,7%	5,3%	6,7%	6,9%
Year	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Global Volume	36,6	38,8	40,1	41,3	42,5	43,7	44,9	46,1	47,3	48,5
% Growth	7,0%	6,0%	3,4%	3,0%	2,9%	2,8%	2,7%	2,7%	2,6%	2,5%

Global volume: millions of pax

2014-2019 are actuals

2020-2024 are known increases to capacity driven by confirmed new build orders.

2025-2027 are forecasts based on current known new-build orders, more of which are expected

2028-2031 are forecasts based on expected new build orders (none announced as at 2020)

Where do People Cruise From?

North America remains by far the largest global cruise market. Importantly, the average cruising age is still relatively young compared to countries in Europe and Australia/New Zealand. This is an indicator of the future stability of the market. In addition, cruiser penetration as a proportion of the national population remains low.

Where do People Cruise To?

The Caribbean region is clearly the most popular with just under 12 million people choosing to cruise to/within the region. This ties in with the US being the largest source market, with the world largest three cruise ports all situated on the eastern Florida coast – Miami, Port Everglades (Fort Lauderdale) and Port Canaveral (east of Orlando).

Europe is in 2nd place, although many would suggest that the Mediterranean is a different cruise region to the northern European area. The Med accounts for around 3.5 million cruises, whilst “northern Europe” and the Baltics add 2.3 million, bringing the total to 6.3 million.

China accounts for about half of Asia overall.

Expansion has been seen mainly from the increase of the size of ship, but more recently, lines have had to start cruises embarking midweek, when it had previously been weekends and occasional Fridays.

2020 & COVID – The Biggest Challenge The Cruise Industry Has Faced.

Would the Big Companies Survive?

So the cruise industry effectively stopped in mid-March, 2020. With more than 100 new-build ships on order for delivery between 2020 and 2027, immediate concerns were placed on whether cruise lines would survive. In early 2020, the largest four companies – Carnival Corporation, Royal Caribbean Group, Norwegian Cruise Line Holdings and MSC Cruises controlled about 84% of the global market. These four look like they are going to see through the pandemic – by taking some pretty drastic action.

In 2020, Carnival Corporation (CC) held about 45% of the world cruise market through its various brands. It was the first operator to stop services. A financing effort sought an immediate additional \$6.4 billion in liquidity. At the beginning of April, the Saudi Arabia Public Investment Fund (PIF) took an 8.2% stake in CC. By the end of 2020, CC had sold or disposed of 18 of its older ships, about 12% of its capacity. CC has 18 new ships in order, for delivery 2020-2025 without new-building cancellations.

Royal Caribbean Cruise Lines (RCCL) sold its fully owned Azamara Cruises. It has predicted its monthly cost will be of \$250 million while its cruise ships remain docked. RCCL had been more communicative about how the “restart” might occur. Whilst one thinks that it will be the smaller, perhaps more luxury vessels will start first, RCCL was clear that it would be focussing on the largest vessels to sail first will be the largest ships returning into markets. RCCL itself started again in Singapore in November 2020.

Norwegian Cruise Line Holdings (NCLH) holds just under 9% of the global cruise market. Although it is smaller than Carnival and Royal, it has always communicated with confidence about the future. NCLH has shortened the work week to four days with a commensurate 20% pay reduction and has since announced furlough of about 20% of shore side employees. NCLH CEO is confident in the demand for cruises but cautioned it’s going to take time, maybe years, to return

to ‘the good old days of 2019.

MSC Cruises is a single brand cruise line with 8% global share. Being private, less is known about the company position. However, although it has 18 cruise ships, it has around 520 container vessels and the container business has survived significantly. It has a 12-ship new-build program for delivery between this year and 2027. Four of the ships are over 5,000 pax (lower berths) and four are over 4,000 pax. However, MSC have also ventured into the luxury market with orders of four ships for 1,000 passengers each.

Overall however, the majority of cruise lines have survived, and the emphasis has been on how to ensure safety on board, at ports and in destinations. However, it remained a challenge as to who the cruise industry was going to get up and running again. Then when the vaccines had been developed and tested with no safety concerns, they applied for emergency approval to use the vaccine, and so began the journey of immunization and the start of the way back for cruising. But despite the huge success of the vaccine programs, the cruise industry had much to do to convince governments that cruising was a safe form of travel. So, cruise lines put their best resources into developing protocols to find ways to bring back ships into operation.

COVID Protocols – Essential Elements in Returning to Cruising

Basic principles – At Ports

All operations approved and agreed with cruise lines before the arrival of a cruise ship. Cruise lines perform health screening of their guests and crew prior to embarkation at the start of the cruise voyage. All cruise lines have to ensure their on-board health protocols are in line with local/national regulations of the port country. All cruise terminal employees will be timely informed of applicable regulations. A minimal social distance of 1.5m or 2m meters has to be maintained. Face masks and other PPE equipment are always strongly recommended when not mandatory. The ports provide necessary hand sanitization for all staff and visitors. The ports provide regular appropriate cleaning of all infrastructure and materials used by cruise line staff, port staff and guests. The ports must provide appropriate ventilation of the infrastructure used by staff and visitors. The ports must designate and identify a contact person in order to facilitate consequent contact tracing.

Basic principles – On Board

Face mask required when social distancing is not possible. Periodic public announcement reminders to practice social distancing, exercise proper hand washing procedures. Increase fresh air circulation into the system. Daily temperature checks for passengers and protocol if individuals are above 37.5 degrees C. Enhancing cleaning and sanitizing procedures for cabins, food service and preparation and common areas. Designated cabins available for use as shipboard isolation of COVID-19 cases and quarantine. Augmented shipboard medical staffing and equipment. Enhanced protocols for dining, retail, spa, casino, cabins, outside decks and so on.

Basic principles – Shore Excursions/At destinations

Cleaning and sanitizing of buses, boats, cars used for excursions. Coordinate with destination terminals to avoid crowds of disembarking passengers. Excursion providers to adhere to local health authority requirements. Tour provider services to be ready at the pier prior to vessel’s arrival for a thorough inspection and to maintain social distancing while awaiting excursion departures and arrivals. Dedicated lanes set up to separate and regulate guests flow. Guides escort and Tour Operating staff to register their temperature and lack of symptoms in a logbook prior commence of the tour.

The Cruise Market in 2020

With the exception of fragmented re-starts from July 2020, all cruising activity took place primarily in the 1st quarter of 2021. The global market for cruising fell by 81% from 29.7 million passengers to 5.8 million passengers in 2020. About destination, the Caribbean fell to below 3 million guests from nearly 12 million the year before. And for regions such as northern Europe,

for which the season doesn't normally get going until spring (i.e. after the pandemic hit), it was virtually a complete shutdown, with the market falling from 1.7 million passengers to just 52,000.

2021 and Beyond – Cruising in a COVID World and the Road to Recovery

2021 – The restart

Following success of vaccination programs, domestic cruising was permitted in a number of European countries from spring, but with protocols and restrictions. Cruises were short cruises, and not even calling at ports, with a restricted capacity of either 50% or 1,000 passengers. In the US, the restart took longer. By the end of October, it was 190 ships, which equated to over half of the global fleet in terms of lower berths. Protocols are working. Many people have said in recent times that cruise ships are now considered to be one of the safest vacation options. Ships sail with a large majority of guests and crew fully vaccinated. With on-board, enhanced sanitation levels, and air filtration systems, that guarantees a clean on-board environment. Additionally, operators and ports adjust protocols depending on how the COVID situation evolves. The nature of cruising (notably short cruises and close to home), together with flight travel bans, has helped to bring “new” cruisers into the market. Cruise lines are optimistic that people who cruised for the first time this year will continue to do so.

Market Prospects for 2022

Overall, with the success of the vaccine, cruise line and port protocols, one can expect a significantly better 2022, even if not up to 2019 levels. Major cruise companies anticipate having 100% of their fleets back in service by spring 2022, with full load factors by end of summer 2022.

But at the end of November 2021, a new strain of the COVID-19 virus – Omicron – was identified. It was found to spread significantly more quickly than “Delta”, and just as the industry was looking forward to bouncing back to a level thought to be close to 2019 levels, new uncertainty was prevalent throughout the world. Almost instantly, Norwegian Cruise Line dropped five sailings, set for Dec 3rd 2021 until Jan 26th 2022 to or from South Africa. On December 10th 2021, Australian Health Minister announced that a cruise ban restricting entry of cruise vessels within Australian territory would be extended at least until February 17th 2022. However, the market in 2021 might be slightly higher than 2020. The industry is expecting that 2022 will be a significantly better year. In its upside scenario, the index suggests a market of 30 million passengers, to be back as 2019 in 2023.

5- Shortsea Shipping

by Dna. Virginia Navarro, Regional Manager Containerships

“Shortsea Shipping intra-européen”

Short sea shipping has existed in Europe since shipping. Its evolution consists of an increase in distances (from small local cabotage to the European “motorways of the sea”) and the addition of different modes of transport with a view to reducing costs and emissions into the atmosphere. It has been promoted in recent decades by the European Union, mainly to decongest roads.

What adds value to this type of transport is that it is a door-to-door service, characterized by a minimum transit time in order to compete with road transport. Forty years ago, a ship needed 24 hours at quay for 120 unloading and loading movements, i.e. 5 movements per hour. Currently, the operation is done at an average of 25 movements per hour, thus a considerable saving of time at the quay. And at the same time, the speed of ships has increased from 12 to 17 knots, which has reduced maritime transit by a third.

This type of transport is favored by the Administration of the European Union in the face of the restrictions and limitations imposed on land transport with which it competes. There is strong political will, such as the Marco Polo program approved by the Commission in March 2011 and the Transport White Paper of 2011 and the Athens declaration of 2014. It is also more sustainable

due to the low emission of CO₂, sulphur, nitrogen and particles and the use of alternative fuels. On a Vitoria – Dublin route, CO₂ production by land (including continent/UK crossings) is 5783 kg, by sea it is 862 kg, i.e. 85% less in favor of the sea. The objective of some shipping companies is a zero carbon footprint by 2050, use of second generation biofuel derived from waste vegetable cooking oil, construction of ships powered by LNG, methanol or bio methane. The sustainable mode of transport also promotes multi-modality, which is very important in Spain and for the port of Bilbao, where there is an average of 85 trains per week from points as far away as Seville or Madrid, and which has made the port of Bilbao a leader in this type of transport.

The container offers the same load capacity as a truck, dry or refrigerated freight. Increased RO-RO services save fuel, rest drivers, travel safely in similar transit times, avoid bottlenecks and travel restrictions that each country imposes on the highway transportation.

What has favored and promoted Short Sea Shipping?

At European level, traffic restrictions, fuel costs and tolls have made it possible, for the same door-to-door service, to decongest the roads. The development of the rail service is accompanied by the development of storage warehouses in the port area. The reliability and regularity of maritime services, the reduction of costs, distances and time, regulations on driving and rest, all of this must lead to the reduction of traffic accidents, air pollution, noise, road maintenance.

In conclusion, Short Sea Shipping has increased by more than 25% in 2021 and the port of Bilbao leads the Spanish ports with a percentage close to 30% of the total volume. In total, it has more than fifty weekly services to the United Kingdom (main destination), Ireland, the Scandinavian, Baltic and Central European countries and Russia (before the conflict in Ukraine).

From any point of view, Short Sea Shipping is a vision of the future.

6- FF.CC. Intermodality

by D. Jon Anasagasti, Head of Business Development

1. Trends in international logistics affecting port systems and intermodal transport

The main international macroeconomic trends affecting logistics are the following: events (Covid, Brexit, War, etc.), the evolution of world trade, digitization, the energy transition, the integration of supply chains. A sector in full adaptation, the integration of logistics chains, in particular, is done both horizontally and vertically. In the maritime sector, one of the results is the creation of large alliances (2M, Ocean Alliance, THE Alliance), which capture up to 80% of the total container capacity. The consequence is competition between these global and complete chains, making more and more necessary greater cooperation between modes of transport: intermodality.

2. Strategy of the port of Bilbao for the development of intermodality

The Port of Bilbao is strongly committed to Intermodality in order to make the supply chain in which it participates competitive. Work is being carried out to have greater maritime, rail and road activity, which is both effective, efficient, traceable and sustainable. The port of Bilbao, a logistics and industrial hub with a total area of 405 hectares and 21 km of berthing for, in 2021, 31.2 million tonnes of goods, i.e. 2,700 ships, 4,300 trains and 1 million trucks, is the leader in intermodal container transport, with 23% of container traffic carried by rail.

The European Union has projected 9 railway corridors for the transport of goods in order to increase the competitiveness of the railway compared to other means of transport and the port of Bilbao is the “central port” of the Atlantic corridor. As far as the hinterland is concerned, the port of Bilbao increases the intermodal offer with 3 logistics terminals in its last kilometer. The Port of Bilbao’s strategy is to increase rail operations as well as Port capacity. Currently, all the Port’s maritime terminals are connected to the rail network. And work is underway on the highway side.

Increasing freight per train increases competitiveness and helps improve the environment. It saves costs (volume and distance) and reduces greenhouse gas emissions, which corresponds to the measures designed by the EU as part of the energy transition by 2050.

NAUTICAL AND MARITIME TRAINING NAVIGATION SYSTEMS

7- Rui Faleiro's East-West high altitude regiment

by D. Alberto Rodriguez Penaranda. Mechanical Engineer, Senior Technician in Navigation, Fisheries and Maritime Transport

While preparing his voyage, Magellan met pilots in Lisbon who knew the roads of Asia well and had access to the cartography and documentation deposited in the archives of the Tombo tower. Likewise, he established contact with Rui Faleiro (native of Covilha, Portugal), an astronomer who provided knowledge on the “east-west height”, menas longitude, and a fundamental question to prove that the Moluccas were located on the Spanish side in the demarcation of Tordesillas. Rui Faleiro should have been the cosmographer of the expedition, but his relations with Magellan and his state of health excluded him from the project, replaced by Andrés de San Martín, a Sevillian cosmographer embarked as pilot of the San Antonio.

The determination of longitude was one of the problems that most preoccupied navigators in the 16th century and it was not definitively solved until the beginning of the 18th century with the appearance of new instruments, in particular the marine chronometer.

Upon his relegation, Magellan demanded that he hand him a manual or “regiment” as it was then called, with procedures for obtaining longitude. Not the position in navigation, given the difficulty of the means on board, but rather to determine that of the new lands in relation to a meridian of origin, that of Seville or the demarcation line of Tordesillas. Barros refers to a manual Magellan showed his pilots in Puerto San Julián, for checking the distance between meridians. It consisted of thirty chapters which Faleiro had written “before his madness”.

The Seville Manuscript

It is a document which, due to its characteristics and its calligraphy, dates from the 16th century. It is consistent with the data provided by Joao Barros in his “Decades”. The processes indicated to determine the longitude coincide with those of the Rui Faleiro Regiment). In paragraph 14 it is mentioned: “...some lands in the southern quarter of the Occidental, as this Armada now goes, may Our Lord reign, keep and bring prosperous rescue...”, which coincides with the current expedition. The reference to the “degrees of longitude along the parallel of Cabo de Santa María by which to pass to the west and the associated parallels” suggests and confirms that the expedition intended to use a passage for which the Rio de La Plata would be the eastern mouth, as in the original plans. It is therefore legitimate to conclude that it is the famous Regiment of the Height of East-West, of Rui Faleiro.



The manuscript gives three methods for the calculation of the “height east west” (Longitude)

FIRST METHOD: By the latitude of the Moon

After insisting on the difference between the declination and the latitude of the Moon (counting the first from the equator, the second from the ecliptic), the author indicates that once known the latitudes of the Moon with respect to Seville, observing a latitude of it, at a given location, can provide the time difference between the two points and, therefore, the longitude. Taking into account, however, that the maximum value that the Moon reaches from the ecliptic is about 5° , it is easy to see that the daily variation of latitude is very small. The lack of precision of the observation instruments of the time and the lack of appropriate astronomical tables made it less valid. In fact, the author limits himself to evoking it, without even developing the method.

SECOND METHOD: By the conjunction of the Moon with the stars

He bases the method on the difference in hours between occurrences at two locations, at the rate of 15 degrees per hour. He illustrates the process with the example of Valencia and Seville.

This is the method that the pilots accepted as usable during the consultation carried out by Magellan in Puerto San Julián.

THIRD METHOD

He proposes here the method of obtaining the longitude by the variation of the magnetic compass. This procedure was extremely popular due to its relative simplicity. "...you will know longitude better and more easily by the noon shadow..." Based on the belief that magnetic declination varied regularly with longitude in the EW direction. However, we do not take into account the fact that the magnetic declination does not change regularly with longitude, that it varies with time, that its distribution depends on latitude. The procedure essentially consisted in determining the variation of the needle (northeast or northwest), by comparing it with the true N-S direction indicated by the marking of the Sun at noon (Meridian). Once the value of the variation of the needle has been obtained, this value would be equal to the difference in longitude between the meridian of the place and that of Tenerife.

Longitude observations made by Andrés de San Martín

Andrés de San Martín made several astronomical observations, to determine the longitude of some remarkable points of the trip, observations made on land, taking the meridian of Seville as a reference. But being killed in the Cebu ambush on May 1, 1521, his Diary passed into the hands of the Portuguese after the capture of Trinidad. Among others on April 17, 1520 in San Julián during a solar eclipse. The longitude calculated with respect to the meridian of Seville is 61° , for really $61^\circ 43'$, a result of astonishing accuracy. The method used would have been other than the three mentioned, the eclipse not being provided for in the existing tables because it is invisible in Europe.

8- Cartography of Cantabria and the Basque Country of the sixteenth and seventeenth centuries

by D. Luis Jar. Captain of the Merchant Navy, Maritime Researcher

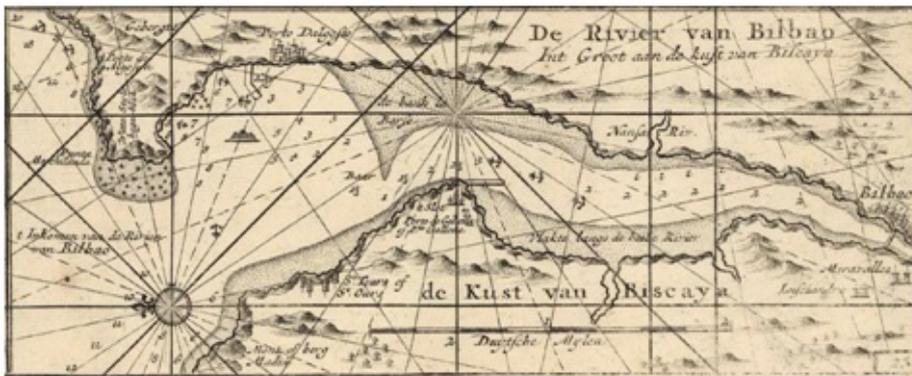
In the 16th century, nautical charts were considered "State Secrets" (wars and commercial competition), even the drafts were destroyed, which explains the lack of detailed cartography. The charts are classified into four groups (ocean, landing, coastal, port). The first map where the American continent appears is that of Juan de La Cosa (1500). On this map, Europe and Africa are relatively well represented, but not America. In 1544, two decades after the first circumnavigation of the globe, knowledge of the distribution of the continents allowed inaccurate maps for ocean navigation, with gross errors of longitude which would not be resolved until the 18th century. Maps from this period extend roses divided into 32 quarters (of $11^\circ 15'$) from different points of origin, or projection centers, giving the characteristic spider web appearance.



In one century, we go from a regional map (north coast of Spain) not allowing navigation with a view of the coast, even if it provides a list of ports (main in red) with an approximate location, to a coastal navigation map of better quality (1623), with more detailed description of the coast.

We find the same map in 1650, a copy of the 1623 map, but oriented towards the East instead of the North, an orientation which would facilitate landing with a heading E when the latitude is known but the approximate longitude.

The first specific nautical chart of the Bilbao River dates from 1695, inset on a Dutch coastal chart (from LLANES to BILBAO).



Then in 1836, the map of the Bilbao River was published, drawn up by two officers of the HMS Saracen. Everything is correct except for the orientation.



9- Evolution and history of nautical formation from the sixteenth century to the present day. Future of the same

by D. Javier Sánchez-Beaskoetxea, Deputy Director of Nautical, School of Engineering of Bilbao

16th and 17th centuries

In 1503, the “Casa de Contratación” appeared in Seville, a competent institution for everything related to travel in the new world, including the training of sailors. In 1552, the chair of navigation and cosmography was created and a study program was established. Shortly after, it will be at the Colegio San Telmo in Seville that the training of sailors will be concentrated. Then, navigation is taught in different cities, such as Bilbao or Madrid. In 1621, the Seminary of the Boys of the Sea, piloting and seamanship school in La Coruña was created. Then it will be the San Telmo College in Seville in 1681.

Eighteenth century

In 1717, the “Casa de Contratacion” moved to Cádiz and the Academy of Naval Aspirants was founded, responsible for training naval officers. Pilots continue to be trained at the Colegio de San Telmo. In 1740, private shipping companies multiplied, resulting in a shortage of pilots, which led to the creation of numerous nautical schools throughout the peninsula, Bilbao (following the Gernika agreement of 1739), Barcelona (1769), Arenys de Mar (1779), Mataró (1781), A Coruña (1790), Gijón (1792).

The ordinances of 1748 establish three classes of pilots: first, second and third, professional qualifications which remained in force until the publication of the royal decree of May 20, 1890.

In 1783, private schools were allowed to examine pilots. Before, the candidates had to go to the Colegio de San Telmo for the exams.

On February 26, 1790, the “General Instruction for Discipline, Studies and Examinations that must be followed in the Royal and Private Schools of Náutica del Reyno” is drawn up, it organizes nautical education in Spain and it remains in service until 1850.

Nineteenth century

In 1804, there are many schools in Spain, they depend on the Ministry of the Navy until 1826 then on the town halls and in 1849 they are under the supervision of the Ministry of Commerce, Instruction and Public Works. In 1850, according to the new program, theoretical studies lasted three years. The growing number of steamships made it necessary to regulate obtaining the title of naval mechanic (Royal Decree of 23 January 1887). The Spanish merchant navy then had more than 300 liners, most of them registered in Bilbao.

Twentieth century

The Royal Decree of 16 September 1913 organizes nautical studies into four branches: navigation, machinery, shipbuilding and fishing. Then there are four training centers: Barcelona, Bilbao, Cadiz and Santa Cruz de Tenerife. The crisis of 29 causes a sharp drop in the schools, only eighty students among the four schools. On October 18, 1977, the new five-year study plan was published, three years in the first cycle of university education and two others in the second. In 2002 the studies were renamed Diploma in Maritime Navigation or Naval Machinery (three years) and License in Nautical Sciences and Maritime Transport or in Naval Machinery (the Diploma plus two years). Then in 2010, the new study plan, following the modifications of the European Higher Education Area (Bologna plan) for bachelor’s and master’s degrees.

The current and future challenges of nautical education

First, reconciling the requirements of the merchant marine authorities (professional titles) with the academic and administrative requirements of the university institutions themselves, this has led some centers to withdraw certain specialty certificates from their study plan.

Another challenge consists in dealing with the increasing technicalization of ships, on-board computing, appearance of autonomous ships controlled from the mainland. As technology advances much faster than legislation, it is difficult to know what training requirements will have to be met in the future, what new skills universities will have to offer in their studies.

But the biggest challenge in Spain is to have a sufficient number of students. It is clear that nautical schools cannot be expected to be filled with students as in the 60s and 70s of the last century. Young people today find it more difficult to accept working conditions, remoteness, and salary expectations at sea may not be as competitive as before compared to similarly responsible positions ashore. On a global level, the number of ships in the world will remain the same or increase, since international trade will always exist. There will always be a need for seafarers, on land and on ships. Students today need to know that when they get officer contracts, they will be competing against graduates from around the world. Schools that offer these qualifications will always be needed.

(to be continued)

Captain Hubert Ardillo
Secretary General



The Gulf of Guinea Declaration on Suppression of Piracy

The Gulf of Guinea Declaration one year on – status report

Just over a year since the launch of the Gulf of Guinea Declaration on Suppression of Piracy, the fight against piracy in the region seems to be progressing well. Here are some of the developments seen over the past 12 months.

Summary

With no kidnappings and an 89% reduction in attacks this year, it’s encouraging to see progress. But it’s important not to lower our guard, so BIMCO will continue to advocate for:

- non-regional anti-piracy deployments with clear Rules of Engagement (RoE) to disrupt pirate attacks and with improved communication with regional states when law enforcement action is initiated
- minimising the risk of conflicts of interest between law enforcement and commercial protection businesses
- the importance of information sharing between law enforcement and industry
- the effective and full deployment of Deep Blue assets on anti-piracy tasking.

We hope the signatories of the Gulf of Guinea Declaration will continue to do the same.

The number of attacks is decreasing

Since the Gulf of Guinea Declaration on Suppression of Piracy was launched on 31 May 2021, the number of piracy attacks and kidnappings in the Gulf of Guinea has decreased significantly.

The declaration states that attacks are preventable and calls for a minimum 80% reduction in attacks by the end of 2023 and no seafarers kidnapped during that year.

Judging from available statistics, there is good progress (see table) with no kidnappings at all, and attacks reduced by 89% so far in 2022.

Data point	2020	2021	2022 (until 15 June)
Failed attack	40	12	2
Kidnap for ransom attack	20	12	0
Hijack attack	2	3	1
Total attacks	62	27	3
Seafarers kidnapped	130	60	0

Source: Risk Intelligence and open sources

Since the launch of the declaration, several factors have contributed to the drop in attacks in the region:

- In 2022, international navies stepped up and began conducting proactive maritime law enforcement in international waters off Nigeria.
- The Nigerian navy reported clampdowns on pirate camps.
- Project Deep Blue’s coastal surveillance and C4 centre began ramping up activities.
- Nigeria and the Interregional Coordination Centre (ICC) held a series of meetings and working groups under the umbrella of GoG-MCF/SHADE (Gulf of Guinea Maritime Coordination

Forum, Shared Awareness and Deconfliction).

- The number of Security Escort Vessels operated in co-operation between the Nigerian navy and commercial operators appears to have increased in the period (statistics are not easy to come by).
- Pirate gangs could potentially be more occupied with other nefarious activities such as oil theft and smuggling.

While it would be a stretch to claim that it was the declaration alone which was responsible for the drop in the number of attacks, there is little doubt that it has helped put the question of seafarer security on the agenda both in the Gulf of Guinea coastal states and non-regional states.

The declaration has helped political decision makers both in the region and beyond muster political support for strengthening antipiracy efforts in Gulf of Guinea.

Non-regional antipiracy deployments

Since the declaration was launched, we have seen several deployments of non-regional naval forces from the following countries. There is no centrally-held list available so the list below is based on open sources and may not be complete:

- Denmark
- France
- Spain
- Portugal
- Canada
- USA
- Brazil
- Italy
- United Kingdom
- Russia

Most deployments have been focussing on national tasking such as diplomatic outreach, training and exercises and protection of selected ships falling within the scope of national interest. While the presence of these ships provides a degree of safety to shipping falling within the scope of national interest, the fact that warships with narrow national mandates have been present and visible in the Gulf of Guinea for several years, including when kidnapping numbers were very high in the years 2018-2020, suggests that they don't provide much deterrence of pirate activity.

Recently, however, three naval deployers have stood out in terms of benevolence towards seafarers and the broader shipping community, namely Italy, Denmark, and Russia.

The Italian warships have been engaged in several disruptions of pirate attacks where attacking skiffs have been shunned away.

The Danish warship arrested one pirate action group. During the arrest a firefight broke out with five pirates killed and four survivors arrested, one of which was severely wounded. Three of the four pirates were released after it turned out to be legally impossible to hand them over for prosecution in a coastal state, while the fourth pirate was taken to Denmark for medical treatment and to stand trial.

The Russian warship was engaged in one disruption after which a salvage claim was raised and subsequently settled with the affected shipowner.

The interactions by Italian, Danish and Russian warships have highlighted several weaknesses in the current setup to manage the piracy situation in the Gulf of Guinea:

- an absence of handover agreements between coastal states and non-regional deployers
- An essential precondition for handover from non-regional states is that there is an urgent need for legal processes and prison facilities in regional coastal states to live up to international human rights standards.

- To arrest the usually heavily-armed and aggressive pirates in skiffs, superior speed and firepower is needed to undertake a safe arrest and with sufficiently overwhelming force. In practical terms, a helicopter armed with a machine gun and a sniper to provide aerial cover is needed, plus highly-trained and well-armed boat teams who can move in and do the arrest once the pirate skiff is immobilised.
- Non-regional navies should consider keeping coastal states informed, in a timely fashion, of progress once law enforcement action is initiated.

In order to provide a credible deterrent, deployments of non-regional assets to the Gulf of Guinea with the ability to conduct high-intensity anti-piracy operations will be needed. Deployments of non-regional assets for diplomatic purposes and training missions are expected to continue.

While such deployments arguably play a positive role in their own right, their contribution to deterring pirate attacks is probably limited. Another factor which may impact future deployments is the deterioration in the security situation between Russia and the West, which already places higher demands for warships especially from Western navies' fleets.

Regional capability under implementation: Project Deep Blue

Although formally launched by Nigeria on 10 June, Nigeria's Project Deep Blue is still experiencing some trouble getting fully underway. The following capabilities form part of the project:

Situational awareness:

- Command, Control, Communication, Computers, and Intelligence (C4I)
- Falcon Eye of the Nigerian Navy (over the horizon radar system)
- aircrafts and ships with communication equipment.

Response capability:

- two special mission aircraft
- three special mission helicopters
- two special mission ships
- four units of unmanned aerial vehicles
- 17 fast patrol boats
- special training of 2,000 military personnel for enforcement operations.

The implementation of project Deep Blue by the Nigerian government has encountered some setbacks, including the delayed delivery of certain antipiracy capabilities such as helicopters and drones, and a lack of logistical support. The command structure of the Deep Blue assets has recently been agreed and the coastal surveillance system and the Nigerian command and control centre are now reported to be operational.

Despite the challenges described above, project Deep Blue is currently the most promising Nigerian antipiracy initiative. If deployed effectively, it can make a positive impact on the piracy threat if the assets are effectively used in a law enforcement role.

New UN Security Council Resolution

On 31 May, the United Nations Security Council unanimously adopted a text which condemns the pirate networks jeopardising the safety and security of seafarers and restricting the flow of commerce in the Gulf of Guinea.

Clarifying that the United Nations Convention on the Law of the Sea (UNCLOS) of 10 December 1982 sets out the legal framework within which antipiracy should be carried out, the Security Council dubbed piracy and armed robbery at sea in the Gulf of Guinea "the primary responsibility of the States of the Gulf of Guinea" but – importantly – did not discourage other

states from also taking antipiracy action under UNCLOS.

The resolution also called upon Member States in the Gulf of Guinea region to criminalise piracy and armed robbery at sea under their domestic laws, and to investigate, prosecute or extradite, in accordance with applicable international law, perpetrators of such crimes, as well as those who incite, finance, or intentionally facilitate them.

The importance of fair trial guarantees, including through drafting of agreements for the transfer of arrested piracy suspects between states in and outside the region, was also highlighted.

The passing of the UN Security Council Resolution sends a clear message to the pirate networks, the Gulf of Guinea coastal states, non-regional states, and industry stakeholders that more should be done to tackle the piracy problem in the Gulf of Guinea.

However, the resolution does not shine light on the involvement of law enforcement agencies or officials in the commercial protection business. Such involvement can lead to conflict of interest between business and law enforcement efforts and should thus be avoided.

To this end, the Gulf of Guinea Declaration on Suppression of Piracy calls for improving the transparency between law enforcement agencies, military forces, and protection services. BIMCO will continue to advocate for the risk of a conflict of interest between law enforcement and commercial protection business being minimised.

Maritime domain awareness

The declaration calls for improving domain awareness (such as via radar on offshore platforms) and sharing of relevant information between antipiracy law enforcement forces and agencies. Since the declaration was launched, a series of meetings have been held between industry representatives, regional navies, and non-regional navies.

Early on, BIMCO advocated for the development of a shared communications plan (COMPLAN) in the form of a list of radio frequencies and other communication means to establish and maintain maritime domain awareness.

A little more than six months after the COMPLAN idea was pitched, a basic COMPLAN was agreed. The COMPLAN will allow law enforcement assets from the various deployers in the region to communicate and deconflict law enforcement operations. One element of the COMPLAN was a secure chat system called Solarta which is already used in operations under the name Mercury by allies tackling illicit activities off Somalia.

After an initial free, three-month trial phase where Solarta was in use by regional and non-regional navies, the Nigerian authorities are now in the process of securing funding for continued operation of Solarta.

Another system is also under implementation – the EU-funded YARIS. YARIS is a more complex system with functions such as secure chat-, email-, and video conferencing, advanced chart functions, and an incident log. YARIS has some interesting perspectives, and training of staff from the regional coastal states is ongoing. Until YARIS is fully implemented with all relevant stakeholders, Solarta, or a similar system, will have an important role to play in ensuring effective information sharing and maritime domain awareness.

BIMCO will continue to advocate for improvements in information sharing between law enforcement agencies and the industry in accordance with normal security protocols. All information sharing should take into consideration aspects of operational security. For example, knowledge of whereabouts and intentions of law enforcement forces should only be shared in ways which minimise the risk of compromising the operational security of the law enforcement forces involved.

FROM THE EDITOR

1. Masters



Danes Arrest Captain for “Drink Driving” After his Ship Grounded

Published May 27, 2022 by **The Maritime Executive**

Danish police arrested the captain of a small, Cypriot-flagged cargo ship for “drink driving” after responding to reports that the vessel had gone aground shortly after departing for a trip between two Danish ports. The police officers responding to the grounding assessed that the captain was under the influence of alcohol and brought him ashore for further testing.

The North Zealand Police responded to reports that a cargo ship had grounded in the Roskilde Fjord shortly after departing the steel mill in Frederiksværk in eastern Denmark. The 210-foot-long Leila had loaded a cargo of 1,150 tons of steel and was heading across the Danish Straits to the western port of Fredericia. However, just outside the harbor shortly before midnight on May 24, the 1,260 dwt vessel went aground.

The Naval Home Guard was summoned to assist the local police and launched one of their inflatable rafts to transport the police out to the grounded vessel. Initially, they were looking for the cause of the accident and to assess for any potential damage or pollution.

“We arrived with the rubber boat at Frederiksværk around 23.30, where we picked up the two officers from North Zealand Police and sailed them out to the cargo ship,” explained Mikael Olsen, deputy commander of the Home Guard. According to Olsen, it was “a little more windy out there than we expected,” with winds of about 15 mph but overall weather conditions were good and it was clear.

He said that about 45 minutes later the police returned to the launch with the captain. They had the captain with them when they returned. The unidentified captain was transported to shore to undergo blood tests after being arrested.

They reported that the vessel was operating with a draft of over 12 feet at the time of the grounding although it had entered an area with a depth of approximately 7 feet. They determined that the captain had failed to correctly follow the fairway while transiting the Roskilde Fjord.

The Home Guard returned to the site and circled the vessel looking for signs of damage or an oil leak. They were also assisted by a rescue helicopter from the Armed Forces which also surveys the area for any signs of pollution.

The cargo ship was later refloated and moved back to the dock at the steel mill, where it remains. As of the last report, the captain remained in detention on charges of operating his vessel while under the influence of alcohol.



Captain and Officers of Bulker Charged with Homicide by Philippines

Published Jun 1, 2022 by **The Maritime Executive**

Philippine authorities announced today that they have filed charges against the captain and three officers from a bulk carrier that collided with a fishing boat. The charges came as the Coast Guard reported that it was moving into a search and recovery effort after finding only debris and no signs of the seven missing crewmembers from the fishing boat.

During a press briefing on June 1, the Philippine Coast Guard reported that it had completed

an initial investigation and the authorities had decided to press charges against the officers of the Happy Hiro, a 32,600 dwt bulker registered in the Marshall Islands. The captain of the vessel, Amir Meshay, a citizen of Croatia, the second officer Bogdan George Antonie, a citizen of Romania, and two Filipino officers from the vessel were being arraigned in court. They face charges of “reckless imprudence resulting in multiple homicide, multiple injuries, and damage to properties,” the Coast Guard reported.

The collision happened on May 28 in one of the main shipping lanes as the bulker was passing through the Philippines sailing to Australia. An underwater examination of the 580-foot vessel revealed scraps and marks consistent with the Coast Guard said with the ship having hit and sailed over the fishing boat.

The Coast Guard reported interviewing the surviving crewmembers as well as eyewitnesses from other vessels operating in the area. The fishing boat had experienced engine troubles earlier in the day and was anchored when crewmember aboard noticed the approaching vessel. They awakened other crewmembers aboard the fishing boat as the bulker approached. The 13 survivors suffered cuts and bruises, and one person had an injury on his head, and were retrieved from the water by another fishing boat in the area.

The Happy Hiro transported the survivors toward shore and later transferred them to a Coast Guard vessel. The bulker was directed to proceed to an anchorage. The Coast Guard reports from interviews and a review of the log they determined the bulker was operating with only one officer on the bridge and that he would have had blind spots where he could not see objects in front of the vessel.

The Philippine Coast Guard assisted by the Navy has searched an area covering roughly 600 square miles but has been hampered by bad weather including heavy rain and huge waves. They found various pieces of debris believed to be from the fishing boat but no signs of the seven missing crewmembers.

They have also asked the court for an order to detain the bulker indefinitely pending an ongoing investigation with the Maritime Industry Authority.



Cargo Ship Captain Swims to Save Unusual “Passenger”

Published Jun 21, 2022 by **The Maritime Executive**

It is not very often that you hear a tale about a captain that dives overboard to rescue one of his wayward “passengers” from the sea, but the BBC is reporting just such a tale today. What’s more, the passengers were the four-legged kind but both owner and captain feared the creature might not be able to swim leaving little choice but to stage the unusual rescue.

Tom Sexton took command of the small cargo ship the Gry Maritha in April after the vessel’s senior captain retired in the spring after 22 years with the Isles of Scilly Steamship Company. Just a small 123- foot knockabout built in 1981, the 590 ton vessel provides a vital, year-round freight service between Penzance in Cornwall in the UK and 36 miles to St. Mary’s in the Isles of Scilly. She is equipped to carry palletized cargo and bulk fuel plus she has a deck crane which enables the ship to carry large goods up to a maximum weight of six tons, including vehicles and machinery.

Last week during one of her regular runs she boarded two unusual passengers, meerkats that were being transported by their owner on their way to a zoo in Axminster, Devon, England. Named Doris and Boris, the animals which weigh less than two pounds were caged for the trip from the Isles of Scilly. Some how when they were arriving in Penzance, the animals got free and were running around the deck of the little cargo ship.

The crew was able to catch Doris, but much to the dismay of their owner, Boris decided to make a break for it and went over the side of the ship down 10 feet into the harbor. Owner Stephen

Griffin told the BBC that he did not think the meerkat could swim, but Captain Sexton said he saw the animal swimming about but realized it had no way to get back aboard the ship.

Sexton quickly changed into a pair of boardshorts and put on a pair of gloves to prevent the animal from biting and he dove in after his wayward passenger. At the same time, the crew tied a cage to a rope and lowered it over the side. Recounting his tale to the BBC, Sexton said it was “easier” than he thought it would be, saying that the animal “was quite glad” to be caught and back on dry ground.

The captain laughs it off going back to his job of moving vital supplies to the islands, but you have to assume he had some fun in the pub recounting the day the meerkats took a cruise on his ship.

Bulk Carrier Captain Fined for Leaving Great Barrier Reef Shipping Lanes

Published July 1, 2022 by **Mike Schuler**

The captain and chief mate of a bulk carrier have been fined after pleading guilty to steering the ship through a protected area of the Great Barrier Reef.

The incident took place in March involving 289-meter MV Sea Coen, which is registered in the Marshall Islands, and caused no environmental damage. The Master and First Officer of the vessel admitted to exiting the designated shipping area within the Great Barrier Reef World Heritage Area. Their guilty plea was entered at Magistrates Court in Townsville, Queensland on June 21.

Great Barrier Reef Marine Park Authority CEO Josh Thomas said the outcome was a good example of enforcing compliance in the Marine Park, and demonstrated strong collaboration between management agencies. In this case, the Reef Authority was notified about this incident through the Reef Vessel Tracking Services operated by Maritime Safety Queensland.

The Master and First Officer, both South Korean nationals, have been sentenced to pay AUD\$40,000 and \$35,000, respectively.

“Having access to technology such as vessel tracking services, ensures we can act swiftly to prevent serious incidents from damaging the Marine Park,” said Thomas. “The Reef Authority places a very high priority on investigating breaches of laws that are designed to reduce the risk to the Reef from ships navigating within this World Heritage Area.”

“Major shipping incidents can have catastrophic consequences for the environmental, cultural and economic values of the Great Barrier Reef, and vessel operators who flout the laws will be held to account,” Thomas added.

The Reef Vessel Tracking Services uses a multi-million dollar system launched in 2019 to monitor shipping in the Great Barrier Reef and Torres Strait.

In 2010, the coal-carrying Shen Neng 1 infamously strayed from shipping lanes and ran aground on Douglas Shoal, part of the Great Barrier Reef. The grounding ruptured the ship’s fuel tanks, causing the release of about four metric tons fuel oil into the surrounding waters and significantly damaged the reef. The wreck was eventually towed away following a two-month salvage operation.

The ship’s Chinese owner was sentenced to pay nearly \$40 million over the accident. It’s captain and chief mate were also found criminally liable.

Indonesia Jails Ship Captain Over Illegal Anchoring

Published July 13, 2022 by **Reuters**

The captain of a fuel tanker arrested by the Indonesian navy in May on suspicion of illegally anchoring in its waters has been jailed for 15 days and fined 200 million rupiah (\$13,350).

The Nord Joy, a Panama-flagged oil products tanker, was detained on May 30 whilst anchored in Indonesian waters to the east of the Singapore Strait, one of the world’s busiest shipping lanes.

Indonesian navy officers asked for an unofficial payment of \$375,000 to release the vessel, two people involved in the negotiations told Reuters at the time.

The Indonesian navy denied any such payment was requested and said the vessel was being held for anchoring in its waters without a permit. Synergy Group, the manager of the Nord Joy, also said it was not aware of any request by the navy for money.

The vessel has been released after a court on July 7 handed down the jail sentence and fine to Vivek Kumar, the ship's captain, Navy spokesman Julius Widjojono told Reuters.

A Synergy Group spokesperson confirmed its vessel had been released after a court hearing on Batam, an Indonesian island south of Singapore that is home to an Indonesian naval base.

The tanker, which is 183 metres (600.39 ft) long and can carry up to 350,000 barrels of fuel, is currently anchored to the west of Singapore en route to Tanjung Pelepas port in Malaysia, according to Refinitiv ship tracking data.

Last year, Reuters reported a dozen similar detentions by the Indonesian navy in waters to the east of Singapore. In those cases, the ship owners made unofficial payments of about \$300,000 each and the vessels were released.

The navy denies any such payments were made.



Captain Sentenced to 7 Years in Jail for Hazardous Waste Smuggling

Published July 25, 2022 by **The Maritime Executive**

A district court in Batam, Indonesia has issued a seven-year jail sentence for the master of the workboat Cramoil Equity for entering Indonesian waters with barrels of hazardous liquid waste.

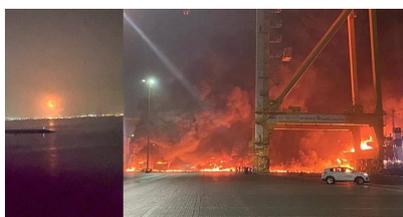
In mid-June 2021, the Batam Port Authority received a tip that the Belize-flagged Cramoil Equity was carrying hazardous waste without a permit in the waters of Batam. The agency's patrol team ordered the ship to leave, but it allegedly did not comply.

Two days later, the patrol team found Cramoil Equity still within Indonesian waters. A boarding team found 20 bulk containers of toxic waste on the back deck, each containing about 250 gallons of liquid. Transporting hazardous waste into Indonesian waters without a permit is a violation of the nation's environmental laws, punishable by up to a maximum of 15 years in prison.

The captain, identified as 48-year-old Indonesian national Chosmus Palandi, was convicted of transporting hazardous waste in June 2022 and sentenced to seven years in jail, plus a fine of \$330,000 (or an additional three months in jail). The outcome of the case was announced in July.

The case may expand beyond a penalty for the captain alone. Indonesia's ministry of the environment is working with the Indonesian embassy in Singapore to try to track down the cargo's origin. The vessel's operator, Cramoil Singapore, has previously been cited by Singaporean authorities for alleged discharge of untreated wastewater.

"Firm action against waste smuggling and any act against the environment must be carried out to protect Indonesian waters and environment," the ministry said in a statement.



Captain Convicted Over Hazardous Container Blast

Published Aug 22, 2022 by **Mike Schuler**

A Dubai court has convicted the captain of the M/V Ocean Trader and four others in connection to last year's fire and massive explosion on board the vessel at Dubai's Port of Jebel Ali.

The incident took place July 7, 2021 after the Ocean Trader had loaded containers for export, including three that contained hazardous organic peroxide. The fire started in one of the hazardous containers and led to an explosion that could be felt for miles.

Nobody was killed in the accident, but five people suffered relatively minor injuries.

An investigation revealed that the containers with organic peroxide had arrived at the port 12 days before the incident and were kept in direct sunlight and scorching heat.

The court found that the organic compounds were allowed to decompose as a result of negligence by the cargo shipping company, UAE-based The National reported. The decomposition led to a build up of gases that caught fire and exploded when being loaded onto the ship.

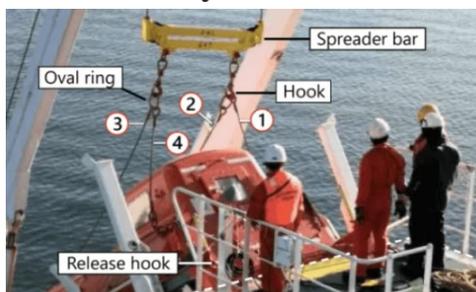
Prosecutors made the case that the captain was responsible for the stowage plan and had loaded the hazardous containers close to each other.

The captain reportedly denied any wrongdoing, arguing unsuccessfully that he did not know that the containers had been stored improperly and would not have loaded them if he did, according to The National. The captain apparently told the court he noticed one of the containers leaking smoke and immediately alerted shoreside personnel and ordered crew members to evacuate—an action that likely saved lives.

The fire was brought under control after about 44 minutes.

The court found the captain and four others guilty of wrongfully causing the incident and subsequent damage as well as the injury of five people, the report said. Each was given a one month suspended prison sentence and fined about \$10,000. Five companies were also fined.

2. Safety



Another Serious Lifeboat Accident During Drill Published Jun 22, 2022 by **The Maritime Executive**

Canada's Transportation Safety Board (TSB) has released a report on yet another serious lifeboat-drill accident, illustrating the continuing hazards of this routine SOLAS safety exercise. A failure of a lifeboat launch system on a merchant vessel can result in a fall from height, ending in injuries or fatalities for anyone in the boat.

On December 1, 2020, the crew of the bulk carrier Blue Bosphorus were carrying out a free-fall lifeboat drill at anchor in English Bay, British Columbia. After the four wire rope slings for lowering away the free-fall lifeboat were attached, the third mate and an AB went aboard the boat to conduct a test launch. The third mate activated the release hook, and the lifeboat slid forward about 25 centimeters. At that point, three slings connecting the boat to the davit failed, along with the bracket connecting to the fourth sling. The boat fell 45 feet into the water.

Both crewmembers aboard were seriously injured – one with leg injuries and one with an injured hand – and they were taken to a hospital for treatment. The boat's hull sustained damage where it struck the water. Most (but not all) of the broken sling components were retrieved for analysis.

A post-accident investigation found that the crimp sleeves on the slings had weakened over time due to stress corrosion cracking – a common problem for stainless steel. In addition, one of the slings was shorter than the others, meaning that it took the full load of the boat when the hook was initially released. This sling failed first, followed by the others in sequence.

The crew were under orders to exit the lifeboat after releasing the hook, before the boat was lowered into the water using the davit – a practice consistent with IMO guidance. However, they still needed to be present in the boat in order to release the hook. They were in the practice of standing without securing themselves to the seats while carrying out this task. “There had been no assessment of the risk associated with standing unsecured in the lifeboat when it was suspended by its slings,” TSB concluded.

The vessel's maintenance schedule did not specifically cover inspecting the condition of the slings, according to TSB. After the casualty, the shipowner installed new load-tested sling assemblies and brackets, and it sent a safety circular to update its requirements for lifeboat inspections and drills.

3. Technical



Mayflower Autonomous Ship Completes Historic Atlantic Crossing

Published Jul 1, 2022 by **The Maritime Executive**

Just over two months after setting off from England, and with two unplanned “pit stops,” the uncrewed Mayflower Autonomous Ship (MAS) arrived in Plymouth, Massachusetts on June 30. Towed the final 25 miles due to U.S. Coast Guard regulations against the operation of uncrewed vessels in coastal areas, the vessel is now docked alongside a replica of her namesake.

She became the largest uncrewed vessel to complete the trans-Atlantic crossing and is being hailed as a turning point in the development of autonomous technologies. The project was launched in 2016 by the non-profit maritime research organization ProMare with the goal of using artificial intelligence to aid in the collection of marine research data. IBM and others joined the project helping to develop the technology including six AI-powered cameras, more than 30 sensors, and 15 edge devices, all of which input into actionable recommendations for the “AI Captain” to interpret and analyze.

According to the technology team, the data coming from the sensors and the programming of the systems made it possible for the AI Captain to adhere to maritime law while making crucial split-second decisions, like rerouting itself around hazards or marine animals, all without human interaction or intervention. Further, the AI Captain learned from data, postulated alternative choices, assessed and optimized decisions, while managing risk to complete the crossing.

Having set out from England in April, it was the second attempt by the vessel to cross the Atlantic after a 2021 voyage was canceled due to a mechanical failure. The 2022 crossing was not without its mechanical problems causing the vessel first to divert to the Azores where problems were diagnosed and she was refueled. The team monitoring the voyage decided in June to divert to Halifax, Canada after experiencing additional mechanical problems. The Mayflower departed Canada on Monday, June 27 for the historic final leg of her journey, completing an estimated 3,900 nautical miles without a crew aboard. Plans to sail the Mayflower to Washington, D.C. appear to have been put on hold or canceled.

“This voyage is only just beginning,” Rob High, IBM’s chief technology officer for networking and edge computing told the Boston Globe after the vessel reached Massachusetts yesterday. He predicted that the experience gained during the trip would lead to more advancements in AI systems and could contribute to fleets or uncrewed vessels and the addition of the technology to commercial vessels to aid crews and “make their lives easier.”

Recent demonstrations in Japan and by South Korea’s Hyundai Heavy Industries have further demonstrated the potential for autonomous navigation. The Japanese program demonstrated ferries and containerships making local voyages and docking and undocking entirely controlled by computers. An LPG carrier demonstrated the technology by navigating for roughly half its voyage across the Pacific, or approximately 5,400 nautical miles avoiding over 100 ships and optimizing the voyage.

ProMare announced that further information about the upcoming projects for the Mayflower, the scientific research schedule, and upcoming local events to inform the public will be announced soon.

CESMA LOGBOOK (2022-3)

We were represented at the following occasions:

1 JULY WORLD MARINE AIDS TO NAVIGATION DAY, BURGAS, BULGARIA

On the front page:

CESMA President at World Marine Aids to Navigation Day – First Circumnavigation by Elcano – Gulf of Guinea Declaration logo – MV Forest 6 at Aqaba Port (Incident with Chlorine Toxic Gas Cylinder Explosion)

(abridged)

AIMS OF THE ORGANISATION

- **TO WORLDWIDE PROTECT THE PROFESSIONAL INTERESTS AND STATUS OF EUROPEAN SEAGOING SHIPMASTERS.**
- **TO PROMOTE MARITIME SAFETY AND PROTECT THE MARINE ENVIRONMENT.**
- **TO PROMOTE ESTABLISHMENT OF EFFECTIVE RULES WHICH PROVIDE HIGH PROFESSIONAL MARITIME STANDARDS AND PROPER MANNING SCALES FOR VESSELS UNDER AN EUROPEAN NATION FLAG.**
- **TO INFORM THE PUBLIC IN THE EU ABOUT DEVELOPMENTS IN THE EUROPEAN MARITIME INDUSTRY AND THOSE CONCERNING SHIPMASTERS IN PARTICULAR.**
- **TO CO-OPERATE WITH OTHER INTERNATIONAL MARITIME ORGANISATIONS.**
- **TO RETAIN AND DEVELOP THE HIGHEST MARITIME KNOWLEDGE AND EXPERIENCE IN EUROPE.**
- **TO BE INVOLVED IN RESEARCH CONCERNING MARITIME MATTERS IF APPLICABLE IN CO- OPERATION WITH OTHER EUROPEAN INSTITUTIONS AND/OR ORGANISATIONS.**
- **TO ASSIST MEMBER SHIPMASTERS WHO ENCOUNTER DIFFICULTIES IN PORTS WITHIN THE REACH OF NATIONS REPRESENTED BY CESMA MEMBER ASSOCIATIONS**
- **TO PROMOTE THE SEAFARING PROFESSION IN EU MEMBER STATES**

ANNUAL SUBSCRIPTION:

EURO 16.00 PER SEAGOING MASTER (WITH A MINIMUM OF 25)

EURO 8.00 PER SEAGOING MASTER FOR ASSOCIATED MEMBER ASSOCIATIONS (WITH A MINIMUM OF 25)

LIST OF CESMA MEMBERS AND REPRESENTATIVES

MEMBER REPR VDKS GERMANY	CAPT. W. MERTENS PALMAILLE 29 22767 HAMBURG	Tel.: +49 40 384 981 Fax: +49 40 389 2114 E-mail: vdks.office@t-online.de
MEMBER REPR AFCAN FRANCE	CAPT. B. DERENNES RUE DE BASSAM 29200 BREST	Tel.: +33 298 463 760 E-mail: courrier@afcan.org
MEMBER REPR HYDROS FRANCE	CAPT. F. VANOOSTEN 201 RUE RENE CASTELIN 59240 DUNKERQUE	 E-mail: vanoosten.francis@wanadoo.fr
MEMBER REPR NVKK NETHERLANDS	CAPT. H. AMMERLAAN WASSENAARSEWEG 2 2596 CH THE HAGUE	Tel.: +31 6 8394 4694 E-mail: nvkk@introweb.nl
MEMBER REPR CTPC ITALY	CAPT. M. CAROBOLANTE VIA MAZZINI 30 34121 TRIESTE	Tel.: +39 040 362 364 MOB.: +39 334 740 0488 E-mail: collegio69@collegioditrieste.191.it
MEMBER REPR CNPC ITALY	CAPT. G. LETTICH VICO DELL'AGNELLO 2/28 16124 GENOA	Tel.: +39 010 247 2746 E-mail: info@collegionazionalecapitani.it
MEMBER REPR USCLAC ITALY	CAPT. C. TOMEI VIA XX SETTEMBRE 21/10 16121 GENOA	Tel.: +39 010 576 1424 Fax: +39 010 553 5129 E-mail: segreteria@usclac.it
MEMBER REPR IYM ITALY	CAPT. L. TRIGGIANI MOLO CENTRALE BANCHINA PORTO 17025 LOANO (SV)	Tel.: +39 347 960 3893 E-mail: triggiani @italianyachtmasters.com
MEMBER REPR ACCMM SPAIN SPAIN	CAPT. M. BADELL SERRA CARRER DE SARDENYA 259 1-4 08013 BARCELONA	Tel.: +34 934 089 288 MOB: +34 680 321 138 E-mail: info@capitansmercants.com
MEMBER REPR AVCCMM SPAIN	CAPT. J. ZARRAGOIKOETXEA C/BAILLEN, 5 PLANTA – 1 48003 BILBAO	Tel.: +34 944 166 506 MOB: +34 636 449 0 54 E-mail: avccmm@avccmm.org
MEMBER REPR KBZ BELGIUM	CAPT. B. BAERT BROUWERSVLIET 19 B-2000 ANTWERPEN	Tel.: +32 475 435 942 E-mail: secretary-general@kbz-crmb.be

MEMBER REPR IIMM IRELAND	CAPT. B. KAVANAGH NATIONAL MARITIME COLLEGE RINGASKIDDY / CORK	Tel.: +353 214 335 637 E-mail: bill.kavanagh@nmci.ie
MEMBER REPR ZPU SLOVENIA	CAPT. G. RIBARIC OBALA 55 SI – 6320 PORTOROZ	MOB: +386 31 375 823 E-mail: zpu.slo@siol.net
MEMBER REPR BSMA BULGARIA	CAPT. I. CONEV 49B CHATALDZHA BUL 9000 VARNA	Tel.: +359 888 435 977 E-mail: chairman@bsma-bg.org
MEMBER REPR LKKA LATVIA	CAPT. J. SPRIDZANS TRIJADIBAS STREET 5 RIGA, LV-10 48	Tel.: +371 67 099 400 Fax: + 371 67 323 100 E-mail: jazeps.spridzans@lja.lv
MEMBER REPR ZHUPK CROATIA	CAPT. D. LAKOS TRG PAPE ALEKSANDRA III, 3 23000 ZADAR –HRVATSKA	Tel.: +385 98 433 685 E-mail: udruga.kapetana@zd.t-com.hr
MEMBER REPR UPKCG MONTENEGRO	CAPT. J. MILUTIN PELUZICA b.b 85330 KOTOR	Tel.: +382 32 304 672 Fax: +382 325 107 E-mail: captain@t-com.me
MEMBER REPR LCC LITHUANIA	CAPT. J.LIEPUONIUS KANTO 7 KLAIPEDA/ LT- 92123	Tel.: +370 698 75704 E-mail: jurukapitonuklubas@gmail.com
MEMBER REPR SINCOMAR Portugal	CAPT. J. TEIXEIRA CAIA DE ROCHA CONDE D OBIDA ARMAZEM 113 1350 352 LISBON	Tel.: +351 213918180 E-mail: sincomar.fesmar@net.vodafone.pt
MEMBER REPR HELSINKI SHIPMASTERS SF-FINLAND	CAPT. S. SUNDBERG VEHNAKUJA 4 06400 PORVOO	Tel.: +358 40 5944954 E-mail: stig.sundberg@pp1.inet.fi
MEMBER REPR ROMANIA SHIPMASTERS	CAPT. M. TUTUIANU STR.AL.STEFLEA NR. 8A CONSTANTA	Tel.: +40 722 727 123 E-mail: office@acnr.ro