



THE DANAOS SHIP NEWS

A SEMI-ANNUAL EDITION OF DANAOS SHIPPING CO. LTD.

ISSUE #21, JUNE 2021

Crisis in the Suez Canal

On March 23rd, at 05:40 UTC, Ever Given, a 20,000 TEUs container vessel blocked the Suez Canal for about 6 days and 7 hours. Adverse weather conditions (sandstorm) in combination with several human and technical errors contributed to the most damaging event of the year in the maritime world.

This grounding could have happened anywhere else in the globe; but this happened in one of the busiest passages in the world and has definitely created a hotpot of problems for the entire world economy, not only for shipping. About 12% of global trade goes through the Suez Canal, which allowed nearly 19,000 vessels last year to pass between the Mediterranean and the Red Sea. If one considers that 90% of the global trade is conducted on the sea, the disaster is easily conceivable.

By 28th March, at least 369 ships were queuing to pass through the canal, preventing an estimated \$9.6 billion worth of trade. Apart from that, though, shall we see what other implications this incident had?

- Increased prices in every day goods carried by containers world-wide.
- Not only the Ever Given's goods have gone wasted; other blocked vessels which carried vulnerable goods and livestock were not delivered in full and in time (animals carried onboard starved for example).
- Shortage of oil in Europe led to a temporary increase in oil prices. Although, oil prices plummeted again after the Canal's unblockage on March 29th.
- The Suez Canal lost \$15 million per day in transit fees.
- As one of the world's busiest trade routes, the canal obstruction had a significant negative impact on the trade volume between Europe and Asia and the Middle East. Specialists say that even a short-term disruption at the Suez Canal such this could have a domino effect for several months along the supply chain.
- The need to find alternative efficient routes was underlined: Russia already used the incident to promote its Arctic shipping routes as a shorter alternative to carrying goods around Africa.

The Ever Given saga left more than 400 vessels, carrying everything from crude oil to cattle, piled up on either end of the canal as they wait-

ed for the stranded container ship to be refloated. Tons of goods were blocked from being transported, while the local authorities did not seem to care about the major financial consequences. The incident exposed a need to investigate issues of supply chain resilience and disruption to just-in-time manufacturing already facing shortages from the COVID-19 pandemic impacts.

The "complete disconnect of ship size development from developments in the actual economy" (OECD report, 2015), and the corresponding limitations of existing infrastructure to handle them – a process evident

in the Suez, where expansion work on the northern end of the canal has been ongoing – led to the incident being described by Michael Safi in The Guardian as a "worst-case scenario that many saw coming".

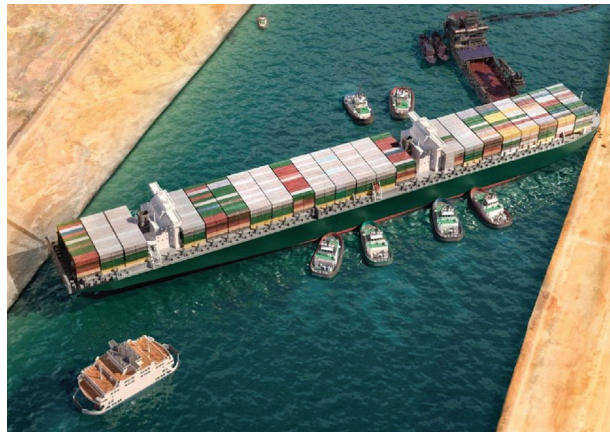
Events during the several days the canal was blocked highlighted the difficulties of saving larger ships, which requires more time and more equipment. If Ever Given had required intervention of floating cranes to remove some containers (assuming crane ships of sufficient capacity would have been available within any realistic time-frame), the process would have required larger equipment working for longer, and would

have been likely to prolong the blockage by days or even weeks.

Undoubtedly, the Canal Authorities are receiving huge fees, small amount of which is properly used for maintenance reasons, causing major safety issues to the vessels passing through. Ever Given was not the first incident that revealed the necessity for maintenance activities in the area, but it was the most serious one, after the canal's closure for 8 years due to war between Egypt and Israel. The Suez Canal has closed five times since it opened for navigation in 1869.

On April 13th the vessel was arrested by the local authorities for refusing to pay a reported \$916 million in fees, a claim deemed to be unjustified by the ship's insurers. Up until now, the Japanese owner, Shoen Kisen is still in negotiations with the implicated insurers and the Egyptian authorities. The crew is still onboard the vessel, stranded at sea, waiting for difficult decisions to be made.

*Katerina Katsiada
PA to the COO*



Our Response to the COVID-19 Pandemic



The COVID-19 pandemic has been causing significant impact on the shipping industry on both our employees and seafarers, or "key workers" as designated by a number of IMO Member States.

Protecting our crew while continuing operations in unchartered environments

with special requirements is considerably hard. Travel restrictions imposed by governments around the world have created significant hurdles to crew changes and repatriation of seafarers.

To cope with pandemic-related disruptions and adapt to this changing situation, we had to build effective response strategies and plans

adjusting our operations, health and safety protocols as well as working practices and procedures.

Over a year now, we have been working hard following all the precautionary measures and procedures to ensure crew changes can take place safely, in compliance with the WHO and IMO instructions.

Our people are at the heart of our business and we are working tirelessly to keep them healthy and safe during the coronavirus outbreak while at the same time ensuring seamless supply chain operation around the world.

*Tania Mermiga
Media & CSR Manager*



Message from the President & CEO

Dear Danaos Team,

It is more than a year now that our lives have changed due to the pandemic. Fortunately the vaccination rollout has already demonstrated that we are seeing the end of the tunnel. It is a duty for all of us to get the vaccine to protect not only ourselves but also our beloved ones from this unfortunate virus. In Greece things have eased considerably however in Russia, Ukraine and Tanzania things are improving at a much slower rate.

Business has been pretty solid during this first half of the year and we are concluding longterm charters for many vessels at profitable rates that will ensure the strength and growth of Danaos.

Our biggest concern during this period is to ensure the timely repatriation of our people onboard. Unfortunately Asia remains still under lockdown as the vaccination has not been implemented so quickly as in the West. On the other hand we face mounting difficulties in the issuance of Visas to travel and also for the renewal of certificates due to the closure of many government offices. We can only request your understanding to be a bit more patient during this time and I want to personally assure you that we are doing the utmost to normalize the situation.

On another front our industry is on the verge of a major decarbonization drive. This will require cooperation on all fronts as we must implement consumption reduction initiatives that relate to the operation of the vessels. This is where cooperation with the office is essential to achieve our climatic goals.

Wishing to all of you and your beloved ones to be safe and looking forward to meet in person soon.

Best regards,
John Coustas



Message from the Senior Vice President & COO

Dear Colleagues and Danaos Employees,

We need a common vision for truly sustainable future. The truly value-generating enterprise is one from which everyone can benefit. This is about responsible long-term management: what we used to call simple "good business".

We believe that the purpose of business is to solve the problems of people and planet profitably, and not profit from causing problems.

Concretely, business should seek rapid progress on reducing their carbon emissions and extricating themselves from the economy of disposable consumption. Consumers are already crying out for more environmental alternatives. Smart companies will not be left behind by this trend.

However, our mission is to provide efficient, safe, and sustainable transportation of consumers goods, it is therefore necessary to carefully balance between reducing carbon emissions and maintain efficient transportation of consumers' goods.

Finally, the business community should welcome sensible regulation to stimulate healthy competition. Even the invisible hand sometimes needs a nudge from an Editor.

We, being Corporate leaders should now face the requirements of sustainable growth and create value for all, shareholders, employees, and the society.

Iraklis Prokopakis

Issue #21, H1/2021

Distributed free

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The newspaper is printed on recycled paper.

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Design: Simple Print - Lygnou Androniki, Graphic Arts - 23, Salaminos str., Peristeri 121 32, Greece - mob. +30 6945 546936, e-mail: simpleprint.al@gmail.com

Vaccination Program

Danaos commenced a Vaccination program for the crew members visiting US ports.



On the 17th of May the first seafarers from M/V Express France got vaccinated in Houston with the one-dose Johnson and Johnson vaccine.

Certificate of Corporate Responsibility

Danaos has proudly received the Certificate of Corporate Responsibility in recognition of the North Atlantic right whale protection, one of the world's most endangered large whale species.



Rescue of sailboat by M/V ZIM Sao Paolo

We feel relieved and thankful that the crew of our vessel M/V ZIM Sao Paolo rescued a sailboat adrift in the North Pacific Ocean with 3 people onboard. The Master had earlier received a distress signal via VHF as the sailboat had 2 damaged sails and was in need of gas oil in order to use its engine and reach the shortest port.



Passing of Robert A. Mundell



Danaos was saddened to report the passing of Robert A. Mundell, who served as an invaluable member of Danaos' Board of Directors from 2006, when the company went public, through 2015. From 1974 until his recent passing, Mundell was a professor in the economics department at Columbia University in New York, where he held Columbia's highest academic rank of University Professor. For much of his career in academia, he was unconventional in his thinking and delighted in stepping "on a lot of intellectual toes." Known as the "Father of the Euro," Mundell laid the groundwork for its introduction and also helped to start the movement known as supply-side eco-

nomics. He received the Nobel Memorial Prize in Economics in 1999 for his pioneering work in monetary dynamics and optimum currency areas. The Nobel committee noted that Mundell chose his problems with uncommon – almost prophetic – accuracy in terms of predicting the future development of international monetary arrangements and capital markets. Mundell is survived by his wife Valerie, his children Nicholas, Bill and Robyn and eight grandchildren. The members of Danaos' management team mourn his passing and extend their most sincere condolences to his family.



New Ladies have joined our fleet

We are delighted to welcome the sisters Bremen and C Hamburg, both of 9,012 TEU capacity, and we wish them Fair Winds and Following Seas!



Newly joined!!!

We welcome:

Cpt Georgios Kourampas
Deputy Operations Manager

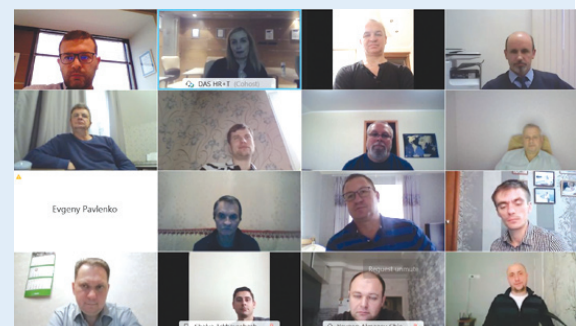
Avgerinos Daskalakis
Supply Operator

Dimitris Aronis
Digitalisation Analyst

The Oil Record Book Webinar

The Oil Record Book Webinar, delivered by Mrs. Katerina Vassilopoulou (Training Officer), has been completed.

The Oil Record Book is one of the most important documents onboard and we would like to thank the 10 Chief Engineers and 2 Second Engineers from Russia and Ukraine who participated in the Webinar, along with Capt. Nikolaos K. Polymeris (Deputy Training Manager), Capt. Gennady Kuznetsov (Training Officer) and Capt. Sergiy Parkhomenko (Training Officer) for such a successful execution.



Tania Mermiga
Media & CSR Manager

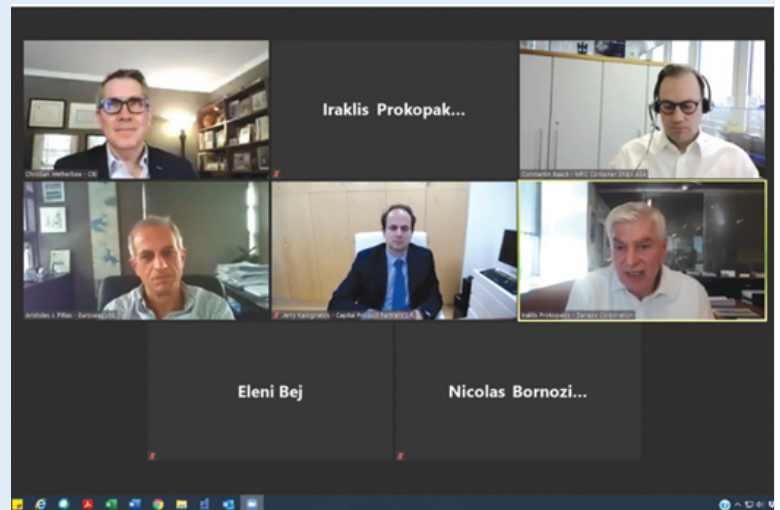
Capital Link Webinar

Mr. Prokopakis participated in the Container Sector webinar which was powered by Capital Link, on the current container market conditions. Our COO pointed out that we had no blank sailings during this period, in which there is substantial increase in demand for container slots driven by a combination of consumption and re-stocking. As such, the shorter-term timecharter rates have increased and will continue to increase at a slower rate.

Regarding the orderbook changes, Mr. Prokopakis said that we do not expect those to increase in the next 3-5 years due to the expected liners discipline, the uncertainty regarding carbon emissions and the future propulsion technological risk. It was also stressed that we do not foresee emerging technologies to provide any material solutions at least for the next 5 years.

Finally, the Covid-19 consequences on shipping were discussed thoroughly.

*Katerina Katsiada
PA to the COO*



Lecture for American College of Greece

Mr. Filippas Prokopakis, Danaos Commercial Manager, virtually attended the American College of Greece as a guest lecturer.

Mr. Prokopakis introduced the students of the BSc in Shipping Management to the history and milestones of Danaos and elaborated on the comparison between the containership and the dry bulk market in terms of operation and chartering activities.

Mr. Prokopakis also presented different time charter parties currently in use in the container shipping focusing on their individual peculiarities.

*Tania Mermiga
Media & CSR Manager*

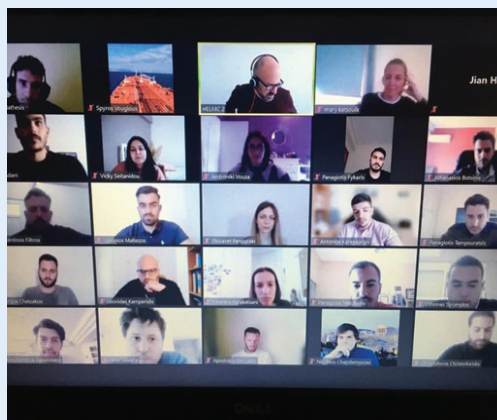


Lecture for University of Reading ALBA Graduate Business School

Another lecture for Mr. Filippas Prokopakis, Danaos Commercial Manager, who virtually attended the University of Reading/ALBA Graduate Business School as a guest speaker.

In the spotlight of the discussion were the latest current affairs such as the heydays of the container shipping and the lessons learnt from the recent crisis in Suez. Mr. Prokopakis analyzed the challenges a listed company faces in today's shipping environment. Among others topics, he examined how the Covid-19 pandemic has affected shipping operations and he elaborated on the technological innovation as the way forward.

*Tania Mermiga
Media & CSR Manager*



Save the Boat



Despite the difficult circumstances and the restrictions for team-building activities due to the Covid-19 pandemic, Danaos decided to conduct a virtual activity to strengthen the team spirit of Danaos personnel and give a glimpse of fun in these difficult moments. On Tuesday 23rd of March we decided to spend one more hour in front of our computer screens and split in colorful virtual teams with one and only purpose....to "Save the Boat"!!!

Using our knowledge, team spirit and imagination the RED, YELLOW, GREEN, BLUE and PURPLE teams solved the riddles and collected points to reach the top....but the game had only one winner BLUE!!! It was a fun hour full of games and laughter that we all hope to repeat soon in a non-virtual environment!!!

*Georgia Pastra
HR Officer*



Beach Cleanup

For one more year and against all odds, we have renewed our commitment to promote cleaner seas and beaches on the occasion of the International Coastal Cleanup Campaign coordinated by HELMEPA. The volunteers' safety amid the global pandemic was at the center of this year's beach

cleanup, with all the necessary precautionary measures in place. We assembled at the beach of Agios Kosmas in Elliniko where we split in six groups of nine people each in order to collect garbage. Overall, we gathered 70 kg of waste, with almost half of it being recyclable.

A heartfelt thank you goes out to Danaos employees and their families who participated and of course to HELMEPA for coordinating this commendable initiative.

*Tania Mermiga
Media & CSR Manager*



How to get prepared for an Internal Audit | Smart Tips

ARTICLE

It's not every day (fortunately!) that you get notified to interact with Internal Auditors. But when the time comes, most Audit clients feel nervous and worry for the whole process and mostly for the audit's outcome. The key to avoid these awkward feelings and thus give a good impression of your work is preparation.

Here is how to do it well:

Establish a good system of internal controls. Accept responsibility for creating and monitoring a good system of internal control over all the activities (financial and non-financial) occurring within the Company.

Assemble appropriate and current background information about your department. A well-documented strategic plan, policies & procedures manual, organizational charts and financial information such as budget and management reports might be helpful for the Internal Auditors in gaining an understanding of the functions, structure, nature of your operations and employees' roles and responsibilities.

Keep your files current and complete. Internal Auditors will often review day-to-day documentation and reports and it is very important to have such documentation available when asked. Having complete and well-organized files will make the audit easier and you will give a good impression by having your work ready and easily accessed.

Learn from the past. Review your prior audit results, if any. Have you resolved all prior audit recommendations? Taking the time now to address corrections on unresolved problems, can put you on firmer ground for the upcoming audit's results.

Remember to document everything throughout your work. Internal Auditors will often request all the supporting documentation relevant to the audit. You may know that a process works, you may be certain that the job is done correctly, but without having available all the relevant evidences, the Internal Auditor may not be able to confirm so. Therefore, bear in mind to keep supporting documentation for your work activity and especially the one for unusual transactions or unique circumstances.



Open a line of communication with the Internal Auditors before they step at your workspace. As part of the planning the

Internal Auditors provide an engagement letter that outlines in broad terms the work they will perform. Tell your staff about the audit and if you consider appropriate distribute this engagement letter. This is the ideal time to ask Internal Auditors what material they will need, long before they arrive at your door. This way minimizes surprises and gives you time to plan or make necessary changes in the relevant files or processes.

Identify an audit contact person. This member of the staff can act as a liaison person with the Internal Auditors and be responsible for ensuring that they have access to records and files or any other resources they need to complete their reviews. This person may find it useful to schedule meetings with Internal Auditors periodically to stay in touch with how the audit is progressing. This is a good way to facilitate communication, resolve issues on a timely basis and correct any misunderstandings.

Grant access to Internal Auditors to all Department's employees and pertinent records. As stated in the Internal Audit Charter, the Internal Audit Department is authorized to have full, free, and unrestricted access to all functions, records, property, and personnel pertinent to carry out any engagement. The Internal Auditors' analysis may require several employees to be asked to explain in detail how they perform their work. At the same time, it may be necessary for the Internal Auditors to make photocopies and/or obtain samples of key documents along with their examination. Regarding electronic records, a "Read-Only" access should be provided. Confidentiality and safeguarding of records and information is always maintained by the Internal Auditors.

Perform a self-review. Be honest with yourself. Are you fully aware of Company's Policies & Procedures? Have you followed them strictly? Are there any tasks that you left behind or done

by your own -not so appropriate way? If that's the case, do not be panicked but be sincere. The Internal Auditor is there not only to check your work but also to cooperate with you to identify system's inconsistencies and opportunities for improvements, which are in the best interest of both the Company and the Department.

Be a good host. Make sure you welcome the Internal Auditors at a noiseless and neat place. You can also offer, apart from documents and records, something to drink and create a friendly atmosphere, suitable for an insight discussion (alcohol to make them feel dizzy is certainly NOT a solution!).

Provide an honest and candid appraisal of the audit process at the conclusion of the audit. The Head of the Department being audited will be provided to complete a Client Engagement Evaluation Form. Each Internal Auditor has been professionally trained in Internal Audit practices. Internal Auditors are expected to abide by the Professional Standards and Ethics established by The Institute of Internal Auditors as well as their own departmental standards. Your objective answers and constructive comments on the Survey Form will help them evaluate and improve the effectiveness of their program.

Internal auditing, by definition, is an independent, objective assurance and consulting activity designed to add value and improve the Company's operations. Thus, the Internal Auditors come to you to identify potential exposure areas and provide suggestions and recommendations as to how you might rectify these situations when they occur. Thus, they are neither the police nor the enemy. They are your allies and your cooperation and assistance are essential for a successful audit outcome. After all, you and the Internal Auditors both have the same goal: the success of the Company.

*Anastasia Filiou
Assistant Internal Auditor*

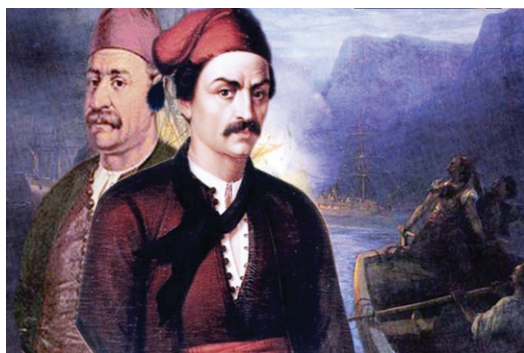
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DANAOS Internal Audit Charter
The Institute of Internal Auditors
Internal Auditor Magazine

On the waves of the Rough Sea

The contribution of Shipping in the Greek Revolution of 1821

The 1821 Revolution wasn't only a monumental achievement for the modern Hellenism, but it was also the most important event of the nineteenth century with catalytic consequences for Europe and radical changes in the shaping of the Balkan map. An insignificant number of enslaved over centuries Greeks, who did not exceed 600,000 in their entirety, took up their arms against a very dominant empire and with great courage and passion fought for their most desirable freedom.

During the Ottoman Empire, most Greeks lived in slavery. The few, who enjoyed "some kind" of freedom, were the mariners who were sailing in the Mediterranean, the Black Sea, and the Northern coasts of Europe.



Two legendary Burlotierides,
Andreas Vokos (Miaoulis) and Konstantinos Kanaris

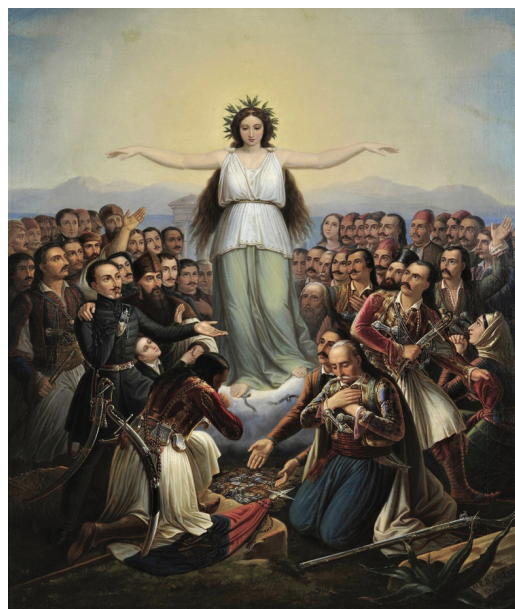
In the 18th century, the Ottoman Empire held most of the Eastern Mediterranean, but her sovereignty did not last. The Empire's defeat in three Russian-Turkish wars was decisive for the Turkish dominated Greece. The Kuchuk-Kainarji Treaty was a peace treaty signed on the 21st of July 1774 and imposed, among others, new conditions on maritime trade in the Black Sea and the Aegean, where at that time Greek vessels with Ottoman flag were sailing. Since that treaty, Greek vessels could fly Russian or English flag under favorable operating



Dimitrios Ypsilantis encourages the Captains from Spetses to continue the siege of Neokastron (July 14, 1821).

conditions. Many of them were equipped with cannons to deal with piracy which was at that time raging the Mediterranean Sea. Thereafter, the Greek ships with foreign flags were increasing every year, and thus, created one of the largest commercial fleets of that period. In

addition, the vessels with Greek captains and seamen were the only ones that broke the English embargo of the Western Mediterranean ports, due to the Napoleonic wars, by transporting grains from Russia. This ability, to supply the French and Spanish markets with cereals, sharply increased the income of Greek seamen, who subsequently invested in new and even more advanced ships. This commercial fleet, when the Revolution broke down, was immediately altered to warships, ready to face the Ottoman Fleet. Therefore, upon the declaration of the Revolution, Greeks obtained a significant trading fleet, which easily turned into Navy, contributing, along with the victorious battles at land, to the liberation of the country with victories at sea.



"Η Ελλάς Ευγνώμονούσα" ("Hellas Grateful") 1858,
Greek National War Museum.

The Greek shipping contributed to the War for the Greek Independence from 1821 to 1827 and played a crucial role in the "Holy Struggle" (Ιερός Αγώνας) in three ways: First, by the formation of the Revolutionary Navy, second, by the action of the Cruiser Fleet, which contributed to the navy and for which special cruise licenses were issued, and third, by the Merchant Fleet, which, when not involved in the two previous actions, secured the constant flow of supplies and cargoes for the war and the population.

Revolutionary Navy

The Greek navy was formed by the transformation of cargo ships into war ships. An estimated number of 700 Greek vessels existed at the time of the Revolution, mostly belonging to three islands -Hydra, Spetses and Psara as well as to Cassos, Galaxidi, Poros, Skopelos, Santorini, Mykonos, Tinos, Patmos, Andros, Limnos, Lesbos, Kastelorizo and others. These ships were trading in all seas and their crews were the most expert, since they had been con-

stantly dealing with Algerian and Barbarian pirates, who were terrorizing the Mediterranean. About 150 ships were manned and became warships, while many of the rest became Fire ships (Πυρπολικά πλοία). Although the Greek Chieftains were defeated several times ashore, they were almost never defeated at sea, since their fearless crew, the so called Burlotierides with their Fire ships were setting fire to the enemy's ships and were increasingly reducing the units of the Turkish navy. It was not accidental that the National Independence was certified at sea with a glorious battle, the Battle of Navarino.

Cruiser Fleet

The second way, which is less known and studied, is the contribution of the Cruiser fleet which also contributed to the National Rebellion. The Greek Cruiser fleet was complementary to the military fleet. It is no coincidence that early enough, the Greek Interim Administration modeled on the West countries, issued special cruise licenses to strengthen maritime blockades. It should be also noted that from the beginning of the Revolution, a Court of Maritime Justice was created by the Interim Administration to fight piracy and smuggling, and there were resolutions released for the prosecution of war at sea and for the protection of people. Although people compared them to pirates and it is true that the limits were blurred, the Cruise ships' commandos carried



A Fire ship (Πυρπολικό Πλοίο) was a ship filled with combustibles, or gunpowder deliberately set on fire and steered (or, when possible, allowed to drift) into the enemy's fleet, in order to destroy ships, or to create panic and make the enemy break formation. Ships used as fire ships were either warships whose munitions were fully spent in battle, surplus ones which were old and worn out, or inexpensive purpose-built vessels rigged to be set afire, steered toward targets, and abandoned quickly by the crew. The first successful attack by a manned Fireship during the Greek revolution was done on May 27, 1821 in Eressos, by Dimitrios Papanikolis and his crew.

out a legally-held bag and, according to legislation, deposited one third to the National Fund, one third to the vessel's shipowner and one third to the seafarers. From a financial point of view, the cruisers were particularly profitable for embattled territories and the National Fund, since both were receiving part of the bag, cargo, and ships, which expanded their financial capacity. The commandos contributed to the sea battles till the end of the war.

By the Greek term "*Burlotieris*" (Μπουρλοτιέρης) we mean the person who handled the "*Burloto*" (μπουρλότο), i.e. the various explosives which set fire to the enemy's ships. The word "*Burlotieris*" was also used for the warriors who were "setting fire" in peoples' souls and aroused the crowds with their enthusiasm for the fight.

Merchant Fleet

Finally, the Greek shipping industry did not only offer its fleet and its human resources for the race. It was almost its unique financial sponsor. The land, poor and fragmented, could not offer enough supplies. Hydra was evolved not only into an admiralty of the Revolution, but also into the main source of supplies for the land and sea forces.



"Antonios Economou proclaims the Greek Revolution at Hydra, 27th of March, 1821".

However, the Revolution would not have that successful outcome, without the contribution of its Great Heroes. The battles would not had been won if they were not led by those audacious rebels. Androutsos Georgios from Spetses, Matrozos Ioannis and Miaoulis Andreas from Hydra, Papanikolis Dimitris and Kanaris



Heroine, Laskarina Bouboulina

Konstantinos from Psara and so many more played a crucial role, not only by attacking against the Ottomans but also by encouraging and inspiring their crew to keep on fighting for the country's independence. The contribution of the Greek women to the Revolution of 1821 had been equally important and essential. Of these, history has distinguished Laskarina Bouboulina from Spetses island, who joined the "Society of Friends" (Filiki Eteria) very early. Twice a widow, she built in Spetses a large vessel with 18 big cannons, which she called "Agamemnon", with which she participated in many operations, continuing with bravery and intense patriotism, the traditions of the women of Sparta. Equal in patriotism and bravery, Mando Mavrogenous worked eminently for the moral support of the warriors and offered her entire family fortune for the needs of the Revolution.

The history of the Greek Revolution of 1821 was not written with few warships, nor with

Significant Battleships:

Eressos Battleship, 1821

Tenedos Battleship, 1822

*Chios Island,
Turkish Flagship burning, 1822*

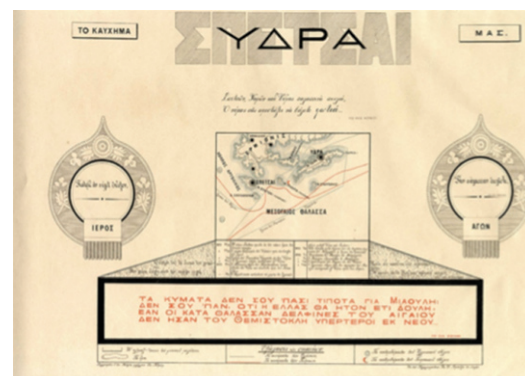
Samos Battleship, 1824

Gerontas Bay Battleship, 1824

Andros Battleship, 1825

Navarino Battleship, 1827

a bunch of heroes. It was written with thousands of seamen and hundreds of ships which sometimes were warships while other times remained commercial and secured the communication, supplies and ammunition in war areas, prohibiting or exterminating the enemy. They spread the Revolution in the Aegean to the most distant islands and coastlines, controlled and blocked the sea roads. They prevented the transfer and replenishment of Ottoman troops and were breaking their siege. They participated from sea in the blockade of castles controlled by the Turks. They linked the islands and the mainland to the National Administration. They raised financial resources, mainly from the islands and from the race, securing financial benefits and funding for the Race. And as already mentioned before, the struggle was determined at sea; In 1827 with the intervention of the Great Powers and the decisive defeat of the Ottoman-Egyptian fleet in the Battle of Navarino.



Historical map of Hydra and Spetses Islands with timeline of events of the Revolutionary Period."

This year many people all over the world recall the greatness of 1821. In every Greek corner, in every village and city -in Greece and abroad, through our mariners everywhere in the world, and throughout the Greek diaspora, the memory of 1821 comes alive to remind us of the great achievements of the National Liberating Struggle. By recalling them, we make a "memorial" to all the Great Heroes of the Revolution, fighters and civilians; as a reminder that it is the fate of this country to give birth to great people, who will always be willing to sacrifice everything for the nation's freedom and independence. May the lessons of the Greek Revolution of 1821 illuminate our path as a nation and remind us that only when we are united, at shore and at sea, we can achieve great things.

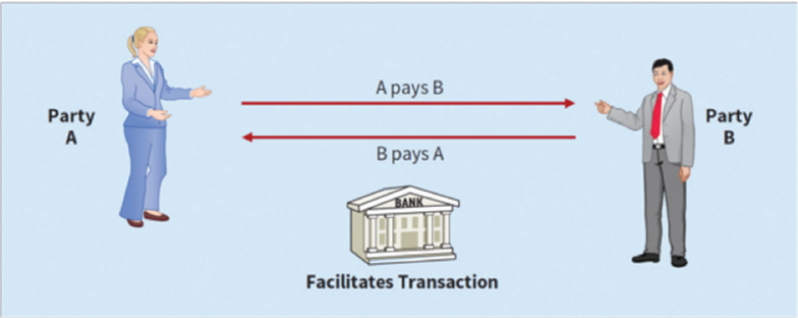
*Eleni Hatzitriantafillou
Assistant Internal Auditor*

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Kathimerini Newspaper
www.greece2021.gr

Bunker fuel constitutes one of the main variable costs that companies in the shipping industry are facing. However, as vessels only take bunker at specific ports worldwide, like Singapore, Rotterdam, Houston, Fujairah, the bunker price, as a result, reflects the certain situation of bunker supply and demand at a certain port or in a certain region. Since bunker fuel is derived from petroleum, its price is directly affected by the variation of the oil price. Generally, economic and political events affect the oil price significantly. As a consequence, world oil disturbances drive bunker price and therefore it is exhibited in high fluctuations in both, short and long term. On that account, it is crucial for maritime companies and ship operators to control and minimize their exposure on bunker-market variation in order to secure their operating profit. It is common by many shipping companies to follow a hedging strategy in order to lock the price of the bunkers in the future. By doing that, the risk of an adverse event is offset. To achieve this goal, an investment decision in the derivative market is essential. These days, many financial institutions and commodity trading houses, including BNP Paribas, Barclays Capital, Morgan Stanley and Calyon amongst others, offer OTC (over the counter) bunker derivative products such as forward contracts, swaps and options. This contributes importantly to the large growth of trade in bunker derivative contracts. Specifically, under a forward contract is described the agreement between two parties

to exchange a specific quantity and quality of bunker with an agreed price, at a certain delivery location and a specified time in the future. Forward contracts are OTC cash-settled paper contracts in the sense that settlement is based on the difference between the contracted price and the price for bunker at the delivery point, although physical delivery may also be possible. The settlement price for forward bunker agreements is normally calculated as the average of the underlying spot price over the settlement period which, depending on the terms of the contract, can in most cases be a month or a week. It is important to mention that this specific contract is more indentured, which means that regardless of the final price of the fuels in the future, the shipowner will pay the contract price. Bunker swap contracts, which are used more frequently, are also OTC exchanged. In that type of contract, there is a “swap facilitator” who acts as an intermediate, offering assistance to the contractual parties by keeping them in touch and contracting to the process of a successful swap contract transaction. In general, an interest rate swap contract is the exchange of a fixed interest rate for a floating rate or vice

versa, between two parties over a specified period. The floating price represents the average of the prevailing spot market prices over the settlement period(s) whilst the fixed price had been already agreed before the arrangement of the swap contract. The result of a swap bunker contract is the difference between the two prices. Swap contracts appear more often in interest and exchange rate risks.



Source Kieso Weygandt warfield, International accounting, 3rd

Finally, an alternative choice of derivative could be the option contracts. This kind of financial instruments is attracted by the shipowners when there is an estimation by which the bunker price is going to increase in the future. Buying an option contract gives the opportunity to fix the current price of bunker fuel. In case of a correct forecast, the option will cover the difference and it is characterized as an effective hedging. In the event of an unsuccessful prediction, such as a fall in the price of bunker, the contract gives the possibility to purchase bunker at the market price without obligation of exercising the option. To sum up, the power of demand and supply and the imbalance between them results in fluctuations in the price of bunker fuels. Since, bunker expense is one of the main components of operational costs of a shipping company, in combination with the variation of its price, constitute a high-risk asset. More specifically, an increase in fuel price, would negatively affects the profitability of a company and alongside it would increase its losses. Thus, it is crucial to manage this risk successfully. Hedging strategy contributes to offset losses in investments. The approach followed is to act contrarily in a related asset. It is notable that this risk strategy has not always the desirable results; it is possible the hedging strategy to have a negative outcome which reflects potential profit reduction. Lastly, it is important to mention that there are three types of hedging, fair value hedge, cash flow hedge and hedge of a net investment in a foreign operation. In the first case, there is a variable item which is exposed to fluctuations in cash flows, usually in the currencies. The second one contains a fixed item but there are worries about changes in its value and the last one is similar to cash flow hedging.

Anna Gagani
Accounting Department Trainee

References:
• Amir H. Alizadeh & Nikos K. Nomikos, Shipping Derivatives and Risk Management
• Kieso, weygandt, warfield, Intermediate Accounting, IFRS Edition

External Audits

We are pleased to advise that the following vessels under our management have passed successfully 3rd-party ISM/ISPS audits for the period from 10 December till 10 May 2021:

Vessel	Port	Non-Conformity	Observation
ADVANCE	Jakarta	NIL	NIL
AMERICA	Abu Dhabi	NIL	2
ANL TONGALA	Oakland	NIL	2
BREMEN	Pusan	NIL	NIL
CATHERINE C	Antwerp	NIL	1
CHARLESTON	Singapore	NIL	NIL
CMA CGM RACINE	Jebel Ali	NIL	NIL
DERBY D	Hong Kong	NIL	NIL
EUROPE	La Spezia	NIL	1
EXPRESS FRANCE	Santos	NIL	NIL
EXPRESS SPAIN	Singapore	NIL	NIL
FUTURE	Shekou	NIL	NIL
LE HAVRE	Le Havre	NIL	NIL
PUSAN C	Rotterdam	NIL	1
SEATTLE C	Manila	NIL	NIL
SINGAPORE	Long Beach	NIL	NIL
SPRINTER	Shekou	NIL	NIL
STRIDE	Kaohsiung	1	NIL
VANCOUVER	Port Klang	NIL	NIL
VLADIVOSTOK	Port Klang	NIL	NIL

The above findings have been evaluated in order proper corrective and preventive actions are decided to avoid recurrence. This year the majority of our fleet is undergoing Intermediate MLC inspection to verify compliance with MLC,2006 requirements. Up to now, 30 vessels have passed audit successfully and had their certificate endorsed. Whatever findings recorded are being dealt with and circulated to Fleet to avoid repetition.

Thank you for your continuous support.

SQE Department

A promising approach towards biofouling regulations: The case of California

ARTICLE



The intrusion of non-indigenous marine species to new environments by vessels has been recognized as a serious threat to the seas around the world as well as to the conservation of biodiversity. This kind of bio-invasion is called biofouling. Biofouling or biological fouling is the accumulation of microorganisms, plants, algae, or small animals on wet surfaces that have a mechanical function, causing structural or other functional deficiencies. They travel attached on submerged structures (especially ships' hulls), as stated above, or through ballast water.

According to research, biofouling can be a significant vector for the transfer of invasive aquatic species. This population may survive and finally establish a reproductive community in the host environment, becoming invasive, wiping out native species and multiplying into pest proportions. Because of the fact that shipping trade continues to increase, as there is more demand in the market for seaborne transport commodities, the problem of invasive species carried by ships has become bigger over the last years. In addition, it is widely accepted that the problem may not have reached its peak yet. The spread of invasive species is now seen as one of the most intense threats not only from an ecological but also from an economic point of view. Invasive species are causing enormous damage to biodiversity by overlapping and replacing indigenous populations, being competitive with them for food sources, altering their valuable ecosystems and seabeds, thanks to other characteristics that may have and of course dominate due to no presence of predators. Furthermore, exotic species may bring pathogens from their past habitats not only for indigenous marine species but also for people who may consume them by fishing. As a result, direct and indirect health effects are becoming increasingly serious and a possible damage to the environment and state finance is often irreversible. For example, the appearance of invasive jellyfish that proliferate in resort coastal areas in summer, poses an undeniable threat for tourism and relevant activities. Apart from that, significant economic impact happens to industries that depend on the coastal and marine environment, such as aquaculture and fisheries, as well as costly damage to infrastructure.

Vessel's biofouling is believed to be responsible for almost the 60% of the established invasive aquatic species along the California coast. Also, fouling on a vessel's hull significantly reduces its hydrodynamic performance. It has been found that vessel's speed can go down up to 10%, thus increasing fuel consumption up to 40% and consequently affecting vessels' emissions as well.

Because of the reasons described above and the lack of an international regulatory framework, the state of California has pressured locally to act and develop unilateral biofouling regulations. Thus in 2017, California adopted biofouling management regulations for vessels arriving at California ports. These regulations were developed over a decade by the California State Lands Commission (CSLC) through a transparent, science-based, stakeholder-involved process to create a set of regulations that are protective, practical and that align with international efforts leading to the Marine Species Invasive Program (MISP).

California's biofouling regulations apply to all ships that are 300 gross registered tonnes or more and that carry, or are capable of carrying, ballast water. Such vessels are required to set up a strategy for how to manage biofouling, the Biofouling Management Plan (BMP), and be able to document that the strategy has been put into effect. These regulations came into effect in two stages: the first set of requirements took

place from October 1st, 2017 and the second set of requirements from January 1st, 2018.

The first set of biofouling regulations in California, which became effective on the 1st of October 2017, were:

- that the reporting requirements for the Ballast Water Treatment Supplemental Reporting Form, the Ballast Water Treatment Technology Annual Reporting Form and the Hull Husbandry Reporting Form were no longer valid, as well as
- the adoption of the Marine Invasive Species Program Annual Vessel Reporting Form, namely, all vessels that call California ports must submit the Marine Invasive Species Program Annual Vessel Reporting Form once annually at least 24 hours in advance of the first arrival of each calendar year.

The second set of requirements applied to newly constructed vessels delivered into service from January 1st, 2018 and to existing ships beginning from the first regularly scheduled dry-dock after January 1st, 2018. These requirements included:

- the Biofouling Management Plan (BMP), containing a description of the biofouling management strategy for the vessel in detail,
- the Biofouling Record Book, including details of all inspections and biofouling management measures undertaken on the vessel from the beginning of the most recent scheduled out-of-water maintenance,
- the Biofouling management of wetted surfaces and niche areas, such as bow thrusters, stern thrusters and gratings, sea chests and gratings, fin stabilizers and recesses, out-of-water support strips, propellers, shafts and rudders by the master, owner or operator of the vessel in accordance with the BMP. The actions should then be written in the Biofouling Record Book, and

- the requirements for vessels with extended residency periods. For any vessel that has had an extended residency period (e.g. remain in the same position for 45 days or more) since its most recent out-of-water maintenance, in-water treatment, or in-water cleaning, upon arrival to a California port, must be compliant with the management of biofouling in the niche areas described above, and any activities, including in-water inspection, in-water cleaning, in-water treatment, or out-of-water maintenance; to manage biofouling on the wetted surfaces of the vessel, except the niche areas, that accumulates as a result of the extended residency period shall be documented in the Biofouling Record Book.

Since ships gradually fall under the jurisdiction of these regulations based on each vessel's dry-docking schedule, members of the California State Lands Commission (CSLC) continue to offer outreach and education to ease the transition to this new regulatory landscape. They inspect arriving vessels and evaluate responses to compulsory reporting forms in order to check their compliance with the new regulations. Also, they try to identify successful biofouling management strategies and opportunities for future regulatory enhancements. We shall be taking into consideration that an up-to-date BMP and Biofouling Record Book will help government officials to quickly and efficiently assess the vessel's potential for biofouling risk and, therefore, lessen any delays to vessel operations.

George Terzidis
SQE Department Trainee

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- <https://safety4sea.com/cm-understanding-marine-biofouling-how-anti-fouling-systems-prevent-growth/>
- <https://safety4sea.com/new-biofouling-requirements-in-california-from-january/>
- <http://info.lr.org/l/12702/2017-09-29/4cdyrl>
- <http://www.gard.no/web/updates/content/24305557/biofouling-moves-up-the-regulatory-agenda>
- <https://www.allaboutshipping.co.uk/2020/04/09/lessons-from-californias-biofouling-management-regulations/>

Composite Materials Containers

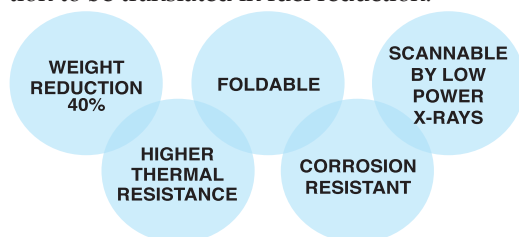
ARTICLE

After all the fuss around the 2020 Sulphur Cap it is quite odd to talk about the next big step. Nevertheless, the IMO has already set the next milestone for the shipping industry and by 2030 ships should be 40% less carbon dioxide producing vehicles. By today's standards the goal is easily achieved, but this picture could be radically altered if the market recovered and slow steaming ceased to exist. Once the market recovers, there are plenty of ideas to figure out the way to achieve 40% reduction, but an unexplored and rather futuristic one is lightweight containers made out of composite material.

The Container shipping industry spends high amounts of energy in transferring cargo packaging. For a typical sea transferred container its structural weight is around 20-30% of the transferred cargo's weight. The main reason is that containers are mostly by stuffed with low density cargo and sometimes they travel completely empty (since some routes especially from China are one-way).

Composite material containers yield a lot of benefits for the industry. The greatest of them is weight reduction. Already constructed products include containers with 40% weight reduction. This is equivalent to 1 tone for a standard TEU and 1.6 tones for a FEU. There have been many studies that indicate possible reductions as high as 78% (from 3750kg to just 822kg for a FEU).

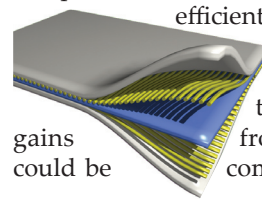
Modern containerships are extremely efficient ships but there is always room for improvement. If composite containers are equipped, then a 10.114 TEU containership would record decreased displacements by 5.85%. This will result in 2.75% fuel consumption decrease making the already low EEOI from 14.235gr/tn-mile to 13.84gr/tn-mile. This result could be magnified to a greater extent if future containerships were to be built for composite containers allowing for the full displacement reduction to be translated in fuel reduction.



Other advantages of composite materials include corrosion resistance eliminating the \$525 fee for repainting. The lighter weight and decreased rigidity allows for them to be folded and further reduce their volume, thus less space is needed when they are empty. They also have higher heat resistance along with increased wall thickness, making them more energy efficient as reefers. Also, since they are not made of metal they can be scanned by low power X-rays, something American ports have been searching for a long while. Last but not

least, if a composite container is lost at sea it possesses no threat to marine life as it doesn't corrode.

Sure enough there is the major downside of higher building prices. Currently building prices for composite containers are almost 3 times that of traditional steel ones going up from \$3050 all the way to \$8300. If current fuel and transport prices are considered this investment would not pay off. Nevertheless considering the continuous rising of fuel prices it is not unlikely that by the end of the next decade composite containers would be economically efficient. What is more, one has



gains could be

to account for the increased fuel prices of trucks and the increased from reefers and this day coming sooner.

Gerasimos Michalopoulos
Technical Department Trainee

References:

- <https://www.plasticstoday.com/composites-could-revolutionize-shipping-containers>
- Design and analysis of the Lightweight Composite Shipping Container Made of Carbon Fiber Laminates, Turkey Yildiz

36th America's Cup: the "Auld Mug" lies comfy in Auckland, New Zealand

ARTICLE

"Kiwis can fly!" commented the sportscaster at the end of the Race 10 when Emirates Team New Zealand finished first against the Italian team Luna Rossa Prada Pirelli. After 10 races and a score line of 7:3 New Zealand team won the America's Cup for the fourth time in their history.

Under weather challenging conditions, the two teams showed high sportsmanship all the days of the race giving to the spectators beautiful moments of the sport. As it turned out Day 5 (of total 7 Days of match races) was crucial, with the NZ Team taking the lead after winning the two races of the day although the Italians had a good start and maintained their advantage for the first few legs. The Italians

could have taken the rebound on the next day since they managed to protect their lead many times. However, a breeze shift and a tactical choice overturned their position leaving the Kiwis to win the race.

Before moving onto the America's Cup Match the Italian team managed to outrace the British team (INEOS TEAM UK)- who as a top round robin qualifier had passed to the Prada Cup Final- and the New York Club American Magic (the USA team) at semi-finals by winning finally the Prada Cup.

Special reference to the American team is worth making for their strength and teamwork since during this AC36 they faced the capsize of their boat; however, they did not give up,

made every effort to repair it and be ready to participate in the semi-finals.

Upon the conclusion of AC36, Emirates Team New Zealand confirmed that the Royal New Zealand Yacht Squadron has accepted a Notice of Challenge for the 37th America's Cup (AC37) from the Royal Yacht Squadron Racing, represented by INEOS TEAM UK, which will act as the Challenger of Record for AC37. Will the "Auld Mug" return to the place that all started?

Sailing lovers will long to find out in the years to come...

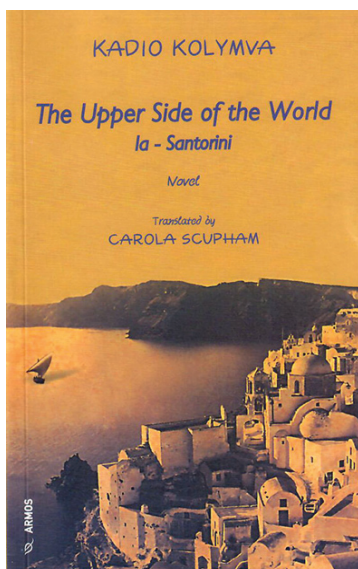
Vassiliki Giannakou
SQE Coordinator

Reference: <https://www.americascup.com/>



“The Upper Side of the World” by Kadio Kolymva, translated by Carola Scupham*

BOOK



“The Upper Side of the World” is one of those books that you read in one go. You cannot just leave it down because you have already been transferred in its world. The book is the story of a woman, a captain’s daughter but also a captain’s wife whose diary unfolds an entire era for shipping; this of the transition of sailing boats to steamships and then to the Liberty ships that marked the development of Greek shipping.

Kadio, a native of Pano Meria (Upper Side), the former name of well-known Oia of Santorini, through the storytelling of her life reveals to the reader a different Oia from what we experience nowadays. Still beautiful and impressive, being the “Captains’ Town”

those days and not a tourist attraction as considered today. The grand Captains’ houses, the cultivation of vineyards, the sailors who set off to embark on ships in April and returned in the fall, the daily life on the island of their women who left behind, the local customs: everything revives through the pages of the book and travel us at that time. For a moment you think that you will touch the chest where the embroidered clothes are kept, you will be treated to meletinia**, you will taste the Santorini wine, the famous Vinsanto, for which the merchants arrived at the island to buy and chartered ships to transport to Russia and elsewhere.

Kadio was not only the Mistress of her home, devoted to take care of her children, the fields, the house and any other needs of the household in the absence of her Master. She also took care of and ran the family business; by buying and selling ships, taking briefing of the market,

negotiating with the banks, providing for the crew and their families. In her first steps she was supported by the Santorini and family network and managed to get access to funds from the banks. By this way she started growing her business and bought ships: sailing boats the early times and then steamships, under the command of her husband and two sons, being all Captains. From the ports of Black Sea to the Mediterranean, stories of the sea life are emerged and great descriptions of that time. Kadio lived indissolubly linked to the shipping business, went through an economic crisis (1929) and two World Wars, managed to survive and established herself among the shipping community.

Although the book is considered a novel, it is based on the autobiography of the author’s grandmother and as the Prof. of History, Mrs. Gelina Harlaftis*** pointed out is an important testimony to the position of women in maritime communities. However, it is not a book addressed only to women. On the contrary, I believe that also male readers will be touched not only because they may recognize a mother, a sister, a wife or a daughter of their own but also because the protagonist here is the life itself filled with joy and sorrow, that comes and goes, leaving in the end a taste of happiness hidden in a glass of good wine that you share with your loved ones.

Enjoy the reading!

Vassiliki Giannakou
SQE Coordinator

* The book is available both in Greek and English version [Greek title: Καδιώ Κολύμβα, Η Πάνω Μεριά του κόσμου, Αρμός, Αθήνα, 2000].

** Meletinia (we read from the Notes, pg.148): Cheese-cakes, an Easter speciality, they are made with mizithra, a soft fresh cheese, flavoured with mastic, and with a leaf-thin pastry case.

***Gelina Harlaftis, “Hist4.2: On top of the world shipping fleet 2: The Formation of Greek International Entrepreneurship”, Mathesis MOOCs, June 2020, pg.86

Reference: <https://armosbooks.gr/>



Not only are you encouraged, but it is also your duty to use the Ethics & Compliance Reporting (Whistle-blowing) link (<https://ethics.danaos.com/>) to report even anonymously if you suspect an incident, situation or conduct that violates the Company’s Codes of Business Conduct & Ethics, policies and procedures, and the applicable laws or regulations.

The Audit Committee of Danaos Corporation is responsible to receive, retain, examine, and act on complaints or allegations submitted by employees related, but not limited, to employment of accounting policies that raise concerns over their accuracy, consistency, and effectiveness, to misappropriation of assets, to falsification of accounting records and financial reports, to non-compliance to applicable laws and regulations, to harassment against those who raise the above concerns, and to any unethical business conduct.

The complaints and/or allegations that are submitted via the Whistleblowing link - that is available to all employees on the web site of the Company - will be received anonymously by the Audit Committee Chair. Alternatively, you may contact either by e-mail

(internal.audit@danaos.com) or by phone (+302104196483) the Internal Auditor & Compliance Officer to raise any issue, discuss any concern or seek for any advice. The Chair of the Audit Committee of Danaos Corporation and/or the Internal Auditor & Compliance Officer appointed by the Board of Directors of Danaos Corporation will follow up, evaluate the matter, and take any appropriate action.

You may choose to remain anonymous when using the Whistleblowing link. In case you decide to retain your anonymity, please provide as much detailed description of the case as possible to have all the necessary information to proceed with its resolution. If an employee opts to remain anonymous, no effort will be made to identify the person making the report. If an employee chooses to provide his/her name, the report will be handled discreetly and treated confidentially to the extent possible under applicable laws. Your user information and IP address will not be tracked.

Any employee who brings an issue to the Company’s attention through either the Whistleblowing link or the Internal Auditor & Compliance Officer should be aware that Company’s policy prohibits retaliation, discrimination or other adverse action, including dismissal, to be taken against an employee for -in good faith- raising or helping to resolve an ethical concern.

We need you!

Please feel free to send us new ideas as well as articles and photos you might find interesting.

Mail to: hr@danaos.com, with subject: “For the Danship News.”

