

# THE DANAOS SHIP NEWS

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

ISSUE #19, JULY 2020

## Crew Changes in the COVID-19 Era

The ongoing outbreak of coronavirus disease (COVID-19) that was first detected in Hubei Province, China in December 2019 has now spread across all continents. The number of confirmed cases outside of China has surpassed the Chinese total. There was a significant impact in crew changes from COVID-19 as the majority of ports banned the crew changes as a preventive measure against COVID-19.

Port authorities will commonly require all ships to proactively report any suspect or actual illness cases to local health authorities after arrival. In some countries, ships' Masters may also be required to complete a special questionnaire tailored to the COVID-19 outbreak, typically with questions concerning Crews and passengers recent travel itineraries and contacts. Some are also requiring ship Masters to carry out daily health checks of their Crews, including temperature-taking and checking for respiratory symptoms. Most ports and coastal states require a declaration on the health of the Crew, temperature measurements, information on sick or deceased Crew or passengers, information on previous port calls and information on Crew or passengers' travel history to investigate if they have been in an affected area within the previous 14 days.



On the 22nd of June 2020 onboard Danaos vessels there were 235 Officers and 283 Ratings with expired contracts who need to be replaced as soon as possible. At the time of writing this article, crew changes are a challenging case due to difficulties such as closed ports, low flights' availability and immigration regulations of each country that do not facilitate the Crew department to perform smooth crew changes.

Problems may occur with the CBP (immigration) at USA ports where it is strictly required for the Offsigning Crew, to fly only when the vessel will be alongside a USA

port but the flights do not always align with the above requirement due to unavailability. Moreover, the CBP will approve the flights for the Offsigners only when the vessel will be alongside the USA port so this practically means that the Onsigners will have already flown to join the vessel at a USA port and afterwards the Crew department will have the confirmation from CBP that the Offsigners are approved to fly or not.

Therefore, to prevent any potential problem in USA ports where the Onsigners will have already joined the vessel and the Offsigners will be banned from the CBP to sign off the vessel, the Crew department always takes into consideration the summary of the Onsigners and Offsigners in a crew change not to exceed the maximum safety capacity of the vessel in USA ports. Despite the previous issues, the Crew department continues to replace the onboard Crew (with expired contracts of employment) at ports such as Hong Kong, Singapore, USA and European ports where crew changes are permitted.

*Konstantinos Grammozis  
Crew Department*

## 11<sup>th</sup> Annual Capital Link Greek Shipping Forum "Opportunities & Challenges"

Mr. Iraklis Prokopakis, our Senior Vice President and Chief Operating Officer, participated in the panel discussion titled "IMO 2020 - Reality hit - and now what?" of the 11th Annual Capital Link - Greek Shipping Forum "Opportunities & Challenges" on Thursday, February 20, 2020. The panel was comprised of experts from different key areas of the shipping industry, who exchanged their practical experience and ideas around the IMO 2020 implementation.

Mr. Prokopakis mentioned that: "Danaos is a container company with long-term charters thus the supply of fuel is the responsibility of the charterer. From the operational perspective however, we have seen that the implementation of compliant fuel into our fleet has gone smoothly so far. We once experienced non-availability of VLSFO in Pusan and also once - surprisingly enough - a non-availability of HFO in Singapore recently, forcing our charterer to supply a scrubber fitted vessel with VLSFO. Out of 71 bunkerings, we experienced two cases with compatibility issues and two cases with BDN marginal discrepancies.

Finally, the current price differential between HSFO and LSFO strongly supports the investment rationale for scrubbers. However,



engine problems due to VLSFO blends as well as corrosion issues from the scrubber operation are still too early to quantify."

*Sophia Economou  
Chartering Department*



## Message from the President & CEO

Dear Danaos Team,

On our previous communication the Coronavirus emergency had started to develop however no one could ever predict the magnitude of the disruption it was going to bring out in our daily lives. Most countries went into lockdown and there are many differing outcomes in terms of loss of lives. In Greece we were fortunate to be able to control the pandemic however in the Ukraine and Russia there was a delay in adopting measures and a lot of fatalities occurred. Nowadays we all hope that a vaccine will be able to restore normality yet not before year-end.

The most pressing issue for the shipping community is the traveling restrictions and the inability to perform crew changes as most countries do not allow crew changes. We all sympathise with the forced extension of stay on board and we are doing whatever is humanly possible to press authorities to relax crew related traveling and repatriation restrictions. Unfortunately a second wave is reversing some openings like the one in Hong Kong. We want to assure you that we are continuously evaluating all options to bring you back home.

On the business front, we see a gradual recovery however it will take some time before we reach pre Covid19 levels. The world economy has suffered the greatest contraction since the Great Depression and only generous government grants are keeping companies and people alive.

I can only ask you to endure a bit longer this sacrifice and we are on our side to bring you back home as soon as circumstances permit.

My wholehearted wishes to you and your families.

John Coustas



## Message from the Senior Vice President & COO

Dear Colleagues,

Our employees and crew are our most important asset and therefore we place our upmost attention to their health, safety and well-being, as well as to their continuous training and development. Through a variety of employee initiatives, we build teamwork and create a safe and enjoyable working environment.

We are proud to have continued to improve our performance in key areas such as employee and crew training, near miss reporting, spillage record (zero spills), as well as environmental performance as indicated by the continued decrease of Heavy Fuel Oil use, CO2 emissions, SOx emissions and NOx emissions. We are also pleased that more employees participated in volunteering actions and we maintained our support to social programs and initiatives.

Finally, we feel proud of and we would like to congratulate all the staff of our site offices in Odessa, Mariupol, St. Petersburg, Zanzibar and Pusan for the remarkable resilience they have presented so far in handling the crew replacement (our crewing offices) and the scrubber installations (our Korean office) during all these months of the Covid-19 crisis.

Iraklis Prokopakis

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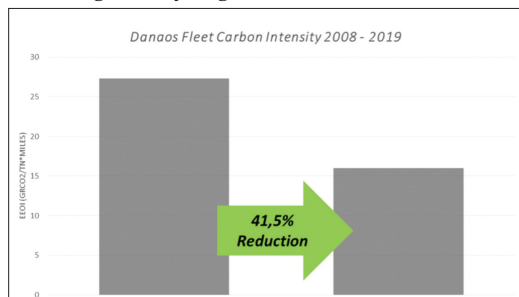
# Danaos Beats IMO Target by 11 years

DANAOS NEWS



Environmental sustainability is a major commitment for every prudent owner and the necessity to align with the strict upcoming IMO decarbonization targets will definitely have a significant impact on shipping dynamics.

In Danaos we constantly examine the possibility of applying technical design improvements on our vessels, with a key driver being to adopt the necessary measures in order to ensure on time compliance with the upcoming strict regulatory regime.



In the above context, Danaos has calculated the fleet's EEOI (grCO<sub>2</sub>/tn\*miles) for the base year 2008. All vessels' telegrams within 2008 were fetched, since all required data were available in mentioned daily reports; Fuel oil consumption, Diesel Oil consumption, nautical miles sailed and cargo o/b.

Danaos carbon intensity for 2008 is 27.3 grCO<sub>2</sub>/tn\*miles while same index for 2019 is 15.99 grCO<sub>2</sub>/tn\*miles, a 41.5 % reduction in the carbon intensity of our fleet!

Throughout the years from 2008 to 2019, the average carrying capacity of the fleet has been increased, several optimizations have been carried out in order to make the vessels more efficient and along with the economies of scale effect, the operational performance indicator of Danaos Fleet has been significantly improved. Along with necessary modifications/optimizations performed on the main engine in order to support speed reduction, Danaos has examined 38 energy efficiency improvement methods and invested on several of them such as bulbous bow optimization, propeller retrofit,

low friction paints, propulsion improvement devices, draft increase and others.. Moreover, Danaos fully supports the Sea Routing optimization, developed from our charterers and vessels are guided accordingly in order to strictly follow the plan.

The necessity for evaluating the investments done led to the creation of a smart operational platform (WAVES) that analyzes and processes data as a decision making supporting tool.

The platform then performs a comparison between the actual operating data and the data we had expected as a result of the investments made in each ship and goes on to produce automatic alerts in the event of deviations from the optimal operation, thereby always ensuring close monitoring and timely and effective response to any problem.

**The result of the above strategy, was Danaos to be fully in line with IMO guidelines and targets, having reached the 2030 goals well in advance!**

*Evi Politi  
R & D Department*

## Marine Money Webinar

Marine Money hosted a digital discussion between Danaos CEO, Dr. John Coustas, and leading shipping analyst of MSI, Mr. James Frew. From market conditions to strategy, emissions and economics, their remarks provided timely insight to investors, lenders and other market participants.

The webinar began with Mr. Frew explaining the current box market conditions, based on four pillars; the market overview, the demand, the supply and the future market prediction. He mentioned that ship hire rates have downturned, whereas lower fuel prices have helped profitability. The demand on important trade routes such as Asia- Pacific, Transpacific and Mainland China have remarkably fallen during 2020. At the moment, scrapping is picking up and new deliveries are going to slow down. Overall, there are expectations of a negative

fleet growth for the following years and Mr. Frew predicts that the recession of the 2020's third quarter will follow a weak 2021 and a recapturing 2022.

Dr. Coustas stated that liner companies maintain box price stability, while the market faces dramatic drops in volume and a very helpful factor is the record low fuel oil prices. Overall, the financial results of the liner companies have been "pretty neutral if not positive". The charter rates have downturned not to the benefit of charter owners but contributing to the financial stability of liner companies. Danaos' clients are large capitalized companies which tend to be solid counterparties. The consolidation of these kind of companies, on the one hand results to fewer clients but on the other eliminates counterparty risks. Dr. Coustas argued that the world and more specifically

the IMO should show more respect for the people who have managed to keep the flow of goods open in these unprecedented times due to the Covid -19 crisis.

As far as the cascading effect is concerned, Dr Coustas believes "container shipping is a game of scale". Danaos is clearly investing in the larger segment, nonetheless, he mentioned that lack of upsizing can occur due to insufficient market growth.

When asked about the environmental strategy of the company, Dr. Coustas stated that 11 ships have almost completed their scrubber installation. He added that although the Green Initiative is going to be slightly delayed due to the current issues of the market, in the long run the company will commit to finding new technological solutions.

*Tania Mermiga  
HR & Training Department*

## Farewell to Captain Elias Ladas

DANAOS NEWS

Dr. John Coustas and Mr. Iraklis Prokopoulos awarded Captain Elias Ladas at the New Year's Eve Party, as one of Danaos' most valuable colleagues.

Having over 45 years of experience in the Hel-

lenic Navy and the Shipping industry and holding a Captain's diploma from the Hellenic Naval Academy and a Master of Science in Electrical Engineering and Master of Science in Operations Research, he joined Danaos

Shipping as the Human Resources & Training Manager.

Captain E. Ladas also became the Designated Person Ashore (DPA) of Danaos in 2010 to ensure a reliable connection between the company and the crew and to supervise the safe operation of the vessels.

As Human Resources & Training Manager, he succeeded in handling numerous critical issues of Danaos' personnel, as well as, the effective and essential training of seafarers focused on their needs onboard.

*Georgia Pastra  
HR & Training Department*



# IMO 2020; The Transition to New Fuels

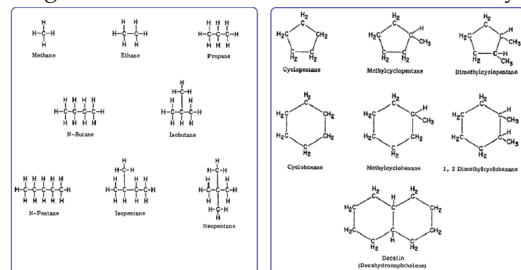
DANAOS NEWS

The long-awaited amendments to the fuel sulphur standards under Annex VI "IMO 2020 sulphur cap" have come into effect, and as of 1st January 2020 the worldwide sulphur limit in fuel is 0.5% (VLSFO) for ships operating outside ECAs while as of 1st March 2020 the carriage of non-compliant fuel is banned unless ships are fitted with Scrubbers. For Danaos vessels, in terms of availability the switchover from HFO to VLSFO has gone smoothly without experiencing any significant issues, which is aligned with the IMO GISIS evidence records of non-availability of compliant fuel oil showing there was no major disruption of the market.



The need for a smooth transition to IMO 2020 increased demand for familiarization with the new detailed product along with the necessity for the proper handling instructions and onboard operational aspects. The Shipping industry up to date relied on specific residual and distillate fuels such as HFO, MGO/MDO, based on ISO 8217 marine fuel quality standards.

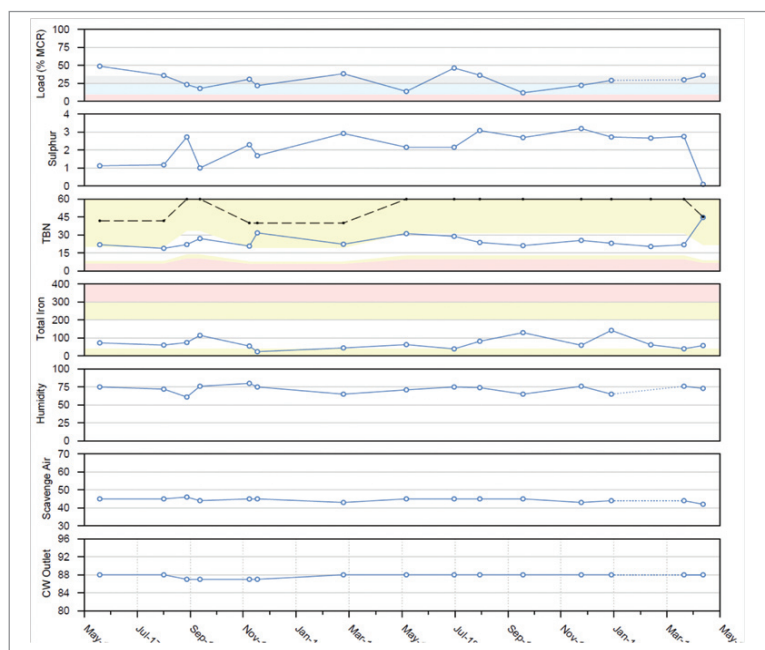
The introduction of VLSFO resulted in a wider range of fuel formulations across the industry.



At first, the controlling parameters after blending of different fuels have been the viscosity and density. Issues related to sulphur became then an important factor for the industry and new methods had to be developed for increased blending activities to meet the required sulphur percentage. Depending on the production method that is a result of the manufacturing route and blending component availability, VLSFO can be predominantly aromatic or paraffinic in nature and hence having properties mainly of one or the other. These properties affect the stability and compatibility, have impact on the ignition properties and differentiate on the pour point value.

Since 2019, Danaos' main concern was to assess the blended fuels and understand how they should be treated by our members on-board, from bunkering to burning. Our effort was successfully materialized by analyzing all VLSFO samples bunkered since 2019, approx. 130 samples in total, and carrying out specific additional tests that after discussion with the appointed laboratory provided us with the advantage of better familiarization with the product itself. Our benefit gained was the ability to create statistics for the first months of VLSFO bunkering, in terms of cold flow properties, wax formation, etc. that exceed the task of ISO 8217 standards. Based on this, relevant decisions were taken on the additional tests that have to be carried out at each VLSFO sample by all the Danaos Fleet.

Apart from issues related to the availability and specifications, the nature of the new fuels had raised concerns on contamination and incompatibility that may lead to engine issues. Since the beginning of 2020, our Technical De-



partment has been running a project on VLSFO scuffing incidents, by recording the damages that occurred to our vessels' engines and detailed repair works that took place along with supportive information that are important for the proper monitoring. Based on the feedback collected from this useful project, we have not experienced major issues with damages to our engines and operational problems as a consequence of the new fuels, since the cases mainly occurred at the beginning of the switch and could possibly be related with remaining deposits that were not flushed properly reaching eventually main engine or tanks/pipes that were not cleaned comprehensively. Our awareness keeps on increasing by keeping our vessels under close monitoring and with the use of Scrape down oil analysis that is carried out regularly and consists an essential tool, providing a diagnosis of the engine operating and maintenance condition and information that can help improve engine reliability.

Maria Miliadi  
R & D Department

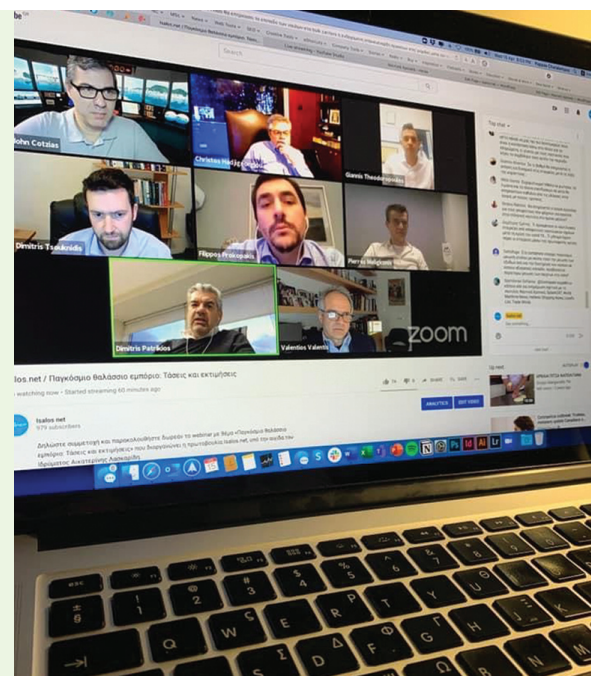
## "World Seaborne Trade: Trends & Evaluations" Webinar

Mr Filippos Prokopakis, Danaos Commercial Manager, was among the speakers on the webinar "World Seaborne Trade: Trends & Evaluations", organised by Isalos.net under the aegis of Laskaridis Foundation and as part of the recent research of the Naftika Chronika.

Mr Prokopakis analysed the supply demand balance achieved in 2019 followed by a rise in the freight rates, the limited orderbook in the liner shipping and the effect of the trade wars in the container market. He also shared his outlook and projections in regards to the unprecedented impact the Covid-19 pandemic which has severely affected the shipping industry.

What a constructive and educational session in the era of social distancing!

Tania Mermiga  
HR & Training Department

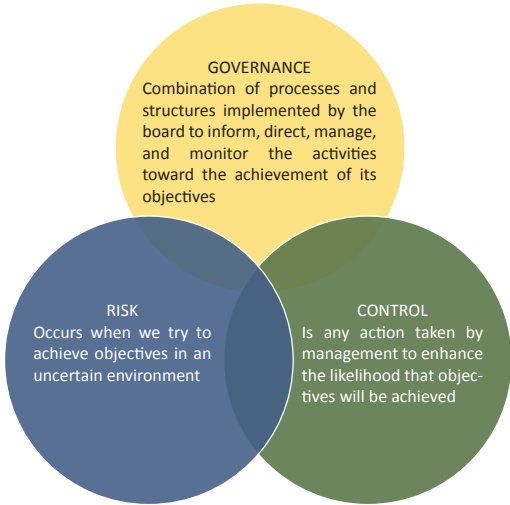




# Branding Internal Audit Department

DANAOS NEWS

Following Danaos Corporations' listing in the New York Stock Exchange (NYSE) in 2006, the Board of Directors (Board) of Danaos Corporation established the Internal Audit Department, as part of its efforts to further enhance the good governance, transparency, accountability, efficiency and effectiveness of the company's operations, including risk management and the internal control framework.



Internal Audit in the Shipping Industry is for many people a grey area. Some people in the Company may not be aware of the Internal Audit Department, while others recognize the existence of the department ignoring its actual part and role in the Company. Through this article, we aim to give a clear description of what is the Internal Audit function, its purpose, vision, mission, core values, role and responsibilities, as well as the challenges that has to face in this continuously evolving environment.

## AT FIRST GLANCE...

According to the Institute of Internal Auditors (IIA): "Internal Auditing is an independent, objective assurance and consulting activity designed to add value and improve an organization's operations. It helps an organization accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control, and governance processes."

## Let's break the definition a little bit...

"...helps the organization accomplish its objectives"

First and foremost, everyone should understand that **we are all on the same side**. The Company has objectives and goals that Company's employees must achieve, whether they are at the executive level or at the coordinator level. **Our goal in Internal Audit is to help the Company attain** its objectives & goals by identifying the obstacles that stand in the way and recommending ways to overcome them.

"... by bringing a systematic, disciplined approach..."

Our work is conducted according to standards established by the IIA. We evaluate the effectiveness of risk management, control, and governance processes and make recommendations for their improvement. By being independent of these processes, Internal Auditors can provide objective analyses of the risks to **determine**

**if controls exist and if they work the way they are supposed to** thus providing assurance that controls are adequate or being strengthened if necessary.

as *"...is an independent, objective assurance and consulting activity designed to add value..."*

In whatever capacity we act, it is always the desire of Internal Audit to add value and improve the operations of our Company. **If we perform an observation, we make it to identify a risk or a control that is not operating as designed or desired.** Our recommendations aim to

*Internal Audit's vision is to be a trusted advisor, a capable business partner, a promoter of best practices and an agent of positive change to the Board, Top and Departmental Management and other Internal or External Stakeholders*

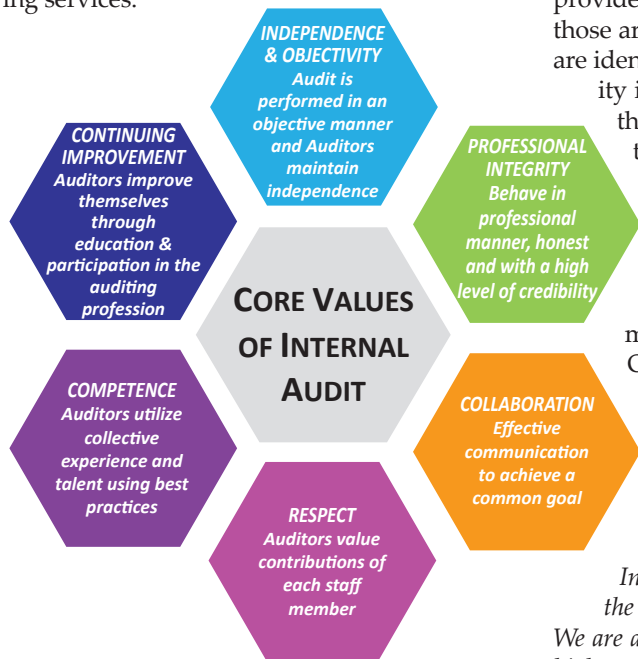
give Management options for establishing or strengthening controls and mitigating risks.

**Let's go a Little Bit Deeper...** Internal Audit Department reports periodically to the Top Management and the Audit Committee regarding the internal audit activity.

Internal Audit Department seeks to assist the Board of Directors, Audit Committee, Top and Departmental Management in:

- Promoting operational effectiveness and efficiency;
- Carrying out continuous improvement of Company's operations and programs;
- Ensuring that adequate safeguards exist over Company's assets;
- Ensuring adherence to the established Company's policies and procedures;
- Investigating fraud and irregularities

Internal Audit Department provides the following services:



## Assurance

- Financial/Sarbanes-OXley reviews
- Operational reviews
- Compliance reviews
- Information System (IS) reviews
- Integrated reviews

## Advisory and Consulting engagements

- Review of existing business processes. They may include evaluation and advisement on policies, procedures, process enhancements and any management requests of areas considered mutually critical.
- Participate in implementation of new policies, procedures or systems.
- Participate on multi-company teams or task forces.
- Establish security measures.

## Special Investigations

- Performed when appropriate. These audit activities focus on alleged violations of national and international laws and regulations, and of Company's policies and procedures. Internal theft, misuse of Company's assets, whistleblowing allegations and conflicts of interest are examples of investigative audits.

The services provided may be either planned-based on the semi-annual approved Internal Audit Plan- or unplanned/ad hoc after request of the Board of Directors, the Audit Committee, and the Top or Departmental Management. Nowadays, due to fast-paced environment and to the increased demands of assurance, the Stakeholders may identify areas of risk that are not managed efficiently and ask from Internal Audit Department to perform an audit.

## INTERNAL AUDIT IN A NEW ERA...

Nowadays, Internal Audit's Stakeholders have **higher expectations** from Internal Audit Department. Internal Audit Department aims to achieve alignment among the expectations of Regulators, Management and Audit Committee. In order to meet these expectations, Internal Audit -today more than ever- must identify their gaps and try to fill them. To this direction the work performed by Internal Audit Department should be relevant, timely, and risk centric. The Internal Auditors are expected to provide recommendations for improvement in those areas where opportunities or deficiencies are identified. An effective Internal Audit activity is a valuable resource for Management,

the Board, and the Audit Committee due to its understanding of the organization and its culture, operations, and risk profile. The objectivity, skills, and knowledge of competent Internal Auditors can significantly add value to an organization's internal control, risk management, and governance processes. Our goal is to change Internal Audit's traditional role, and the perception of most employees that Internal Audit Department is more as the **Police** and succeed to become the **Trusted Advisors**.

*Internal Audit Department wishes to promote the belief that ...*

*We are all on the same side and we aim to offer the highest quality of services for assisting the Company to achieve its goals and objectives.*

Anastasia Filiou  
Internal Audit Department

# 10<sup>th</sup> Annual Operational Excellence in Shipping Forum

D A N A O S   N E W S

Capital Link's "10th Annual Operational Excellence in Shipping" Forum was conducted in a little different way this time. A forum that counts more than 10 years of exchanging information on operational excellence, technological innovation and environmental protection issues, this time, on the background of the Covid-19 pandemic crisis, was set on a well organised online platform.

The platform was programmed to look like a physical place and the different panels were presented in the "Auditorium" space, within which an integrated Zoom session had been set. The panels consisted of specialists and officers from Shipping Companies, Charterers, P&I clubs, Registries, Classification Societies and other shipping related sectors.

Mr. Iraklis Prokopakis, Senior Vice President & Chief Operating Officer of Danaos Corpora-

tion participated as a speaker in the panel discussion under the title "Navigating Through the Perfect Storm". More specifically, the main subject of the discussion was around how the low-sulphur regulations and the advent of COVID-19 have created such havoc in the shipping industry. Travel restrictions, supply shortages, difficulties in crew changes, port complications and shipyard delays were the most discussed issues.

Mr. Prokopakis pointed out that: "The global reaction worldwide against the epidemic of Covid-19, was a gradual lockdown in traffic by all countries affecting primarily the crew movements and the shore maintenance support and supplies (other than provisions) of the global fleet. The reaction of the IMO and the global governments in relation to the humanitarian issues of our crew members being stranded

onboard was, and still is non-existent". More specifically, Mr. Prokopakis underlined that crew changes were six times less frequent during the past semester.

Regarding the way distance working aided our Company's efforts for smooth operations, Mr. Prokopakis said, "The value of the digital integration of a company in relation to maintenance support, performance monitoring and distance working online, was proven to be very high", referring also to the system improvements we achieved in order to face the remote working needs, as a positive outcome of this adverse situation.

At the same time, it was stressed that scrubber installation period was almost tripled, while the budgeted costs were a lot higher than what initially expected. In addition, it was referred that: "The economic considerations to install scrubbers, whilst obvious prior to covid-19, was challenged by the fuel oil price volatility related to the reduced oil demand".

Meanwhile, being questioned why Danaos chose to acquire new vessels during the pandemic, Mr. Prokopakis mentioned that the deals for the new vessels' delivery preceded the crisis. Although, the coincidence of the new vessels' delivery into the lockdown situation, led to difficulties in manning the new ships with our crew, in which cases innovative & hybrid solutions were given.

Questions followed on our online chat by the participants, while all visitors were able to see our online booth corner.

*Katerina Katsiada*

*P.A. to Mr. Iraklis Prokopakis*



## External Audits

We are pleased to advise that the following vessels under our management have successfully passed the 3rd party ISM/ISPS audits for the period December 5th, 2019 till June 24th, 2020:

Vessel	Port	Non-Conformity	Observation
CMA CGM BIANCA	Houston	NIL	1
CMA CGM MELISANDE	Hong Kong	NIL	NIL
CMA CGM MOLIERE	Singapore	NIL	NIL
CMA CGM SAMSON	Luanda	NIL	NIL
COLOMBO	Port Everglades	NIL	1
DIMITRA C	Subic	NIL	NIL
PERFORMANCE	Piraeus	NIL	NIL

The above findings have been evaluated, so that proper corrective and preventive actions can be decided in order to avoid their recurrence.

The below successfully underwent 3rd-party ISO 50001 audit:

Vessel	Port	Non-Conformity	Observation
CMA CGM MELISANDE	Hong Kong	NIL	NIL

Thank you for your continuous support.

*SQE Department*

## Newly joined!

We welcome:

- **Iraklis Chumburidze**  
Operations Department
- **Xenophon Chatzis**  
Operations Department
- **Spyridon Sfyris**  
Technical Department
- **Angeliki Rousakaki**  
Electrical Department



Back in 2018 the President of the United States, Donald Trump, imposed tariffs on Chinese imported products in order to reduce the deficit between the two countries. On August 1st of 2019, as tensions escalated between the two countries, President Trump expressed that there will be imposed an additional tariff of 10%, as from the 1st of September, on the remaining 300 billion Dollars of goods imported from China into the US. A couple of days later on the 6th of August he also declared China a currency manipulator as the Yuan sunk to 7 against the US dollar – its lowest level in 11 years – in apparent retaliation to the new punitive tariffs that threatened to apply on the remainder of Chinese imports. Following that move, Chinese companies suspended new US agricultural product purchases.

In the meantime, the US market (Dow Jones) fell 800 points (14 August 2019) while a week back loss that occurred in the Dow Jones Industrial Average surpassed 700 points (5 August 2019). Within this time frame, the Marine Freight & Logistics industry took a hit. Considering the above information concerning the US-China trade war, what will be the impact on the shipping industry and especially in container shipping?

Opinions of whether the shipping industry is in favour of the trade war are divided. On one hand, industry expert, George Youroukos, Executive Chairman of Global Ship Lease has stated recently that a trade war is the best thing that can happen in container shipping in the last few years. As he further explained, the industry is cyclical not due to its cyclical demand, as it expands each year. Instead, it is a matter concerning supply. The trade war has put the supply in check and as a result new vessel orders have frozen. The lack of new ordering has paved the way for the lowest order book the industry has had in decades. This is very important keeping in mind that the container shipping sector has been battling over the past few years especially due to overcapacity. He also stated that the trade war will not affect container shipping because production of goods will stay in the Far East and there will not be a major impact for the global container shipping patterns.

According to Howard Finkel, executive Vice

President of COSCO Shipping Lines (North America), even though they haven't seen huge effect on trade because not all tariffs have been put in place yet, there have been overbookings in the past 6 months as shippers try to beat tariffs. Due to this fact a congestion has been caused to major ports of Long Beach and Los Angeles. Furthermore, the market remains as quoted "brutally competitive". The only viable solution in keeping the operating costs low is to make a strong alliance.

Shipping Consultants Drewry believe that as the hostile situation between the US and China evolves, it will result in higher volumes of intermediate goods. This is due to the fact that China does not need too many inputs because of its great manufacturing capacity. "While we do foresee some erosion of its market share in outbound container flows to the US, the sheer size of its export machine means that it cannot be replaced overnight. China was responsible for around one-third of all US finished goods imports last year, when measured in bilateral trade, twice as much as the rest of East Asia combined".

On the other hand, there are ongoing concerns that the trade war will slow down the shipping industry and has a very high potential of creating harmful side effects. Transpacific container trade is hurt as it weakens the demand according to Drewry. Based on their impact analysis if imposed a 10% in import prices from China will lead to a 6% decline in TEU volume from China to US Ceteris Paribus (with all other factors unchanged). If tariffs reach 25% this could end up to 15%. "Carriers and cargo owners are caught in the cross-hairs, the unpredictability making it almost impossible to second-guess the best approach to minimise the damage," Drewry said.

Back in June BDO showed the impact of the trade war in the shipping industry. The confidence level average had fallen slightly from 6.3/10 in February to 6.1/10 in May according to the Confidence Survey. The reason for that being the volatility created by the US-China trade war and other major political instability caused by Arab Gulf tensions, and the failure to find a solution for Brexit.

Meanwhile, the port of Los Angeles argues that tariffs generate negative results. The port states in a letter to Trade Representative Robert Lighthizer that the tariffs will increase con-

sumer prices, lower profitability for American firms as well as create uncertainty in the maritime supply chain. A port's analysis estimates that 66% of all imports value will be impacted and 64% by tonnage and container volume. It is important to state that from the 310 billion dollars that the port created last year, 202.6 billion dollars represent China's segment. Over the long term, the trade war will be harmful for the port as the US might need to source materials and goods from elsewhere.

To conclude, imports on major ports will remain at the same high levels for this summer in the US as stated by the National Retail Federation. However, retailers still want to protect customers from price increases due to the tariffs. "Imports of consumer goods continue to grow as importers purchase items in expectation of further increases in tariffs, the cost of which will be borne by the American consumer... Trade has become the sharp end of foreign policy, and we continue to believe that this will ultimately damage both sides of the conflict in a lose-lose situation," Ben Hackett, Hackett Associates Founder, said.

In all cases, the US-China trade war can be in favour of the container shipping industry at least for the short-term. President Trump made remarks that the trade war between the largest economies would continue throughout 2020. He continued by stating that the longer the trade war, the weaker China will get and the stronger the US. But still the long-term impact to the shipping sector is uncertain. What's left is to find out how the shipping industry will react to the upcoming tariffs and how these will be tackled or implemented into the economy. In my opinion, we should hope for a final solution during the agreed talks before September 1st, when additional tariffs are set to be imposed.

Konstantinos Michalopoulos  
Finance Department Trainee

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## Introducing WEBEX Online Training

In light of the current exceptional situation due to COVID-19 outbreak, we, in Danaos, like any other team who used to work together in an office, have learnt to work together remotely either from home or as minimum quarantine staff at the office.

Although remote work has been quite a new challenge, we all managed to make the transition smoothly. The most important during a crisis period like this is to take care of your physical health and at the same time to keep connected with your teammates, thus to stay healthy and productive.

Since social distancing is crucial to beat COVID-19, working from home was the best step we could have taken in order to keep a track of our daily workload and even get creative with our new exercise routines such as remote work and online meetings.

In the HR+Training department of Danaos Head Office, as well as in our training offices in St. Petersburg and Odessa, the Webex online training was introduced, in order to get in touch with each other

through video meetings, to exchange views on the current situation and to focus on the upcoming training sessions with our seafarers.

What the online remote training through the Webex platform made us realize once more is that the new technologies make our lives easier and most importantly that communication cannot be ceased no matter what.

Live talks, text messages exchange, interactive learning and file sharing are the main collaboration tools established through the Webex platform.

In these unprecedented times, we struggled to maintain uninterrupted training and learning and to support communication as a response to the COVID-19 pandemic and we are happy that our first steps of a continuous process were successful, making us feel ready and more secure for any similar cases in the future.

Katerina A. Vassilopoulou  
HR & Training Department

# Audits & Inspections in the COVID-19 Era

ARTICLE

The wide spread of coronavirus and the COVID-19 disease around the world, which forced WHO to declare the disease a pandemic, led the States to enforce exclusions as a measure to contain the pandemic and its consequences. Among the restrictions imposed were the closure of the borders, the suspension of air travel and various lockdowns which restricted the movement of persons not only for regular work but also in cases of emergencies it proved very difficult -not to mention impossible- for these restrictions to be lifted.

The shipping industry, and especially crews, encountered unprecedented difficulties in getting basic services by all these exclusions. The largest shipping organizations, in consultation with IMO, have stepped in and continue to try to persuade governments to allow crew changes, taking into account the safety of ships that continue to transport and deliver essential goods around the world.

In order to have the sea trade flow smoothly ships must continue to operate in accordance with international and national regulations of the Flag they are registered. Compliance is assured through the periodic audits and surveys performed by vessel's Class. In addition, as the

ISM code defines, each company conducts annual internal audits on ships to maintain and implement its safety management system. The various lockdowns imposed on the fight against the pandemic, however, greatly hampered the movement of auditors & inspectors on the one hand; on the other hand, the health of the employees of the companies themselves had to be preserved.

The Flag Administrations quickly adapted to the situation by issuing circulars and instructions for the conditions where extensions were given to the certificates of the seafarers who could not disembark upon their contract completion or in other cases approving the postponement of the annual internal audits. Classification societies, on their part, have expanded the scope of remote inspections - which had already begun to implement - and in cooperation with Flag Administrations and shipping companies have managed to provide certification for the continued operation of ships. The ability to exchange a satisfactory amount of data via e-mail with ships (photos, scanned documents, forms, etc.) and the numerous instruments on the ship from which we draw data in the office for its performance played a significant role to remote procedure.

At DANAOS we were lucky to have a small number of fleet ships which were due for external ISM/ISPS audit during this period. For the external audits we managed with proper planning (selection of port after a long voyage at sea, etc.) these to be carried out as usual onboard ships successfully. However, for the internal audits that we could not complete, we addressed the issue to ship's Flag and asked

for the postponement provided for this exceptional case.

But what about next steps? Surely we are all entering uncharted waters of how the world will operate in the near future, always keeping in mind that a second wave of COVID-19 outbreak is very possible according to scientists. For the part of the audits & inspections that concerns us and mainly the assurance that the safety management system is implemented without fail in the coming period we will follow Class and/or Flag recommendations.

Already some Flag Administrations and Port State Authorities (mainly USCG) have conducted remote annual inspections or PSCIs by reviewing copies of all official ship certificates and certain operational record books (ORB, Garbage record book, Ballast record book etc) at first stage, accompanied by photos etc. In a PSCI case we experienced also a subsequent boarding after all documentation had been sent with e-mail (most possibly because ship was calling US for the first time after a long period).

Although remote audits and inspections gained advantage as an alternative to keep ships in compliance one should note that cannot -at least with current means- replace the physical onboard examination. There are a lot to be considered: from the personal contact an auditor can develop with the Master and crew to the constraints of various technical settings that ships still may face.

Concluding it should be stressed that every ship- irrespective if authorities are going to board or not to conduct an inspection- should be compliant at all times and keep safety at sea at the forefront.

Vassiliki Giannakou  
SQE Department

Reference:  
<https://www.who.int/>



## Flags of Convenience ("FOC")

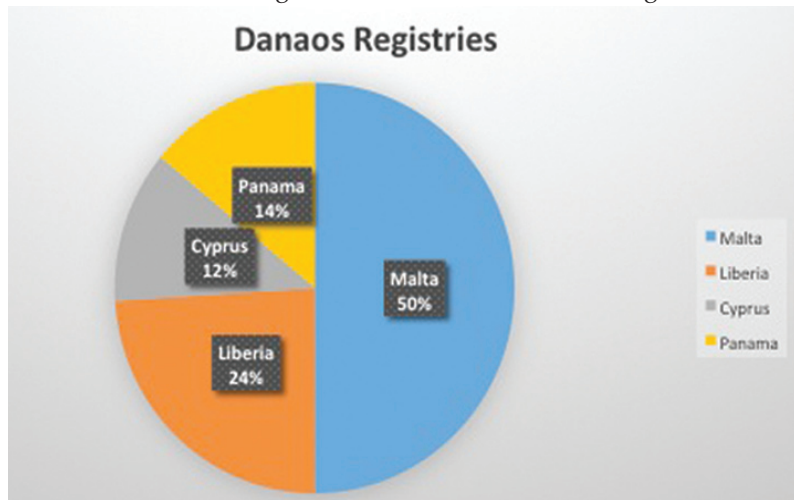
DANAOS NEWS

When registering a vessel for international trade, one must choose a nation under the flag of which that vessel will sail. The term flag of convenience refers to registering a ship in a sovereign state different from that of the ship's owners. Ships registered under flags of convenience can often reduce operating costs or avoid the regulations of the owner's country. Such FOC are Liberia, Marshal Islands, Malta etc. To do so, a vessel owner will find a nation with an open registry, or a nation that allows registration of vessels owned by foreign entities. A ship operates under the laws of its flag state, so vessel owners often register in other

nations to take advantage of reduced regulation, lower administrative fees, and greater numbers of friendly ports.

Danaos chose Liberia, Malta, Panama and Cyprus flags to sail on its vessels. Approximately 50% of the company's ships are registered under the flag of Malta, 24% under the Liberian flag and 12% and 14% under Cyprus and Panama flags respectively.

Choosing an open registry has many advantages for a shipping company. Operating costs are lower than those of national or closed registries. Moreover, companies have the ability to choose the nationality of their crew more freely because they don't experience any of the national crew requirements that closed registries have. In fact many closed registries demand that the ship registered under their flag should be partially manned by its citizens. Lastly, the use of a FOC assists in lowering the overall transportation costs, as it is cheaper to register a ship in a FOC and the maintenance costs are lower.



Konstantinos Peppas  
Legal Department Trainee

Reference:  
<https://opensea.pro/blog/flags-of-convenience>



# Are Drones the Future of the Shipping Industry?

ARTICLE

We know in general the various uses of drones, some people use them as a hobby, but most people tend to associate them with the military. Nowadays, this has changed because drones have become popular in the shipping industry too, as drones can reduce expenses, time and improve safety. In this article we are going to mention the potential uses of drones in shipping. First of all, shipping companies use drones for deliveries, when ships are in anchorage. They try to send items like spare parts, documents, medicine and other products that ships are required to have. It is calculated that the use of drones could reduce the costs of this process. Also, some classification societies already use drones for their surveys. This results in a detailed inspection, because drones can have access in areas that are hard to reach, due to the potential danger. Some examples of the areas that can be reached by the drones are the following, flare stack, tops of cranes and confined spaces, inspection of the hulls, exterior or interior of tanks and other areas with great risk.

Drones could be used for inspection during repair, monitoring in new buildings, ships al-

teration, inspections of moorings and anchorages as well. Drones will be set by a human controller, but in case the drones become fully autonomous, they will use only a single engine. This makes drones cheaper to buy and will reduce the environmental impact, making them highly profitable. Which is, the main aim that companies want to achieve.

The future expectation for drones is that, they will be able to operate over the ocean as a faster option to cargo ships and as a more economical international option to traditional air freight.

The plan is that drones will take off from the water without requiring landing gear and landing strips. They will then

land in the water miles from port, be taxied into the dock, and unloaded by cargo cranes. With

no crew to pay, shipping overseas by drone could potentially cost half the amount of traditional shipping. There is a potential market for drones in servicing mid-sized cities in regions, such as China and Africa. Specifically, where there is lack of major airport infrastructures and a need for international shipments.

Furthermore, such innovations have many obstacles, because drones are very delicate,



as they are still a new development. That's why communications, avionics and sensor technology need to be improved. Drones are being tested to figure out how safe and environmentally friendly they are, before there can be actual benefits from their use. Nevertheless, it is rather difficult to use drones; hence it is very important for people who use them to be extremely knowledgeable regarding their use, as a wrong decision might have negative effects like extra costs or problems for the shipping company. That is why it is crucial that they have the certification that they are able to handle drones.

*Ioanna Tsairidou  
Crew Department Trainee*

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## Scrubbers Installation and Feedback Sharing

DANAOS NEWS

As part of our strategy to reduce fleet emissions in line with the IMO 2020 sulphur cap of 0.5% from 3.5% as of 1st January 2020, Exhaust Gas Cleaning Systems installation was invested in part of Danaos fleet. The Open-loop Exhaust gas cleaning systems were installed onboard 11 Danaos vessels, sized 6500, 8500 and 9600 TEUs chartered by MSC as well as 13100 TEUs chartered by HMM, during 2019 and the first quarters of 2020.

The in depth and extensive study carried out on EGCS systems including risk assessment and investigation of various factors contributing to a successful retrofit, such as cost, safety/operation, complexity/configuration, availability, enabled us to conclude to the selection of STI SOx Scrubber that uses cyclone

technology in system's design. This system has a significantly high mixing efficiency of exhaust gas and spraying water using various sea water spray methods and cyclone technology. The Open-loop multi-inlet inline scrubber units were custom designed and sized to suit the application of our vessels, according to the operational conditions, the expected exhaust gas flow and temperature, as well as the operational and machinery constraints, with the minimum modifications on the funnel structure and without any cargo capacity loss whatsoever.

The Leo C was the first vessel where a SOx Scrubber was successfully installed within only a few months at the end of Q1 2019, with the rest of the vessels following. STI, together, with Danaos' R&D department, upon operational experience feedback collection and assessment from the pilot vessel Leo C, proceeded to substantial design modifications pertinent to system's components and piping specification, optimizing its performance and operation.

Upon completion of scrubber systems' installation onboard Danaos' vessels, the scrubber data are collected online and sent to the Head Office. The Scrubber Monitoring is a feature that is custom designed in our Waves data

analytics platform and provides the user with good insight on the scrubber operational data almost in real time, while at the same time one is able to easily confirm compliance with regulatory requirements for all parameters.

Last but not least, a very important element for ensuring Scrubbers' proper operation and covering all operational needs is the after sales service & experience. Our Technical Department has created a list of global service network for all Scrubber-related issues that may arise, including major categories such as manufacturer's service networks for ShipCEMS System and Software, Steel & GRE pipes repairs, underwater services for overboard pipes & sea chests inspection and other service providers worldwide specialized in Scrubber repairs & various consumables.

A very useful mapping has been built based on the information that has been collected on the service network, which includes relevant contact details, location of service providers around the world and costs for repairs, as well as the detailed scope of work for each service provided and most importantly our experience and feedback gained from the service network.

*Maria Miliadi  
R & D Department*



# Sanctions and a Brief History between the U.S. and Iran

ARTICLE

Because of its popularity as a diplomatic tool, sanctions have been under the microscope of scholars. Especially nowadays the interest about them has risen after the relations between America and Iran have been strained. In addition to their past history, America imposing a series of sanctions on Iran in the past decades, one cannot ignore and not be interested in learning about what sanctions are and a brief history about the penalties America has imposed on Iran.



Researchers have been able to distinguish two types of sanctions: (i) Negative, (ii) Positive. Negative sanctions are best known as an economic instrument of diplomacy. They are imposed in order to inflict economic damage to one or more countries. On the other hand, Positive sanctions are measures devoted to foster cooperation among some countries. Furthermore, it is possible to look at economic sanctions regarding: (i) Objective, (ii) Parties involved, (iii) Object of sanctions.

When we refer to sanctions we are able to differentiate three ways that a country can impose these “penalties”: (i) Boycott (ii) Embargoes (iii) Financial sanctions. Firstly, a boycott is a restriction of imports of one or more goods from the target country. It aims to lower the demand for certain products. Moreover, it attempts to reduce the targets foreign exchange earnings and therefore its ability to purchase goods. Also, its intention is to induce damage to a particular sector of the target country. Furthermore, an embargo restricts exports of certain products to the target country. This is the most common technique. The prohibition on exports may be partial or complete. Finally, financial sanctions restrict or suspend lending and investing into target economy. In order to avoid sanction-busting they also impose additional restrictions on international payments and foreign assets of the target economy may be frozen.

## November 1979:

The beginning of the history of the US Sanctions against Iran starts in November of '79. The United States, after Iranian students storm the US Embassy in Tehran and take diplomats hostage, imposes sanctions to Iranian imports to the United States and Iranian assets are frozen.

## January 1984:

After five years (1984), The US Department of State designates Iran as a state sponsor of terrorism for repeatedly providing “support for acts of international terrorism.” The designation brings with it sweeping US sanctions.

## June 1992:

Nearly a decade later (1992), The US Congress passes the Iran-Iraq Arms Nonproliferation Act of 1992. It declares “that it is US policy to oppose any transfer of goods or technology to Iraq or Iran whenever there is reason to believe that such transfer could contribute to that country’s acquisition of chemical, biological, nuclear, or advanced conventional weapons.”

## June 1996:

Later in the same decade (1996), The US Congress passes the Iran-Libya Sanctions Act, later known as the Iran Sanctions Act. It seeks to penalize entities for investing in Iran’s petroleum industry, which could give it access to funds to develop or acquire weapons of mass destruction or finance terrorism. The law requires the United States to slap sanctions on foreign companies that invest more than \$20 million a year in Iran’s oil or gas sector. The sanctions aren’t implemented, however, after European countries protest, until 2010. US President Bill Clinton issues executive orders to generally prohibit the export of all goods and services from the United States to Iran or from Iran to the United States.

## March 2007 - June 2010:

In 2007, The UN Security Council, responding to Iran’s failure to comply with its demand to suspend uranium enrichment, unanimously adopts Resolution 1747. This tightens sanctions on Iran in connection with its nuclear program. A year later, the UN Security Council passes

Resolution 1803. This expands nuclear-related sanctions on Iran. Two years later, the UN Security Council adopts Resolution 1929. This resolution tightens proliferation-related sanctions on Iran, bans Iran from carrying out tests of nuclear-capable ballistic missiles, and imposes an embargo on the transfer of major weapons systems to Iran. The US Congress adopts the Comprehensive Iran Sanctions, Accountability, and Divestment Act. These sanctions target firms investing in Iran’s energy

sector or selling refined petroleum to Iran, and foreign banks doing business with designated Iranian banks.

## December 2011 - January 2016:

In 2011, the US Congress passes legislation that allows the United States to impose new sanctions on the Central Bank of Iran and to sanction third country banks if countries importing Iranian oil do not significantly reduce those imports within six months. Next year, the Congress expands the threat of “secondary sanctions” against companies doing business with Iran through the Iran Threat Reduction and Syria Human Rights Act (TRA). The TRA also extends the general prohibition on US persons doing business in Iran to any foreign entity owned or controlled by a US person. Furthermore, expands the threat of secondary sanctions against companies doing business in Iran with the Iran Freedom and Counter-Proliferation Act (IFCA). The International Atomic Energy Agency (IAEA) in 2014 finds that Iran is complying with the terms of the JCPOA. The United States and the EU say they have taken steps to waive specific sanctions. Iran and the P5+1 sign the Joint Comprehensive Plan of Action (JCPOA). Under the deal, Iran agrees to take steps to curb its nuclear program in return for a significant easing of US, UN, and EU sanctions. The UN Security Council unanimously passes Resolution 2231 endorsing the nuclear deal and the lifting of Security Council nuclear-related sanctions on Iran once conditions outlined in the deal are met. : Iran and the P5+1 formally adopt the nuclear deal. In 2016, the IAEA verifies that Iran has met its commitments under the nuclear deal. Implementation day is announced and UN Security Council Resolution 2231 comes into effect. The United States lifts nuclear-related secondary sanctions on Iran. While those secondary sanctions are lifted, “primary” US sanctions on Iran remain in place. The same year, the Congress passes a ten-year extension of the Iran Sanctions Act (ISA) and the US Secretary of State John Kerry reissues sanctions waivers on Iran.

## May 2017 - October 2017:

The next year, The Trump administration renews sanctions waivers and reluctantly certifies Iran’s compliance with the JCPOA. The US House of Representatives passes H.R. 3364, the Countering Adversarial Nations through Sanctions Act, which would impose new sanctions on Iran, North Korea and Russia. Trump does not certify the deal. He puts the onus on Congress saying if his concerns about the deal are not resolved he will terminate the agreement. However, he again waives sanctions.

## November 2018:

On November 5, 2018, the United States fully re-imposed the sanctions on Iran that had been lifted or waived under the JCPOA. These are the toughest U.S. sanctions ever imposed on Iran, and will target critical sectors of Iran’s economy, such as the energy, shipping and shipbuilding, and financial sectors. The United States is engaged in a campaign of maximum financial pressure on the Iranian regime and intends to enforce aggressively these sanctions that have come back into effect.

Alexandros Leontitsis  
SQE Department Trainee

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# Danaos Interview to Naftika Chronika

D A N A O S   N E W S

The R&D Department of Danaos, in an exclusive interview to Naftika Chronika, discussed its approach on Energy Management and how the battle against emissions is fought. The interview was published in Naftika Chronika's March issue and the company's successful combination of technological excellence and corporate culture was discussed, which are leading the company's ships to improved energy efficiency and essentially pointing the way for the future. Our approach towards this direction is based on three pillars:

- The establishment of an R&D department, made up of specialists involved in research
- The study of 38 energy efficiency improvement Measures, aiming at increasing the energy efficiency of vessels
- The development of the WAVES data analytics platform that provides enormous capabilities by being able to control the performance of the vessels and investments made in each ship, ensuring close monitoring and timely and effective response to any problem.

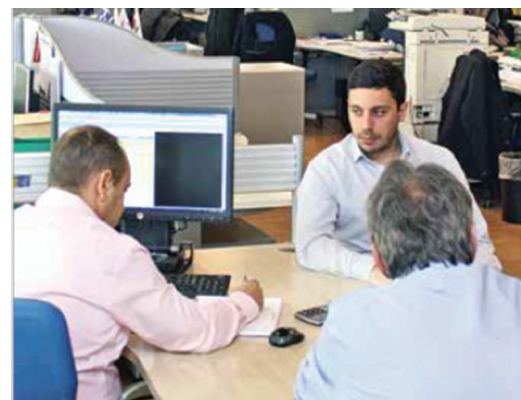
During the interview we indicated that, in an effort to evaluate the performance of the ship's energy efficiency measures, we developed the corresponding EEDI (Energy Efficiency Design Index) index for all the company's vessels regardless of the year of their construction (corresponding to the EVDI index developed by Carbon War Room and RightShip). The above indicator was then calculated after optimization was completed on each ship, and its reduction coefficient was determined, which reflects the level of efficiency increase com-



The R&D department of Danaos Shipping

pared to that of the original design. The various compliance phases and the various EEDI thresholds are separated taking into account the reduction factors by IMO, and at each phase we see the number of compliant vessels. It is noteworthy that after investing \$ 87 million, an EEDI improvement of over 20% on over 60% of the fleet was achieved, while over 50% of the fleet is in phase 2 compliance, as shown in the Graph. The main finding is that these compliance rates increased significantly after the investments.

The interview gave us also the opportunity to discuss the purpose of the WAVES platform, which is to take advantage of both office and ship-generated data to bring added value to DANAOS in an environment where data flows are constantly increasing. Among the main reasons that led to the in-house development of the WAVES platform are the flexibility and speed offered by this approach, both of which



The Technical department of Danaos Shipping

are extremely important in a volatile shipping environment characterized by strict deadlines. In addition, this model allows the R&D team to prioritize resources based on the dynamics of emerging requirements and regulations. At the same time, it contributes to the full and without any compromises utilization of DANAOS's in-depth knowledge of the subject and the cumulative experience of its dedicated staff, while protecting algorithms and sensitive data from being exposed to third parties. Finally, the combination of a deeper understanding of the company's operating model and internal processes, coupled with the creation of a qualitative and free of misunderstandings channel of communication between stakeholders, is crucial to the success of the project.

*Maria Miliadi  
R & D Department*



Well done to the Danaos Sailing Team who came first in the Nautical Athletic League Race from Faliro to Katsidi and back.



Seafarers are on the frontline of the #COVID19 pandemic, playing an essential role in maintaining the flow of vital goods.

The 2020 Day of the Seafarer campaign pays tribute to seafarers, acknowledging their sacrifice, as many of them have been away from home for months and are unsure when they will be able to return home due to travel restrictions.

Our deepest gratitude goes to them!





# Nikos Kavvadias: A Poet of the Sea

ARTICLE

Nikos Kavvadias was a Greek poet, writer and a seafarer by profession. He was born in a small town of Manchuria (Northeastern China) near to Harbin. His parents were Greeks with an origin from the island of Kefalonia.

His family returned to Greece when Kavvadias was at a young age. They stayed for some years in Kefalonia and then moved to Piraeus in 1921 -and until 1932- where Kavvadias finished primary and secondary school.

He wrote his first poems when he was still in primary school. In 1929 he started working as a clerk in a maritime office and a few months later he embarked on a cargo ship as a sailor. For the following years he kept travelling on-board cargo ships, returning home tired and penniless till his next assignment. And it was then when he decided to become a radio officer. Initially, he wanted to become a captain however he had spent several years in his wanderings and the diploma of a radio operator could be acquired within a shorter period. By the time he got it in 1939, World War II had broken out and he was sent to Albania as a soldier. During the years of German occupation, he remained in Athens without having a job at sea.

He set off again on a ship as a radio operator in 1944 and travelled continuously all over the world until November of 1974. Three months later he died suddenly from a stroke on 10 February 1975.

'Vardia' (The Shift), his only novel, was published for the first time in 1954. His collection of poems Marabou was published in 1933, Pousi in 1947, and Traverso in 1975. His short stories Li and Of the War/On my Horse were published in 1987. "Li" was produced as a film in 1995 with the title "Between the Devil and the Deep Blue Sea".



## Ιδανικός Κι Ανώγειος Εραστής (Mal du départ)

Θα μείνω πάντα ιδανικός κι ανώγειος εραστής  
των μακρυσημένων ταξιδιών και των μαζών των πάντων,  
και θα πελάω μια βραδιά σαν όλες τις βραδιές,  
χωρίς να σκίσω τη λοζή γραμμή των οριζώντων.

Για το Μαδράς τη Σιγκαπούρ τ' Αλγέρι και το Σφαξ  
δ' ανακυρούν σαν πάντοτε περίφρατα τα πλοία,  
κι εγώ σκυφτός σ' ένα γραφείο με χάρτες ναυτικούς,  
θα κάνω αλφάβειους σε κοντρά λογιστικά βιβλία.

Θα πάω μια μακρινά ταξίδια να μιλή,  
σι φίλοι θα νομίζουν πως τα 'χω μια ξεχάσει,  
κι η μάνα μου καραϊμένη θα ζέει σ' όποιον ρωτά:  
"Ήταν μια γόζα νεανική, μα τώρα έχει περάσει"

Μα ο καιτός μου μια βραδιά εμπρός μου θα υμνεί  
και γόγο ως ένας δικαστής στυγνός θα μου ζητήσει,  
κι αυτό το ανώγειο κόρι μου που τρέμει θα απαντήσει,  
θα σημαδεύει κι έφρονα το φταίχτη θα κτυπήσει.

Κι εγώ που τόσα επόδησα μια μέρα να ταβώ  
σε κάποια λήρασσα βαδισιά στις μακρινές Ινδίες,  
θα 'χω ένα θάνατο κοινό και ληξιαρχό πορί,  
και μια κηδεία σαν των παρρην ανθρώπων τις κηδείες.

Reference: <https://lyricstranslate.com>

## Mal du départ

To my sister Jenia

Always the perfect, unworthy lover  
of the endless voyage and azure ocean,  
I shall die one evening, like any other,  
without having crossed the dim horizon.

For Madras, Singapore, Algeria, Sfax,  
the proud ships will still be setting sail,  
but I shall bend over a chart-covered desk  
and look in the ledger, and make out a bill.

I'll give up talking about long journeys,  
My friends will think I've forgotten at last;  
my mother will be delighted: she'll say  
'A young man's fancy, but now it's passed.'

But one night my soul will rise up before me,  
and ask, like some grim executioner, 'Why?'  
This unworthy trembling hand will take arms  
and fearlessly strike where the blame must lie.

And I, who longed to be buried one day  
in some deep sea of the distant Indies  
shall come to a dull and common death;  
shall go to a grave like the graves of so many.



The statue of the poet Nikos Kavvadias in Argostoli, Kefalonia. By Jean Housen

Kavvadias became widely popular in Greece when composer Thanos Mikroutsikos (13 April 1947 – 28 December 2019) set music to his poems in his albums Σταυρός του Νότου (Southern Cross) [1979] and Γραμμές των Οριζώντων (Horizons' Lines) [1991] which both were very successful. A selection of his poetry was also translated into English by Simon Darragh, under the title Wireless Operator from the London Publisher Enitharmon.

Vasso Giannakou  
SQE Department

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# Educational Visits in the pre - Covid 19 Era

D A N A O S   N E W S

Students and their Professors from the MSc Program in “Shipping, Trade and Transport” of the University of the Aegean visited Danaos Offices and Mr Chatzis, Danaos CFO, delivered a thorough presentation on the maritime current trends. He highlighted the challenges the shipping industry faces with the new environmental regulations and he focused on the importance of the Danaos R&D department which constantly strives to find innovative solutions to reduce emissions. With the Chinese leasing houses being the major capital providers to the global shipping industry, Mr Chatzis could not omit analyzing how the European banks, which used to be the traditional biggest fund providers for ship financing, have massively reduced the scale of credit. The audience was truly engaged making the session very productive covering a great number of topics.

It is always a great pleasure to welcome students from the MSc in International Shipping, Finance and Management of AUEB accompanied by their professor, Mr Kavussanos. The group was joined by 15 students from the Korean Maritime University who are currently in Greece for educational purposes.

Our CFO, Mr Chatzis, took them through the financial strategies of Danaos Shipping while our COO, Mr Prokopakis, highlighted the importance of the ethics and the working culture of the employees in the business environment.

*Tania Mermiga  
HR & Training Department*



## “A Smooth Sea never made a Skilled Sailor”

A R T I C L E

As it is widely known, shipping is one of the safest means of transport. However, thousands of accidents still occur every year, the majority of which are the result of human error. The only way to help prevent accidents, is to educate, train and improve crew working conditions. As George William Curtis said, it is not the ship so much as the skillful sailing that assures the prosperous voyage. Therefore, improving education and training received by seafarers will result in safer shipping. Even so, training received should not only meet new legislations, but also new technologies. Studies show, that seafarers stated they want training to reflect their needs, not just to meet legislation. The study also shows that even if at the most basic level training is adequate, growing demands placed on seafarers with regards to mandatory training have a detrimental effect on their work. It may be costly and extremely time consuming to adopt new innovative ways to train the seafarers, or even update already existing training, but it is of major importance to do so. Fortunately, Danaos has proven over the years that the company takes training very seriously, as it is one of the very few shipping companies

that has created a special department just for training, one which is certified not only by the Lloyd's Registry but also by the Cyprus Registry. Danaos' training department ensures that its seafarers receive not only the mandatory training but a lot more. For example specialized personnel, train seafarers not only in Greece but also in the company's other branches such as Zanzibar, Russia and Ukraine. They spend a large amount of time in foreign countries in order to make sure that every single member of the crew will be appropriately trained and provided with the necessary skills to progress in their workplace.

Modern problems, require modern solutions and one successful method is e-learning. By utilizing this method, crew members will be able to access very much needed relevant information and new courses. They will also receive additional training from all over the world, using on-line platforms recommended by the company.

Additionally, with the use of simulators, trainers provide efficient teaching about the environment for evaluation and risk assessment of numerous marine operations. They also provide information on projects such as: placement of navigational aids, arrival/departure conditions for existing or new port facilities, ship motion in both frequency and time domains, and give accurate assessments such as risk of grounding.

Moreover, Danaos organizes seminars, with specialists, with a specific focus each time, in order for crew members to gain a deeper knowledge and understanding of a particular subject. This way, seafarers will not only be educated about wider issues affecting their work, but they will also learn everything they need from specialists.

So, as can be understood, training is extremely important. It affects the standards of safety, operations and the effectiveness of the crew. It is about practice and skill, about learning how to do things the right way, the safest way. Thus, updated training will help prevent accidents, improve crew efficiency and give quality services.

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# Green Shipping: From Concept to Implementation

ARTICLE

The world is changing and climate change with its consequences are currently of great concern. Technologies that were once considered as the absolute norm, are now becoming old-fashioned. Of course the shipping industry is no exception. It has come a long way as far as R&D (for reducing costs of propulsion without increasing marine pollution) is concerned. The conventional propulsion system of the ship is efficient, but requires high operating costs and increases the marine pollution. Among all the prospective alternate power sources, the electrical propulsion system is one of the best tried out alternatives in today's time. The electrical propulsion system offers numerous advantages for ships that are subject to specific requirements. They are rated as particularly economical, environmentally friendly and reliable, offer considerable comfort in terms of operation and control, have optimal maneuvering and positioning properties, low and almost zero vibration and noise levels, and additionally enable the best possible utilization of space owing to their reduced noise levels. This technology revolution has occurred, but has gone un-noticed outside the marine industry. The main actions that are now being developed include hybrid electric ships and purely battery electric ships. The hybrid topology consists of combining mechanical and electrical propulsion in the kinematic drivetrain. Hence, propulsion efficiency is optimized, and at the same time, responding to a variable power demand quickly and flexibly. It involves a combination of diesel engine generators and electric motors with a battery system. The batteries provide power when energy demands are lower, and increase redundancy to compensate for engine downtime. Ship batteries have a peak shaving effect, where the battery equalizes the load on the engines. This reduces pressure on the machinery, and thus lowers maintenance costs. The batteries also provide backup power for vessels using dynamic positioning (DP), reducing energy consumption from reserve engines. Hybrid technology assists compliance, while supplying the vessel's propulsion needs under variable conditions.

Incorporating this technology, the Vision of The Fjords, as called, is equipped with battery technology (integrated with two MAN D/G) to transport tourists from all over the world along the spectacular fjord between Flåm and Gudvangen, the Nærøysfjord in the west of Norway, a distance of around 32 km. Once it has arrived in the most scenic part of the fjord it will switch to battery power, allowing sightseers to enjoy the nature in almost complete silence at around 8 knots. It is 40m long and 15m wide and it won the top prize for "Ship of the year" during SMM, the world's leading maritime trade fair, in Hamburg, 2018.



Currently, battery electric ships use Li-ion batteries, which offer the highest energy density, a suitable power density, high efficiency and an acceptable lifetime. The concept of using only these has already been achieved since 2015. A medium-sized car ferry, the MS Ampere, took to the seas off western Norway proven both a zero-emissions solution and also with respect to reduced operational costs. The ferry is designed as a catamaran with two hulls (aluminium). It is 80m-long and 21m-wide with seven crew cabins and 140 chairs. It accommodates up to 120 cars and 360 passengers. It has two on-board 450kW electric motors, one of them driving the thrusters. The motors are powered by lithium-ion batteries with an overall output of 1,0MWh and a weight of 10t.

Moreover the world's first fully electric cargo ship was launched in Guangzhou, China, in 2017, and is now operating along the inland section of the Pearl River Delta. The 70,5m ship incorporates a 2,4MWh lithium battery energy and can travel at 7knots, with zero emission of waste gas pollutants. For comparison, that's like 24 batteries from Tesla's most high-powered vehicle, the Tesla Model S P100D. The ship will be able to carry about 2.000 tons of products. The powertrain is equipped with two 160 kW electric propellers and a mix of supercapacitors, while it enables a range of 50 miles (80 km) on a single charge. It operates down the Pearl River in Guangdong Province and can reportedly charge the battery pack in just two hours, which is about the time it takes to load and unload the cargo.

On the other hand, Yara and Kongsberg are building the "YARA Birkeland", the world's first fully electric and autonomous container ship, with zero emissions. The vessel will initially operate as a manned vessel in the latter half of 2020, while considering to remote operation and expected to be capable of performing fully autonomous operations by 2022. It will be 80metres long, a beam of 14,8metres, 12metres depth and 6metres draught. It will be propelled by electric motors driving two azimuth pods and two tunnel thrusters. Batteries rated at 7,0-9,0MWh will power the electric motors, giving it an energy optimal speed of 6 knots and a maximum speed of 10 knots. It will have a capacity of 120 TEUs. Moreover, the Dutch Port-Liner is currently building the Tesla ships, which will be one more addition to the ongoing fuel transformation. Two giant all-electric barges inaugurated by sailing the Wilhelmina canal in the Netherlands, as part of a 100 million-euro project partially supported by the European Union. The battery-powered barges are able to carry 280 containers. Specifically, the first 6 barges are said to remove 23.000 trucks from the roads annually in the Netherlands and replace them with zero-emission-transport. One of the main benefits of electric propulsion is the ability to maintain high efficiency during a wide operational speed range, while mechanical propulsion can only achieve peak efficiency within a narrow range of operating points. Also, as this fleet of feeder container vessels is aging, new tonnage is likely to be on order in the near future.

However, there's still quite a bit of work to be done before we can expect the world's



waterways to be overtaken with autonomous vessels. Anyway, existing international conventions were created under the assumption a crew would be on board. Since there are significant safety concerns especially with the enormous size of most ships operating in congested waters, there is a lot more testing to be done and regulations to be sorted out before we will see fully autonomous vessels operating without a crew. But the main benefits would include helping better-informed decisions for the crew, as data gathered from the ships' sensors combined with artificial intelligence algorithms, while crew's life won't be at stake at all. Until there is significant interest in fast-tracking research, development, and updates to regulations for autonomous ships, the industry will likely learn from the decisions made on land regarding autonomous cars and then apply that to autonomous ships.

The marine industry is increasingly moving towards electrification of both main and auxiliary systems, which is enabled by developments in power electronics, electric machine and energy storage systems. The main drivers behind this movement are the more stringent environmental requirements from the IMO as well as the increasing price of fuel and its limited amounts. Also, thanks to increasingly digitalized solutions and new technologies, doors are being opened for new agreements. With electric propulsion the prime mover is able to achieve high efficiency in a wide operation range and thus reduce fuel consumption and exhaust gas emissions. As we have already witnessed, electrification of shipping is happening; electrification projects are expected mainly in short sea shipping and inland waterways, while for deep sea shipping more solutions must be found for both the short and long-term perspectives. Stricter regulations combined with lighter and more powerful batteries, will constitute an important progress in making electric propulsion the most attractive choice. Eventually, the life of ship designers has not been made easier. What drives and propels the world are not machines but ideas instead.

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## Endangered Mediterranean Species

ARTICLE

The crystal clear waters of the Mediterranean Sea attracts numerous tourists every year to its coasts for the sole purpose of living the memorable experience of its exceptional climate, especially during the summer days. Although we are not the only inhabitants, the Mediterranean is the natural habitat for thousands of marine species (approx. 17.000) with a vast number yet to be described or even discovered. However our interaction with them has concluded in a rather unsettling situation which in many cases may result to even the extinction of some of them.

The Mediterranean is big but not infinite, and neither is the promise, or the resilience of the creatures that inhabit its waters. While the rich ecosystem of the Mediterranean has sustained civilizations for millennia, humans have always tended to assume there was plenty more fish. Even during the old days, many events of overfishing were recorded by ancient Greeks that a certain type of Mollusca had vanished from local waters due to the fact that fishermen overexploited its natural habitat by dragging the seafloor. But that was only the beginning because right now the Mediterranean fauna is in crisis due to overfishing, pollution and mass tourism.

Living along the shallow coastal shelves of the Mediterranean, sharks and rays are threatened by trawlers targeting bottom dwelling fish and invertebrate species, with more than half facing the risk of extinction. In the past, around

15 species of sharks and rays were targeted by Mediterranean fishers, but when the stocks declined, so did the fisheries. Yet they are still being depleted, netted and hooked by vessels fishing for other more commercially desirable species. Despite the fact that sharks and rays live in this planet for millions of years they are susceptible to mortality, regardless of the direct or indirect fishing, due to their slow growth, late maturity and low reproduction levels.

Except for sharks and stingrays, mammals such as dolphins and seals live under great peril. Purse seine fleets needlessly catch as many as 5,700 dolphins annually, even though the majority of them are released alive, the dolphins cannot sustain that kind of treatment in the long term. As far as the Mediterranean seal is concerned, it used to be hunted on purpose because it destroyed fishing nets, which resulted in being declared as an endangered species with less than 600 remaining alive in the sea. Another species whose existence is in great peril are the turtles. A shocking 132,000 turtles are caught every year in the Mediterranean by fishing vessels, leaving them dead or maimed. Furthermore the great pollution that occurs from tourists throwing away their garbage at beaches and coasts and the intense use of expendable plastic makes turtles unable to distinguish plastic from their main food source jellyfish.

These turtles, seals and sharks are not target species for the fishing industry they are injured or killed as "collateral damage" in the pursuit to catch fish. And due to that pursuit, many of the fish we eat are also now in danger. Currently, a shocking 96% of Mediterranean stocks are overfished. Fishing is the most important factor, causing or contributing to the 93% of depletions of Mediterranean wildlife and 100% of local extinctions. In particular, bottom trawling is one of the key drivers behind the decline in endangered shark and ray populations in the Mediterranean, as well as the most

vital contributor to overfishing of demersal, or bottom dwelling species. The Mediterranean is the birthing place for one of the world's most iconic and overfished species the Atlantic Bluefin Tuna. But as one of the highest value fish on the global market, decades of intense, illegal and unreported fishing brought that great marine predator to its knees, with populations crashing to an estimated 15% of their original numbers.

It is clear that decreasing the capacity of the trawl fleet is a key urgent measure needed to protect and rebuild populations of these endangered species and the fish the trawlers target Mediterranean EU member states resist, claiming that they need to preserve livelihoods but if there are no fish to fish, there won't be any jobs or incomes at all from Mediterranean fishing. What's driving the Mediterranean's problems? Well, sure, there's the seemingly unstoppable human demand for fish, for a start. But it's also down to collective poor governance by Mediterranean nations, who give unfettered access to the fishing industry to exploit, and over-exploit the Mediterranean's waters, in search of quick profits for today instead of investing in sustainability for tomorrow. The scientific community believes there is still time to turn things around, but not without meaningful urgent action from national governments. Real, meaningful action by Mediterranean governments must be taken now, or overfishing will push the Mediterranean beyond a point of no return, creating a future where this vital sea can no longer provide a secure source of seafood or sustainably support a fishing economy.

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