



THE DANAOS SHIP NEWS

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

ISSUE #17, AUGUST 2019

CSSF Member Meeting in Singapore and meeting with MSA Shanghai

更安全、更绿色且更高效的海上集装箱运输研讨会
Seminar of Safer, Greener and Efficient Container Shipping

Shanghai China May 16th 2019



The semi-annual meeting of CSSF Members* took place in May in Singapore, where high level representatives from MPA Singapore also attended, presenting their views from the port authorities perspective on safety issues the container industry faces today. The agenda contained presentations of case studies on safety incidents from members, followed by a discussion on selected safety topics among participants.

After the conclusion of the regular meeting, CSSF Members had the chance to participate in a seminar, which Shanghai MSA jointly with Shanghai Maritime University organized and exchange views on maritime safety

and the challenges container shipping is undertaking these days (LNG fueled container ship, lashing and securing of containers, IMDG stowage, container fire, effective port State control).

Danaos, as a member of CSSF, was represented by Mr. Efstratios Sapounadelis, SQE Manager who attended both events.

*As of May 2019, the vessels of CSSF members have a combined capacity representing more than 39% of the TEU capacity of the global container ship fleet.

Vassiliki Giannakou
SQE Coordinator





Message from the President & CEO

Dear Friends,

This whole year is dominated by the IMO 2020 Sulphur cap requirements and the Greenhouse gas emission reduction.

Our industry has to participate in the global environmental drive which is of utmost importance to the planet our children will inherit.

All these initiatives will lead to new investments but also to new operational habits. The industry is developing various proposals in that direction which will finally be enacted by the IMO on a global scale.

For the time being, we are very busy with the dockings and scrubber installations while at the same time training our personnel for the new fuel requirements. We hope that through our close cooperation we will ensure a smooth transition to the low Sulphur fuel.

Last month we added the first new vessel, an 8500 TEU 2006 build, following our restructuring with more to come in the future.

We are getting ready for more growth and more job opportunities in the Danaos Family.

All this has become possible with your efforts dedication and loyalty for which all the management team in Danaos want to thank you .

John Coustas



Message from the Senior Vice President & COO

Dear Colleagues,

In this issue, our President and CEO, Dr. John Coustas, mentioned our environmental challenge to comply with the upcoming regulations of IMO 2020 and beyond.

I will talk about an entirely different topic as opposed to the topics I usually touch upon in my previous letters.

I shall try to summarize for you what the analysts say for our business future to be comfortable and healthy.

So how should the numbers of today develop over the next 10 years in order for us to feel optimistic that we are all currently in the right business?

| Metric | Today | In 10 years |
|---|----------------------------|-------------------|
| Container Trade | 196 mm TEU | 340mm TEU |
| Investment | 118 bil (invested 2009-18) | 132 bil (2019-30) |
| Operating Speed | 18-22 kn | 18-22 kn |
| Liner Companies | Price Takers | Price Setters |
| Charter Owners Controlled Fleet of total | 45% | 55% |
| Capacity controlled by the 10 Top Liner Companies | 78% | ≤ 78% |
| Chinese Lessors as Owners | 8% | ≤ 8% |
| IPO Markets | Closed | Open |
| Western Banks Financing | Not Available | Available |

Make a note of these metrics and we will talk again in 10 years.

Iraklis Prokopakis

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3-day training course on IMO 2020, EGCS & WBTS held at the Danaos Ukraine office 20-22 May 2019!

DANAOS NEWS

In an effort to provide a smoother transition into the new era and regulations of the shipping industry regarding the Sulfur Cap, Water Ballast Treatment Units and Exhaust Gas Cleaning Systems (also known as Scrubbers), Danaos organized a 3-day training course in order to inform deck and engine officers on the new systems and technologies that will be installed onboard Danaos vessels. The course took place in Odessa, Ukraine for our Ukrainian officers and engineers; the same seminar will also be arranged in Russia around autumn 2019 for our Russian crew onboard our vessels. The course instructors from the Danaos Piraeus Office were Anastasios Economou (Deputy Technical Manager), Nikoleta Kastrisiou (R&D Research Engineer) and Konstantinos Sardelis (Fleet Coordinator). The electrical aspect of the course was conducted by Igor Zagorodniy (Superintendent Electrician).

On the 1st day of the course, the operation and regulatory aspects for WBTS were presented and discussed in detail. After making a brief introduction about the regulatory framework and when a vessel should comply with the regulation, the concept of operation of the selected system, along with all its design principles was presented. The most interesting part, was the Computer Based Training that was prepared, which is actually a simulator of the actual operation onboard, indicating water flow, the time required for each operation, alarms, etc. The maintenance plan & troubleshooting and all risks involved for non-compliance or improper operation were also discussed in detail. The day ended with a discussion on all reporting procedures from the authorities that have been listed.

On the 2nd day of the course, the detailed implementation plan for 2020 was presented. The tank cleaning process & plan, which were prepared for the Technical Department, along with the relevant action plan were analyzed and discussed. The studies already conducted, either in-house or by laboratories on blended fuels and all the additional parameters that should be tested in the new IMO-compliant 0.5% fuels, were communicated in detail, along with all hidden uncertainties & risks, in order for all our crew to be aware of what the future may hold.

On the 3rd and last day of the course, the regulation and operating principles concerning the exhaust gas cleaning systems were thoroughly explained. Moreover, a detailed presentation was made with all installation difficulties encountered after the successful installation of the scrubber onboard the Leo C within April 2019. The control logic and automations of the equipment were described and followed by a Q&A section.

We would like to thank all deck and engine officers that actively participated and gave us very interesting feedback. Last but not least, any further comment or proposal that would derive from actual operation of all the systems onboard our vessels would be more than welcome!

*Nikoleta Kastrisiou
R&D Research Engineer*



The Blockchain Revolution in Shipping

ARTICLE



What is the so called blockchain technology?

By definition, blockchain is a growing list of records, called blocks, which are linked using cryptography, a system invented by Satoshi Nakamoto in 2008 to serve as the public transaction ledger of the cryptocurrency Bitcoin.

A blockchain is designed to be resistant to modification of the data, which makes it a perfectly safe place for online transactions. After the information is stored in the block, it cannot be altered or deleted unless the subsequent blocks are also changed and the majority of the network accepts the change. This way the blockchain eliminates a number of risks that come with data being held centrally.

What value can the blockchain add to the shipping industry?

1. Cost saving transaction method - "Smart Contracts"

In the past century, the maritime industry has encountered various developments such as advanced trading networks, bigger, faster and safer vessels, containerization, robot-operated ports and vast computer databases tracking cargoes. However, everything still lies on a huge volume of paper documents (charter parties and other contracts, invoices, delivery notes, bills of lading, etc).

In fact, a single shipment may require hundreds of pages that need to be physically delivered to dozens of different parties. All this paperwork could be facilitated through the "smart contracts" that blockchain has introduced. They are self-run and self-executed contracts within the blockchain.

Blockchain could turn the whole processes into a paperless paradise by which all the related parties can perform physical transactions, exchange and store information in encrypted format and perform their contractual obligations, give and accept instructions and securely exchange payments.



2. Real-time updates high accuracy and full transparency

Block chain's core ability is to connect every party involved and make a collective database completely transparent and visible to all. The visibility of near real-time data, connected directly to smart contracts also improves decision-making, security and transparency, with third par-

ties such as regulators or auditors also able to view the database.

What are the challenges to be met?

Despite the advantages of such a technology for the shipping industry, there are a few issues which should be addressed before a full blockchain system is fully established.

1. Data Protection

First of all regulatory frameworks such as data protection must comply with the new technology. The General Data Protection Regulation (GDPR), which is effective from May 2018, requires from a responsible person to protect the personal data recorded through a transaction. Currently, anyone can perform transactions in the blockchain system using pseudonyms. So, we have to wonder how someone under a nickname can be held responsible for personal data protection.

2. Flexibility

Additionally, it is very usual in shipping for the parties to come across situations where they can only solve through a commercial approach (e.g. negotiations on charter parties contractual terms). This may not be easy if the transactions are taking place through a sealed system, which does not allow any interference between the parties.

3. Universal adaptation

Finally, we should also not neglect the fact that in order for the blockchain revolution to be implemented on an international industry such as shipping, it has to be universally adopted in order to properly function. To make it work, dozens of shipping lines and thousands of related businesses around the world (including manufacturers, banks, insurers, brokers and port authorities etc.) will have to work out a protocol that can integrate all the new systems onto one vast platform.

Info: Who has already caught up with Blockchain?

- ZIM Integrated Shipping Services Ltd. has collaborated with SPARX Logistics and Wave Ltd., to pilot a blockchain to track over-seas shipping.
- UPS recently announced its membership in the Blockchain in Trucking Alliance (BiTA), a forum for the development of blockchain standards and education for the freight industry.
- IBM and Danish transport and logistics giant Maersk have launched their global blockchain-enabled shipping solution, according to an official press release, on August 9th, 2018.

*Katerina Katsiada
Assistant Internal Auditor*

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Nautical Psychology or just emphasis on the Human Element on board?

ARTICLE



As is commonly mentioned, there is no Shipping industry without vessels, but even more importantly there is no vessel without its crew. However, it is noticeable that only a few people really understand the feelings and psychology of these people and how difficult and demanding the profession they have chosen to follow is.

According to researchers, people who spend long periods of time far from their family and friends, tend to face problems adjusting to their daily routines when ashore and also face difficulties in maintaining healthy relationships with those around them. It can be noted, that there is a great instability when it comes to their inner feelings versus their actual social existence and behavior. It is worth mentioning, the cause, possible signs of this behavior and who is responsible to deal with such situations and of course possible treatment methods.

As a consequence of the aforementioned, on a next level of analysis, the most important issue to be dealt with by those involved in shipping and possibly the crew is to explore the deeper circumstances under which the psychology or feelings of the crew might be affected and seek new ways of treatment. An obvious factor that could possibly affect the psychology of the crew staying on board for long periods of time is that of home sickness.

The lack of familial environment, combined with co-habiting for long periods of time, with people of different nationalities, culture and behavior in a constrained environment, negatively affects people who already have a low tolerance level. Moreover, the conditions of the journey onboard a commercial ship are not exactly ideal. Noise from the engine room and from the vessel in general can be loud and tiring for the crew, who listen to it twenty four hours a day. Apart from that, the crew is unable to cover fundamental needs necessary for its psychological euphoria, such as a walk outside the vessel, a change of scenery or even to engage in different activities, which are very common and usual for people ashore.

Other important factors, affecting behaviors of psychological imbalance are: the pressure these people feel due to a strict working environment, the stress of losing their jobs and the intense competition they could be facing.

The next step of the analysis, is to detect the possible signs that might signal psychological instability. The signs can either be physical or emotional. Some of these include frequent headaches, stomach pains and blushing, difficulty sleeping and a feeling of constant tiredness. Moreover, there is the feeling of melancholy and indifference of their external appearance and personal hygiene.

Additionally, as regards to emotional behavior, there are signs of aggressiveness, indecisiveness, inability to concentrate on their work, making mistakes during their work, disturbed behavior, low work per-

formance and of course frequent consumption of alcohol, cigarettes and even anti-anxiety pills.

The most suitable people to recognize and deal with such behavior are the masters of the vessel, who can play a very substantial role in the improvement of the situation of the crew. Ideally, there should be a separate team of people on board, ready to deal with the crew's psychology in long distance journeys. These people will be responsible for the psychology of the crew and will promote an open dialogue, in order for the crew to confide their problems and possible difficulties they may be facing. This will also be a great chance for the crew to be more acquainted with one another and in this way, create stronger relationship and a more efficient working environment, which will boost their performance.

Maybe if the psychology of the crew is given the appropriate importance, then the levels of efficiency of people on board will increase, which will be beneficial for the shipping companies. In addition, the possibility of giving the crew greater importance in their duties, could aid the people on board to love what they do even more. Finally, the level of accidents onboard could decrease, not with the use of cutting edge technology but by minimizing human error, giving emphasis to the psychology of the HUMAN FACTOR.



To conclude, the aforementioned have already begun to be implemented and the results have been verified by psychologists and other specialists. New companies have emerged, dealing with crew psychology, in order to establish better stability for the life of people, while on board and when they are ashore, regardless of the fact that these people are dealing with two different lives every day.

Katerina Nika
Assistant Accountant

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It is quite evident that one of the most critical quality aspects for a shipping company dealing with cargo transportation is safety and security. Although the timely delivery of goods is of crucial importance, important charterers place great emphasis to the safe execution of voyages as well, since reimbursements and bad reputation resulting from an accident can become an unsurpassable burden.

According to studies, the human element lies in the heart of accidents, being the most common contributory factor. This is the stepping stone on which strategies are based in order to reduce accidents. In other words, our effort to become safer is an effort to prevent human error.

This prevention is pursued through the establishment of regulations, standards and control. By these means, seafarers follow procedures that are proven to prevent error and as a result human initiative is restrained. Although this strategy has shown beneficial results, it can only work to a certain extent.

Regulation increases bureaucratic procedures, adding more workload, while there is always a danger for the seafarers to shift priority from effectively exercising their duties, to passively filling in forms. In addition, systems become more complicated when new rules are introduced.

Safety and security requires commitment from the company. Both need to become an integral part of the company's culture and not a passive conformity to norms. This commitment commences from the selection of suitable seafarers, who –apart from certified knowledge- need to have a character, an attitude and a mentality that matches the company's safety culture. Likewise, it is pivotal to train those seamen and give them the right motives to remain under the service of the organization. The same applies for personnel ashore.

The evolution of informatics has offered new potential for reaching high levels of safety and security. The inauguration of observation and reporting information systems has been a reality for many years. The new reality, which we already experience in our everyday lives especially through our automobiles, is increased automation.

We need to admit that machines are more capable of delivering some tasks than humans. Although it does not sound as a realistic scenario to some people, organizations invest in research and development of ventures such as the fully autonomous vessel. This means that sooner or later, as human knowledge and imagination evolves, this type of vessels will become as common as aircrafts, spaceships and drones.

As human decisions are to blame for the majority of accidents, the effort to reduce human decision to a minimum and let intelligent machines do the job seems pretty rational. That does not mean that human beings will become obsolete, however the work done by them will probably be altered. As such, the need for right selection and training will still exist.

In conclusion, a company that aims to meet charterers' expectations of high quality services needs to work on developing a safety culture. Accordingly, the organization needs to manage its most valuable asset so far, its people. Apart from that, new technologies will be able to assist with a more effective accomplishment of safety standards, hence management needs to be on top of new opportunities in this field.

Alexandros Magoulas
HR & Training Department Intern

External Audits

We are pleased to advise that the following vessels under our management have successfully passed 3rd-party ISM/ISPS audits for the period 4th December 2018 - 11th June 2019:

| Vessel | Port | Non-Conformity | Observation |
|----------------|-------------|----------------|-------------|
| CMA CGM RACINE | Genoa | NIL | NIL |
| DANAE C | Los Angeles | NIL | 1 |
| DIMITRIS C | Livorno | NIL | NIL |
| EXPRESS FRANCE | Veracruz | NIL | NIL |
| EXPRESS ROME | Hong Kong | NIL | NIL |
| EXPRESS SPAIN | Singapore | NIL | NIL |
| LEO C | Antwerp | NIL | NIL |
| MAERSK EXETER | Antwerp | NIL | NIL |
| ZIM KINGSTON | Hong Kong | NIL | NIL |
| ZIM MONACO | Barcelona | NIL | NIL |
| ZIM SAO PAULO | Singapore | 1 | 1 |

The above findings have been evaluated, in order for proper corrective and preventive actions to be decided in order to avoid their re-occurrence.

The below have successfully undergone 3rd-party ISO 14001 audit:

| Vessel | Port | Non-Conformity | Observation |
|-------------------|-------------|----------------|-------------|
| CMA CGM MELISANDE | Pusan | NIL | NIL |
| LE HAVRE | Antwerp | NIL | NIL |
| MAERSK ENPING | Los Angeles | NIL | NIL |
| MAERSK EXETER | Antwerp | NIL | NIL |
| PUSAN C | Shekou | NIL | NIL |
| ZIM KINGSTON | Hong Kong | NIL | NIL |
| ZIM MONACO | Barcelona | NIL | NIL |

Thank you for your continuous support.

SQE Department

Newly
joined!

We welcome:

- Mr Anastasios Basimakopoulos
Operator
- Mr Michalis Mavraganis
Fleet Manager
- Mr Dimitrios Trakadas
Fleet Coordinator
- Ms Katianna Argyropoulou
Fleet Coordinator
- Ms Stella Dimoudi
Spares Operator

Educational Visits

DANAOS NEWS

On March 7th, 2019, 30 students from the Annual Maritime Programme, the official educational provider of the Institute of Chartered Shipbrokers in Greece, visited our premises. Captain Ilias Ladas introduced the students to the culture and the dynamic working environment of Danaos and analyzed the current trends of the shipping industry, while sharing real life experiences.

On March 28th, 2019, Danaos Management Consultants, organized an educational visit for 80 students from the Metropolitan College of Athens. Captain Ilias Ladas welcomed the students and introduced them to Danaos Shipping, while Mr. Nomikos presented the software and operations of Danaos Management and their impact on today's market. Towards the end, Dr. Varelas analyzed the research and development aspect the company is working on and how innovation arises.

On April 2nd, 2019, we had the pleasure of welcoming 35 Greek and foreign students

from ICMA Centre & ALBA Graduate Business School. Captain Ilias Ladas and Mr. Iraklis Prokopakis elaborated on the current shipping situation and on how Danaos Shipping coped with the shipping crisis. The visit ended with lots of questions and answers and the students left with useful tips for their future careers.

On June 20th, 2019, Professor Orestis Schinas from Hamburg School of Business Administration (HSBA) and his postgraduate students attended our premises.

Captain Ilias Ladas delivered an introductory presentation of our company which was followed by Mr. Chatzis' financial presentation.

It is always such a great pleasure to have students in our office, share our knowledge and we wish everyone the best of luck!

Tania Mermiga
Social Media & CSR Manager



In-house Meteorology Seminar

The Modern Marine Meteorology Seminar, Lloyds approved, was conducted by Dr Nikos Mazarakis in our premises of DANAOS Assessment and Training Center (DATC). The seminar was attended by Masters and deck officers of DANAOS Shipping Co. including office marine personnel.

This seminar combines the traditional way of weather information on the ship (facsimile) with all modern applications based on digital weather data (grib files). The latest updated weather symbols and information of NOAA services were highlighted by Dr. Nikos Mazarakis.

The participants not only were briefed by the instructor regarding the best applications of weather forecast tools and resources but they were also familiarized with applications by using their private laptops.

Capt. Nikos Polymeris
Senior Superintendent Trainer



Ballast Water Treatment System

What's the next step if something goes wrong?

ARTICLE



Ship deballasting (Source: <https://www.marineinsight.com>)

It is well known in the maritime community that the Ballast Water Management (BWM) Convention entered into force on 8 September 2017. The Ballast Water Management Convention, requires that all ships trading internationally manage their ballast water and sediments, so as to avoid the introduction of alien species into coastal areas and this should be done according to a ship-specific ballast water management plan. Additionally, all ships must carry a ballast water record book and an International Ballast Water Management Certificate onboard. The management of ballast water from ships, involves either exchanging their ballast water or treating it using an approved ballast water management system.

Accordingly, two standards were established:

- The D-1 standard requires ships to exchange their ballast water in open seas, away from coastal waters. Ideally, this means at least 200 nautical miles from land and in water at least 200 meters deep. This standard was applied as an introductory phase to D-2.
- D-2 is a performance standard which specifies the maximum amount of viable organisms allowed to be discharged, including specified indicator microbes harmful to human health.

New ships delivered after the Convention's enforcement date, must meet the D-2 standard, while existing ships must initially meet the D-1 standard. An implementation timetable for the D-2 standard has been agreed, based on the date of the ship's International Oil Pollution Prevention Certificate (IOPPC) renewal survey, which must be undertaken at least every five years. For the U.S. the timetable and the performance standards differ from those of the IMO and in addition to those, the USCG has its own approval process for the systems which are to be installed for treatment, which every ship operating in US waters should comply with.

Eventually, all ships will have to conform to the D-2 standard and this involves installing special equipment in order to be compliant with the Regulation.

As every equipment or machinery onboard is subject to a failure during its operational life, the same applies for ballast water treatment systems (BWTS). For this reason, these systems are included in the Company's Planned Maintenance System for required maintenance, follow-up and repairs. At this point though, it should be stressed that a failure in the BWTS renders the ship non-compliant. A set of contingency measures

have been adopted in accordance with the international regulations in order for the assigned crew onboard to cope with such a situation. All seagoing personnel who is involved in ballast water treatment operation, should be familiar with these measures which are outlined in the ship's ballast water management plan.

In the event of BWMS failure the following process is followed:

- The ship reports the defect to the Company using the BWMS Failure Reporting Form or the current defect reporting procedure.
- The Company then reports the failure to the Flag Administration, the manufacturer and the Class Society if the failure is significant.
- Based on feedback received from the Flag Administration and the manufacturer an agreed BWMS Repair Plan is set up.
- The Company then submits a BW Contingency Measure Request Form to the Port State authority where the ballast water is intended to be discharged.
- Based on above points, the Company should confirm to the ship which Contingency Measure is to be undertaken and provide additional instructions to fulfil the requirements of the Port State Authority, Flag Administration or Class Society as necessary.

It should be noted -as mentioned above- that the United States has its own requirements and is not a Party to the IMO's BWM Convention. This means that crew serving onboard fleet ships which trade in the U.S. should be fully familiar with the separate section of contingency plan which refers to these particular requirements.

Herewith, some key points are mentioned:

- Notification in advance is required. A brief statement to be included in the E-NOA 96hrs prior to the ship's arrival in US waters and at same time to the nearest COTP.
- In case of an inoperable BWMS, if the ship intends to use ballast water exchange (BWE) as an alternative method then approval from the District Commander or the COTP should be attained first.
- Reporting to National Ballast Information Clearinghouse (NBIC) does not substitute as a notification to the COTP in the event of BWMS failure.
- Lack of consumables (e.g. active substance chemicals) that render the BWMS inoperable will not justify the use of an alternative management method (it is not accepted as a cause of malfunction).
- A detailed Repair Plan should be submitted to COTP Commander.

Concluding, the IMO has issued guidance to Governments to recognize and respect the challenges that may occur when new equipment fails to meet the desired performance standards. This is included in the Ballast Water Contingency Measure Request Form, so that the ship's personnel are aware and can bring it to the attention of the Post State Control Officer. However, one should keep in mind that continuous system failures will not necessary be accepted by the Port States, since the operating history of BWMS will be recorded and such a case will trigger more detailed examination on repairs and crew training records in BWMS operation and maintenance.

Vassiliki Giannakou
SQE Coordinator

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Technology in the Shipping Industry

The case of Electronic Bills of Lading

ARTICLE

The “Bill of Lading” is a document issued by the carrier to ensure that the particular merchandise has been transported to the receiver. For centuries, paper Bills of Lading (BoL) have been widely used as a crucial means of international trade. Up until today, paper Bills of Lading continue to be an essential feature of the global trade, since they incorporate three legal characteristics: (a) receipt of the goods carried, (b) document of title of the goods and (c) evidence of the terms of the contract of carriage. Considering these three characteristics, the problems arising from paper Bills of Lading (such as their high cost or the fact that the cargo may be sold multiple times during the carriage as in the case of containerships) and the digitalization of the world, the concept of electronic Bills of Lading (eBoL) is emerging in the international shipping industry.

Until today, there are three separate enterprises that offer eBoL services approved by the International Group of P&I Clubs:

- Bolero: which operates by sending BoL electronically via Internet, on behalf of the carrier to the prospective consignee, following authentication by a digital signature and then submitted to the Bolero Title Registry.
- essDOCS: which allows eBoL to be drafted directly onto a system called CargoDocs.
- E-Title: a peer-to-peer system which utilises the user’s back office functions to create electronic titles through a Hardware Security Module (HSM), which safeguards the information. (Marsh, 2016)

This means that the International Group will cover all liabilities arising under carriage covered by these three Electronic Trading Systems (ETS).

There are doubts however from the insurers whether eBoL provide some kind of security. As a result, it is necessary to analyse the advantages and the disadvantages of eBoL in order to determine their effects regarding a documentary fraud.

Advantages

1. Digital signatures: Although it is very difficult to prevent dishonesty in BoL, the electronic ones combat fraudulent incidents by authenticating signatories digitally and, thus, making it more difficult to amend the document once issued. This enables only those parties involved in the trade to have access to the system and to the trading documentation, as well. Generally speaking, e-signatures and Personal Identification Numbers (PINs) ensure digital authorisation (Marsh, 2016).
2. Audit trails: Through the technological system of an eBoL, users have the right to carry out audit trails in order to monitor the progress of a transaction and to oversee possible changes to the trading documentation (Marsh, 2016).
3. Protection in case of a security breach: Both essDOCS and Bolero incorporate a provision of safeguarding the entire operation in case of such a breach. For instance, essDOCS has a liability coverage for security breaches and other eRisks for up to US\$20 million per eBoL. Bolero, on the other hand, also has a similar coverage (Marsh, 2016).
4. Time and cost: Paper bills are expensive to be managed since they have to be couriered to receivers at discharge ports and, thus, they may

become very slow particularly where a cargo is traded numerous times whilst at sea. Consequently, these negative issues (cost and delays) may not apply to eBoL (Stimpson, Wood, Barthe-Dejean, 2016).

5. Mechanics: eBoL require that all parties involved in the trade, be signed up to the relevant ETS in advance, so that the eBoL can be transferred and traded between them (Stimpson, Wood, Barthe-Dejean, 2016).

Disadvantages (Marsh, 2016):

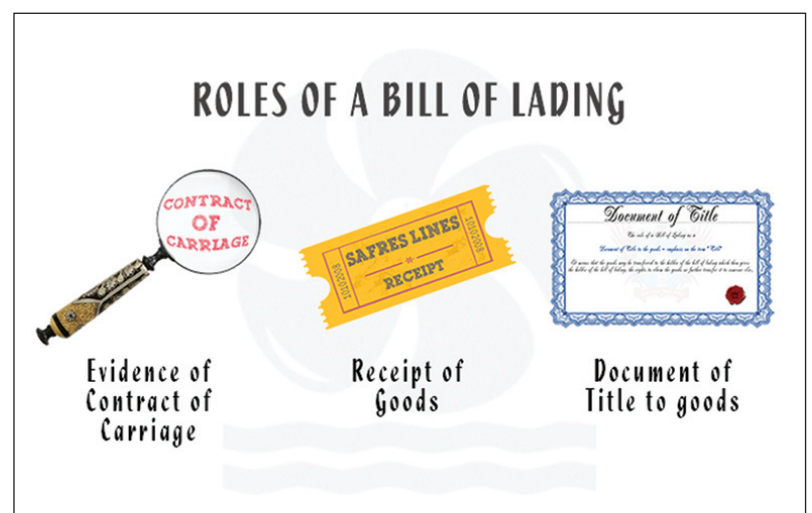
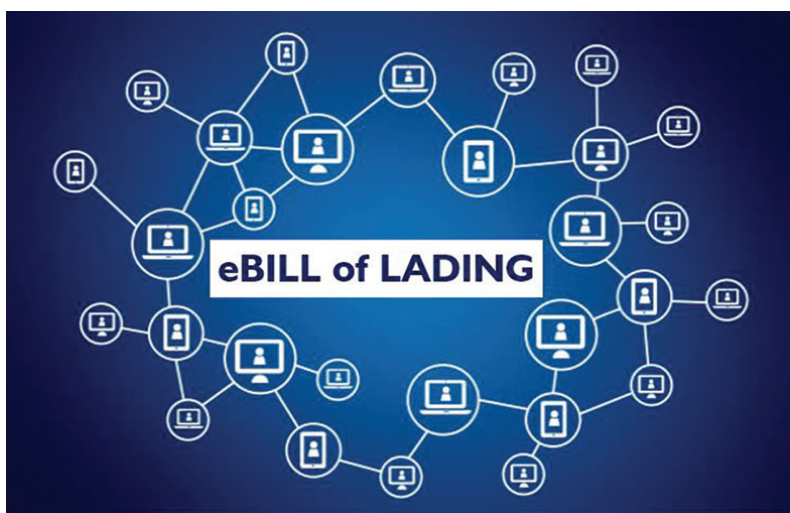
1. eRisks, cybercrime, vulnerability of processes and technology: hackers could target shippers’, agents’ or carriers’ email accounts, produce fake eBoL or email addresses, viruses, system collapse.
 2. Challenges of international law and industry endorsement: the lack of universal acceptance of eBoL in international trades mainly in countries where the implementation of new technology is much slower is another challenge needed to be resolved.
- BIMCO has recognised the increased use of Electronic Trading Systems in the shipping industry and, consequently, it has included an e-bills clause in its latest iteration of the NYPE form. An express clause, such as the BIMCO’s clause, needs to be implemented into charter parties, so that Charterers will have the right to order Owners to issue an eBoL (Tan, Starr, 2017). This new clause provides that the use of ETS is at charterers’ option, owners shall subscribe to the system elected by charterers provided that such system is approved by the International Group of P&I Clubs, charterers shall pay any fees incurred by owners in subscribing to such elected system and charterers shall indemnify owners for any liabilities incurred that arise from the use of the elected system provided that such liability does not arise due to owners’ negligence (Underhill, Bibby, 2016).

Overall, after the approval of these three electronic systems by the International Group of P&I Clubs, the introduction of BIMCO’s clause in the NYPE form, as well as the extensive use of Electronic Trading Systems in the shipping industry, undoubtedly the industry will adapt to the new electronic system and its negative characteristics such as cyber-risks will be overcome since the advantages are too great to be ignored.

Eirini Kafantogia
Operations Department Intern

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Right Whale Corporate Responsibility Program

ARTICLE

In 2016, Stellwagen Bank National Marine Sanctuary and the International Fund for Animal Welfare initiated the Right Whale Corporate Responsibility Program. The corporate responsibility concept involves encouraging companies to increase their commitment to right whale protection and recognizing deserving companies for their efforts.

Ships travelling through the Seasonal Management Areas (SMAs) in Cape Cod (Jan 1 –May 15, annually) and the Off Race Point (Mar 1-Apr 30, annually), where mandatory speed restrictions of 10 knots or less apply, are monitored for their compliance using data from the USCG AIS.

We are happy to inform that our company was awarded the Certificate of Corporate Responsibility with Grade A which covers a percentage of compliance between 90% and 99% for the period Jan, 1 - May, 15 2018.

This result derived from the performance of two vessels under our management - AMERICA and EUROPE- sailing these waters when calling at the port of Boston. Their overall compliance reached 100% and 57.22% respectively.

It is worth noting that our vessel AMERICA was awarded her own Certificate with Grade A+.

Throughout the previous years, we have kept our Fleet informed of the Right Whale Speed Reduction Rule and our obligation to comply and contribute to this cause. NOAA's compliance guide and Mandatory Ship Reporting (MSR) have been circulated onboard for the awareness of involved seagoing personnel and proper passage planning etc.

All involved, are kindly requested to ensure ongoing compliance and from our side we thank our seafarers for their efforts so far to protect these exceptional mammals.



Whale Alert - West Coast

The National Oceanic and Atmospheric Administration (NOAA) recently issued an advisory concerning endangered whales off the coast of Southern California. NOAA strongly recommends that vessels 300 gross registered tons or larger transiting the Whale Advisory

Zone do so at speeds not in excess of 10 knots. The Whale Advisory Vessel Speed Reduction Zone is for the Santa Barbara Channel Region. This area contains populations of endangered blue, humpback and fin whales that are federally protected under the Federal Endangered Species Act, the Marine Mammal Protection Act and the National Marine Sanctuaries Act.

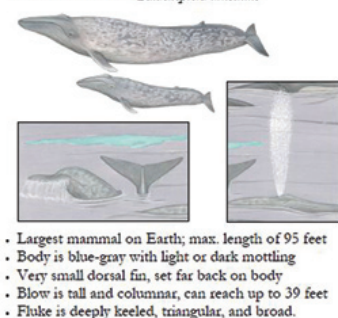
The Whale Advisory Zone extends from approximately Dana Point to Pt. Arguello and vessels are requested to transit at 10 knots or less anywhere in this zone. Vessels transiting the voluntary Western Traffic Lanes are also encouraged to transit within the Voluntary Western Zone to reduce the overlapping of ships with endangered whales.

Vessel's Masters are kindly requested to check, well in advance, prior to approaching this area with the Charterers for their participation in this incentive program.

Vassiliki Giannakou
SQE Coordinator

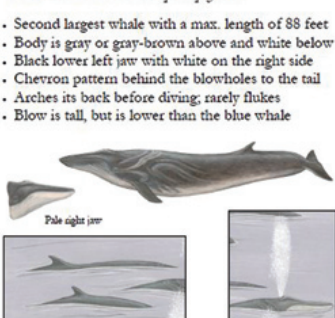
COMMONLY FOUND WHALES ON THE WEST COAST

Blue Whale *Balaenoptera musculus*



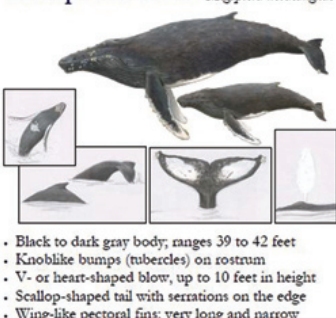
- Largest mammal on Earth; max. length of 95 feet
- Body is blue-gray with light or dark mottling
- Very small dorsal fin, set far back on body
- Blow is tall and columnar, can reach up to 39 feet
- Fluke is deeply keeled, triangular, and broad.

Fin Whale *Balaenoptera physalus*



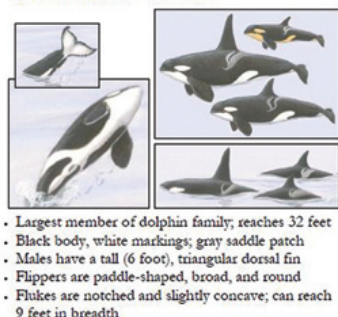
- Second largest whale with a max. length of 88 feet
- Body is gray or gray-brown above and white below
- Black lower left jaw with white on the right side
- Chevron pattern behind the blowholes to the tail
- Arches its back before diving; rarely flukes
- Blow is tall, but is lower than the blue whale

Humpback Whale *Megaptera novaeangliae*



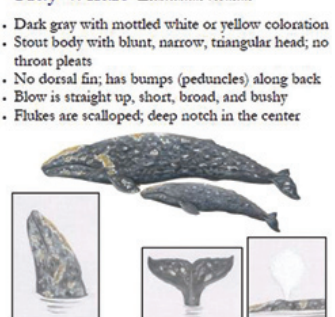
- Black to dark gray body; ranges 39 to 42 feet
- Knoblike bumps (tubercles) on rostrum
- V- or heart-shaped blow, up to 10 feet in height
- Scallop-shaped tail with serrations on the edge
- Wing-like pectoral fins; very long and narrow

Killer Whale *Orcinus orca*



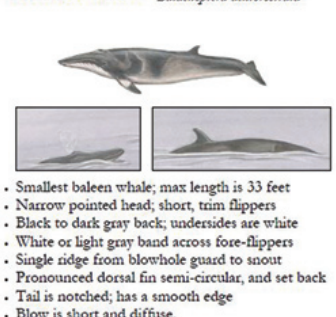
- Largest member of dolphin family; reaches 32 feet
- Black body, white markings; gray saddle patch
- Males have a tall (6 foot), triangular dorsal fin
- Flippers are paddle-shaped, broad, and round
- Flukes are notched and slightly concave; can reach 9 feet in breadth

Gray Whale *Eschrichtius robustus*



- Dark gray with mottled white or yellow coloration
- Stout body with blunt, narrow, triangular head; no throat pleats
- No dorsal fin; has bumps (peduncles) along back
- Blow is straight up, short, broad, and bushy
- Flukes are scalloped; deep notch in the center

Minke Whale *Balaenoptera acutorostrata*



- Smallest baleen whale; max length is 33 feet
- Narrow pointed head; short, trim flippers
- Black to dark gray back; undersides are white
- White or light gray band across fore-flippers
- Single ridge from blowhole guard to snout
- Pronounced dorsal fin semi-circular, and set back
- Tail is notched; has a smooth edge
- Blow is short and diffuse.

Selected text and drawings from the Field Guide to MARINE MAMMALS of the Pacific Coast, a California Natural History Guide by Sarah G. Allen, Joe Moctenron, and Sophie Webb.

References: <http://westcoast.whalealert.org/>
<https://sanctuaries.noaa.gov/>
<https://stellwagen.noaa.gov/>

27th Annual Conference of the International Association of Maritime Economists (IAME)

The 27th Annual Conference of the International Association of Maritime Economists took place from Tuesday, 25th June to Friday, 28th June in Athens.

The International Association of Maritime Economists (IAME) was founded in 1992 and comprises individual and corporate members from all over the world. It is considered the largest and most prominent society of scholars with an interest in maritime economics, shipping finance and management, ports and maritime logistics, engineering and other maritime related fields.

Danaos Shipping Co. Ltd proudly sponsored the IAME 2019 conference and for its contribution was given a commemorative plaque which was received on our company's behalf by our Commercial Manager, Mr. Filippos Prokopakis.

*Filippos Prokopakis
Commercial Manager
Chartering/Sale & Purchase*



Recycling in Greece?

ARTICLE

It is noticeable, that despite the efforts and the regulations regarding recycling and reduction of waste, Greece still remains in the lowest rankings amongst European Union Countries. More specifically, in terms of numbers and percentages, Greece recycles only 16% to 17% (around 730,000 tons) of the total waste produced while the remaining 85% - which equates to 4,415,000 tons of waste- ends up in the landfills. At the same time around the globe, 'Germany has the best recycling rate in the world. Austria comes in second, followed by South Korea and Wales. All four countries manage to recycle between 52% and 56% of their municipal waste. Switzerland, in fifth place, recycles almost half of its municipal waste'.

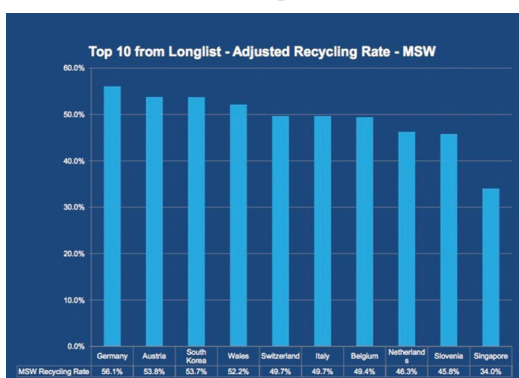


Image:World Economic Forum

Article:'Germany recycles more than any other country'

The above-mentioned percentages, clearly juxtapose that despite the abundance of information regarding recycling and the relevant campaigns, the citizens of Greece have yet to adopt the appropriate culture and societal grasp on the matter, with the majority still being ignorant of the suggested and indicated methods of recycling.

What is of a great importance is the fact that materials such as glass, plastic and paper, although widely recognized as recyclable, in some cases are not. For instance, broken glasses cannot be recycled. Even small pieces of paper, wet or grimy paper are materials difficult

to be gathered for recycling and as a consequence cannot be exploited. Another example that most people ignore is that plastic, such as cutlery and plastic straws, USB sticks and SIM cards cannot be recycled.



Expanding the Three R's of Recycling
Furniture Heaven,green-recycling-icon

Finally, electrical devices and batteries can be recycled, but there are specific points and dumpsters in which they can be disposed of. One important aspect is to dispose all recyclable materials separately inside the recycling dumpsters and not inside bound bags, which is more or less the common practice.

A possible solution in order to increase recycling practices, is the adoption and development of the so-called cyclical economy or the improvement of alternative administration systems, where the majority of waste is being exploited for the creation and production of new products, resulting in substantial savings in raw materials and energy. Recycling boosts the economy through upcoming industries, such as new companies making good use of recyclable materials and producing new products. This constitutes a great opportunity for development and employment possibilities. One distinctive example of how recycling has helped, not only the environment and the

economy but the society as a whole, is the substantial number of wheelchairs bought so far for people with disabilities through the action of collecting plastic caps from plastic bottles.

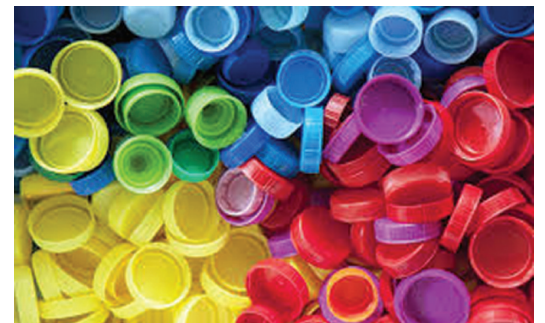


Image:The Surprising Recycling Mistake
You're Probably Making,Care2

Despite the low percentages of recycling and the high percentages of the unused waste in Greece, it should be mentioned that during the last few years many organizations and campaigns for recycling have been developed. People with new ideas and a sense of empathy for the environment and society have taken action and it is strongly believed that during the next years recycling will be an integral part of our daily routine.

It is indisputable, that recycling constitutes a very beneficial procedure not only for the sustainability of the planet but for thriving societies as a whole. We should all bear in mind that recycling is mostly a practice through which we learn to care. Care about our present, our future, our children. When people care, then our society can only become better.

*Katerina Nika
Assistant Accountant*

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- World Economic Forum (www.weforum.org)

Marine Invasive Species

ARTICLE

The globalization of trade has not only increased the number of ships that move from port to port, it has also increased the size and the speed of ships. These ships load and release ballast water to maintain the ship's level as it loads and unloads cargo. Any living organism (species) in the ballast water is then transferred to new locations. The likelihood of transferring these organisms to new locations is high if we consider that 10 billion tonnes of ballast water are transferred each year.

It is important to point out that the earth's oceans are all connected and that all living organisms could theoretically migrate to new locations with different ecosystems if they could overcome barriers such as, differences in temperature, strong ocean currents and long distances.

As previously mentioned, the globalization of trade and ships in particular have in part reduced these natural barriers. The majority of these species do not survive in their new environment, but some do, and start to take over native biodiversity by reproducing and in turn affecting the local ecosystems. The effects can be substantial primarily to the ecosystems, and the local economies. Below are some example of invasive species.

European Green Crab



As its name implies this specie is native to European waters. It is now found in North America, South America, Australia, and South Africa and Japan. Due to its appetite, it has affected shellfish farming.

Toxic Algae



Originally found in the Indian and Pacific Ocean has spread in many areas. It can grow very fast depending on its type and it kills local marine life by depleting oxygen from the sea. There have been cases of beaches being closed due to excessive algae growth.

Sea Walnut



This jellyfish-like animal is native to South America and parts of North America. It has migrated to the Black Sea and Caspian Sea. In recent years they have been spotted in the Mediterranean Sea. They have affected local fisheries due to their high consumption of zooplankton, which is the same source of food for the local fisheries.

Zebra Mussel



This type of mussel is native to Eastern Europe and the black sea. It has invaded Western Europe, the Black Sea, and North America including the great lakes. It has created problems to infrastructures such as power plant, and water purification facilities.

Lagocephalus



An invasive species that traveled through the Suez Canal from the Red Sea and is now found

throughout the Eastern Mediterranean. It poses a threat to local fisheries, and to unaware humans due to its lethal venom if consumed.

Lionfish



As their name proclaims, they are extremely aggressive and have few natural predators. They are armed with venomous spikes that can be deadly to humans. Also known for their huge appetite and high breeding rates. Their original habit is the Indian and Pacific Ocean, however, nowadays they are found in North America, the Caribbean and even the Mediterranean. There have been efforts to deplete their numbers by promoting their consumption and thus their fishing. The only drawback, is that they require special handling to avoid the venomous spikes.

Throughout the last decades, research showed that the rate of bio-invasions was increasing at an alarming speed. This brought the IMO to introduce the Ballast Water Management (BWM) Convention, in 2004, which aimed to set rules and regulations that would control bio-invasions. After long-term discussions to formulate appropriate standards for ballast water management, the BWM Convention came into force on 8 September 2017. From the date of entry into force of the BWM Convention, all ships will have to conform to the regulation which specifies a maximum amount of viable organisms allowed to be discharged and this involves installing special equipment to treat the ballast water.

Kostas Giotis
Financial Analyst

<https://oceanconservancy.org/blog/2016/02/24/the-oceans-least-wanted-4-invasive-species-to-know/>
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Running the Athens Half Marathon

DANAOS NEWS

The Hellenic Athletics Federation (SEGAS) and the City of Athens have joined forces over the last years and are co-organizing, in the most successful way, a popular sporting event held on the streets of Athens city center.

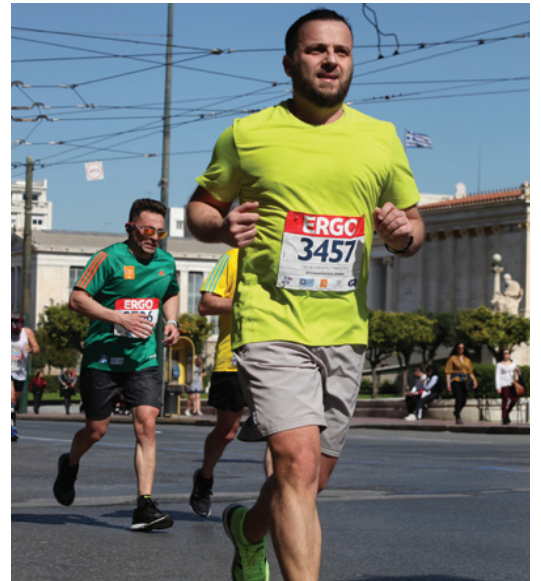
Starting from 2012, when it was held for the first time, the Athens Half Marathon is experiencing major success, not only with regard to the level of organization and services offered but also with regard to the massive participation in the event.

The appeal of the Athens Half Marathon, has travelled beyond the country's boundaries, being acknowledged as a major national, cultural, tour-

ist and sport event, addressed to all citizens not only of Athens but of the entire country offering different races for all.

For the Danaos running team, it was a unique experience to be among the 20,000 runners that flooded the city and seized the opportunity to enjoy Athens' beauty. A unique celebratory mood characterized the entire event, setting the pace in establishing the Athens Half Marathon as an annual key event for the city and its people, turning the race into a spring fest.

*Tania Mermiga
Social Media & CSR Manager*



Rafting in Evinos

DANAOS NEWS

On Sunday, May 19th, 2019, Danaos decided to escape from the urban environment and come close to nature, by visiting the Evinos River in Naupactus, increasing our adrenaline through rafting.

The rafting route, started from the bridge of "Porou" and ended at the International Training Centre Canoe - Kayak, just before the bridge of Chani Bania. Our river journey lasted two hours, where our brave participants had the chance to jump into the "cold" waters of the river and enjoy swimming. During rafting, there were frequent breaks to admire the view and take pictures.

The Evinos River is a beautiful, easy and pleasant river, for beginners and not only. It has become one of the top rafting destinations in Greece, as the experience of downhill rides, reveals incredible pictures of nature, gurgling waters, the biodiversity of riparian areas, and cultural ornaments such as stone arched bridges.

After completing our rafting session, we visited a nearby restaurant and tasted the delicious local cuisine, regaining our strength for the return trip home.

It was an entertaining and memorable experience.

*Georgia Pastra
HR Assistant & Training Coordinator*



Participating in the Spetsathlon

DANAOS NEWS

The Spetsathlon is a mass sporting event, held on an island boasting a long naval tradition and history, offering a variety of activities, short excursions and trips around the island in horse-drawn carriages.

The number of participants was the highest since the establishment of the event (more than 1,000) seven years ago, while many athletes with exceptional results were there.

The Danaos Team participated in the Spetses Triathlon Sprint Relay and enjoyed the unique running course of natural beauty, a route by the sea and through the pine trees, we came in 37th, a position that made us all proud!

*Tania Mermiga
Social Media & CSR Manager*



Ironman Triathlon at Costa Navarino

DANAOS NEWS



The Danaos Triathlon Team participated in the IRONMAN 70.3 which took place at Costa Navarino in April 2019, with the pleasant temperatures of spring, bringing the ideal climate for racing. This unique race took place in the Peloponnese—in the area around Costa Navarino and the Messenia regions. This area boasts one of the most breathtaking landscapes in the Mediterranean, combined with a remarkable cultural heritage spanning 4,500 years. Visitors had the opportunity to explore the monuments and the archeological sites from every period of the Peloponnesian history, surrounded by a landscape of mountains, forests, and rivers. Athletes embarked on a 1.9-km swim in the Ionian Sea in front of the pristine beach of Navarino Dunes. They rode through ancient olive groves and pine-covered hills, while never losing sight of the deep blue of the Ionian Sea. Leaving Soulinari they headed to Gargaliani village and back to Costa Navarino. The bike course was a challenging, two-lap course over excellent paved roads. Finally, the half marathon started from The Westin Resort Costa Navarino towards Omega (Voidokilia) beach—a sweeping semicircle beach of light golden sand. The course continued to the lagoon over the village's cobblestone roads, before heading back to the finish line at The Romanos, a Luxury Collection Resort at Costa Navarino.

Congratulations to our fantastic team and to everyone that participated in such a challenging race!

*Tania Mermiga
Social Media & CSR Manager*

<http://eu.ironman.com/triathlon/events/emea/ironman-70.3/costa-navarino.aspx#ixzz5o4uOaUvz>





Mary Berry's lemon tart

Ingredients

For the pastry

- 175g/6oz plain flour
- 100g/3½oz cold butter, cut into small cubes
- 25g/1oz icing sugar
- 1 free-range egg yolk
- 1 tbsp cold water

For the filling

- 5 free-range eggs
- 125ml/4fl oz double cream
- 225g/8oz caster sugar
- 4 lemons, juice and zest
- icing sugar, for dusting

Method

1. To make the pastry, place the flour, butter and icing sugar into a food processor. Pulse briefly until the mixture resembles breadcrumbs, then add the egg yolk and water.
2. Pulse again until the mixture sticks together in clumps then tip onto a work surface and gather it into a ball with your hands. Knead the pastry just two or three times to make it smooth. If your butter was a bit too soft, the pastry might be too. If so, wrap it in parchment paper and chill for 15 minutes.
3. Grease a 23cm/9in loose-bottomed, fluted tart tin.
4. Lay a piece of parchment paper on the work surface. Remove the base from the tart tin and lay it on the paper. Using a pencil, draw a circle onto the paper 4cm/1½in bigger than the tin base.
5. Dust the base of the tin with flour. Place the pastry ball in the centre of the tin base and flatten it out slightly. Roll out the pastry, still on the base, until it meets the circle mark. As you are rolling out, turn the pastry by turning the paper. Gently fold the pastry surrounding the tin base in towards the centre.
6. Carefully lift the tin base off the work surface, drop it into the tin, then ease the pastry into the corners and up the sides of the tin, pressing the overhang lightly over the rim. If the pastry has cracked at all, simply press it together to seal. Press the pastry into the flutes of the tin then lightly prick the base with a fork, but not quite all the way through. Place the pastry-lined tin on a baking tray, cover loosely with cling film and chill in the fridge for 30 minutes. Preheat the oven to 200C/180C Fan/Gas 6.
7. Remove the cling film from the pastry case and line with foil so it supports the sides, then fill with baking beans. Bake blind for 12-15 minutes, until the pastry is set, then lift out the foil and beans. Carefully trim the excess pastry from the sides using a sharp knife, holding the knife at a sharp angle and slicing away from you. Remove the trimmings from the sheet. Return the empty pastry case to the oven for another 10-12 minutes or until it is pale golden and completely dry. Set aside to cool while you make the filling. Reduce the oven temperature to 170C/325F/Gas 3.
8. For the filling, break the eggs into a large bowl and whisk together with a wire whisk. Add the rest of the filling ingredients and whisk again until they are all well combined. Pour the filling mixture into a jug, then into the cooled baked pastry case. To prevent it spilling as it goes in the oven, pour in most of the filling so it almost fills the tart, carefully sit the baking sheet and tart on the oven shelf, then top up with the rest of the filling to completely fill it. Bake for about 30-35 minutes or until just set but with a slight wobble in the centre.
9. Leave to cool slightly then, when the pastry seems firm enough, remove the tart from the tin. The easiest way to do this is to place the base of the tin on an upturned can or jam jar and let the outer ring fall to the work surface. Transfer the tart to a serving plate and serve warm or cold, dusted with sifted icing sugar.

Recipe Tips

To glaze the surface, dust generously with icing sugar then, using a blow torch, hold the flame just above the sugar and move it around until the sugar has caramelised, being careful not to burn the pastry edges.

To decorate the tart like a French pâtisserie, pipe the word 'citron' in melted dark chocolate across the top of the cold tart.

Source : https://www.bbc.co.uk/food/recipes/tarte_au_citron_94480

We need you!

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

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DAY OF THE
SEAFARER

—25 JUNE—