

# LIGHTHOUSE

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**R.L. INSTITUTE OF NAUTICAL SCIENCES**

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## Sailcargo to Tackle Ship Emissions by Returning to Basics

Hemant Attreya -B.Tech-III



Ship owners and operators are facing pressure and numerous challenges as the shipping industry sails further on its migration path to decarbonisation.

Amid all the uncertainties, a company has decided to go back to the roots of the shipbuilding industry in order to find the answer to carbon neutrality.

Sailcargo, the emerging freight company, is moving towards achieving its mission through the construction of an emission-free cargo tall ship. To feature a length of 45 meters and a beam of 8 meters, Ceiba will have a 100% electric engine, which will be coupled with solar batteries, panels and wind turbines to make all the auxiliary power productions 100% renewably sourced.

“Shipping value-added products with a carbon-neutral vessel allow ethically-produced products to

reach their destinations without causing harm to the environment along the way. Additionally, the idea is to ultimately raise awareness and show the world that there is an alternative to conventional shipping,” company representatives, Shani Meintjes and Danielle Doggett, said in an interview with World Maritime News.

The ship’s entire propulsion system would run emission-free as its two variable-pitch propellers function both as a means of propulsion and a generator while sailing. Designed by Sigma Plus Associates, the engine would power the vessel during maneuvers or when there is no wind present.

The engine would be charged by the actual employment of Ceiba under sail, meaning the wind itself, as well as through solar power from panels upon the deck, both powering the lithium ion battery, which stores the energy for when it is needed the most.

“All auxiliary power is therefore renewably-sourced because the battery is powered when the ship is sailing and/or under sunlight, so never will it have to be charged at port or otherwise outside of the vessel itself,” Sailcargo explained.

“This is the world’s largest drive system to do so, making it, not only completely self-sufficient, but also an effective cost-savings option, and furthermore, the ship will never have to wait in line or pay for bunker fuel.”

Turn to Page - 3 ►►



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# Promotional Activities of RLINS



Dr.M.Kumarasamy,vice-principal addressing the students of Diploma in Marine Engineering in a polytechnic college at Tuticorin on the prospects of Marine Engineering course.



Mr.Chandran Murthi, PRO, giving demonstration on the employment opportunities of marine engineering courses in schools at Tuticorin district.

## Contents

1. Sailcargo to Tackle Ship Emissions by Returning to Basics.....1
2. Promotional Activities of RLINS.....2
3. Challenges Faced by Women Sailors.....4
4. Annual Sports Meet of RLINS.....5
5. Roots of Educational System in India.....7





# Sailcargo to Tackle Ship Emissions by ... **Continued From Page 1**

Ceiba, which is expected to eliminate over 1,000 tonnes of CO2 every year, would be deployed on the Pacific Coast. The vessel is under construction in Costa Rica and aligns with the country's efforts to become the world's first carbon-neutral country by 2021.

"Furthermore, through our ongoing tree-planting scheme that intends to plant thousands of trees over the build-phase and beyond, we are helping to reforest the country to rebalance harmful atmospheric gas levels and simultaneously improve soil quality. The goal is to plant 12,000 trees by the time Ceiba is ready to set sail, 10% of which will be available to provide material for more carbon-negative vessels further down the line."

Such a large-scale reforestation scheme would also provide self-sufficient lumber for future ships and also for future generations, Sailcargo explained.



The keel of the vessel has already been laid, scarfed and lying ready in dry-fit as it is being prepared to be bolted down, while framing is scheduled to start in January 2019. The estimated build time from start to finish is 3.5-4 years, meaning that Ceiba would be complete in 2021, "as long as funding stays consistent and goals are met."

Sailcargo further said that the wooden shipbuilding technique without steel makes the vessel even more environmentally-friendly when considering the final phase of the life of a ship, the ship breaking. With the so-called "old-world" shipbuilding, the wooden vessels are more often than not taken back to where they were built to be disassembled, and the wooden planking and frames are simply left to rot as organic waste.

"This is a significant difference in views on

shipbuilding: having to account for the entire lifespan of the vessel," Sailcargo added.

Even though Sailcargo representatives think it might be impractical for all companies to come back to basics, they believe utilizing renewable energy to power larger merchant vessels is clearly the way to go in order to reduce environmental impacts and pollution of big shipping.

"Implementing the use of renewable energy, such as wind power through sails or electric energy through solar power onboard are definitely going to be beneficial to power the big container ships in the industry and ensure the survival of the rapid flow of trade we've become so accustomed to today."

Speaking on the financial details related to Ceiba, Sailcargo made a comparison between Ceiba and the new Triple E ships, owned by Danish shipping giant Maersk. One Triple E ship costs USD 1.85 million and is capable of transporting 18,340 TEU, this works out to cost USD 10,087 per TEU. Ceiba will cost around USD 3.2 million and will be capable of carrying up to 10 TEU – resulting in a cost of USD 320,000 per container.

"Though our ship will cost more initially, we are also able to charge a significantly higher price for our services, as they are value-added (emission-free)," the company added.

While the Triple E ship will charge some USD 0.01 per ton/mile, Sailcargo will have a base price of USD 0.20 per ton/mile, resulting in a much higher gross income per TEU.

"Uniquely, this project is entirely funded by people investing in shares of stock in the company. Every stage of progress to date has been funded by a variety of generous people who will see a return on their investment," Sailcargo explained.

Once Ceiba is complete and begins its working life in 2021, the company intends to expand to include the construction of more carbon-negative, wooden tall ships, as well as the so-called Gold Lines, which are proposed extensions to the established Pacific Exchange (PAX) Line that would take Ceiba as far north as Alaska and as far south as Peru or Ecuador.

Courtesy: Pepijn van Schaik/DVS Marine Design (NZ)

Interview by Erna Penjic; Image



# Challenges Faced by Women Sailors

Anjali Tibrewal - B.Tech-II

Women make tremendous progress today in every professional field. Their contributions in the maritime field are remarkable in the traditionally male dominated field. Being women mariners, they shoulder all kinds of responsibilities with astounding success. Women entering as mariners are relatively small in number but their strength is ever growing.

Seafaring, as we know, is conventionally a man's world, but with a strong sense of determination, women make a dent in their chosen field competing with men to set the highest standard at par with men. Even something as arduous as seafaring is made possible for them with mental, physical and emotional strength and courage.

Still, it's rare to find women sailors at sea. However, thanks to the trade unions, more women are confronting the prejudice and becoming valuable members of the ships' crew.

Being an overwhelmingly male dominated industry, shipping industry does provide some unique and unusual challenges for women sailors. Some of these are highlighted below:

## \* Acceptance

Being accepted in a group mainly dominated by men is the first and foremost challenge that women sailors face. Feeling left out or being ignored is common. Although, with time as you continue working together as a team, you earn respect of fellow crew members and the problem can get diluted. Being strong and showing active participation is important. Eventually people learn to live together in spite of their differences.

## \* Prejudice & Stereotypes

A few of the female Seafarers would pose a question themselves why they chose to enter Merchant Navy. It may be discouraging and disconcerting. Most Seamen have a common belief that women have no business on-board a ship. Seamen have different ways to convey their bitterness towards fellow women seafarers. They may advise them to quit the career and look for

jobs ashore. Some force the women sailors to think they are too weak and incompetent to do a man's job. Willpower is essential to overcome such prejudices.

## \* Lack of basics

The masculine domination is also reflected in the ships culture. Most ships have neither the uniforms nor the shoes to fit women sailors. Everyone on-board takes it for granted that no women will ever work with them. Talking openly with senior officers and requesting them to look into this matter can solve this problem.

The basic design structure of the ship is built with an assumption that the environment of the ship is male territory. However the ship building companies are concentrating more on designing ships which are better equipped for female staff.

## \* Assumptions & Narrow-mindedness

Good relationships with few male colleagues can give rise to jealousy and also lead to a sort of favoritism. This can disrupt the unity. It is better to mingle with all equally than to give space and importance to anyone in particular.

## \* Coming out of the comfort zone

During the initial days of training there may be many arduous tasks such as lifting heavy weight, working under the scorching sun, extreme weather conditions etc. The fellow mates might be more versatile while doing tasks single handedly. Women are often looked at with askance questioning their competency. Coming out of your comfort zone plays a vital role here. With persistent and diligent efforts your confidence will begin to burgeon.

In general, it is understood that the young women face lot of challenges to make a promising career in the field of Merchant Navy, thus increasing the percentage of women Seafarers in the industry. To get inspired, read the story of Capt. Radhika Menon, the first female to receive 'Bravery at Sea' award.

Courtesy: [maritimeolympiad.com](http://maritimeolympiad.com)





# Annual Sports Meet of RLINS

RLINS takes concerted efforts to make its cadets mentally and physically fit by conducting every year the Annual Sports meet. Certainly the sports and games bring with it a sense of discipline and unities among the students by which they develop good traits such as hard work and adventurism which will help them meet any challenge in their life. Sports events are very vital to channelise their energy and the spirit of a sportsmanship will inculcate in the cadets a sense of pride and competitive mind. This year, R.L. Institute of Nautical Sciences successfully conducted the 17th Annual Sports Meet on Saturday, 9th March, 2019 with pomp and glory wherein our cadets enthusiastically participated in all the events and won coveted prizes and accolades for their zestful participation. The programme commenced with the hoisting of the national flag by the chief guest Dr. J. Sangumani, MBBS, MD.

The chief guest, after hoisting the tri colour, received the guard of honour and inspected the scintillating march past demonstrated by our cadets in four Houses such as Bulklers, Reefers, Tankers and Liners. After the ceremonial functions were over in the morning session, all the students assembled at the auditorium for the prize

distribution at 10:00 hours. Mr. Bhaskar Agnihotri, Principal welcomed the gathering, Mr. M. Subramanian, Advisor - Technical, introduced the chief guest. The chief guest during his address highlighted the importance of sportsman spirit and a sense of participation rather than winning. Dr. M. Kumarasamy, Vice-Principal proposed the vote of thanks. Later the chief guest presented awards for the winning cadets who took part in various events conducted by RLINS. The Institute conducted 17 outdoor games and 12 indoor games. Among the events the most sought after one would be the 100 mts. sprint which was held in the morning on the sports day. In the 100 meters dash, Cadet Jithendra Girish Patil, of House Reefers clinched the title and Vipin V. kumar of House Tankers got the 2nd prize. In the Discus throw Ashdeep Singh of House Liners received 1st prize and Bhargav of House Tankers got 2nd prize. The coveted overall championship was clinched by the House Tankers. And the runner up Title was secured by House Reefers.

In the staff section, the Badminton team consisting of Mr. Palpandi and Mr. Ramasamy emerged winners and the team consisting of Mr. Meenakshi Sundaram, A.O & Mr. Chandran Murthi, PRO emerged runners up.



Lighting of Olympic Torch by the Chief Guest Dr. J. Sangumani, MBBS, MD. and the Guest Of Honour Dr. Sujatha Sangumani, MBBS, DGO.



In the 100 meters dash, 1st position was secured by Cdt. Jithendra Girish Patil of house Reefers and Cdt. Vipin V. kumar of house tankers clinched 2nd Position.



▶▶ Lighting of Kuthu Vizhaku by the Guest of Honour, Dr. Sujatha sangumani, MBBS, DGO. Also seen ( L-R) Dr. M. Kumarasamy, Vice-Principal, Mr. M. Subramanian, Advisor - Technical Mr. Bhaskar Agnihotri, Principal and the chief guest Dr. J. Sangumani, MBBS, MD.





Mr. M. Subramanian, Advisor - Technical introduces the Chief Guest Dr. J. Sangumani, MBBS, MD. of 17th Annual Sports Day held on Saturday, 9th March, 2019 to the audience.



The Chief Guest Dr. J. Sangumani, MBBS, MD. addresses the audience on 17th Annual Sports Day held on Saturday, 9th March, 2019.



The Coveted OVERALL CHAMPIONSHIP for the year 2018-2019 was lifted by HOUSE TANKER. The team poses a group photo along with the chief guest Dr. J. Sangumani, MBBS, MD.



The RUNNER UP Title was clinched by the HOUSE REEFERS. The cadets of HOUSE REEFERS sharing the prestigious moments with the chief guest Dr. J. Sangumani, MBBS, MD.

## Redundant words are to be omitted from your expressions

A word which adds nothing extra to a sentence is called a pleonasm. A word which merely repeats the meaning of another word in an expression is called a tautology. These are both cases of redundant words and can be omitted.

Listed below are a few redundant expressions commonly used. The words in the brackets can be easily omitted:

**(advance)** planning  
/warning  
/reservations

The mentioned actions only take place before a certain event occurs. Using 'advance' is superfluous.

**(all-time)** record

'Record' itself refers to the sum of past achievements or performances over 'all time'.





## ask (a question)

To 'ask' means to pose a question.

## cameo (appearance)

'Cameo' refers to the appearance of a distinguished actor as a small character in a play or film.

## (basic) necessities /fundamentals /essentials

Necessities, fundamentals or essentials are by their very nature basic or elementary.

## (anonymous) stranger

An anonymous person is by definition a stranger.

## (brief) moment /summary

A summary or moment is by definition brief.

## compete (with each other)

To 'compete' is to strive to gain or win something by establishing superiority over others.

## (completely) surrounded /filled/destroyed /finished/opposite

Something which is filled, surrounded, destroyed or completed is completely so. Opposites are not always diametrically so; yet, the modifier is unnecessary.

## circulate (around)

'Circulate' means to move about freely through a closed system or area.

## collaborate /join/merge /combine/fuse (together)

To specifically say that you are collaborating or merging together is to imply that there is some other way to collaborate or merge.

## (empty) space

'Space' refers to a continuous area or expanse which is free, available, or unoccupied. It is essentially empty.

## (different) kinds

'Kinds' refers to variety or types, which are essentially different from each other.

## each (and every)

'Each' means specifically every person or object.

## (current) trend

'Trend' refers to the current general course or tendency.

## (free) gift

By its definition, a gift is free.



# Roots of Educational System in India

Cdt. Rawal Singh -ME-IV

- Ayurveda is the earliest school of medicine known to the world and 'charaka' is known as the father of Ayurveda. He developed this system some 2500 years back.
- Takshila was the first university of world established in 700 B.C.
- Nalanda University, built in 4 AD, was considered to be the honor of ancient Indian system of education as it was one of the best Universities of its time in the subcontinent.
- Indian language Sanskrit is considered to be the mother of many modern languages of world.
- Place value system was developed in India in 100 B.C.
- India was the country, which invented number system.
- Aryabhata, the Indian scientist, invented digit zero.
- Trigonometry, algebra and calculus studies were originated in India.



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