

LIGHT HOUSE

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Denmark's Port Esbjerg bolsters offshore wind, ammonia, and hydrogen ties with Korea's Ulsan port

Lohith Ishwar Moger-GME

Denmark's Port Esbjerg and Korea's Port of Ulsan have formed a strategic partnership to drive innovation and sustainability in the maritime industry through both parties' experience in handling hydrogen and ammonia as well as offshore wind projects. Port Esbjerg revealed the collaboration via social media, stating that the port sees significant opportunities to leverage Ulsan's expertise in handling hydrogen and ammonia.

Likewise, Ulsan sees immense potential in partnering with Port Esbjerg as it has been designated as Korea's installation port for offshore wind projects.

Located by the North Sea, the Port of Esbjerg is expected to play a central role in the expansion of offshore wind, where 134 GW is planned to be established by 2030 and 300 GW by 2050.

In 2023, the Danish port signed a cooperation agreement with Pension Danmark under which it will receive DKK 5.8 billion (about €779 million) for the construction of facilities for the production of offshore wind turbines. In addition, around €94 million was earmarked for terminals for handling Power-to-X and CCS, and around €67 million is expected to be invested in the



■ Courtesy of Port Esbjerg.

development of Port of Esbjerg as a multi-modal hub.

The investment will also go towards the development of flex terminals, logistics properties, and facilities for green fuels.

On the other hand, Ulsan Port is working on becoming a low-carbon energy hub and supporting methanol-fueled ships under a memorandum of understanding (MoU) with the international classification society Korean Register (KR).

In addition, the port plans to build a clean

hydrogen and ammonia terminal at Ulsan New Port by 2030 to store ammonia and to produce and supply hydrogen.

The new collaboration comes on the back of a recent visit by a Danish delegation, including representatives from Port Esbjerg, Mayor Jesper Frost Rasmussen of Esbjerg Municipality, and officials from the Royal Danish Embassy in Seoul, to Ulsan where several Danish maritime companies are already well-represented.

Courtesy: offshore energy.biz

Ocean Power Technologies finishes testing of next-gen buoy, prepares for deployment

SHREESHA UDUPA- GME

U.S.-based marine energy firm Ocean Power Technologies (OPT) has completed more than four months of offshore testing of its next-generation Power Buoy (PB) in the Atlantic Ocean, offshore New Jersey, and is preparing the system for

deployment at the Naval Postgraduate School (NPS) in Monterey to enhance maritime domain awareness and connectivity.

According to OPT, the next-generation PB, equipped with solar and wind power along with OPT's artificial intelligence (AI) capable

domain awareness solution, Merrows, maintained 100% data uptime and kept battery charge above 90% throughout the deployment. The system completed multiple intelligence, surveillance, and reconnaissance demonstrations for potential customers.

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After operating offshore during Hurricane Ernesto and tropical storm Debby, the system has returned to the OPT facility for integration of subsea connectors and AT&T's 5G system.

"We are thrilled to announce the successful completion of offshore testing for our solar and wind power capable Next Generation Power Buoy, which forms the backbone of our AI-capable Merrows ocean intelligence platform," said Philipp Stratmann, CEO and President of OPT.

"Achieving 100% data uptime during testing is a testament to the robustness and reliability of our technology, designed to operate in the most challenging marine environments. We are excited to take the next step and deliver this ground breaking system to NPS, marking a significant milestone in advancing sustainable ocean monitoring solutions."

These upgrades are part of the planned deployment for the NPS in Monterey. OPT further received a contract from the NPS, which supports near-term revenue and adds to the deployment of OPT's PB in Monterey Bay to enhance maritime domain awareness and connectivity. The contract also includes the integration of multi-domain drones and communication systems, said OPT.

Building on the success of the previous NPS contract, this new order will integrate advanced subsea sensors into a Power Buoy equipped with OPT's Merrows suite, enabling AI-driven maritime domain awareness and utilizing AT&T communication technologies. According to OPT, the PB will provide continuous autonomous monitoring and data collection in a strategically important maritime environment.

This deployment will also contribute to NPS's field experimentation exercises, designed to test and improve technologies for situational awareness and operational efficiency in naval operations. After permits are approved

"This collaboration with NPS not only builds on our previous successes but also pushes the boundaries of what autonomous maritime technology can achieve."

and factory acceptance testing is completed, the system will be moved to California for installation, expected in late fall.

"Receiving this contract from NPS underscores the growing recognition of our Power Buoy technology as a vital tool for enhancing maritime security and operational capability above and below the surface," added Stratmann. "This collaboration with NPS not only builds on our previous successes but also pushes the boundaries of what autonomous maritime technology can achieve."

We are proud to continue supporting the Joint Force's efforts to advance MDA and secure communication networks. The results from this deployment will also further demonstrate the ability to deploy Power Buoy's as 5G communication nodes across the coastline of the United States."

OPT's PBs are wave-powered energy devices that can act as uninterruptable power supply (UPS) devices to recharge themselves by harvesting energy from waves. PBs are ocean-deployed, moored, and floating over the point of use.

In June, the Merrow-equipped PB was selected as a preferred supplier of the wave-powered buoy for delivery in the Middle East.

Courtesy: offshore energy.biz



■ Source: Ocean Power Technologies.

IWSA Reveals Threefold Increase in Wind Propulsion Installations

Saif Anjum-GME

There were forty-five vessels with wind propulsion technology installed on board in addition to ten wind-ready vessels by the end of July this year, the International Wind Ship Association (IWSA) revealed.

The wind-powered ships have a combined total of over 3 million dwt, indicating a threefold increase in installations over the previous twelve month period.

The above mentioned fleet is complemented by ten small, traditionally rigged cruise vessels and dozens of small sail cargo and fisheries vessels.

As explained, the uptick in wind-powered ships hitting the water has been driven by the performance of wind propulsion technology strengthening in recent years coupled with installation costs and return on investment (ROI) shrinking as the number of installations increases with fossil fuel and alternative fuel prices are remaining high.

“So far this year, we have witnessed new project announcements, order confirmations, and installation celebrations almost every week. This is a sector of technology development and renewable energy use that is clearly embarking on a voyage propelled by the prevailing winds rather than one still being buffeted by headwinds,” Gavin Allwright, IWSA Secretary General, commented.



■ Illustration. Courtesy of Berge Bulk.

In related news, IWSA recently submitted a paper for the Marine Environment Protection Committee’s (MEPC) 82nd session dealing with the inclusion of wind propulsion in the mid-term measures developed to implement the 2023 IMO Strategy on Reduction of GHG Emissions from Ships, with a reference to the technical measures currently being prepared.

The paper proposed an amended formula that could be used to calculate the attained Greenhouse Gas Fuel Intensity (GFI)

which provides a concrete illustration of the technical proposal so that wind energy is accounted for equitably in the greenhouse gas emissions intensity balance for the ship. With the deployment of wind-assisted propulsion systems (WAPS) set to increase rapidly, the absence of standards for verifying potential fuel savings is creating uncertainty for operators looking to select solutions, a new report published by Lloyd’s Register found.

courtesy: offshore energy.biz

Fleet upgrade program brings Vitol ‘on track’ to meet IMO 2030 target

Denis Starwin -GME

Energy and commodities company Vitol has revealed that it is ‘on track’ to meet the International Maritime Organization’s (IMO) 2030 target due to a ‘comprehensive dry dock program’.

As part of the fleet dry dock program this year, four very large gas carriers (VLGCs) have been upgraded, and further four vessels are due to undergo the process this year.

The hulls were comprehensively blasted in all dockings to remove any debris that may incur drag, and premium anti-fouling paint was applied. According to Vitol, the impact of this alone is significant, with data showing an increase in efficiency on one of the vessels that was recoated in December 2023.

Furthermore, each ship has also been fitted with improved propellers; EnergoFlow, a pre-swirl stator that optimizes stern inflow to improve propulsive efficiency, and Energo ProFin, an energy-saving propeller



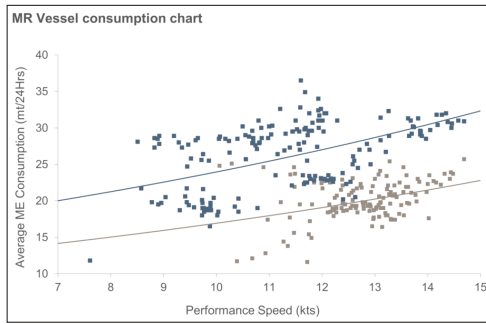
cap with fins that rotate together with the propeller.

“From previous projects, we know that these improvements can result in an average decrease in greenhouse gas (GHG) emissions of 6%. All this work means that we’re currently on track to meet IMO 2030 targets of 40% emissions reduction,” Vitol stated.

“We’ve spent a lot of time planning and executing this emissions-reducing dry dock programme,” explained Ian Butler, Head of Energy Transition – Shipping at Vitol.

“We continue to explore and test nascent innovations covering all aspects of the emissions spectrum, and will roll these out as they become proven.”

Recently, Vitol, through its shipping company Vitol International Shipping, secured three LNG bunkering vessels via a charter agreement with UK-based company Avenir LNG and an order at



CIMC Sinopacific Offshore & Engineering (CIMC SOE) shipyard in Nantong, China. Last year, Vitol traded over 17 million tons of LNG worldwide. The company has been investing in bio-LNG infrastructure through its subsidiary ViGo bio energy and also provides bunker fuels, through its subsidiary Vitol Bunkers.

Earlier this year, Vitol Bunkers put into operation its new build specialized bunker

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barge, the Marine Future, to complete the first delivery of B30 bio fuel blend in Singapore. The vessel is part of the company’s plans to expand the supply of bio fuels in Asia.

courtesy: offshore energy.biz

China’s FPSO mooring system for deepwater oil & gas fields earns double blessing

Rishikesh Muruganandham-GME

The internal turret buoy single-point mooring system developed by China Offshore Oil Engineering Company (COOEC), controlled by China National Offshore Oil Corporation (CNOOC), has received two approvals in principle (AIP), one from the China Classification Society (CCC) and another from Bureau Veritas.

As the system is said to be the first of its kind in China, it is perceived as a breakthrough in the country’s research and development capabilities for deepwater oil and gas equipment, contributing to the economic development of its deep water fields. The single-point mooring system enables floating production, storage, and offloading (FPSO) units to maintain stable production operations at sea by acting as a weather vane, assisting in vessel positioning.

Under the influence of wind, waves, and currents, the FPSO device rotates around the single-point mooring system, making it less susceptible to external forces. At the same time, the system can be used for electricity and communication transmission, as well as transporting fluids.

According to the Chinese player, the quick-release function enables the inner turret single-point mooring system to withstand even a strong typhoon. With a design life of over 20 years, it is suitable for water depths of up to 500 meters. A buoy has been operating for over 300 days on the FPSO Nanhai Endeavour in Huizhou oilfield, ensuring its production and operation.

COOEC says that its projects in recent



■ Illustration; Source: China Offshore Oil Engineering Company (COOEC)

years encompassed building multiple floating production facilities, including what it deems is the world’s first 100,000-tonne semi-submersible production and storage platform at Deep Sea No. 1, Asia’s first cylindrical FPSO unit Anemone No. 1, and the country’s largest operating water depth FPSO unit Marine Oil 119.

In the future, the firm plans to focus its efforts on technological research and development required to upgrade the upstream and downstream industrial chains, as well as on enhancing the deepwater oil and gas

equipment industry chain by improving its design, product manufacturing, final assembly and integration, and engineering application capabilities.

In May, COOEC picked ABL to provide marine warranty survey (MWS) services for jacket installations on the Aramco-operated Safaniya oil field, which is said to be the world’s biggest conventional offshore oil field in terms of both recoverable reserves and production capacity.

Courtesy: offshore energy.biz

Cargo Ship Runs Aground On St. Lawrence Seaway Near Montreal Blocking Maritime Traffic

Abraar Ur Rahman-GME

A part of the St. Lawrence Seaway is blocked after a cargo vessel ran aground south of Montreal due to mechanical failure. The accident occurred on Thursday evening, blocking maritime traffic along the passage close to the Mohawk territory of Kahnawake.

The Dutch ship Heemskerkgraacht was on its way to Spain and was turning along Lake Saint-Louis to go back to Montreal when its engine stopped working and it moved near the river bank and got stuck.

There are plans to move the ship by noon and so far 6 ships have been affected due to the blockage on the South Shore Canal. These ships are headed to Lake Saint-Louis or the St. Lawrence River near Montreal Port.

The 138 m ship was loaded with the scrap metal. However fortunately it did not pose an environmental risk and no injuries were reported.

The blockage has complicated the export situation, as the maritime highway was vital for shipping grain. The situation is tense given the ongoing railway labour dispute.

The ship moved downstream after losing power, said per Eric Esclamadon, deputy superintendent of the marine environmental response team with the Canadian Coast Guard.

It struck in the canal's south embankment and then ran aground on its northern side, blocking navigation in that direction.

The ship has not suffered any damage



and the crew members are monitoring it closely. Water has not infiltrated in to the vessel and there are no oil leaks too, which was checked thoroughly using drones by the Coast Guard.

The canal is a vital link for ships sailing between the Great Lakes and the Gulf of St. Lawrence and there is no alternative trade route around the canal.

Lloyd Phillips, commissioner of public safety of the Mohawk Council of Kahnawake, said the first responders reached the site to assess the situation after the vessel ran aground.

Safety is the top priority since the

Kahnawake hospital lies on the canal bank and people are afraid of a ship disaster since many ships are sailing through this canal daily.

Fortunately, the situation is under control and the worse was averted. The ship is intact and is not carrying hazardous cargo. Landon Goodleaf, from the Kahnawake Marina, saw the incident happen.

“We heard a ‘bang, bang, bang’ and it was ripping along the side of the shore,” he said. “It was unreal. You don’t see that every day, a big ship losing control.”

Reference: Global News, CBC

Courtesy: marine insight

VISIT TO NOORUL ISLAM ENGINEERING COLLEGE

As part of promotional activities of the Placement Cell of RLINS under the relentless pursuit of Capt.Thirumurthy, Head Placement Cell visited Noorul Islam College of Engineering, Kanyakumari to interact with the students of Mechanical Engineering and Electrical and Electronics Engineering about the lucrative job opportunities for GME and ETO in the marine sector. In his visit he also had a fruitful interaction with the faculty and staff members of these departments to deliberate upon the importance of these courses. This visit was successful and also in the process of negotiation an MoU was signed between RLINS and Noorul Islam Engineering College, by which both of the institutions will have mutual benefits.



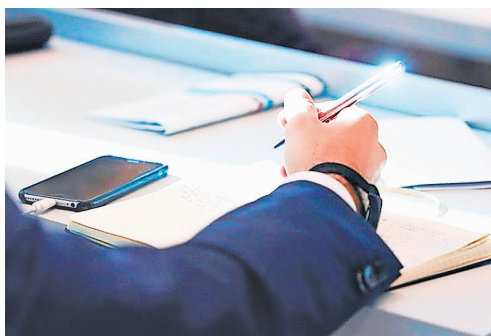
■ Capt.Thirumurthy Head of Placement Cell Interacting with the Students of Noorul Islam College of College, Kanyakumari.

As India assumes the G20 presidency and convenes the Leaders' Summit this year, the time is right for equipping its young citizens to live and work in a globalised world. Aiming to become a knowledge superpower, India places a high value on education.

Classrooms in India are multi culturally rich with students coming from different ethnicities and backgrounds and speaking different languages. This provides an opportunity to ensure students are exposed to our country's cultural diversity and to the world at large. Thus, achieving the aim of 'Vasudhaiva Kutumbakam' (The World is One Family).

Language learning is an important aspect of thriving in the globalised world. Both globally and within India, English often plays the role of a link language and is viewed as a catalyst for better career opportunities and social mobility. Policy intervention to ensure curricula reflects the cultural diversity of India and our world will enable teachers to use classroom practices that celebrate diversity in the language classroom.

International collaboration is crucial for assessing the representation of diversity in curricula. This puts into practice, demonstrating that a bilateral commitment of both countries towards revitalized and dynamic connections between the countries' citizens and global education are useful starting points.



Textbook writers and curriculum designers can ensure a balance of representations through the inclusion of a variety of perspectives, practices, and products. A balance of historical and contemporary texts with examples from real-life experiences can help students gain a realistic understanding of the context and create parallels with their own experiences. It is also important to advocate for consideration of equality, diversity, and inclusion, encouraging textbook authors to ensure an appropriate representation of people - both real and fictional.



Action in this area will support the achievement of targets within the Sustainable Development Goals. According to Goal 10 - Reduced Inequalities - by 2030, we empower and promote the social, economic, and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion, or economic or another status.

Cross-cultural education does not need to be restricted to historical accounts and publications. Using living bridges, people who bind countries together, is a powerful way of being immersed in the experiences of others.

The UK, for example, has a 1.5 million-strong Indian Diaspora contributing to the country's social, political and cultural landscape. Living bridges can be included in the learning experience. For example, organizing cultural exchange programmes where students can visit Diaspora communities and interact with them, practise their language skills, and learn about the culture first-hand.

USE OF TECHNOLOGY

Technology is also an area that can be utilised effectively for cross-cultural learning. It can be used to connect participants directly to each other on collaborative learning projects. Social media and communication tools allow users to interact with speakers of other languages and learn about their cultures.

Virtual Reality and Augmented Reality (AR/VR) technology can be used to create immersive language and cultural learning experiences. For example, virtual field trips can allow users to explore different cultures

and practice listening and speaking skills in a realistic context.

GUIDANCE FROM TEACHERS

Teachers play a crucial role in promoting language and cross-cultural learning in the classroom. Incorporating authentic materials, such as real-life videos, news articles, and literature into the curriculum can expose students to different cultures and languages. Teachers can guide students to practise their language skills in real-life contexts, such as through pen pal connections, language exchange programmes, or virtual cultural immersion experiences.



CONCLUSION

Integrating the study of culture into the language curriculum provides opportunities for students to understand the cultural context of the language they are learning. Overall, the classroom plays a significant role in creating an environment that promotes language and cross-cultural learning by providing meaningful and engaging experiences, fostering positive interactions, and helping students develop intercultural competence.

Courtesy: india today/education.

Remote control manoeuvring system helps the ship engineers and deck officers to steer the ship safely from a control station (bridge or engine room), easing the process of monitoring and operation of marine engine power plant.

Considering the importance of this system, it is imperative for marine engineers to understand the know-how of the remote control system provided for maneuvering the main engine.

Every engineer on ship must know basics of pneumatics, electrical and electronic systems, hydraulics, wiring and piping, knowledge of steering etc. and other systems related to manoeuvring of marine engine.

Without doubt, the engine manual is the best source of information for understanding and operating engine room machinery. The manual must be consulted whenever doing any troubleshooting, maintenance or operating the engine for the first time.

Let's take a look at ten important safety steps that must be taken when operating/maintenance or handling remote control system to maneuver a ship's engine:

1. Never touch any machinery part or open any door/ cover when operating remote control components as it is dangerous and can lead to malfunction if mistreated during operation
2. Once the maintenance is performed on the devices, close the door/ put cover on them to avoid entry of dust or foreign material
3. Always check all the remote control operations from manoeuvring handle in the engine control room before entering or leaving port
4. If main engine is stopped due to automatic shutdown/ slowdown, first action is to move the manoeuvring handle to stop position and then troubleshoot the problem before restarting the engine
5. Before doing maintenance of electrical circuit of remote control system, ensure to switch off the supply. There can be multiple power supply for such system, check and turn off all before opening
6. Before applying megger or withstand voltage test to such circuit, ensure total of all wires to the unit that prohibit megger test in order to safeguard electronic device
7. Ensure to check drawings of electrical circuit before working on it and do the contact cleaning routine as loose contacts and deposits are the most normal causes of malfunction in electrical system of remote control maneuvering
8. If shore power is being connected to the



ship in layup or dry dock, ensure to turn off the power supply switches of remote control system as voltage drop during transferring of power supply can damage the remote control system and lead to failure in operation of the same

9. Before doing any maintenance in the pneumatic part of the remote control system, ensure to shut the air supply and drain the air inside the piping system

10. When opening air pipes ensure to replace damage rubber seals and thread tapes while assembling them back. When assembling pipe fitting to a pneumatic device, never apply seal tape or sealant to

the pipefitting or to screws to avoid falling of detached parts into the device or piping. The Remote control system has to be the most important system in the main engine and any malfunction of this system during maneuvering or in traffic channels may lead to critical condition like accident, grounding, collision etc. Periodic maintenance of remote control system is of extreme importance and the engineers have to keep a check on the correct operation and spare parts (often ignored) of pneumatic and electrical devices incorporated in the remote control manoeuvring system.

Courtesy: marine insight

Independence Day Celebration at RLINS

India's 77th Independence Day celebration on August 15, 2024, was celebrated with great enthusiasm and patriotism across the nation, with key events taking place in New Delhi and other cities.

The 2024 Independence Day will be both a day of reflection on India's journey since 1947 and a showcase of the country's unity in diversity.

RLINS celebrated 77th Independence Day with zeal by following the tradition of the Institute. The cadets assembled on the parade ground at 7.50 am under the guidance of OICs Mr. Ramasamy, Mr. Porchezian and Mr. Narayanan.

Our Vice-Principal Dr. Kumarasamy took the salute and hoisted the national flag at 8.00 am.

“
RLINS celebrated
77th Independence Day with
zeal by following the tradition
of the Institute.
”



■ Dr. Kumarasamy, Vice-Principal, hoisted the national flag and took the salute from the Chief Cadet Captain.



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R.L. INSTITUTE OF NAUTICAL SCIENCES

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GP Rating

(6 Months Residential)

Eligibility : Pass with aggregate 40% marks in 10th Standard from recognized Board with Science, Mathematics as subject and with minimum 40% marks in English subject.

Age Limit : On the date of commencement of course
Minimum age 17½ Years Maximum age 25Years

Frequency : 2 Batches every year-January and July

Medical fitness : As per DGS norms.

Career Path

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- Sail as AB for 12 to 18 Months Bosun
- After 6 Months of training on board ship get Watch keeping certificate (DG Shipping)
- After 36 Months of Sea time appear for 2nd mate NCV/MEO Class IV NCV. Then sail as a III officer/IV-Engineer