the HELM

Since 2001

COIMBATORE MARINE COLLEGE

An ISO 9001:2015 Certified Institution

Approved by Directorate General of Shipping, Govt. of India

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CHAIRMAN's MESSAGE

C/E. S.I. NATHAN
Chairman, CMC Group of Institutions

When we think of Marine the following facts are amazing. With a worldwide fleet of over 97,000 ships move vital goods ranging from grains, consumer articles, coal, petroleum products and crude oil accounting for nearly 90% of world merchandise trade by volume. With a gross tonnage of 9.68 million, Indian shipping is ranked 17 in the world. India has positioned itself as a major supplier of efficient and cost-effective manpower to the shipping world with a market share of around 7%. India's port capacity has augmented more than 1 billion MT. The shipping corporation of India is set to acquire 118 ships by 2020.

We at Coimbatore Marine College have always maintained high standards of training and discipline making our cadets physically and mentally prepares for the hard and challenging career ahead. With around 10 years of experience in the field of maritime education, we have been ranked as one of the pioneering institutes in marine education in India.

ACADEMIC DIRECTOR's MESSAGE

C/E. T. Nedumaran
Academic Director,
CMC Group of Institutions

I am gratéul to the providence to confer this honour up on me. I am elated to have one of the rare privileges of guiding future mariners in this disposition. I remain thankful to the Chairman, CEO and the Management which identified, supported and allowed me to do various experiments in teaching methodology.

My very high regards to Directorate General of Shipping, Indian Maritime University and various Universities who have helped to precipitate all my experiences and ideas in such a format to train the Mariners with the emerging technology. Regular contact with shipping companies has helped us to tone the attitude of young mariners. Thus, with all the input from the above marine fraternity we are able to churn out bold and proud mariners who have learnt to locate their sails in any kind of weather in direction of wind to reach their destination, in the predicted ETA. This academician position is challenging as you have to stretch to your limits to make students to dwell in creativity, to make them understand that knowledge is only a past tense and future requires creations and innovations.

"Imagination is more powerful than knowledge" — Albert Einstein.

Imagination which is bestowed on every human being, which they fearlessly used in their childhood got clipped or blanketed during the few years of formal education, has to be rekindled to become innovative leaders. Many scientists discovered the ignorance of certain universal laws (which existed even before finding) are called the discoveries. This discoveries have helped us to make principles, laws, formulas and equations by which we could invent new things.

Future requires mariners who could understand the discoveries and laws to create a new Marine World which has become the base of our teaching in Oral Interpersonal Communication.

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PRINCIPAL's MESSAGE

Coimbatore Marine College with its mission "To provide goal Oriented, Quality based and Value added education of the art technology at par with International standards" will certainly go out as responsible citizens with human values. And this will help us to achieve our vision: **"To develop a highest order of Mariners by continuously producing admirable students who will be the ambassadors for great personality enviable turnout, Leadership quality, Discipline, Attitude, Knowledge and communication skills".**

Capt. Ramiah Selvarajan
Principal,
Coimbatore Marine College

Success comes to those who work hard and stays with those who don't rest on past laurels. Coimbatore Marine College is an amalgamation of competent teachers, state of the art infrastructure and an experienced and efficient Management, safe and supportive environment for its cadets to provide a perfect balance of academics, sports, artistic and social opportunities.

Genuine concern of our institution is to ensure students professional growth along with intellectual excellence. This empowers them to develop their self-esteem, self-awareness and self-confidence. Our cadet population is multi-cultural and multi linguistic, hence we teach cadets, the importance of tolerance and respect for each other's language and culture. Discipline, values and integrity are the foundation of this institution. Coimbatore Marine College cares for the individual development of each and every cadet.

We follow "mentor system" under which each class is put into the multi-pronged web of a teacher.

We accord prime importance to the behavioural discipline, Empowerment offer integrated services for the multi –facetted developments of our cadets. Our teachers strive to teach not only academic programmes but also life skills needed for students' self-development with highly resourceful faculty.

We believe that education is an effective medium of social transformation. We get encouragement, looking at bright and successful careers of our hundreds of students, which subsequently benefit the society. Come on, let's give our best and make this Institution a modern hut of learning through our diligence and dedication.

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DEAN's MESSAGE

Dr. S.B. Senthil Kumar.
Dean & HOD of Logistics and Shipping,
Coimbatore Marine College

"CMC nurtures and grooms the cadets for their bright future"

Another successful year has passed. CMC is highly committed to provide inspirational education programs to our valued marine aspirants and budding managers. Our outstanding team of faculty members and students continue to make us immensely proud of their wonderful accomplishments in academics, fine arts and sports.

Over coming years, we will continue to instils values in the students and provide lively environment for effective learning. Sincere thanks to the engagement, dedication, and resilience shown by our students. I can foresee that every student will pass out as responsible citizens with human values. Heartfelt thanks to the commitment, dedication, flexibility, and care of our professors.

EDITORIAL BOARD

We are pleased to publish the 13th issue of **"THE HELM"** - January 2023. "THE HELM" provides a platform to share their views on various fields. As things need changes every day so as our HELM magazine brings you the different updates of all the events of CMC. We would like to take this opportunity to thank all the faculty members and staff of CMC for their constant support in making this magazine a success. We wish to encourage more experts working in this domain to share their contribution.

The Editorial Team of "THE HELM"

- DEAN Dr. Senthil Kumar, CMC
- Principal Capt. Ramiah Selvarajan
- Asst. Prof. Mrs. Rajeswary. K.S.
- Asst.Prof. Ms. Priya
- Asst. Prof. Mr. Raja Silverster.
- Cadet Kewin Marshall
- Cadet Simirna

"Education is the key to unlock the world,
Education is the kindling of a flame,
Education breeds confidence,
Confidence breeds hope,
Hope breeds peace."

HAPPENINGS

- A Trip to Ooty by CMC Admission Team
- Principal's Birthday Celebration
- Career Guidance Program - Webinar
- A New Record "India's Tallest Burger" on " Kalam's Book of world Record
- International Women's Day 2022
- 59 th National Maritime Day Celebrations at CMC
- GP Rating (GPR 04) Passing Out Ceremony
- Employee Development Program
- Cadets achievements and awards @ IMU KOCHI
- Carving Workshop
- Different types of Vegetable Cuts and Salad Preparation" - Practical Class
- Training & Orientation Program - GPR Staff
- Passing out Ceremony for B.Tech 18
- International yoga day programme
- Passing out Function for GME 40 & ETO 22
- 75th Independence Day Celebrations
- Onam Celebrations
- CMC Hindi Faculty Mr.Raveendran's radio drama
- Saraswathy/Ayutha Pooja Celebrations
- Dockendale's Campus Visit/Placement Interview at CMC
- Diwali Celebrations at CMC
- National Unity Day Celebrations at CMC
- Passing Out Parade of ETO 22B & Campus Interview of GME 41
- Student Awards and Achievements
- Fresher's Day Celebration
- Student Exchange Program

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AUTONOMOUS SHIPPING
AND ITS IMPACT ON REGULATIONS, TECHNOLOGIES, AND INDUSTRIES

Gopalakrishnan B C,
Director, Training and Placement Cell
Coimbatore Marine College

The introduction of the maritime autonomous surface ships (MASS) accompanied by alternative fuels to the maritime industry is about to open a new era and lead to a new paradigm shift in terms of safety, security, and environmental protection. However, there are also some concerns on new technology which also can create new types of risks such as non-navigation risks and cybersecurity threats. This paper presents recent trends for developing autonomous vessels with the introduction of the latest projects around the globe. It also investigates the individual and combined impact of the MASS on regulations, technologies, and industries in response to the new paradigm shift in the maritime sector. Additionally, other key issues including safety, security, jobs and training, and legal and ethics are addressed to find a solution for an efficient, reliable, safe, and sustainable shipping in the near future. It is suggested that holistic approaches for developing the technology and regulatory framework are to be implemented, and the communication and cooperation of multiple stakeholders based on mutual understanding are vital for a successful arrival of the MASS in the maritime industry.

Introduction

A new paradigm shift is presently underway with rapidly evolving technology, taking into account marine alternative fuels that promise safer, greener, and more efficient ships in response to stringent requirements of international legislation more than ever. The initial shift started with the First Industrial Revolution in the 1800s when a mechanized power was introduced and vessels started to be propelled by steam using coal as a fuel.

The next stage represented by the Second Industrial Revolution began when, in the early 1900s, the invention of diesel engines made the vessels more efficient and reliable using oil as a new fuel. The computerized control of ships was introduced in the 1970s in the Third Industrial Revolution represented by the internet-digital revolution. Now we are proceeding a step further towards the new paradigm associated with cyber-physical systems and autonomy as a part of "Shipping 4.0"with the introduction of gas as a fuel such as liquefied natural gas (LNG).

In view of the question on why autonomous shipping is considered and investigated; present four reasons: the need for better crews' working environment onboard and for mitigating the risk of future shortage of seafarers; the efforts to reduce transportation costs; the global need of reducing emissions; and the demand for improving the safety in shipping.

According to a 2010 report of the International Maritime Organization (IMO) submitted by the Baltic and International Maritime Council (BIMCO) and the International Shipping Federation (ISF), the shipping industry is

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anticipated to face a tightening labor market with recurrent shortages for ship officers due to hazardous working environment and prolonged periods away from land. The shipping industry has experienced downward pressure on freight rates and excess capacity under the fiercely competitive circumstance with economy of scale. With the introduction of low- or zero-carbon alternative fuels, the reduction of ship pollution and emissions and enhancement of ship safety are more demanding than ever.

Under these circumstances, the advent of autonomous vessels named Maritime Autonomous Surface Ship (MASS) will be a monumental incident that can either disrupt or induce the paradigm shift in the shipping industry and maritime transport system as a whole. The safe, effective, and efficient adoption and operation of MASS would depend on communication and collaboration among stakeholders, especially those engaged in the shipping and port industries. Therefore, for a successful introduction and smooth settlement of MASS as well as relevant infrastructures in the maritime industry, key issues related to autonomous shipping and their impact on regulation, technology, and industry should be investigated with their relationship.

On the regulatory side, IMO in 2017 decided to embark on the Regulatory Scoping Exercise (RSE) to determine the safe, secure, and environmentally sound operation of MASS. The RSE would be a complex issue since it will affect many areas including safety, security, interactions with ports, and pilotage in response to incidents and marine environment. As international maritime conventions such as the International Convention for the Safety of Life at Sea (SOLAS), International Regulations for Preventing Collisions at Sea (COLREG) and the Standards for Training and Certification of Watch keepers (STCW) will be applied to MASS (IMO, 2018a), IMO Member States will be requested to review the scope of domestic laws, taking into account compliance with the RSE.

In terms of technology, using the latest Information and Communications Technology (ICT) systems, ships will be built with enhanced control capabilities, communication, and interfaces and they will soon be operated by means of remote land-based or offshore services. The unmanned vessels are already in use for military, aerospace, or scientific purposes. Submersible-unmanned vehicles, such as the autonomous underwater vehicles (AUV) or the remotely operated vehicles (ROV) are also used and continue to be developed for deep-sea exploration. However, the technology replacing manning needs to outperform the crew in terms of safety, efficiency, and environmental protection (DNV GL 2018). On the industrial side, it is easy to find a certain level of unmanned system in other modes of transport such as the airplane, train, and automobile industries where autonomous vehicles are already under development. Regarding the maritime industry, MASS is expected to change shipbuilding, equipment and device, and shipping and port infrastructures substantially. Maritime industries related to autonomy, automation, unmanned operation, big data, enterprise-grade connectivity, and analytics will be steadily expanded. Therefore, in order to successfully introduce MASS, proper communication and cooperation with relevant stakeholders, especially the shipping, shipbuilding, and port industries must be preceded.

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In this research, the latest projects were firstly introduced on global trends for developing autonomous vessels. Secondly, the impact of MASS on regulations, technologies, and industries has been investigated with their relationship to identify both past and future works to prepare for the new paradigm shift in the maritime sector. Finally, other key issues related to safety, security, jobs, training, ethics, liability, and insurance were discussed in an effort to find an insight for efficient, reliable, safe, and sustainable shipping in the future. It should be noted that this research focuses on the identification of issues on autonomous shipping and its impact on regulations, technologies, and maritime industries, and autonomous ships not having seafarers on board (i.e. over degrees of MASS 3.0).

Global trends of autonomous vessels

In the past decade, with a variety of multi-national projects with massive investment and research and development for autonomous vehicles, i.e. self-driving cars, projects for the development of autonomous ships have been launched all over the world. Many organizations such as Rolls Royce, DNV GL, Norwegian University of Science and Technology (NTNU), and Norway-based Kongsberg have all revealed ambitious plans to develop all-electric and autonomous container ships by 2020 as listed with main characteristics of their projects in Table 1. Their race is getting fiercer as closing to the finish line. Other organizations throughout the world are developing complementary, even competing concepts and systems to support unmanned operations, coupled with infrastructure initiatives, including autonomous ports and high bandwidth communications.

In 2012, the Maritime Unmanned Navigation through Intelligence in Networks funded by the European Commission started to investigate the feasibility of unmanned ships in multi-disciplinary points: technical maturity; economic benefits; social impact; and safety (at least as safe as manned vessels) during deep-sea voyages.

Following the project, it was commenced as a dedicated research project to develop an unmanned, zero-emission, and short sea vessel by DNV GL in collaboration with NTNU in order to manage the traffic congestion in urban areas on the EU's road network (DNV GL 2018).

Another representative project associated with autonomous vessels is the Advanced Autonomous Waterborne Applications Initiative (AAWA) which was launched by Rolls- Royce in 2015. This project invited various partners – universities, ship designers, equipment manufacturers, and classification societies in order to examine the economic, social, legal, regulatory, and technological barriers to be addressed to make autonomous ships a reality. It is aimed to develop preliminary designs with the technical specification for the next generation of advanced ship solutions.

One of the latest projects related to the autonomous ship is the YARA Birkeland (Kongsberg Maritime AS 2018). YARA and Kongsberg have partnered to construct the world's first fully electric container feeder vessel. The project started in 2017 working towards remote operation by 2019 and is scheduled to go fully autonomous by 2020. Instead of ballast tanks, the ship is designed to use battery packs as permanent ballast. Additionally, she would be able to be berthed automatically or go underway without any

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human intervention by using an automatic mooring system. By removing up to 40,000 truck journeys in populated urban areas, it is expected to reduce NOx and CO2 emissions significantly, whereas improving road safety and alleviating traffic congestion, which will thus contribute to achieving UN sustainable development goals (UN, 2015).

Impact on regulation

A recent foundering of the Costa Concordia in 2012, which ironically marks the first century after the Titanic sinking in the North Atlantic Ocean in 1912, has shown that even after 100 years, accidents can occur on ships that are considered masterpieces of modern technology along with remarkable regulatory and technological advancements in the maritime safety.

Therefore, despite the rapid development of science and technology in the maritime industry, autonomous vessels indisputably need to be subject to the internationalregulations necessary for the vessels to operate safely across nations and even the sea bed areas beyond national jurisdiction. Although some regulatory aspects of manned vessels may be compatible with unmanned vessels, such as certain clauses of the International Safety Management (ISM) Code, there is a need for specific international regulations taking into account the characteristics of unmanned vessels as well.

Recently, a draft request for RSE (Regulatory Scoping Exercise) was submitted to Maritime Safety Committee (MSC) and the RSE was accepted into the MSC work program at MSC 98 (IMO 2017) to ensure the safety, security, and environmentally soundness of MASS. At MSC 99, a work plan for the RSE was agreed (IMO 2018a) to finalize this exercise by 2020.

The objective of the RSE for MASS is to assess the degree of autonomy that may affect existing regulatory frameworks in order to address MASS operations. To facilitate the process of the RSE, the degrees of autonomy were categorized into four phases at MSC 100 (IMO 2018b) as shown in Figure. It should be noted that MASS could operate in more than one degree of autonomy during a single voyage.

Figure - Degrees of autonomy.

The amendment of all conventions will require time-consuming tasks, which may not be a practical approach. All IMO committees and subcommittees will have to work together for this enormous revision. For this reason, the goal-based approach should be applied to develop new regulatory requirements. Recently, the MSC approved the revision of Generic guidelines for developing IMO goal-based standards (GBS) to set safety goals and functional requirements, taking into account the entire lifecycle of MASS (IMO 2019a). In addition to the GBS, risk assessment and software quality assurance (SQA) will be required for the safety of MASS in both the real and cyber world.

Even in this case, the requirements should be formulated in at least two versions: fully

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autonomous or fully remote control; available in various combinations of autonomous and remote control. Since the shipping market continues to be flooded with new and better technologies, it is unrealistic to formulate detailed technical requirements for algorithms, sensors, data fusion, etc., at the IMO level. It is, therefore, suggested that the code should be goal-based. The aim of the GBS is that autonomous and remote-controlled ships should be as safe as conventional ships of the same or similar types. (DNV GL 2018).

Impact on technology

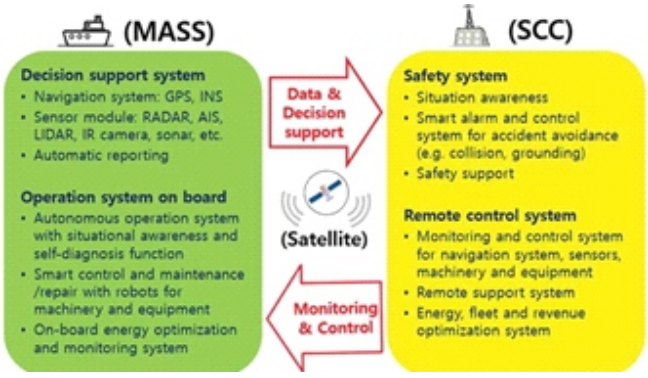
Based on rapidly growing scientific and technological potential for several decades, substantial changes have been taking place in the globe, affecting all areas of humanity as well as the terrestrial and aquatic environment.

Autonomous vessels feature a technology similar to self-driving cars and use a range of physical sensors to control autonomous functions, including Global Positioning System (GPS); Inertial Navigation System (INS); optical and Infra-Red (IR) cameras; Light Detection And Ranging (LIDAR); Radio Detecting And Ranging (RADAR); high-resolution sonar; microphones; and wind and pressure sensors.

More recently, maritime has begun to make use of other technologies for general communications. Commercial cellular 3 G/4 G networks can provide ship-to-shore coverage up to 30 km off the coast (Lloyds Register (LR) 2017). In the past, the provision of the Internet to crew and passengers was too difficult or expensive. Since isolated lifestyles hinder potential young seafarers from entering the shipping industry, the internet access can be a key differentiator for crew members to maintain their careers on ships.

One of the biggest challenges in developing the technology for MASS is to demonstrate that unmanned systems are at least as safe as a manned ship system and to provide the SCC with adequate situation awareness. In case of emergency situations such as stranding or evasive maneuvering, the ship systems should be remotely monitored and controlled by the operators of the SCC receiving crucial information via satellite at short time intervals. The SCC should also have a smart alarm system and the ability to switch to the manual control mode in case of doubt on the autonomous system. Figure shows MASS and SCC systems with essential equipment and functions and their relationship formed by data and information via satellite.

Figure MASS and SCC systems and their relationship.



Particularly, with respect to sensors that support monitoring and decision from SCC, the reliability of the sensors must be ensured through design approval as well as remote and on-premise testing and periodic inspections. Sensor failures cause a serious threat to the safety of the system. The most important safety sensors should consider homogeneous and/or heterogeneous redundancy, and diagnostics, and/or prognosis. It should be noted that heterogeneous redundancy is more

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reliable than others since it can reduce the dependency on sensor types (DNV GL 2018).

Additionally, due to lack of failure data and no easy access to the data, a more detailed elicitation of experts could be beneficial to resolve some issues pertaining to hazards threatening the safe and efficient operations of autonomous ships.

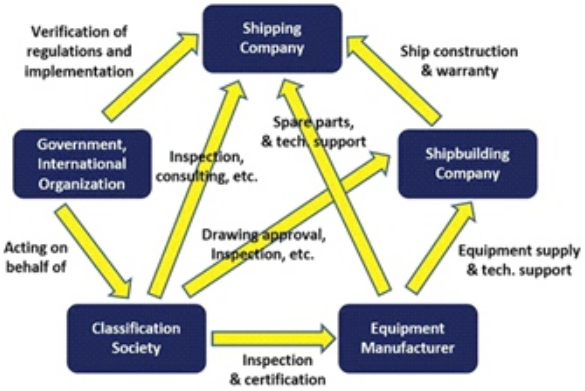
All equipment and device installed onboard should also be interconnected and integrated to enable collection, management, and analysis of data. They are required to be equipped with a high level of redundancy and durability, and to be highly modular to avoid failures.

Lower communication is required by a higher level of autonomy where the on-board processing system analyses the data for detection, tracking, classification, and recognition of objects of interest. But it should be noted that the higher level of autonomy a ship has, the more crucial and significant accident the ship could cause.

Impact on industry

For hundreds of years, the shipping industry has relied on knowledge and experience of ship crews. Today, autonomous technology is poised to reshape the maritime sector with unmanned vessels. Small unmanned crafts have already begun service, while the technology for larger vessels is under development. It is time for the maritime industry to embrace autonomy and to understand how autonomy will shape the future industry and how best to utilize it. MASS will have an impact on ship design, shipbuilding, port infrastructure including services and interfaces. Automation will transform on-shore elements of shipping from port infrastructure and cargo handling through to the land-based logistics and transportation chain. One of the goals of the logistic industry is a timely service that allows shippers and customers to instantaneously tailor dispatches and receive deliveries from this autonomous logistics transport chain (Lloyds Register (LR) 2017). For a successful introduction of the MASS to the maritime industry, communication and cooperation of its stakeholders based on mutual understanding will be vital. Main stakeholders and their relationship are depicted in Figure. Seafarers onboard/onshore; insurance company; cargo and bunkering companies; research institution; university; and training center in the maritime sector would be stakeholders.

Figure - Main stakeholders for a ship.



Additionally, autonomous vessels will contribute to transforming the existing industries into new innovative types of industries that can improve the existing vessels; system integration and control; system management and maintenance; SCC operation and management; fleet management; cyber security; big data analysis; smart sensor; and communication. Moreover, for the successful introduction of the MASS, development, amendment, and interpretation of maritime rules and regulations together with communication and

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cooperation of the stakeholders are also required to make the autonomous ships efficient and reliable.

Other issues on MASS

Safety issues

It is perceivable that the automation can lead us to a safer environment since it is able to address human shortcomings like fatigue, attention span, information overload, and normality bias on the possibility of accidents. In the United States Coast Guard (USCG) report, the marine causalities caused by human error were between 75%- 96%. These errors were the result of fatigue, shortfalls in maintenance and standards, inadequate knowledge and information, and poor communication skills. On the other hand, the quantitative safety assessment of an unmanned bulk carrier, the unmanned ship can be expected to be safer than conventional ships despite acknowledging that they lack vital information pertaining to her design and operation.

New technology also opens for new types of accidents. Results of a study showed that while navigation risks such as collision and stranding may decrease, non-navigation risks including fire, explosion, and flooding may rather increase on autonomous ships.

Therefore, risk assessment can be served to demonstrate a certain level of risk and an important tool for making relevant design decisions. Due to the complexity of autonomous marine system, there lacks relevant knowledge, information, and experiences. Given this, it may be challenging to determine the complete risk level for the MASS considering a wide range of uncertainties in accidental scenarios, probabilities, and severities.

Security issues

Due to the high reliance on software and connectivity, cyber security risk has emerged as a matter of remote control and management of autonomous ships. Since the autonomous ship concept will depend heavily on information technology systems onboard and onshore, cyber- attacks are far more likely than conventional vessels. For the remote control function, cyber terrorists could hack the communication link to control the function directly. The more dependent a ship's operation is on software and communications, the more vulnerable it is to these threats (DNV GL 2018). Furthermore, as malicious activity grows and new technologies emerge, such as the Internet of Things (IoT), new security challenges will materialize, and the suitable protection of systems, networks, and data in cyberspace will be more needed than ever.

In 2016, IMO identified a number of key areas in the maritime sector associated with potential cyber-related risks that include but are not limited to bridge systems; cargo handling and management systems; propulsion and machinery management and power control systems; access and control systems; communication systems; and personnel (IMO 2016).

MASS may change the patterns of pirate, terrorist, and criminal activities. Cases of human loss including hostage situations and kidnapping by pirates and armed robberies may be decreased. However, the absence of ship crews can lead to an increase in attempts to hijack the vessel itself for valuable cargo. There is also the inherent risk that MASS can be abused for crimes such as illegal cargo transport, including arms and drugs. Technical and institutional considerations should take

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place to strengthen port security by developing new inspection mechanisms or changing the place of inspection, if needed.

Issues on jobs and training

While growing fast, the maritime industry is struggling to find adequately skilled seafarers. In particular, Lloyds Register (LR) (2017) predicted significant shortfalls of qualified officers and crews from 2025. Moreover, the advent of MASS has raised concerns on the decline in the number of seafarers and jobs which are expected to be replaced by Artificial Intelligence (AI) and autonomous systems.

On the other hand, the opportunity for new business and job creation will be followed by this trend, which will require highly skilled crews and operators especially with expertise in technology and IT systems. The predicted deficit of labor could be offset by deploying automation. Remote and autonomous operations will transfer many seafaring jobs to land-based SCC, opening up the industry to a new set of people who will find a maritime career, onshore, a more attractive proposition. It is also anticipated that autonomous ships will enhance the quality of life of seafarers. If ships are controlled from the shore, the difficulty stemming from staying on board for a long period of time and the risks of marine accidents will be alleviated.

In the face of the decreasing number of seafarers, it will be very important to develop qualification standards for on-shore operators of MASS and to provide relevant training and education. The operators should be certified as appropriate under the International Convention on Standards of Training, Certification, and Watch keeping for Seafarers (STCW) Convention. It might be also necessary to consider developing new qualification standards in the STCW Convention or new Knowledge, Understanding, and Proficiencies (KUP).

Legal and ethical issues

Businesses have adopted advanced and new technologies in order to improve business performance, reduce costs, and enhance safety. However, the gap between the time taken to develop and exploit technology and the ability of regulators to develop codes and practices gives rise to vulnerabilities, while the timing and the type of regulatory intervention can accelerate, retard, or prevent the adoption of the technologies taking into account mutual influence between regulations and technologies. Therefore, to take full advantage of the benefits of the technologies, efficient approaches to regulation are required in a timely manner.

Traditionally, we have always ascribed responsibility to human agents or organizations considered legal entities, such as a shipping company. It is difficult to ascribe responsibility for wrongdoing to an algorithm when it is not considered a moral or a legal agent. This challenge is widely discussed in relation to the automotive industry. The debate on the safety of self-driving cars includes the testing of traditional examples of moral dilemmas. As an example for the MASS, the ISM Code (SOLAS Chapter IX) requirements to identify a legal entity responsible for the safe operation of ships and pollution prevention will remain (DNV GL 2018).

In the process of developing and adopting autonomous ships, a wide variety of ethical issues are expected to be raised. In the past, communication for ship operation has been dominated by human, while, in the case of MASS, it is expected to be diversified to man-machine and machine-machine

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communication. It is necessary to review scenarios in which communication with machines fails or is rejected. The development of a technology equipped with the ability to respond to every possible scenario is so challenging that the boundary setting for legal liability will be another issue, especially establishing reasonable criteria and scope on responsibility between ship owner and manufacturer including an appropriate security structure for insurance coverage.

For the sake of an example, here is a question regarding the ethical issue. A MASS was assumed to navigate along the most economic route. Nearby the MASS, a manned passenger ship was capsized, communication systems were unavailable or misguiding between the MASS and the manned ship, while her crews and passengers on the capsized ship were nothing but to wait for a help. Unfortunately, the MASS may not able to recognize the accidental situation of the passenger ship at risk. Who is responsible for neither recognizing the ship nor fulfilling duties of rescue?

Conclusions

The introduction of the MASS with alternative fuels to the maritime industry will open up a new era and bring about a new paradigm shift in terms of cost efficiency, accident prevention, and human resources. However, new and very distinct issues related to safety, security, and environmental protection conventions and regulations must be resolved. Therefore, more holistic, international, and consolidated approaches for new regulatory frameworks to the MASS are to be taken into account before the introduction of MASS into commercial shipping in order to ensure the prevention of maritime accidents and the protection of the environment. It is also important to understand the impact of the MASS on regulations, technologies, and industries, and relationships between relevant stakeholders.

In this paper, recent trends for developing autonomous vessels are firstly presented along with the latest global projects. While a number of projects have been already carried out as preliminary studies, various projects are ongoing or upcoming throughout the world to develop pilot ships, even competing concepts and systems to support unmanned operations, coupled with infrastructure initiatives, including autonomous ports and high bandwidth communications.

Secondly, the impact of the MASS on regulations, technologies, and industries has been identified with multilateral influences. Regarding the international regulations, RSE was accepted into an MSC work program to determine how the safe, secure, and environmentally sound operation of the MASS might be addressed in IMO instruments. The amendment of all relevant conventions will require lots of tasks with significant time. Therefore, GBS, risk assessment, and SQA are prerequisites for the safety of the MASS in both the real and cyber world. The great challenge to develop technologies for the MASS will be to demonstrate that unmanned systems are at least as safe as manned ship system and to provide SCC with situation awareness, especially in cases of emergency situations. The MASS should be remotely monitored and controlled by the operators of the SCC with a smart alarm system receiving necessary and crucial information via satellite. Systems and sensors required for the MASS and SCC shall be defined and developed, and their synergetic impacts should be closely reviewed.

AUTONOMOUS SHIPPING AND ITS IMPACT ON REGULATIONS, TECHNOLOGIES, AND INDUSTRIES

Especially, equipment and device installed onboard will have to be integrated to collect, manage, and analyze data from the MASS efficiently. They will have a high degree of redundancy and durability as well as will be highly modularized to avoid failures. The MASS will have an impact on ship design, shipbuilding, port infrastructure including services and interfaces. Communication and cooperation of multiple stakeholders based on mutual understanding will be vital for a successful introduction of the MASS to the maritime industries including shipping, shipbuilding, equipment manufacturing, classification society, etc.

Thirdly, other issues including safety, security, jobs and training, and legal and ethics were examined. Unmanned vessels are expected to be safer than conventional vessels. But new technology also opens for new types of risks such as non-navigation risks including fire, explosion and flooding, cyber security threats, and error of information. MASS may contribute to changing the patterns of pirate, terrorist, and criminal activities. Technical and institutional considerations should take place to strengthen the security by developing new inspection mechanisms. While anticipating the decrease in the number of seafarers, it will be highly important to develop the qualification standards for on-shore operators of MASS and to provide relevant training and education. Regarding the legal and ethical issues, the disparity between the time for technological maturity and the time to develop relevant regulations and practices may cause a negative impact on the timely adoption of the technologies. Therefore, readdressing approaches to regulation is needed in order to fully exploit the benefits of the technologies in a timely manner. Autonomous ships are also expected to raise a wide variety of ethical issues, especially emergency cases such as miscommunication between human and machines as well as machine and machine, and search and rescue of ships and crews/passengers who need an urgent help.

Finally, a number of significant challenges still remain to be resolved, but the benefits to the environment, business, and society will necessitate multidisciplinary actions to address these issues on the MASS. The most important task of a sustainable development in the maritime industry of the future is to understand all these dimensions and their interconnections to achieve minimal safety risk, minimal environmental impact, and maximum commercial benefits.

As a future work following this study, a quantitative analysis for the impact of the MASS on regulations, technologies, and industries including economic effects on the industrial side will be addressed in detail.

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THE HELM - ISSUE 13

CAN INDIA STANDUP TO THE CHINESE ONSLAUGHT IN SHIP BUILDING COMPETITIVENESS?

In the changed context of economic liberalization and pressure on competitiveness are we ready to perform. The maritime overseas trade has expanded considerably over the years, both in terms of volume and direction due to export/import policies of the government.

Efforts are continuously made to provide, improve and maintain the port related infrastructure, logistic, storage and transport for facilitating the movement of traffic very efficiently.

India has 12 major ports (6 on the west coast and 6 on the east coast). What is required – a seamless transport connecting roads, rails, ports & airports. There is a greater need to encourage maritime sector i.e.: ports, inland waterways, coastal shipping, cruise industry, ship building & ship repair business to its full potential for a nations booming economy.

Ministry of Shipping is the nodal agency for the promotion of Ship building and Ship repair policies. Following PSU's are in operation.

1. Cochin Shipyard Ltd.
2. Hoogly CSL.
3. Mazagon Dock Ltd.
4. GRSE Ltd , Kolkata.
5. Goa Shipyard Ltd.
6. HSL ,Vizag.
7. Shalimar works Ltd , Kolkata

The pandemic and global slowdown has pushed the industry into downturn facing financial troubles, lack of orders. The major reason can be the huge disparity between new building prices and earnings.

IMO global 0.5% sulphur cap on marine fuels, geopolitical uncertainty, trade disputes between nations, economic sanctions, roaring fuel prices, inflation, recession, war like situations, environmental regulations are escalating financial challenges.

Ship building, Ship bunkering, Ship Chandling, Ship repair has to be acknowledged as a key sector for job creation, ancillary industry growth &linear economic growth.

Size restriction: Currently we can build in India only 1, 10,000 DWT ship. Private sector can built vessels of higher capacity. For e.g.:

1. Reliance Naval Engg.
2. L & T shipbuilding
3. Tebma shipyard.
4. Shoft shipyard.
5. Chowgule& Co.
6. Vijai Marine.
7. Mandowidrydocks.
8. A.C. Roy & Co.
9. DempoShipbuiding.

Apart from building naval vessels, tugs & merchant vessels the shipyards should be able to take orders for building Cruise vessels, Tankers, Gas carriers, LNG ships, Dredgers, Fishing vessel, Ro Ro, Barges, River vessel &other specialized vessels.

Encourage use of new design, new technology especially in construction of vessels which use alternative fuels & energy efficient ships.

Article by
Capt. Balagopal Sunil, Faculty Nautical Science, Coimbatore Marine College

THE HELM - ISSUE 13

CAN INDIA STANDUP TO THE CHINESE ONSLAUGHT IN SHIP BUILDING COMPETITIVENESS?

Prepare to compete with the other major players by becoming sustainable, competitive& efficient.

Order book New building (as on 30.09.2020)

CSL = Total 52 nos.

Private Shipyards Association of India figures in crores of rupees (as on 31.12.2020)

1. Shoft Shipyard Pvt. Ltd. = 575
2. Marine Frontiers Pvt. Ltd. = 172
3. Dempo Shipbuilding and Engg. Pvt.Ltd =1.82
4. A.C. Roy & Co. = 55.77
5. Reliance Naval&Engg. Ltd. = 4,140
6. MandoviDrydocks = 42.3
7. Chowgule& Co. Ltd. = 223
8. Vijai Marine Shipyard = 70.02

Total value = Rs 5279.91 crores.

Now Let us look at Ship repair market:

The global ship repair market is approximately US$ 12 billion. Like China, Singapore, Bahrain, Dubai, Colombo, Portugal, Caribbean and Middle East account for a major share. These locations have achieved a dominant position despite higher cost of ship repair services compared to other developing Asian countries. Due to the availability of skilled workforce and the latest technology which allows these shipyards to attract demand from other low cost locations like India, Malaysia , Bangladesh and Indonesia.

The global market for ship repair and maintenance service is expected to witness significant growth, reaching a market value of $ 40 billion by year 2028-2030.

Though India's share in global ship repair isless than 1%, the country's location is favourable with about 10% of the global trade passing within 300 NM of the coastline, highest Maritime Human resource, large Maritime Training Institutes, Top supplier of seafarers, largest producer of Engineering graduates.

The untapped potential in the Indian ship repair market can be attributed to the presence of competing international ship repair yards in Singapore, Middle East (Dubai, Bahrain) and Colombo on major trade routes and a high capability gap of Indian shipyards in repairing certain kinds of vessels, government policies & poor infra.

Due to these disadvantages, only about quarter shipyards out of a total of 27 shipyards in our country carry out any significant ship repair jobs.

Indian ship repairers are uncompetitive as compared to foreign ship repairers. Disadvantages include red tapism, unionism , work quality , poor performance , high wages, high cost of financing, lack of supply of ship spares in India , poor Logistics , high Lead time and technology related issues with increasing ship repair execution cycle time.

Our Strength

1. Geostrategic location.
2. Abundance of youthful manpower.
3. Supportive present government policies.
4. Subcontract labour rates.
5. Climate.
6. Large coastline.
7. FDI.
8. Political stability.
9. Emerging economy.
10. Increased FDI.

Article by
Capt. Balagopal Sunil, Faculty Nautical Science, Coimbatore Marine College

THE HELM - ISSUE 13

CAN INDIA STANDUP TO THE CHINESE ONSLAUGHT IN SHIP BUILDING COMPETITIVENESS?

What is required now for building more International standard Ship Building & Repair Facility?

In September 2021, the South Korean Ministry of Trade, Industry and Energy announced a plan for the nation's shipbuilders to win 75 percent of all eco-friendly vessel orders and 50 percent of all autonomous vessel orders by 2030.

2021 China has taken the number-one spot in shipbuilding, overtaking South Korea for annual order volume by compensated gross tons (CGT), according to data released by clarksons.

South Koreans reported in April 2022 that their average price per ship was now $143 million. The Clarksons' data shows it is 66 percent higher than their Chinese rivals which were reported to be averaging $86 million per ship.

Advantages for India:

1. Vastmaritime experience.
2. Skilled Manpower & Communication.
3. Advanced Design & Drawing tools.
4. Maritime Coastline & Ecosystem.
5. Domestic demand.
6. Climate& Weather.
7. Public Private Partnership.
8. Technology transfer or Leaked technology.
9. Improving Infra.
10. Ease of doing Business.

What to Focus onto take Chinese onslaught:

1. Competitiveness& Quality.
2. New building price & Old ship price (Cost).
3. Technology& Design.
4. Research& Development.
5. High value Shipbuilding equipments.
6. Secondary income from Ship repair.
7. Procurement of materials, spares, stores, raw material.
8. Production factors.
9. National support.
10. Decreased error repetition.
11. Adapting to Design Flexibility.
12. Fuel efficient ships.
13. (Green) Energy efficient shipyards.
14. Pollution prevention & control.
15. Waste management.
16. Warranty & Guarantee (Customer service)
17. New business market.
18. Block manufacturing.
19. Craftsmanship.
20. Technology transfer.
21. Up skilling present labour force.
22. Meeting Owners demand.
23. Time management.
24. Governments financial support.
25. Labour culture.
26. Alternative Dispute Redressal.
27. Safety & Security of yards (property).
28. Process control.
29. Management control.
30. Ship building logistics & clearances.
31. Building Autonomous ship.
32. Future needs.
33. Compliance culture.

Let us hope that in next five years all the interested parties having stake in Nation building will not give deaf ears to meet ever increasing global demand. Shipping means real Business.

Article by
Capt. Balagopal Sunil,
Faculty Nautical Science,
Coimbatore Marine College

RESEARCH PAPER, *Submitted by Dr.S.Gopinath*

Dr. S.Gopinath,
Professor,
Coimbatore Marine College

TITLE OF THE RESEARCH PAPER: Investigation on mechanical behavior of compression molded mesquite bio filler reinforced hybrid composites

NAME OF THE JOURNAL: American Institute 0f Physics

AFFILIATION OF THE AUTHOR: Professor, Department of Marine Engineering, Coimbatore Marine College, Coimbatore, Tamilnadu, India.

ABSTRACT

Proposed work has the investigation of mechanical characterization of composite material reinforced with hybrid natural fibers. The designed percentages of flax fiber (FF), and kenaf fibre (KF), were incorporated as fiber reinforcement along with a bio filler mesquite ash powder (MA). Fabrication of composite material is carried out using compression moulding technique with Epoxy resin (EP) as the matrix material. Further, the microstructure of the moulded composites was characterized through FE-SEM. Among the composites, 10FF-15KF-15MA-60EP has gained the maximum tensile strength of 51.2 KPA. The flexural strength was superior for 10FF-15KF-15MA-60EP with 126.5 KPa due to presence of higher KF. The incorporation of mesquite ash with higher fiber content in 10FF-15KF-15MA-60EP composites has increased the impact strength up to 71 J. The major content of FF and KF in 10FF-25KF-5MA-60EP composites has acquired the better inter-laminar shear strength of 4.4 KPa than other samples. Hardness was greater in 10FF-10KF-20MA-60EP composites due to the higher enrichment of MA content.

Keywords: Natural Fibers, Resin, Mesquite, Hardness, Shear strength and Bio-fillers.

TITLE OF THE RESEARCH PAPER: Effect of Hybridization, Manufacturing Methods and Factors Influencing Natural Fibers Reinforced Composites and Its Commercial Applications – A Review

NAME OF THE JOURNAL: Materials Today

AFFILIATION OF THE AUTHOR: Professor, Department of Marine Engineering, Coimbatore Marine College, Coimbatore, Tamilnadu, India.

ABSTRACT

Excessive deployment of petroleum resources results very high accumulation of CO2 in the atmosphere along with other associated consequences like global warming, disturbances in the

(Continue...)

RESEARCH PAPER, *Submitted by Dr.S.Gopinath*

Ozone Layer etc. In this scenario, protection of environment and sustaining the ecological balance by taking suitable measures become need of the present time. It becomes most desirable to utilize renewable and sustainable resources as much as possible to save the environment. Application of plant derived resources in the preparation of polymer composites is one good alternative for successful utilization of renewable resources and a sustainable environment. This leads the scientists and researchers to concentrate more on the application of natural fibers and other plant based resources for the preparation and development of natural fiber polymer composite, wood plastics composite etc. Large number of plant resources is employed for such development and also for commercial production of different environment friendly composites. This review focuses on various factors influencing the mechanical properties of natural fibers reinforced composites (NFRC's). Effect of hybridization and manufacturing methods of NFRC's also addressed.

Keywords: Applications, Hybridization, Manufacturing Methods, Natural Fibers

SEMINAR

TITLE OF THE SEMINAR ATTENDED: 'IEEE': Digital Evolution in Higher Education-Post Pandemic

NAME OF THE ORGANISERS: The Institute of Electrical and Electronics Engineers (IEEE) and EBSCO

NAME OF THE PARTICIPANT: Dr. S.Gopinath

AFFILIATION OF THE PARTICIPANT: Professor, Department of Marine Engineering, Coimbatore Marine College, Coimbatore, Tamilnadu, India.

OUTCOME OF THE SEMINAR

The theme of this seminar 'Digital Evolution in Higher Education-Post Pandemic 'contributes to educational research based on the investigation of holistic perspectives of the on-going online teaching activities during the lockdown period. It has provided a detailed overview of e-learning practices during the pandemic and its future prospects from the teacher's point of view. The goals of this seminar was to learn about the worldwide trend of how employees utilize e-learning resources, to identify teachers' interests in and attitudes towards using e-learning resources throughout the globe, and to recommend opportunities for workers to use e-learning resources around the world, which is a very important issue, especially in the era of globalization, society 5.0, and industry 4.0

FACULTY SCHOLARLY ACHIEVEMENTS

CMC, Logistics and Shipping not only encourage the students but also the faculty members. CMC is proud to acknowledge the achievements of the faculty members on producing excellent research papers and participating in faculty development program. Prof. SAM.E, CMC, logistics and Shipping produced a research papers and participated in a faculty development program.

A COMPARITIVE STUDY ON CUSTOMER RELATIONSHIP MANAGEMENT IN PRIVATE AND PUBLIC SECTOR BANKS - WITH REFERENCE TO COIMBATORE"

AUTHOR
Mr. SAM.E M.Com., M.Phil,
Faculty, Coimbatore Marine College

ABSTRACT

In the ongoing era of financial sector reforms in India, because of intense competition commercial banks are vying with each other for market share. Customer satisfaction has become all the more significant for survival and growth of banks in view of the discerning customers of modern days. Customers are the focal point in the development of successful marketing strategy. Customer retention assumes significance in revenue analysis of various organizations. The success of CRM process depends on the active involvement of all managers and employees in the banking field a unique 'Relationship' exists between the customers and the bank. But because of various reasons and apprehensions like financial burdens, risk of failure, marketing inertia etc., many banks are still following the traditional ways of marketing and only few banks are making attempts to adapt CRM. Providing service to customers has been identified as the prime responsibility of the Banks and therefore, Banks considered that CRM is the best tool to perform the job of rendering good services.

Key words: Customer relationship management, Banking sector, Customer retention, Customer satisfaction and Customer awareness.

THE HELM - ISSUE 13

CUSTOMER RELATIONSHIP MANAGEMENT IN TOURISM SECTOR FOR DEVELOPING SERVICES

(WITH REFERENCE TO COIMBATORE DISTRICT)

AUTHOR: Mr. SAM.E M.Com., M.Phil, Faculty, Coimbatore Marine College

ABSTRACT: CRM is an enterprise-wide mindset, mantra, and set of process and policies that are designed to acquire, retain and service customer. CRM is not a technology, though technology is a CRM enabler. It is also a customer-focused business strategy which aims to increase customer satisfaction and customer loyalty by providing a more responsive and customized service to each customer. Many companies intend to build stronger relationship with their customers called customer relationship management. A customer touch point is any occasion on which a customer encounters the brand and product from actual experience to personal or mass communications to casual observation. Companies then provide excellent real-time customer service by using and managing customers' individual account information effective. For example, companies can provide customize market offerings, services, programs, messages, and media based on what they know about each valued customer. CRM is important for a company because the aggregate value of the company's customer base is a major driver of company profitability. In this paper, the main purpose was to study role of CRM in tourism sector in Coimbatore district.

KEYWORDS: CRM (Customer Relationship Management), service marketing mix, service quality, customer satisfaction, customer retention and Tourism industry.

AN OVERVIEW ON STRESS MANAGEMENT PRACTICES FOR MARINE AND NAUTICAL CADETS UNDER MARINE INDUSTRY

AUTHOR: K. S. RAJESWARY, Assistant Professor, Coimbatore Marine College

K.S. RAJESWARY,
Assistant Professor,
Coimbatore Marine College

Abstract: This study aims at investigating the overall process of evolution and management of stress for marine industry with special reference to Marine and Nautical cadets under marine engineering college. Managing stress is all about taking care of our feelings, emotions, plans surroundings, and the way we handle our problems and issues. Some of the major stress factors are considered to be the lack of inspiration to carry out a particular job, boring and routine work tasks, working with seafarers of different nationalities, excessive or unsatisfactory duties, job shift etc which eventually leads to severe health hazards. The final aim is a balanced life which consists of time management for study, occupation, relationships, entertainment, and fun plus the flexibility to grasp up under pressure and also meet challenges which are encountered. In this study the main concern is for marine and nautical cadets' fulfillment towards education with lower level of stress. In this study questionnaire method and survey was used to collect the required data.

Index Terms: Marine cadets, stress management, marine industry, stress impacts, stress management practices.

HAPPENINGS IN 2022

OOTY TRIP BY ADMISSION TEAM

CMC Admission team along with our beloved chairman C/E.S.I.Nathan, Management Representative Mr.R.Srinivasan, Regional Director Mr.Shyam Sundar, Principal of Coimbatore Marine College Capt. Ramiah Selvarajan and HOD of BBA and MBA Dr. S.B. Senthilkumar had a wonderful trip to Ooty on 8th January 2022.

08th January 2022

PRINCIPAL'S BIRTHDAY CELEBRATION

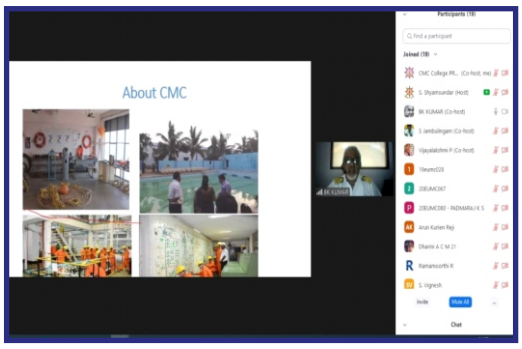
CMC Principal Capt. Ramiah Selvarajan 'S birthday was celebrated on 10.1.2022 in CMC campus. The Teaching and Non Teaching staff members of Coimbatore Marine College had attended and conveyed their birthday wishes to our beloved Principal. The event ended with cake cutting.

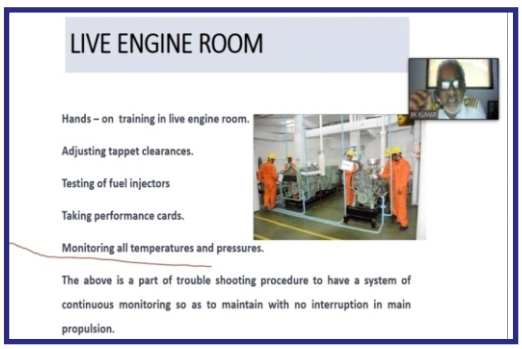
10th January 2022

CAREER GUIDANCE PROGRAM - WEBINAR

We live in a highly competitive era where all our career choice determines the quality of our future. The importance of proper career guidance and counseling cannot be overlooked by CMC at any cost. Hence, A Webinar on Career Guidance was conducted on 02.03.2022 for the budding mechanical engineers of Sri Krishna College of Engineering and Technology, Coimbatore.

The eminent speakers of the program were C/E Balakrishna Kumar, HOD- GME, Dr.Jambulingam, Prof.Vijayalaksmi and Mr.Babu, PRO, CMC. The speakers educated the participants on choosing their career in marine industry.





02nd March 2022

HAPPENINGS IN 2022

A NEW RECORD "INDIA'S TALLEST BURGER" ON KALAM'S BOOK OF WORLD RECORD

CMC wishes to make some space in the most celebrated Book of World Records. While people are attempting to make records in different walks of life, we are here celebrating the most delicious and drool-worthy records made in the world of food.

04th March 2022

Have a look. "India's Tallest Burger" set by Chef Ajith Kumar, CMC chronicled in Kalam's Book of world Record on 04.03.2022. The Pillars of CMC, Capt. Ramiah Selvarajan, The Principal of CMC, Dr.S.B Senthil Kumar, HOD of Logistics and Shipping, Prof. Prem Kumar, Catering and Hotel Administration validated the presentation.

INTERNATIONAL WOMEN'S DAY 2022, 07th March 2022

With the aim of raising awareness on the dignity of women among students, The International Women's day was celebrated on 8thMarch 2022 at CMC. **"The world would mean nothing without women"** emphasized by our beloved Principal Capt. Ramiah Selvarajan in his wonderful address. A few faculty members shared their valuable words recognizing women's momentous contribution to the world.

59TH NATIONAL MARITIME DAY CELEBRATIONS AT CMC

05th April 2022

Maritime Day is a time-honored tradition that recognizes maritime industry which stands as one of the most significant industries of India. On 5th April 2022, CMC proudly celebrated the 59th National Maritime Day as recognition of mariners' service and sacrifice to the country. Our honorable Chief Guest, Mr Srinivasan, Management Representative, CMC Group of Institutions hoisted the National Flag and received the Ceremonial Parade. Cadet. Abhinav welcomed the gathering. Cadet Anitta K George administered the Oath Taking Ceremony; All Cadets affirmed the statement solemnly. C/E. Praveen Kumar, HOD/B.Tech and Cadet Joel Varghese laid emphasis on how our Nation's merchant mariners serve with honor and integrity. Capt. Ramiah Selvarajan, the Principal of CMC and C/E. T.Nedumaran, Academic Director were instrumental in organizing the event of National identity.

HAPPENINGS IN 2022

GP RATING (GPR 04) PASSING OUT FUNCTION, 08th April 2022

Every new beginning comes from some other beginning's end. On 8th April 2022, CMC organized a Farewell for passing out batch of the "GP RATING (GPR 04) cadets. Our beloved Principal Capt. Ramiah Selvarajan wished the cadets **fair winds and following seas** in his farewell address. Over and above the thoughtful statement, our beloved Placement Director C/E.Gopalakrishnan, Mr. Vivian Shenoy, HOD/GP Rating, C/E. Praveen Kumar, HOD/B.Tech and the faculty members bid the cadets adieu with their inspiring words.

EMPLOYEE DEVELOPMENT PROGRAM, 22nd April 2022

CMC not only encourages the faculty and staff members of its own but also open doors to the employees of shipping organizations for their professional growth. On 22nd April 2022 CMC invited the employees of PISCES ER1 MARINE OPERATIONS to an Employee Development Program at CMC. As the eminent mariners, our beloved Principal Capt. Ramiah Selvarajan Placement Director C/E.Gopalakrishnan & C/E. Praveen Kumar, HOD/B.Tech addressed the employees on enhancing employee relations in marine industry. At the end, participants took a campus tour of the model ship building.

PRIZE DETAILS OF CMC CADETS

24th April 2022

@ IMU RMI (IMU KOCHI)

Recognizing the students' achievements will let them know that you mark their efforts and you are proud of their achievements. Adding feathers to the cap of CMC, our cadets participated and won prizes in IMU rmi College Fest conducted by IMU Kochi on 24.04.2022. As a gesture of appreciation, our beloved Principal Capt. Ramiah Selvarajan honored the prize winners with certificates & C/E. Praveen Kumar, HOD/B.Tech wished the cadets even more success in the future. Our special thanks to our Faculty Dr.Jambulingam, accompanied and lead the team of our Cadets to IMU Cochin Campus.

HAPPENINGS IN 2022

CARVING WORKSHOP , 28th April 2022

Creativity is a pre- requisite for innovation. With the aim of inculcating cookery skills among the students, the Department of Catering and Hotel Administration, CMC organized a VEGETABLE CARVING WORKSHOP on 28.04.2022 & 29.04.2022. Students of respective department were allowed to express their ideas through Vegetable and Fruit carving. The Guest of honor Chef.Aravind, Ginger Hotels, Tirupur educated the students with his valuable words.





DIFFERENT TYPES OF VEGETABLE CUTS AND SALAD PREPARATION" - PRACTICAL CLASS

On (13.05.2022)@ CMC, The Department of Catering Science and Hotel Management conducted a practical class " Different types of Vegetable Cuts and Salad Preparation" for the students in Food Production. It concentrated on cuts of vegetables, chicken and International Salads. This was orchestrated by Chef. Ajith Kumar. K in the presence of HOD Mr. Premkumar Prakasam and Dean Mr. Senthil Kumar S.B.


13th May 2022

TRAINING & ORIENTATION PROGRAM - GPR STAFF

On (13.05.2022), Training & Orientation Program (SDP) was conducted by our beloved Academic Director T.Nedumaran & Prof.Ajay Khanna to GPR Staff to implement new technology to conduct GPR course classes with the MTK app, covering the full syllabus, as per DGS Guidelines.

Our beloved Principal, Capt. Ramiah Selvarajan, initiated the program. All staff members were trained individually in the computer hall.


13th May 2022

PASSING OUT FUNCTION FOR B.TECH 18

On (31.05.2022) at CMC Conference Hall, "Passing out Function for B.Tech 18" was celebrated. Our beloved Principal Capt. Ramiah Selvarajan addressed the gathering and delivered a wonderful motivational speech to the cadets . After that C/E.Praveen Kumar, HOD/B.Tech & Mr. Sureshkumar, Faculty, B.Tech 18 Class Teacher distributed the Gifts and Certificates to the Passing out cadets.

The cadets got the certificate for "the successful completion of Solar Evergreen Project" , "Successful completion of Engine Room Main Engine Overhauling" , " 100 % Attendance" and for being the Academic Toppers.

The following Cadets got the Certificate for being the Academic Toppers:

1. Abhinav S,
2. Michael Suraj,
3. Justin Muscarinhas.

31st May 2022

INTERNATIONAL YOGA DAY PROGRAMME

On(21.06.2022) @ our CMC, On eve of International yoga day, yoga programme has been conducted for staff by our Engine Room Faculty, AYUSH certified yoga trainer Mr. R. Rameshkumar.

21st June 2022

HAPPENINGS IN 2022

PASSING OUT FUNCTION FOR GME 40 & ETO 22

28th July 2022

On 28.07.2022 at our CMC Conference Hall, "Passing out Function for GME 40 & ETO 22A" was celebrated. Our beloved Principal Capt. Ramiah Selvarajan addressed the gathering and delivered a wonderful motivational speech to the cadets . After that our beloved Placement Director C/E. Gopalakrishnan, C/E. Balakrishnakumar, HOD/GME , Mr. Jayapal, HOD/ETO and C/E.Praveen Kumar HOD/B.Tech motivated our cadets with their wonderful speeches.

CMC Faculties and Passing out Cadets shared their memories.

75TH INDEPENDENCE DAY CELEBRATIONS

On (15.08.2022) @ CMC Parade Ground, "75th Independence Day" was celebrated.Our honourable Chief Guest, Mr Senthilkumar, Inspector of Police, Kinathukadavu hoisted the National Flag and received the Guard of Honour. Cadet. Ragfath Nazekha gave the Welcome Address. The Independence Day Speech was given by Cadet Kewin Marshall. Then our beloved Principal Capt. Ramiah Selvarajan addressed the gathering with his Patriotic Speech. Our Chief Guest was honoured with the Shawl and Memento by Our Special Guest Capt. Monson Agustin. After that our Chief Guest delivered a wonderful Patriotic speech to motivate our Cadets towards the growth of our Nation. Then the Celebrations ended with the Vote of Thanks by our Cadet.Simirna. Finally Sweets were distributed to all.

15th August 2022

HAPPENINGS IN 2022

ONAM CELEBRATIONS

On (06.09.2022) at our CMC Campus, "Onam " was celebrated. Our Cadets made wonderful Onam Flower Rangolis at our Reception Hall & Workshop. The celebrations started with the lightning of Lamp. Our beloved Principal Capt. Ramiah Selvarajan addressed the gathering. And a delicious Onam Lunch was provided to all the Staff Members and Cadets.

06th September 2022

CMC HINDI FACULTY MR.RAVEENDRAN'S RADIO DRAMA, 18th September 2022

Mr.Raveendran, Hindi Professor took part in a radio drama named "Ponnu Kidaichiruchhu", and his character name is Mylsamy which was broadcasted on 18.09.22 (3.00 to 4.00 Pm - All India Radio Coimbatore, Trichy, Chennai and all Tamil stations).

HAPPENINGS IN 2022

03rd October 2022

SARASWATHY/AYUTHA POOJA CELEBRATIONS

CMC celebrated Saraswathy/Ayutha Pooja @ 3.30 on (03.10.2022).

DOCKENDALE'S CAMPUS

VISIT / PLACEMENT INTERVIEW AT CMC

Capt. B.N Singh, Marine - Director, Dockendale Shipping Management visited CMC Campus on (17.10.2022). The Capt. was welcomed with a guard of honor.

The program started at CMC Conference Hall with the prayer song. Cadet Kevin Marshal of B.Sc-2020 delivered welcome Address. Placement Director C/E.Gopalakrishnan welcomed the chief Guest, Principal Capt. Ramiah Selvarajan Addressed the gathering.

Cadet Yash Srivatsav of B.Tech- 2021 introduced the Chief Guest. Academic Director C/E .T. Nedumaran honoured Chief Guest with Memento and Shawl. Chief Guest B N Singh delivered a wonderful motivational speech to our cadets and explained the industry needs to the Cadets. Cadet K Simirna of Bsc-20 delivered vote of thanks.

17th October 2022

HAPPENINGS IN 2022

DIWALI

CELEBRATIONS AT CMC

21st October 2022

CMC celebrated "Diwali" on (21.10.2022) at Campus. Cadets made wonderful Rangolis at our Reception Hall. The celebrations started with the lightning of Lamp. Principal Capt. Ramiah Selvarajan addressed the gathering. Delicious Biryani was served to all the Staff Members and Cadets of CMC.

NATIONAL UNITY DAY CELEBRATIONS

31st October 2022

CMC celebrated "National Unity Day" on (OCT 31, 09:00 Hrs) at CMC Parade ground. The Chief Guest, Mr. Chinna Kamanan, Inspector of Police, Chettipalayam Police Station visited CMC Campus and received the Guard of honour. The Chief Guest was honoured with Shawl by our Senior Professor C/E. K. Krishnakumar.

The Chief Guest interacted with CMC Cadets, Captains and Class Representatives and addressed the gathering on the importance of drug free campus and drug free society and also the importance of formation of Antidrug committees in CMC campus. Chief Guest delivered the appreciation certificates to the Best Platoon of the Parade, to the BSC II Year cadet captain. Principal, Capt. Ramiah Selvarajan and Placement Director C/E. Gopalakrishnan addressed the gathering.

PASSING OUT PARADE OF ETO 22B & CAMPUS INTERVIEW OF GME 41

CMC placement bridges gap between the skill set of the students and expectations of marine industry. The Placement team maintains good rapport with marine organizations and ensures various companies visit the campus for placements. Hence, Mr.K.Magesh, Director of the Seashell Marine Pvt. Ltd visited our campus for recruitment. The Placement drive commenced with the introductory speech by our Placement Director C/E. Gopalakrishnan & our beloved Principal Capt. Ramiah Selvarajan. Mr.K.Magesh preluded the company and the industry needs to the cadets. The Director of Seashell Marine Pvt. Ltd interviewed GME 41 cadets.

15th November 2022



STUDENT AWARDS AND ACHIEVEMENTS

The award is a hall mark of students' relentless efforts to achieve excellence. CMC, Department of Logistics and Shipping regularly make remarkable achievements or win awards and prizes in various intercollegiate maritime events. The Dean and HOD Dr. S.B. Senthil Kumar and Faculty members constantly support and encourage the students to participate in the events. The following pictures are the moments of pride and elation to the department of Logistics and Shipping.




HAPPENINGS IN 2022

FRESHER'S DAY CELEBRATION

CMC, Shipping and Logistics organize fresher's day party every year to ensure good co-ordination with seniors. On 5th September 2022, our beloved Dean and The Head of the Department Dr.S.B SenthilKumar affectionately welcomed the new budding managers to our campus. The program accompanied by various exciting events like motivational speech by Academic director C/E.T.Nedumaran, the Principal, Capt. Ramiah Selvarajan and The Placement Director C/E.Gopalakrishnan, followed by dance performances and splendid decoration, thus making it a soulful experience.

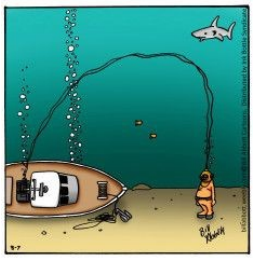
05th September 2022

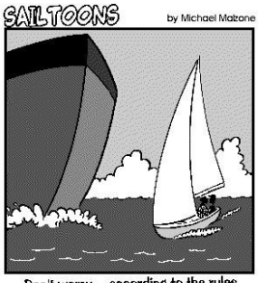
STUDENT EXCHANGE PROGRAM, 11th May 2022

CMC, Department of Logistics and Shipping is full of opportunities. On 11th May 2022, CMC, Logistics and Shipping signed a MOU with Nehru College of Management for Student Exchange Program which includes collaborative academic and professional activities. On 2nd November 2022, CMC, Logistics and shipping invited the MBA students and Faculty of Nehru College of Management to CMC campus for seminar, Management games and knowledge dissemination. On 2nd November 2022 Nehru College of Management invited CMC-MBA students and Faculty for providing a cross-cultural exposure through Management activities.

THE HELM - ISSUE 13

MARINE HUMOUR


"Did you repair the hole in the... never mind."



- BK Kumar, HOD-GME, Coimbatore Marine College

A MAN WAS ASKED TO PAINT A BOAT

He brought with him paint and brushes and began to paint the boat a bright red, as the owner asked him.

While painting, he noticed that there was a small hole in the hull, and quietly repaired it.

When finished painting, he received his money and left.

The next day, the owner of the boat came to the painter and presented him with a nice cheque, much higher than the payment for the painting.

The painter was surprised and said, "You've already paid me for painting the boat, Sir!"

"But this is not for the paint job. It's for having repaired the hole in the boat."

"Ah! But it was such a small service... certainly, it's not worth paying me such a high amount for something so insignificant."

"My dear friend, you do not understand. Let me tell you what happened.

When I asked you to paint the boat, I forgot to mention about the hole.

When the boat dried, my kids took the boat and went on a fishing trip.

They did not know that there was a hole. I was not at home at that time.

When I returned and noticed they had taken the boat, I was desperate because I remembered that the boat had a hole.

Imagine my relief and joy when I saw them returning from fishing.

Then, I examined the boat and found that you had repaired the hole! You see, now, what you did? You saved the life of my children! I do not have enough money to pay your 'small' good deed."

So, no matter who, when, or how. Just continue to help, sustain, wipe tears, listen attentively, and carefully repair all the 'leaks' you find because you never know when one is in need of us or when God holds a pleasant surprise for us to be helpful and important to someone_.

You may have repaired numerous 'boat holes' along the way... of several people without realizing how many lives you've saved.

So Keep up the Good work.

- B. Saifudeen, Visiting Faculty, BBA & MBA.

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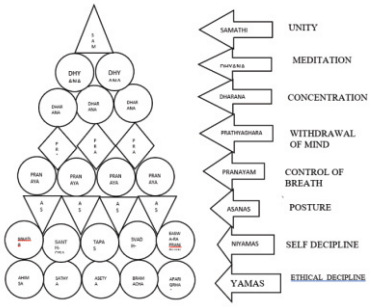
YOGA AND BENEFITS

Yoga the great living art, heritage of our country by our ancestors to live peacefully without harming us or the society and environment. You need not be a monk to learn yoga. Everybody wants happiness in our life. We seek it from externally by watching movie, chatting with friends and family and social media etc. which make us bond to that things or person. We feel comfortable and happy till everything in our favour. When things go wrong it upset our life. We got irritated, annoyed, cheated or depressed. Social and environmental factors also make impact on us. Seeing horror movies or hearing a theft or accidents make us cautious as well as induce some fear of security. Though we have no control on external factors it induces some impulse with in us.

Some external environment affects our body cause cold or fever and our internal immune system always at vigil to react and protect us. If you imagine of eating some sweets it induces saliva without the real situation So every external or internal situation weather it is real or not make changes in our system and auto immune system reacts and bring back to normal. Do you know our moods affects our organs? Anger affects the liver, Fear affects the urinary bladder, too much joy affects the heart. We have endocrine system in our body which injects some chemicals directly to blood or through ducts to the organs depends of our input food, thoughts or by our actions. Like we take some over doses for some diseases we over load our organs which cause diseases and mental imbalance. So, thoughts, verbal's as well as any action we do good or bad to us which unbalance system. In yoga it is called as "vrtti" in chitta. These are seeds we sow in our mind. Patanjali the great sage gives yoga sutras to know our selves and gave remedial measures also. It has 9 steps or stages to be cultivated. We cannot jump or bypass anything. If we do desire result may not come or it give adverse results.



The Art of Yoga sutra and its limbs.
Imbalance of anything collapse the system.

Brief Description of Astanga Yoga

The foundation of our life is discipline which are Yamas and Niyamas. Until otherwise the foundation is strong, we cannot build huge building on that so as the character.

1. Yamas - The yamas (ethical discipline) emphasis 5 important character. Ahimsa is non injure anything by verbally, by action and by thoughts. Sathya Speak always truth. Asetya (non-stealing) is not steal others belongings even by mind. Bramacharya is maintain celibacy. Earlier Gurukulam schools strictly follow this. Aparighraha is not possessing others property.

2. Niymas - The Niyamas are self-discipline. Santosa is be happy about what we have. Saucha is cleanliness both body and mind (with good habits). Tapas is the conscious effort to achieve ultimate union with the Divine. Svadhyaya is self-relationship and improve ourselves. Isuara pranidhiina. Dedication to the Lord of one's actions and will is Isvara pranidhana. So, it will safe us from bondage. These foundations to be taught to children in younger age. So, rest they learn in due course of time.

3. Asanas These are the postures we can maintain it for long duration. For that we should have healthy body. It should be learned from teenage.

4. Prnayamam Is controlling of breath which control the mind. By steady asanas it can be performed.

5. Prathyaghra Is controlling of senses. So, our focus is concentrated.

6. Dharans Once you gained control over senses, we can practice for concentration.

7. Dhyna is meditation. Subtle mind the vision will be clear.

8. Samathi is the final stage by which we can attain the calmness of mind irrespective to the any outside situation.

- R. Ramesh Kumar, Marine Engineer, CMC
Acupuncture Therapiest, Yoga Trainer And Therapiest (ayush)

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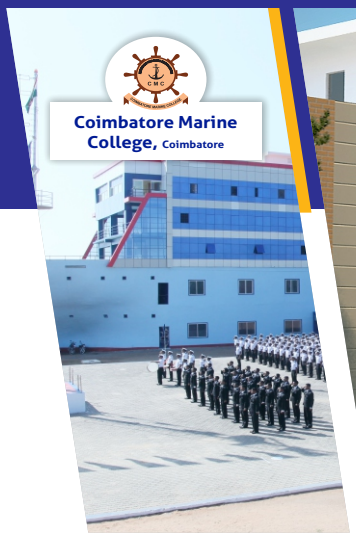

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