



ΕΛ.Ι.Ν.Τ.

**ΕΛΛΗΝΙΚΟ ΙΝΣΤΙΤΟΥΤΟ ΝΑΥΤΙΚΗΣ ΤΕΧΝΟΛΟΓΙΑΣ
HELLENIC INSTITUTE OF MARINE TECHNOLOGY**



2022 PROGRAMME

ANNUAL CONFERENCE OF MARINE TECHNOLOGY



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HELLENIC INSTITUTE OF MARINE TECHNOLOGY**



ANNUAL CONFERENCE OF MARINE TECHNOLOGY
22 & 23 NOVEMBER 2022
FIT FOR 55: SUSTAINABLE SOLUTIONS FOR SHIPPING
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ANNUAL CONFERENCE OF MARINE TECHNOLOGY 2022

Tuesday, 22 November 2022

- 08:15 - 09:00 **Registration**
- 09:00 - 09:05 **Welcome**
Chair: G.Vozikis, *Member of the BoD of the Hellenic Institute of Marine Technology & Director of the Hellenic Shortsea Shipowners Association*
Dr. N. Liapis, *Chairman of the Hellenic Institute of Marine Technology*
- 09:05 - 10:10 **Opening Addresses**
Chair: G.Vozikis, *Member of the BoD of the Hellenic Institute of Marine Technology & Director of the Hellenic Shortsea Shipowners Association*
K. Katsafados, *Deputy Minister of Maritime Affairs & Insular Policy*
Ch. Simantonis, *President of the Hellenic Shortsea Shipowners Association*
V. Logothetis, *Vice President of the Hellenic Chamber of Shipping*
A. Boudouvis, *Rector of National Technical University of Athens*
- 10:10 - 10:30 **Confederation of European Maritime Technology Societies (CEMT)
Award for Outstanding Contribution to the European Maritime Industry**
To be presented by T. Blakeley, *Chairman of CEMT*
- 10:30 - 11:00 **Coffee Break**
- 11:00 - 12:30 **Session 1**
Moderator: A. Vamvakaris, *Vamuaship Maritime S.A.*
Application of steam methane reformer in ship propulsion
A. Trakakis¹, N. Daremas¹, Th. Chalkidis², G. Nomikos², ¹RINA Hellas, ²Helbio S.A.
Shipping decarbonization: the MBM track
S. Lagouvardou, H.N. Psaraftis, *Technical University of Denmark*
The Bio-content of the Distillate Marine Fuel is not the only responsible factor for the microbiological growth
S. Kalligeros, P. Adonakos, *Hellenic Naval Academy*
- 12:30 - 14:00 **Lunch break**
- 14:00 - 15:00 **Session 2**
Sponsors technical presentations
Moderator: Ch. Georgousopoulos, *Ariston Navigation Corp.*
Masters in Marine Engineering Management
D. Iliopoulos, *BCA College*
Carbon Capture And Storage Onboard - Current State, Prospect & Risks
P. Mitrou, *Global Gas Segment Director Lloyd's Register*
Cyber Security automation in shipping
Michail Vrettos, *Security Expert, Rina*
- 15:00 - 17:30 **Round Table Discussion: The future of the shipbuilding industry in Greece**
Moderator: G. Grigoropoulos, *National Technical Univ. of Athens*
S. Kassidiaris, *President of C&A Controls and Automation Stauros Kassidiaris SA*
V. Korkidis, *President of the Piraeus Chamber of Commerce and Industry*
Dr. R. Leivadaros, *Technical Consultant at the Piraeus Shipyard Repair Zone*
V. Logothetis, *Vice President of the Hellenic Chamber of Shipping*
D. Pappas, *President of the Naval Architects and Marine Engineers Association*

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Wednesday, 23 November 2022

09:00 - 10:30 **Session 3**

Moderator: K. Spyrou, *National Technical Univ. of Athens*

Κατασκευαστική ανάλυση διγύστρου ηλεκτροκίνητου επιβατηγού σκάφους με τη μέθοδο των πεπερασμένων στοιχείων για εξοικονόμηση βάρους

N. Silionis¹, D. Papadatos², P. Margaronis², K. Anyfantis¹, N. Tsouvalis¹

¹National Technical University of Athens, ²Alpha Marine LTD.

Development of a management system for the maintenance and repair optimization of 5xxx series aluminum ship structural parts

M.K. Galoni¹, G. Gougoulidis², Sp. Papaefthimiou¹

¹National Technical University of Athens, ²Hellenic Navy

Επισκόπηση μεθόδων προληπτικής συντήρησης με χρήση τεχνητής νοημοσύνης στην ναυτιλιακή βιομηχανία

N. Tsigris¹, E. Sklavounou¹, G. Sklavounos¹, D. Tseles¹, N. Nikitakos², D. Papachristos²

¹University of West Attica, ²University of the Aegean

10:30 - 11:00 **Invited Speech**

Moderator: Dr. N. Liapis, *Chairman of the Hellenic Institute of Marine Technology*

An overview of AI in shipping: when is it worth it, and why?

Dr K. Kyriakopoulos, *CEO DeepSea Technologies*

11:00 - 11:30 **Coffee Break**

11:30 - 13:00 **Session 4**

Moderator: N. Themelis, *National Technical Univ. of Athens*

Ανάπτυξη καινοτόμων διγαστρων επιβατηγών πλοίων με ηλεκτρική και υβριδική πρόωση

D. Dafnias¹, Th. Gouliouras¹, G. Zarafonitis², A. Kanellopoulou²

¹Alpha Marine Ltd, ²National Technical University of Athens

Development and testing of biomimetic dynamic wing to augment ship propulsion in moderate and higher sea states

K. Belibassakis, *National Technical University of Athens*

Robust optimization of hull forms operating in realistic ocean environment- an overview

G. Grigoropoulos, C. Bakirtzoglou,

National Technical University of Athens

13:00 - 14:30 **Lunch break**

14:30 - 15:30 **Session 5**

Sponsors technical presentations

Moderator: G. Cottrell, *Euromarine P.C.*

Containerships: Sustainable Upgrades of Container Securing Systems to meet current Operational & Safety Challenges

George Karavolos, *CEO Seamark Marine Inc*

Shore Power connection ("Alternative Maritime Power", AMP)

Hans Henrik Hoffmann, *SaierNico Europe A/S*

Andreas Angelidis, *Technava S.A.*

The Composite Materials Revolt in Shipping

A. Papapetros, *CEO N.Bogdanos Marine Bureau*

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Wednesday, 23 November 2022

15:30 - 17:00

Session 6

Moderator: P. Yannoulis, *Oceanking Technical & Trading S.A.*

Dynamic model to predict accident-related maritime pollution and probable cost

M. Giannousopoulou^{1,2}, M. Konstantinidou¹, A. Platis²

¹NCSR "Demokritos, ²University of the Aegean

Preliminary hazard analysis for an innovative container feeder concept

N. P. Ventikos¹, N. Themelis¹, K. Louzis¹, C. Georgopoulou², G. Hagesteijn³,

A. Grasman³, E. Rotteveel³

¹National Technical University of Athens, ²DNV Hellas,

³Stichting Maritiem Research Instituut Nederland (MARIN)

Αξιοποίηση της τρισδιάστατης εκτύπωσης στην κατασκευή εξαρτημάτων βοηθητικών μηχανημάτων πλοίων: προσδοκίες και προκλήσεις

G. Sklavounos¹, N. Tsigris¹, E. Sklavounou¹, E. Kostidi², N. Nikitakos², D. Papachristos²

¹University of West Attica, ²University of the Aegean

17:00 - 17:10

Synopsis and closing of the conference

Dr. N. Liapis, *Chairman of the Hellenic Institute of Marine Technology*

CLOSING OF THE CONFERENCE

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BCA is the oldest Maritime college of Greece, operating since 1971. BCA has been the first institution to introduce Bachelors and Masters degrees in Ship Management to the Greek market. With more than 9,500 alumni, a 25 member advisory board, and 60 professors, BCA College continues its tradition of offering academic degrees in line with the evolving needs of the Maritime industry. Since 2020, BCA has been actively supported by Vships and Costamare Inc. in its purpose of introducing Greek Ship Management know how across the globe.



Eastern Mediterranean Maritime Limited (EASTMED) is a full service ship Management Company operating out of Glyfada (Athens) Greece. It offers seaborne transportation services to the energy, industrial and agricultural sectors. Its reputation has been built on the quality services that are provided over the 42 years of operation by linking supply and demand regions of the world, with shipping operation excellence. The solid expertise of EASTMED in the ocean transportation business helps the customers to execute their strategy, create new opportunities and improve their performance against peers. By operating a fleet of world class tankers EASTMED moves crude oil and its products across the globe. EASTMED cooperates with the petroleum industry players and provides midstream services to equity producers, refineries and traders. EASTMED also works together with leading food and grain processing companies, helping them to transport safely and efficiently bulks of agricultural products from the farms to the markets of the world. EASTMED manages a fleet of 82 tankers, bulk carriers and containers and employs 200 staff onshore and 3300 seagoing staff.



Trusted maritime advisors, partnering with clients to drive performance across the ocean economy. **Lloyd's Register** is a global professional services company specialising in marine engineering and technology. Our Marine and Offshore business is a leading provider of classification and compliance services to the marine and offshore industries, helping our clients design, construct and operate their assets to high levels of safety and environmental compliance. In the drive for efficiency in the ocean economy, our Maritime Performance Services help businesses to reach their full potential – now and into the future. Our Digital Solutions let the data speak for itself, combining modern digital tools with deep technical expertise. Lloyd's Register is wholly owned by the Lloyd's Register Foundation, a politically and financially independent global charity that promotes safety and education. All of this helps us stand by the purpose that drives us every single day; working together for a safer world.



Neda Maritime Agency Co. Ltd. (Neda), in its present form, was founded by Nicolaos D. Lykiardopulo. It is one of the oldest Greek merchant shipping companies, continuously in operation for almost over 140 years, already. Neda Maritime traditionally operates a modern and balanced fleet of tankers (VLCCs and LR2s Aframax) and dry bulk carriers (Capesize, Kamsarmax, and Supramax) vessels, mostly ordered and built for own account, ex- Japan and S. Korea yards, and supervised their construction to its own exacting specifications. The M/T "AROSA", the first delivered (early 1993) double-hull VLCC worldwide, built and Classed to LR, has been master-minded by Neda, in the first ever proactive response to the evolving regulatory and environmental needs. Her design and construction has been a pioneering technical breakthrough, closely produced by Neda and Hitachi yard, as a testament to continuous Neda high technical and maintenance standards for its entire fleet, having been owned and operated from time to time. Neda's management philosophy has been to maintain top quality, experienced and motivated personnel at shore and at sea, by endeavoring to have the Greek flag on as many as possible operated vessels, and by implementing a strict policy of sophisticated safety and preventive maintenance on board. With this strongest commitment to be offering operational reliability with a young and high quality fleet; this coupled with technical innovation and management efficiency, Neda continuously endeavors to improve its performance and services to its clients.



RINA provides a wide range of services across the Energy&Mobility, Marine, Certification, Infrastructure & Real Estate and Industry sectors. With net revenues in 2021 of 533 million Euros, over 4,600 employees and 200 offices in 70 countries worldwide, RINA is a member of key international organizations and an important contributor to the development of new legislative standards. www.rina.org

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Seamark with offices in Greece, the Netherlands and China, has been distinguished in the Greek shipping market in the last 33 years for the provision of high-tech marine and port equipment. It exclusively represents leading manufacturers such as the international group of Trelleborg and SEC Germany and is a member of international Chambers and Trade Organizations.



Technava was founded in 1968 aiming to supply marine equipment and technical support to the Greek Shipping Industry. Today, it is one of the leading companies in the supply, installation and service of equipment on board all types of ships. Technava's scope also includes services and equipment for the industrial sector and in particular for power plants, city municipalities and the oilfield industry. Technava sails on a crew of 90 highly skilled individuals including marine, chemical, mechanical and electrical engineers. Our many years of experience in the supply and the service allows us to set customer satisfaction as our primary goal.

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ABS, a leading global provider of classification and technical advisory services to the marine and offshore industries, is committed to setting standards for safety and excellence in design, construction and operation. Focused on safe and practical application of advanced technologies and digital solutions, ABS works with industry and clients to develop accurate and cost-effective compliance, optimized performance and operational efficiency for marine and offshore assets. From its world headquarters in Houston, ABS delivers survey and engineering services and solutions to clients through a network of local representatives working from more than 200 offices in 70 countries.



ARISTON, a team of specialized asset and ship-management experts develops projects to meet the individual ambitions, targets and risk appetite of the investor. The highly qualified shore based ship-management team handles the daily challenges of worldwide trading. The officers and crew are continuously and vigorously trained both onboard and ashore, to meet all company standards as well as national and international requirements. Ariston's culture of continuous retraining and collaborative learning is the backbone of an efficient corporate, technical and commercial management of the ships. Ariston provides tailor-made management solutions by simplifying the maritime industry's complexities through combined knowledge and transparency. Ariston is owned by the Xylas family, a well respected, 4th generation traditional Greek shipping family with its origins founded in the early 1900s. Over the years the group has managed in excess of 120 ships and has supervised the construction and delivery of over 65 new-buildings, primarily in the dry-bulk sector, in first class European and Asian shipyards.



N. Bogdanos Marine Bureau (www.bogdanos-marine.gr) is a dynamic Technical & Commercial Company launched in Piraeus 1956 by the legendary Naval Architect Nico Bogdanos, as the first Surveyor office in Greece, acting on behalf of major Class Societies, Salvage groups, Underwriters etc. Its fields of expertise today are Ship Repairs and Representation of major global Marine & Industrial Equipment groups, offering bespoke solutions by anticipating and adapting to the needs of the continuously changing shipping market. Guided by its inherent business principles and by operating on customer-based strategy, it has established a worldwide network of reputable partners, to meet the requirements of the Greek shipping community, while sustaining the legacy of integrity, reliability and trust through dedication to the needs of our customers and contributing, via our eco-sensitive partners to a better, greener world, our same drive for decades. Combined with the vast and deep knowledge of the Greek Shipping market and manned with experienced Naval Architects & Marine Engineers, the company is today perfectly suited for successfully representing in Greece internationally leaders like NOV FGS & Strongwell of USA, Hydrex of Belgium, ARTA GmbH of Germany, DeServ of Dubai etc.

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At **Bureau Veritas Marine & Offshore**, we share a drive to shape a better maritime world for future generations. Pioneering the safety and performance of new technologies since 1828, we are one of the world's leading ship classification societies and offshore safety and verification bodies, with a global network to support clients worldwide. We understand the challenges clients face in designing, building and operating a truly sustainable maritime business. We're by their side; supporting them with practical advice, tools and technology to run safe, sustainable and high performing businesses. We're known for being responsive and building strong and long relationships with our clients; for being flexible without compromise. And because we're part of Bureau Veritas, a world leader in testing, inspection and certification services with over 80,000 employees in more than 1600 locations, we have a truly global outlook, bringing a broader understanding of the global supply chain and blue economy. So, whether we're meeting the challenge of decommissioning offshore oil and gas assets safely and sustainably, helping shipowners embrace decarbonisation and digitalisation to transport goods safely and sustainably, or supporting marine renewable energy technologies, Bureau Veritas Marine & Offshore is shaping a better maritime world.



C&A STAVROS KASSIDIARIS S.A. is a leader company in Automation Systems in Shipping and Industry since 1978. It covers the whole range of procedures and certifications that are required for the making of Electronic – Electrical and Pneumatic Automation Devices in Hellenic Defence Industry among other industries. From research & development to design and construction. With facilities in two privately owned high-rise buildings in Piraeus, it has up-to-date machinery, laboratories, and warehouses with a large stock of products, upgrading its services which are always based on customers' needs.



COSMOS Nautical Training Centre is a fully equipped Maritime Training Facility, utilizing state of the art teaching resources that enable both the seafarer and the employee ashore to further their training and upgrade their knowledge and skills in order to address the new standards of the shipping industry. CNTC's scope of operations encompasses the promotion of safety and excellence for seafarers and shipping companies' personnel.



DNV is an independent assurance and risk management provider, operating in more than 100 countries. Through its broad experience and deep expertise DNV advances safety and sustainable performance, sets industry standards, and inspires and invents solutions. DNV is the world's leading classification society and a recognized advisor for the maritime industry. We enhance safety, quality, energy efficiency and environmental performance of the global shipping industry – across all vessel types and offshore structures. We invest heavily in research and development to find solutions, together with the industry, that address strategic, operational or regulatory challenges.



Founded in 2009 and headquartered in Greece, **ERMA FIRST** is an experienced manufacturer of ballast water treatment systems (BWTS). The ERMA FIRST FIT system is an advanced modular system which can be installed on both newbuilds and as a retrofit. Covering an extensive capacity range from 50 to 3600m³/hr and holding USCG Type Approval, ERMA FIRST FIT is an ideal solution for all types of ships. ERMA FIRST is the winner of the Lloyd's List Technical Achievement Award (2013) and the Green4Sea Technology Award (2016). ERMA FIRST provides sales, maintenance and training services to its clients via a global network of offices in 46 countries. www.ermafirst.com



Inmartek is a dynamic firm representing European and American manufacturers' interests in the Petrochemical, Power, Offshore, Marine, Chemical & Pharma, Food & Beverage as also Pipeline industry markets. Having successfully served the market for 30 years, Inmartek has been building up an extensive global network of suppliers from the world's leading manufacturers and stockists for engineered mechanical equipment but also special electrical and electronic equipment. Among these are MAMPAEY Offshore Industries for Berthing and Mooring Solutions, VAN LEEUWEN for Steel Products for Offshore Applications and ZEECO for Vapor Recovery Systems and Offshore Flare Systems, which are presented in this event. Inmartek continues to strengthen its leading position via a process of direct growth reflecting our strategy: a determination to provide customers with complete packages of products of certified quality and guaranteed performance as also services to assist the client in resolving technical problems within limited time. Our dedicated team will be happy to hear from you and assist you with any technical queries you may have.

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The **KATRADIS Group of companies** is an established manufacturer of quality marine supplies with a strong presence in the maritime industry since 1936. Its long course over more than eight decades has granted KATRADIS a high degree of technical know-how, on-going support services and quality manufacture expertise that have established the company as a preferred supplier of all major shipping companies around the world. KATRADIS manufactures a wide range of synthetic mooring ropes, steel wire ropes, zinc and aluminum sacrificial anodes while it also supplies anchors and anchor chains as well as port development and deck equipment. In recent years the company's production line has expanded to include yachting ropes as well as fishing and aquaculture nets. Today, the Group's global network of over 70 stock points supplies more than 10.000 ships with KATRADIS mooring ropes and other marine products at all major ports around the world.



With more than 50 years experience **MARITA HELLAS SA** has developed a wide range of Safety Products & Services. Our product portfolio includes Marine Evacuation Systems (MES), Liferrafts, Fire Fighting equipment & life saving appliances for total safety solutions on board in the marine safety and survival field for all kind of vessels. MARITA HELLAS SA is representative and distributor of Survitec Group, a trusted market leader in the safety and survival solutions arena. Survitec Group brings together best in class brands such as SURVITEC, RFD, ZODIAC, DSB, EUROVINIL, CREWSAVER, TOYO, LIFE GUARD and other reputable brands for quality, design & innovation. Also MARITA HELLAS SA is an ISO 9001 : 2008 certified company and holds approvals from major class societies for the services provided as per below: BUREAU VERITAS, ABS, Rina, Loyds Register, DNV -GL. High standard services such as inspections, maintenance & repair of safety equipment are operated by our continuously trained team at MARITA HELLAS SA' authorized service station suitable designed and equipped for satisfying the highest requirements and needs for our customers 24/7.



OCEANKING is a leading technical and commercial marine Group of companies established in 1989, employing over 40 permanent staff, most being qualified Marine Engineers, Naval Architects, and Electronic Engineers with significant engineering, shipbuilding, ship-repairing, sales, and ship operations experience. OCEANKING is certified by LRQA in accordance with ISO 9001 since 2006 and its mission is to provide the Greek and international maritime community with technical and commercial services of high added value, quality and reliability, in co-operation with their Principals, who are market leaders in their field. OCEANKING customer base consists of more than 350 Greek Shipping Companies. Our success is based on our excellent reputation, our technical expertise, and the strong personal relationships we have developed with most shipowners and technical directors over the years in the Greek and Cypriot maritime community, allowing us to establish long-term and loyal cooperation as their preferred supplier. www.oceanking.gr - www.oceanking-engineering.gr



Palau International Ship Registry (PISR)

Palau International Ship Registry (PISR) is one of the world's leading Digital Ship Registries. PISR has developed a strong and growing reputation for high-quality ship registration services for ship owners and operators. PISR offers 24/7 support with traditional registry services through a combination of unique technology and its highly knowledgeable and experienced maritime team. We are a global leader in online services designed specifically for today's ship owners looking for real-time information, transparent financial services and innovative technologies to maintain their operations running smoothly. Through our digital portal for processing all applications and workflows, the ship owner and manager have the power on their desktop to process all their ship, yacht and seafarer's inquiries to PISR, retrieve Key Performance Indicators of their fleet and have greater operational and cost-effective flexibility. PISR's unique Deficiency Prevention System (DPS) provides a risk-based assessment on the status of registered vessels targeted for inspection. It is designed to keep their fleets sailing and compliant with the increasing global maritime regulations. As a flag of confidence, PISR is dedicated to ensuring that ship owners achieve value for money and stay ahead of their competition. Certified: ISO 9001:2015, ISO 37001:2016. www.palauregistry.com

NOTES

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**ΕΛΛΗΝΙΚΟ ΙΝΣΤΙΤΟΥΤΟ ΝΑΥΤΙΚΗΣ ΤΕΧΝΟΛΟΓΙΑΣ
HELLENIC INSTITUTE OF MARINE TECHNOLOGY**

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