



**2021 World of Shipping Portugal,
An International Research Conference on Maritime Affairs**

Summary Report

28 - 29 January 2021, Online Conference,
from Portugal to the World

Ana Cristina F. C. Paixão Casaca, PhD



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Summary Report

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28 January 2021

Ana Cristina Ferreira Castela Paixão Casaca

Founder and Owner of the '*World of Shipping Portugal*' Initiative

Parede, Cascais, Lisbon, Portugal

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ACKNOWLEDGMENTS

At a time when the world is struggling to fight back the horrendous COVID-19 Pandemic, which has changed so much our lives and has been forcing all of us into the adoption of new working procedures, I would like to express my gratitude to all my Colleagues and Friends, Members of the Steering Committee, Members of the Scientific Committee, Authors of Papers, and Conference Guest Speakers that supported me along this journey leading to the implementation of the 2021 World of Shipping Portugal. An International Research Conference on Maritime Affairs, which is part of the “World of Shipping Portugal” a web-based initiative on Maritime Economics.

Meanwhile, take care and keep safe!

I hope to see you in 2022!

Greetings from Parede, Cascais, Lisbon, Portugal

28 January 2021

Ana Casaca



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CONTENTS

| | |
|--|----|
| ACKNOWLEDGMENTS..... | iv |
| CONTENTS..... | vi |
| WELCOME MESSAGE..... | 2 |
| 1. INTERNATIONAL STEERING COMMITTEE..... | 4 |
| 2. INTERNATIONAL SCIENTIFIC COMMITTEE | 4 |
| 3. LOCAL ORGANISING COMMITTEE | 6 |
| 4. ABOUT THE CONFERENCE CHAIRMAN AND ORGANIZER | 7 |
| 5. GUEST SPEAKERS BIONOTES | 8 |
| 6. CONFERENCE REVIEW PROCEDURE..... | 11 |
| 7. LIST OF FULL PAPERS | 11 |
| 8. LIST OF EXTENDED ABSTRACTS | 43 |
| 9. CONFERENCE PROGRAMME..... | 45 |
| 10. CONFERENCE STATISTICS..... | 53 |
| 2022 WORLD OF SHIPPING PORTUGAL CONFERENCE..... | 56 |



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WELCOME MESSAGE

Distinguished Guest Speakers, Authors and Delegates,

When I started preparing this Conference, in December 2019, we were all living a normal everyday life. We had just finished the 2019 World of Shipping Portugal Conference and were travelling either for work or leisure, going to restaurants, meeting friends among many other personal activities.

At that time, much emphasis was being put on the impact of shipping on the environment. Environmental concerns other than oil pollution, such as noxious liquid substances, sewage, garbage, and invasive species from ballast water, forced IMO to release a range of legislative measures to mitigate the impact of shipping operations on the environment.

The world focus on climate change led the IMO to issue the IMO 2020 rule meaning that most ships, as from 1 January 2020, would have to stop burning high-sulphur fuels and switch to new types of compliant fuel oils.

While approaching the end of the year, the IMO 2020 rule, was seen as a daunting challenge. In October 2019, IMO Secretary-General Kitack Lim claimed that the success of the IMO 2020 rule depended upon collaboration among key stakeholders and highlighted the vast amount of work necessary towards its implementation.

However, in January 2020, the COVID-19 Pandemic changed the overall economy's functioning, forcing severe changes in how businesses work and forcing people to change their daily routines.

In April 2020, the International Monetary Fund projected global growth in 2020 to fall to -3 per cent, while the World Trade Organization projected a world trade to fall by between 13% and 32%, indicating a world recession, that many already classify as the largest global recession since the Great Depression. The impact on maritime transport has been enormous.

It is with this background that the 2021 World of Shipping Portugal Conference takes place, looking forward that the next months show considerable improvements that allow us to go back to our normal lives.

I would like to thank you for all the efforts made so that this Conference could take place, even in a virtual environment. I also thank our Distinguished Guests Speakers for accepting our invitation and be available to share their viewpoints on such important matters to the industry

Welcome to the 2021 World of Shipping Portugal Conference.

28 January 2021

Ana Casaca



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1. INTERNATIONAL STEERING COMMITTEE

The 2021 World of Shipping Portugal, an International Research Conference on Maritime Affairs International Steering Committee (IStC) is made up of well-known representatives (hereinafter Members) that have developed a high reputation in shipping, ports, and logistics matters, and which are internationally recognized by the industry they serve. It embraces a balanced selection of about 11 Members chosen according to their area of research and work performed and who are the cornerstone of the shipping and ports research network. IStC Members were individually invited 'ad personam' by the Conference Chairman. The IStC function is to provide guidance and assistance to the Local Organising Committee and contribute to the publicity and promotion of the 2021 World of Shipping Portugal, an International Research Conference on Maritime Affairs. Maintaining the quality of submitted research papers, and an appropriate balance between the interests of researchers and practitioners, are also particularly important goals.

The following Members are part of the 2021 World of Shipping Portugal, an International Research Conference on Maritime Affairs International Steering Committee:

- Chin-Shan Lu, *The Hong Kong Polytechnic University*, Hong Kong, China
- Dong-Wook Song, *World Maritime University*, Sweden
- Harilaos Psaraftis, *Technical University of Denmark*, Denmark
- Heather McLaughlin, *De Montfort University*, United Kingdom
- Jan Hoffmann, *United Nations Conference on Trade and Development*, Switzerland
- Kevin Cullinane, *University of Gothenburg*, Sweden
- Masato Shinohara, *The University of Fukuchiyama*, Japan
- Michael Roe, *University of Plymouth*, United Kingdom
- Mihalis Chasomeris, *University of KwaZulu-Natal*, South Africa
- Paul Tae-Woo Lee, *Zhejiang University*, China
- Stephen Cahoon, *University of Tasmania*, Australia

2. INTERNATIONAL SCIENTIFIC COMMITTEE

The 2021 World of Shipping Portugal, an International Research Conference on Maritime Affairs International Scientific Committee (IScC) will be made up of Members who are familiar with the blind peer review process, even though new blood is always encouraged and welcomed. To follow a robust procedure, each Member will be asked to review/rank several papers, whose reviews/comments will be compiled by the Local Organising Committee and sent to the Authors to improve the quality of the work being presented. The Chairman of the 2021 World of Shipping Portugal, an International Research Conference on Maritime Affairs International Scientific Committee is Amélia Loja. The following Members are part of the 2021 World of Shipping Portugal, an International Research Conference on Maritime Affairs International Scientific Committee:

- Agata Krystosik-Gromadzińska, *West Pomeranian University of Szczecin*, Poland



- Alessio Tei, *University of Genoa, Italy*
- Alkis John Corres, *City Law School/ALBA Graduate Business School, Greece*
- Assunta di Vaio, *University of Naples "Parthenope", Italy*
- Bruce Hartman, *California State University Maritime, United States of America*
- Cassia Bomer Galvão, *Texas A&M University at Galveston, United States of America*
- Chin-Shan Lu, *The Hong Kong Polytechnic University, Hong Kong, China*
- Claudio Ferrari, *University of Genova, Italy*
- Cláudio Soares, *Federal University of Rio de Janeiro, Brazil*
- Dimitrios V. Lyridis, *National Technical University of Athens, Greece*
- Dongping Song, *University of Liverpool, United Kingdom*
- Enrico Musso, *University of Genova, Italy*
- Evi Plomaritou, *Frederick University, Cyprus*
- Francesco Parola, *University of Genoa, Italy*
- Ghiorghe Batrinca, *Constanta Maritime University, Romania*
- Gul Denktas Sakar, *Dokuz Eylul University, Turkey*
- Helen A. Thanopoulou, *University of the Aegean, Greece*
- Hyunmi Jang, *Pusan National University, Republic of Korea*
- Ioannis Lagoudis, *University of Piraeus, Greece*
- Irwin Ooi Ui Joo, *Universiti Teknologi MARA, Malaysia*
- Jose L. Tongzon, *Inha University in Tashkent, South Korea and Uzbekistan*
- Kee-hung Lai, *The Hong Kong Polytechnic University, Hong Kong, China*
- Lawrence Henesey, *Blekinge Institute of Technology, Sweden*
- Lourdes Trujillo, *Universidad de Las Palmas de Gran Canaria, Spain*
- Maria de Lourdes Bravo, *Faculdade de Economia - Universidade Agostinho Neto, Angola*
- María Jesús Freire Seoane, *Universidad da Coruña, Spain*
- Maxim A. Dulebenets, *Florida A&M University-Florida State University, United States*
- Michele Acciaro, *Kühne Logistics University, Germany*
- Mihalis Chasomeris, *University of KwaZulu-Natal, Republic of South Africa*
- Newton Narciso Pereira, *Federal Fluminense University, Brazil*
- Nikitas Nikitakos, *University of the Aegean, Greece*
- Okan Duru, *Research Ocean Dynamex, Canada*
- Pedro Antão, *Instituto Superior Técnico, Portugal*
- Peggy Shu-Ling Chen, *University of Tasmania, Australia*
- Pierre Cariou, *Kedge Business School, France*
- Soner Esmer, *Dokuz Eylul University, Turkey*
- Stephen Pettit, *Cardiff University, United Kingdom*
- Stratos Papadimitriou, *University of Piraeus, Greece*



- Taih-Cherng Lirn, *National Taiwan Ocean University*, Taiwan
- Thierry Vanelslander, *University of Antwerp*, Belgium
- Tsz Leung Yip, *The Hong Kong Polytechnic University*, Hong Kong, China

3. LOCAL ORGANISING COMMITTEE

The 2021 World of Shipping Portugal, an International Research Conference on Maritime Affairs Local Organising Committee is responsible for handling all administrative, organisational and financial tasks related with the preparation, execution and closure of the conference.

The 2021 WoSPortugal LOC is made up of:

- Ana Cristina Paixão Casaca Chairman and Conference Organiser, Founder and Owner of the 'World of Shipping Portugal' Initiative
- Amélia Loja, International Scientific Committee Chairman, Assistant Professor at Instituto Superior de Engenharia de Lisboa, Instituto Politécnico de Lisboa, Portugal)
- Alvaro Sardinha, Consultant, Trainer and Founder of TransporteMaritimoGlobal.com platform, the Portuguese Seafarers Agency (Apormar.com), the Job Fair & Careers Working on a Ship (TrabalharNumNavio.pt), and the EconomiaAzul.pt initiative.

Amélia Loja is Adjunct Professor at Mechanical Engineering Department of the Engineering Institute of Lisbon (ISEL, IPL), collaborator of the Mechatronics Engineering Department at the University of Évora (UEvora) and Senior Researcher of the Mechanical Engineering Institute (IDMEC, IST). Her academic background integrates a BSc with honours in Marine Engineering from the Portuguese Nautical School and a BSc in Computer Science. Her MSc and PhD degrees in Mechanical Engineering were conferred by the Technical University of Lisbon and the Habilitation in Mechatronic Engineering by the University of Évora. Her major areas of interest include the scientific areas of Computational Solids Mechanics, Optimization and Reverse Engineering, among others. Until now she published 55 papers in peer reviewed scientific international journals. Amélia Loja is Chairperson of the ECCOMAS thematic series of conferences SYMCOMP (International Conference on Numerical and Symbolic Computation: Developments and Applications) and she coordinates the Research Centre on Modelling and Optimization of Multifunctional Systems (CIMOSM, ISEL). Since 2017 she has been invited by the European Commission Research Agencies and by National Agencies to evaluate project proposals in different subjects related to her competences.

Álvaro Máximo Sardinha holds a bachelor's degree (BSc) in Marine Engineering, from the Escola Superior Náutica Infante D. Henrique (ENIDH), and a vast professional experience onboard cruise ships, as a merchant navy officer. He completed both his Postgraduate Studies in Law and Economics of the Sea and his Master Degree (MSc) in Law and Economics of the Sea, at the Faculty of Law of the Universidade Nova de Lisboa (FD-UNL). He has also completed a Postgraduate Studies in Strategic Digital Communication at the Universidade de Lisboa. He is currently a consultant and trainer in the blue economy, sea law, maritime law, shipping, strategic communication, and professional careers in the maritime sector and a ship and company security officer, STCW certified according to the International Maritime Organization (IMO). He is the Founder of the TransporteMaritimoGlobal.com platform, the Portuguese Seafarers Agency (Apormar.com), the Job Fair & Careers Working on a Ship (TrabalharNumNavio.pt), and the EconomiaAzul.pt initiative and author of the books "*Mar, a terra dos segredos*", "*Objetivo: Trabalhar num Navio*" and several sectorial studies.



4. ABOUT THE CONFERENCE CHAIRMAN AND ORGANIZER

Ana Cristina F. C. Paixão Casaca

Conference Chairman and Organizer

Founder and Owner of the '*World of Shipping Portugal*' Initiative

Ana Cristina F. C. Paixão Casaca (from now on Ana Casaca) was born and grew in the shipping environment. She recalls the codfish fishing boats in Aveiro, the old Fogo and Gerês tanker vessels in Cabo Ruivo, the cargo and passenger vessels that traded to the Azores and Madeira loading and unloading cows at Cais da Rocha in Alcantara. She had seen Mar da Palha, in the Port of Lisbon, full of cargo vessels at the time when containerisation was still at its infancy, and unaware of the changes that a box would cause in the movement of goods. For all these reasons, shipping is a passion that runs in her veins.

Ana Casaca holds a PhD in International Transport/Logistics from the University of Wales – Cardiff and her Thesis focused on the "Competitiveness of Short Sea Shipping in Multimodal Logistics Supply Chains". Her academic background is supported by her nautical career in the shipping industry. In 1985, she earned her elementary nautical studies degree at Escola Náutica Infante D. Henrique (ENIDH) in Paço D'Arcos, Portugal. She was a deck officer in Portuguese shipping companies and some years later taught at the Instituto de Tecnologias Náuticas, Portugal. In 1995, she earned her Bachelor Degree in Management and Maritime Technologies at ENIDH, and two years later, in 1997, she obtained her M.Sc. Degree in International Logistics at the Institute of Marine Studies, University of Plymouth, United Kingdom. In July 1998, she obtained her professional accreditation from the Institute of Chartered Shipbrokers, London, after having sat for seven exams, namely 'Introduction to Shipping', 'Law of Carriage of Goods by Sea', 'Economics of Sea Transport', 'Shipping Practice', 'Dry Cargo Chartering', 'Liner Trades' and 'International Through Transport Management'. She successfully obtained her PhD in International Transport/Logistics in 2003.

Between 1998 and 2007, she published several articles of a professional nature in Portuguese industry magazines. As from 2001, she decided to focus on research publishing. Her work can be found in well-known international maritime-related journals, namely International Journal of Logistics Research and Applications, International Journal of Ocean Systems Management, International Journal of Physical Distribution and Logistics Management, International Journal of Shipping and Transport Logistics, International Journal of Transport Management, Journal of International Logistics and Trade, Marine Policy, Maritime Business Review, Maritime Economics and Logistics, and Maritime Policy and Management.

Since 2004, she has organised industry and research related conferences. She organised with Cargo Edições the 18th International Port Training Conference. Later, she also organised with Cargo Edições and chaired the 2010 Annual Conference of the International Association of Maritime Economists Association and the 2012 International Research Conference on Short Sea Shipping. Under the umbrella of 'World of Shipping Portugal' she organised and chaired the 2019 World of Shipping Portugal, An International Research Conference on Maritime Affairs, and is currently organising the 2021 World of Shipping Portugal, An International Research Conference on Maritime Affairs.

Also, within the scope of research, she has been invited, since 2002, to peer review academic papers submitted to well-known international Journals and to participate as a member of several Conferences International Scientific Committees. Moreover, the European Commission has been inviting her, since 2003, as an External Expert in the field of transport to evaluate transport-related proposals and to review transport-related projects (Belgium). In cooperation with Leo Tadeu Robles, she translated into Portuguese the third edition of the "Maritime Economics" book written by Martin Stopford.

Currently, she is developing and implementing the 'World of Shipping Portugal' initiative (of which she is the Founder and Owner), is a research associate of Research Centre on Modelling and Optimisation of Multifunctional Systems (CIMOSM, ISEL), Associate Editor of Maritime Business Review and an Editorial Board Member of the Journal of International Logistics and Trade. She is a member of the Institute of Chartered Shipbrokers (ICS), and the International Association of Maritime Economists (IAME).



5. GUEST SPEAKERS BIONOTES

Eleftherios Ouzounoglou, Scientific Project Manager, Senior Researcher, Crisis Management and Secure Societies Team Leader, ICCS, I-SENSE Group. He holds a university degree in Informatics and Telecommunications, received in 2009, from National and Kapodistrian University of Athens (UoA) and an M.Sc. degree in Information Technologies in Medicine and Biology focusing on Bioinformatics and Systems Biology. He has obtained a PhD degree from the National Technical University of Athens, School of Electrical and Computer Engineering in 2018. Since 2011 he is a researcher at Institute of Communication and Computer Systems (ICCS) and he has participated in several FP7 and HORIZON 2020 European Research Projects such as TUMOR, p-medicine, CHIC, MyHealthAvatar, ZONESEC, RANGER, Aqua3S, PILOTING, Cyber-MAR, INGENIOUS and STRATEGY as a software developer, bioinformatician and scientific project manager. He has participated in several tasks of these projects focusing, among others, on sensitive data handling, sensor and system integration, data harmonization, communications security and cybersecurity as well as on machine learning applications. He has published several articles in scientific journals and conferences.

Harilaos Psaraftis is a Professor at the Technical University of Denmark. He has been a faculty member at MIT, USA (1979-1989) and at NTUA, Greece (1989-2013). He has also been the CEO of the port of Piraeus (1996-2002).

Hassiba Benamara is a maritime transport and trade specialist with a post-graduate degree in Economics from the University of Ottawa (Canada). She has over 22 years professional experience in transport and trade logistics. She joined UNCTAD's Division on Technology and Logistics in 2005 and has been working on various transport and logistics issues including maritime transport and trade. She has coordinated the preparation of the UNCTAD annual Review of Maritime Transport for few years and co-authored 14 editions of the UNCTAD annual Review of Maritime Transport focusing particularly on international seaborne trade issues and ports. Other relevant areas of work include climate change (mitigation, impacts and adaptation in transport/seaports); energy market developments, transport costs; supply-chain security as well as, sustainable freight transport and transit transport corridors. Before joining UNCTAD, Hassiba has been working for the Canadian Ministry of Transportation, first, in the international shipping division before moving to the trade division, respectively. Areas of work included marine insurance and liability, arrest of ships, maritime liens and mortgages, maritime security, antitrust immunity and liner conferences, cabotage as well as transport and logistic services trade liberalization. She represented the Ministry at various International Maritime Organization (IMO) Legal Committee meetings, as well as the World Trade Organization (WTO) and relevant bilateral and regional trade negotiations.

Jens Froese, German national and professor emerited of maritime logistics at the University of Technology Hamburg, served as a shipmaster before he decided to swop his comfortable master chair for a wooden bench at the university to study earth survey, specializing in hydrography. After three years commanding survey and research vessels followed by managing the fleet of the German Hydro-graphic Office, he accepted the offer to become a professor. He established the German maritime research platform later becoming the Institute of Ship Operation, Sea Transport and Simulation ISSUS, which he led as director. From the beginning of his academic career, he was engaged in research in navigation, traffic management and port operation and he coordinated or participated in a multitude of national and international projects. Since 2004 he is continuously involved in risk assessment and man-agement of navigation and vessel traffic. Besides evaluating the risk of approach traffic to ports, the German Waterways and Shipping Administration asked him to evaluate risk studies for offshore wind-farms and since 2006 he is validator of risk studies covering Fehmarnbelt traffic in the view of construct-ing a fixed link (tunnel).



Jochen Marzi graduated in 1985 from Hamburg University as Dipl. Ing. Naval Architecture and received his PhD in 1988 from Technical University Hamburg, Hamburg. Since then, he worked for a shipyard research establishment at Bremerhaven Germany, making first contacts with joint European Projects. In 1996 Jochen Marzi joined Hamburgische Schiffbau Versuchsanstalt - HSVA, working as a senior CFD engineer and project manager both in research and consultancy work, leading several large European projects such as the VIRTUE IP in FP 6 and presently HOLISHIP in Horizon 2020. He is now director EU relations and responsible for the coordination of European Research at HSVA and active in several R&D projects dealing with CFD, Ship Design and Energy Efficiency. Jochen Marzi represents HSVA in the European Council for Maritime Applied R&D (ECMAR) and acts as Chairman since 2020.

Manolis Annetis holds a Master of Engineering degree in Naval Architecture & Marine Engineering from the School of Naval Architecture and Marine Engineering (NA&ME) of the National Technical University of Athens (NTUA), Greece. His diploma thesis titled "A Risk-based approach and computational Bayesian framework for off-line condition monitoring of marine diesel engine crankcase lubrication" focuses on condition monitoring, risk-based and predictive maintenance. He is currently working as a research engineer in NTUA, as an associate of assistant Professor N. P. Ventikos. His research interest is currently in maritime safety; maritime accident investigation and modelling; human factors; risk modelling; statistical modelling and optimization.

Maria Dixon's maritime career started in 1980 when she moved to London and started working for the Consulate of Panama in London. Her studies in Economics and Journalism contributed to her career; however, the decisive factor that drove her to totally focus her career on shipping was her work at the Consulate. Maria learnt the trade through a long apprenticeship at the Panamanian Consulate in London. Through her work at the Consulate she made important contributions to the registry: In 1998 she trained as an ISM Auditor and opened the family business ISM Shipping Solutions Ltd. Parallel to her shipping career, her passion for journalism drove her to write for prestigious maritime publications worldwide such as Lloyd's List, All About Shipping, Mundo Maritimo, Caribbean Cargo Association and many other. As a researcher and ship registration expert, she has spoken about shipping, world fleet, the Panama Registry and the Panama Canal at Conferences in Spain, Norway, Panama, Malta, USA and Greece. In the UK, she has been invited to speak at Conferences at the IMO, the Houses of Parliament, London Maritime International Shipping Week and the Bahamas Shipowners Council. Maria also has strong links with the seafarers' community in Panama; she has mentored Panamanian cadets from the Nautical School and the International Maritime University. Maria received in June 2018 in Spain, a distinction from the Philippe Cousteau Foundation, the Union of the Oceans and the PBIP Network of Latin-Americans countries for her efforts and achievements in the shipping industry. In 2019 she received the PANAMA MARITIME LIFETIME ACHIEVEMENT AWARD handed over by the IMO Secretary General for her work and efforts for 40 years in the shipping industry and with the Panama Registry. During COVID-19 she is campaigning to resolve the need for 300,000 Seafarers Crew changes and echoing in Social Media the Crew Changes and Repatriation efforts the AMP is doing to help seafarers. During this year her company has been registering a new building fleet of new generation reefer container ships and they have continued assisting ship managers and clients to maintain their accreditations and licences update. Maria received in June 2018 during a ceremony in Spain, p the advancement of other women in the industry. In 2019, she was the first person ea distinction from the Philippe Cousteau Foundation, the Union of the Oceans and the PBIP Network of Latin-Americans countries for her efforts and achievements in the shipping industry and her work to help the advancement of other women in the industry. In 2019, she was the first person ever to receive the PANAMA MARITIME LIFETIME ACHIEVEMENT AWARD during the Panama Maritime Conference, handed over by the IMO Secretary General.

Marios-Anestis Koimtzoglou has a bachelor's degree in Naval Architecture from the Faculty of Technological Applications of the Technological Institute of Athens, Greece and he also holds a Master in Nautical and Maritime Technology and Science from the School of Naval Architecture and Marine Engineering (NA&ME) of the National Technical University of Athens (NTUA), Greece. He is a member of the Maritime Risk Group (MRG) research group. His expertise, relevant to this project, is in marine safety; risk analysis/assessment; maritime accident investigation; human factors; technology assessment; safety analysis; statistical modelling and ship



design. During his presence at NTUA and at MRG, he has participated in several major research projects in the areas of marine safety, maritime transport and systems, ship design, safety analysis and technology assessment. Furthermore, before that, he has worked as a trainee in the Technical Support Office of Lloyd's Register in Greece.

Michele Acciario is Director of the Hapag-Lloyd Center for Shipping and Global Logistics (CSGL) and Associate Professor of Maritime Logistics at Kühne Logistics University (KLU). Between 2013 and 2015 he worked for the same institution as Assistant Professor. In 2011 and 2012 he held the position of Senior Researcher Green Shipping at the Research and Innovation department of Det Norske Veritas AS (now DNV-GL) near Oslo. Between 2004 and 2010 he worked as deputy director and researcher at the Center for Maritime Economics and Logistics (MEL) of Erasmus University Rotterdam, with which he is still associated. Michele holds a BSc and a MSc (cum Laude) in Statistics and Economics from the University of Rome "La Sapienza"; a MSc in Maritime Economics and Logistics from Erasmus University Rotterdam for which he was awarded the NOL/APL Prize for Student Excellence; and a PhD in Logistics also from Erasmus University Rotterdam. Michele was awarded the Young Researcher Best Paper Prize at the IAME Annual Conference in Cyprus in 2005. Michele is member of the Editorial Board of Maritime Economics and Logistics and of the Transportation Research Interdisciplinary Perspectives (TRIP). He is the secretary of the International Association of Maritime Economists (IAME).

Pierre Cariou is Senior Professor at Kedge Business School in Shipping and Port Economics, Visiting professor at the Shanghai Maritime University and at the World Maritime University (WMU). Prior to this, he held the French Chair in Maritime Affairs at WMU and he was an Associate Professor in Economics at the University of Nantes (France). He completed his PhD on liner shipping strategic alliances and contributed to many reports for private and public entities (OECD, CMA CGM, Port Authorities of Nantes and Marseille, Casino Group, NATIXIS Bank...). His main research interests are in maritime economics. He is associated to the Maritime Governance, Trade and Logistics Lab of KEDGE Supply Chain Center of Excellence (CESIT), to the Kühne Logistics University/Hapag Lloyd Global Shipping Center and of <http://www.porteconomics.eu/>.

Olaf Merk, Administrator Ports and Shipping, International Transport Forum (ITF) at OECD, leads the work on ports and shipping at the International Transport Forum (ITF) of the Organisation for Economic Co-operation and Development (OECD). As such, he directs policy-relevant studies on maritime transport and the ports sector. Olaf Merk is the author of more than fifty OECD publications including: 1) The Competitiveness of Global Port-Cities (2014), 2) The Impact of Mega-Ships (2015), 3) Decarbonising Maritime Transport; Pathways to zero-carbon shipping by 2035 (2018), 4) The Impact of Alliances in Container Shipping (2018), and 5) Maritime Subsidies; Do they provide value for money? (2019). Olaf Merk is member of the Editorial Board of the academic journal Maritime Economics and Logistics. He was Associate Professor at Sciences Po Paris between 2014-17. At the OECD he also worked on urban development, fiscal decentralisation and public finance. Prior to the OECD, he held various positions at the Netherlands Ministry of Finance. He holds a Master's degree in Political Science from the University of Amsterdam.

Peter Sand is BIMCO's chief shipping market analyst has in depth knowledge about the three main shipping sectors: tankers, dry bulk and container shipping. He connects the dots between global economics and the shipping industry and is a frequent source in financial and shipping media across the world. He follows the Trade War between the United States and China closely, and frequently dives deep into specific issues, such as the impact of the COVID-19 pandemic on the shipping market, Chinese iron ore imports or the soya bean market. Peter Sand has been with BIMCO since 2009, building BIMCO's shipping market analysis team from scratch. Prior to joining BIMCO he worked as an analyst at the dry bulk and product tanker shipowner D/S Norden. He is an experienced expert speaker at shipping conferences. He holds a master's degree in economics from Copenhagen University.

Theo Notteboom is professor in port and maritime economics and management. He is Director and Research Professor at Centre for Eurasian Maritime and Inland Logistics (CEMIL) of China Institute of FTZ Supply Chain



of Shanghai Maritime University in China. He is Chair Professor 'North Sea Port' at Ghent University in Belgium. He also is part-time Professor at University of Antwerp and the Antwerp Maritime Academy in Belgium. He is co-founder and co-director of portconomics.eu, an online platform on port studies. He is past President (2010-2014) of International Association of Maritime Economists (IAME). He is editor, associate editor or editorial board member of a dozen academic journals in the area of maritime economics and logistics. His work is widely cited. He is a regular speaker at international conferences and a rapporteur/expert to leading organizations in the field.

6. CONFERENCE REVIEW PROCEDURE

The World of Shipping Portugal Conference review procedure adopts a two-stage approach. The first stage involves the revision of Abstracts. All Authors will be notified about the decision made and Authors of accepted Abstracts will be invited to submit Full Papers. Full Papers need to demonstrate scholarly quality as evaluated on the strength of the methodology used, on the quality/depth of the theoretical background, and on the quality/depth of the analysis and related discussion. The second stage relates to the revision of the submitted Full Papers. All Authors will be notified about the decision made and Authors of accepted Full Papers will be asked to incorporate all Reviewers' comments. Allocation of Abstract / Full papers to be reviewed will be made according to Reviewers' expertise areas. The World of Shipping Portugal review procedure uses a "blind review" process where the Authors are not revealed to the Reviewers. Revision of Abstracts and Full Papers were reviewed according to a set of criteria's announced in the conference website.

7. LIST OF FULL PAPERS

A CONCEPTUAL CYBER-RISK ASSESSMENT OF PORT INFRASTRUCTURE

Kimberly Tam, University of Plymouth, PL4 8AA, United Kingdom, kimberly.tam@plymouth.ac.uk

Kemedi Moara-Nkwe, University of Plymouth, PL4 8AA, United Kingdom, kemedi.moara-nkwe@plymouth.ac.uk

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ABSTRACT

Cyber-security is a growing issue globally; however, increasing concerns are being directed at ports, as they are a hub for multiple transport operations. Ransomware has shown its potential effects in recent events, infecting logistic infrastructure at Maersk and United States of America oil pipelines. As a part of a European Union Project called Cyber-MAR, researchers have been given data from several ports on their facilities' cyber-environment. The main goal is to raise awareness of cyber-risks in ports and potential mitigations with the novel application of a dynamic risk assessment tool (Maritime Cyber Risk Assessment or MaCRA) to ports. MaCRA methodology uses a dynamic risk model to analyse maritime risks specifically, as cyber-attacks on ships and at the ports can have hard implications in both the cyber and real world. This paper uses generalised port data to create a preliminary, conceptual cyber risk assessment of ports, to raise awareness by building general risk profiles without revealing real port vulnerabilities. From this risk assessment, the authors expect to find several high-level cyber-risks that ports may need to address, as well as some scenarios that could increase or decrease those risks. This research's limitation is the availability of data, which is somewhat mitigated by Cyber-MAR port partners. The main goal is to raise awareness of cyber-risks in ports and potential mitigation measures with the novel application of a dynamic



risk assessment tool (MaCRA) to ports. This also provides a basis for further research in Cyber-MAR, as the authors will be using simulation and more real-world data to enhance the findings in this conceptual paper.

KEYWORDS

Maritime, Risk, Port, Cyber-security, Cyber-MAR

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A NOVEL METHODOLOGY USING BPM TO ASSESS THE IMPLEMENTATION OF BLOCKCHAIN IN THE MIDSTREAM LNG SUPPLY CHAIN

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ABSTRACT

Liquefied natural gas (LNG) industry is a typical example of a business in which various undertaking models, strategies and related interests exist, making it highly complex in terms of operations. The extended supply chain, from liquefaction to regasification, combined with multilateral contractual relationships pose a challenge from a management standpoint. Barriers, such as the volume of transactions, communication hurdles, and the lack of contemporary management tools inhibit effectiveness. Blockchain is a promising new technology with many pilot applications in shipping, which may alleviate the barriers mentioned above. However, to adopt the technology and implement it in their operations, LNG stakeholders require both qualitative and quantitative indications for its benefits. The current study addresses this issue by proposing a methodology to assess blockchain implementation in the midstream LNG supply chain. The basis of the research methodology is the Business Process Modelling (BPM) concept, through which entities, roles, tasks, resources and transaction can be modelled and simulated. In this way, one can examine the re-engineering of the processes, thus enhancing operational efficiency. The research proposed the methodology from a conceptual scope. As a result, no quantification of transactions has been conducted in the current research. Furthermore, the modelling of the midstream LNG supply chain, via business processes, is based on guidelines by the Society of International Gas Tanker and Terminal Operators (SIGGTO) and commonly used business models, of the midstream LNG supply chain. The methodology is used



to identify i) inefficiencies related to the large volume of transactions between stakeholders; and ii) critical areas inside an LNG shipping company, where blockchain can be implemented.

KEYWORDS

LNG Supply Chain, LNG Shipping, Blockchain, Business Process Modelling

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George O. Andreadis holds a diploma of Naval Architecture and Marine Engineering from the National Technical University of Athens (NTUA), Greece, currently serving in the Hellenic Navy. While at university, he savoured the operational structure of several Chinese shipyards and the seaman's life through a two-month embarkation. Completing his studies in the projected time enabled him to participate as a research associate of the Laboratory of Maritime Transport (NTUA), focusing on the maritime Supply Chain Operations and their optimisation. With his main research interests to be related to economic and managerial issues of maritime nature, supply chain management; focusing on the LNG value chain and its operations digitalisation, he perceived the emergence of the digital shift though businesses and organisations more as a necessity rather than a trend; a fact he is trying to highlight with his affiliation to academic publications and his international maritime conferences presence.

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A SIMULATION BASED APPROACH FOR ANALYSING THE COMBINED SEA-ROAD TRANSPORT

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ABSTRACT



Short Sea Shipping (SSS) represents a key aspect of supporting the integration of transport modes, permitting the development of alternative and more sustainable transport solutions. However, despite the European Union efforts in promoting actions to encourage SSS, the combined sea-road mode has not yet reached a significant market share compared to land transport. This study proposes developing an innovative methodology to simulate the real process of modal choice of the stakeholders of the freight transport system, at the national level (NUTS3), focusing the attention on combined sea-road transport and the road-only alternative. The model developed is based on a simulation process structured in two phases: a) a preliminary selection phase is carried out to identify origin/destination (O/D) pairs potentially interesting for the modal shift; b) then, an assignment phase defines the potential O/D pairs, solving a path choice problem for the two transport modes. The case study refers to domestic freight demand in Italy. The result is the identification of the freight demand that potentially can shift on the combined sea-road transport.

KEYWORDS

Combined Sea-Road Transport; Simulation; Transport Operators; Ro-Ro Services

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ACCREDITATION AS DETERMINANTS OF EFFICIENCY IN SPANISH PORT AUTHORITIES

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ABSTRACT

Ports need to consider the integration of environmental concerns into their activities. Environmental sustainability is an essential component of sustainable business strategies and operations in the port sector, in order for them to comply with sustainable development regulations, policies and guidelines. Accreditation becomes a process that encourages a company to closely examine its supply chains and its environmental dimensions and most important factors that could be improved within its environmental management systems. The true fixed-effects estimator proposed by Greene (2005) is applied to estimate the production function. This model separate port heterogeneity from inefficiency. The results have shown that having these quality certificates also improves the Port Authorities' technical efficiency levels and that the advanced landlord model is a decisive factor regarding technical efficiency. Both factors improve efficiency levels.

KEYWORDS

Technical Efficiency, Porth Authority, Environmental Management Systems, Landlord, Spain

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SHORT SEA SHIPPING: AN ANALYSIS OF EUROPEAN PROMOTION PROGRAMMES FROM 2005 TO 2019

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ABSTRACT

For more than 25 years, the European Union (EU) has been promoting the use of sustainable transport modes that can alleviate road congestion and absorb the growth in intra-Community trade that occurs for several reasons (e.g. the new Member States). Short Sea Shipping (SSS) is one of these modes. However, after the implementation of multiple promotion programmes to foster a modal shift and the investment of large amounts, the results have, alas, not been as expected. This paper provides a detailed overview of the impact of the different initiatives on the evolution of SSS. In order to do this, all the EU programmes are reviewed, and, looking only at works and works/studies, about 250 actions are identified and classified into four main areas, namely Ports and Terminals, Shipping Lines and Shipping Companies, Innovation and Intermodality. All this information, along with other variables like the gross domestic product, population, road transport, etc., is summarised in a database and analysed using multiple linear regression analysis.

KEYWORDS

Maritime Transport, Short Sea Shipping, Econometric Analysis, Multiple Linear Regression, European Programmes

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Africa Marrero is a Naval and Oceanic Engineer from the Polytechnic University of Cartagena, specialised in marine structures. She began her professional career as a planning and control engineer in submarine construction projects at the Navantia shipyard in Cartagena. Later she worked as a ship manager assistant in ASTICAN, Astilleros Canarios, mainly carrying out work control functions in oil rigs. She is part of Logistics and Maritime Transport department in CENIT (a RTD group of CIMNE), currently manages consultancy and research projects in Maritime Transport for private companies and the public administration at both national and international level. Her areas of knowledge include computational fluid dynamics(CFD), calculation of ship emissions and sustainable maritime transport. She currently leads one WP from H2020 project LASH FIRE carrying out project management tasks and developing new fire safety measures on Ro-Ro vessels (automatic screening and management of cargo hazards: fire hazard/risk database construction, fire risk matrix construction, fire hazard matching and mapping, stowage planning optimisation tool and the appropriate placement of monitoring systems).



Paco Gasparín is a graduate in Statistics from the University of Barcelona (UB) and from the Polytechnic University of Catalonia (UPC). He also carried out a Master's Degree in Statistics and Operations Research from the UPC, specialising in Operational Research, and carried out his work on "Analysis of data from mobile telephony to model transport demand". He is part of the Urban Mobility department in CENIT working on mobility projects in Barcelona and Europe. His areas of expertise include data analysis, advanced statistical methods, mathematical modelling and operational research. He is currently involved in an EIT Urban Mobility project - SMUD (Shared micro depots for urban pickup and delivery). Paco is leading the Work Package on developing an agenda for the different last-mile solutions in urban areas, so that it can be used by any city in the future to identify the best solutions for the implementation of a micro depot.

Pablo Sanz is a graduate in Civil Engineering from the Polytechnic University of Catalonia (UPC). He is currently studying a Master in Civil Engineering, specialising in transport and urbanism. He began his professional career working in the Port Authority of the Balearic Islands' (APB) as engineer intern, contributing to the planning and drafting of the new docks in the Port of Palma and studying the saturation of tourists in the city of Palma due to the arrival of cruise ships. He is part of Logistics and Maritime Transport department in CENIT. His areas of knowledge include transport modelling and sustainable maritime transport. He is currently working on WP from H2020 project LASH FIRE and giving technical support to the Subgroup on Sustainable Port and for its experts' group, the European Ports Forum (EPF).



ANALYSIS OF PORT MANAGEMENT AND OWNERSHIP MODELS: MOTIVATION AND CONSEQUENCES, 1980 – 2020 IN PERSPECTIVE

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ABSTRACT

Port activities and the significant growth and development of port cities make them one of the major contributors to a country's economic growth. However, the growing demand to achieve efficiency in port management is drifting port ownership and control of strategic, operational activities from purely public, towards private sector participation. This paper assesses the management and ownership models of Ghana's seaports system from 1980 to 2020 and the effects that these regimes have had on port and economic growth. System dynamics modelling and simulations were employed to situate the current port management systems as well as provide insights into the potential consequences of the current management decisions on the future of maritime logistics management in Ghana. Findings suggest that the quest to leave behind a political legacy has influenced port management regime changes and brought possible unintended consequences on Ghana's ownership and economic growth. The paper contributes to unravelling the motive for change in port management and ownership in Ghana over the past four decades. The insight gained could lead to industry-wide policy reforms that could influence future decision making towards sustainable port management and economic growth. The results could also serve as a guide for efficient port management in the wake of Ghana's role as host for the new trade block - African Continental Free Trade Area (AfCFTA).

KEYWORDS

Port Management Models; System Dynamics; Sustainable Port Operations; Port Economy

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BIOMIMETIC SELF-ADHESIVES FOILS INSTEAD OF PAINTS: A BUSINESS CASE FOR A SUSTAINABLE SHIP HULL COATING

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ABSTRACT

Reducing ship hulls drag is one of the key issues that make ships more environmentally friendly and reduces their ecological footprint. Moreover, preventing fouling without using coatings that release toxic substances into the water, threatening the maritime ecosystem is another important task in the shipping sector. Coating a ship with a permanent layer of air underwater will address both problems: Moving within a hull of air will reduce drag, while the air layer helps in preventing fouling as it works as a separating barrier between maritime life and the ship hull, preventing direct contact. The European Union project AIRCOAT (Air Induced friction Reducing ship Coating) targets at exactly that. The coating that reduces ships' frictional resistance is based on a self-adhesive foil technology that forms a passive air layer by utilising the biomimetic Salvinia effect. This reduces energy use and ship emissions and therefore creates both economic and environmental benefits. AIRCOAT is a refit technology with a strong potential to make the shipping industry more sustainable. Being an environmental-friendly refit technology, AIRCOAT will enhance both the strategic and the revenue value for end-users (ship owners, shipyards, etc.) and create new business opportunities. AIRCOAT is a passive air lubrication technology, which targets to outperform the skin friction reduction potential of active air lubrication. Active air lubrication systems are already available on the market, and initial results indicate significant long-term energy savings of 4 %. The significant advantage of passive air lubrication (i.e. keeping a permanent layer of air underwater) – as compared to active air lubrication (continuous production of air bubbles with huge compressors) is obvious: In the case of active (air bubble- induced) air lubrication, the ship remains wet, and the air does not touch the ship. In our passive air lubrication case, the ship remains dry: the water does not touch the ship, thus also providing environment-friendly protection against corrosion and fouling. Here, a cost-benefit assessment is performed both for ocean-going ships and container vessels (deep-draught case) and for boats and small vessels (shallow-draught case) to assess the potential for savings due to reduced fuel consumption as a consequence of air coating. Finally, our quantitative analysis is accompanied by a risk assessment. We conclude that even the shallow-draught case in inland shipping opens a considerable potential for fuel saving and CO₂ emission reduction. A significantly larger contribution, however, can be expected from the application on the global fleet of large maritime vessels.

KEYWORDS

Air Lubrication, Friction Reduction, Non-Toxic Antifouling, Biomimetics, AIRCOAT Business Case



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CARGO FLOW ANALYSIS BY MUTUAL INFORMATION ANALYSIS: A CASE STUDY OF THE MULTI-PURPOSE PORT OF ISAFJORDUR IN ICELAND

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ABSTRACT

Ports are pivotal nodes in multimodal transportation systems, where they function as logistics centres for the flow of cargoes and passengers. The analysis of cargo flows plays an important role in port operations and management and capacity planning and development. However, many factors influence the flow of cargoes through ports. In order to identify



the main flow of cargoes in a port and determine influencing variables on the flow, mutual information analysis is carried out in this paper. Mutual information measures the linear and non-linear correlation between random variables and quantifies the amount of information held in one variable through another variable. Mutual information analysis is applied to the multi-purpose Port of Isafjordur in Iceland. Analysis of non-containerized cargo shows that import flow mainly constitutes fuel oil, industrial materials, and marine products. On the other hand, marine products cargo is the prominent flow of export from the port. Mutual information analysis of cargo flow in the port infers the world's relatively strong influence and national gross domestic product on non-containerized import and export flow, respectively. Furthermore, the volume of national export trade is the key influencing macroeconomic variable on containerized cargo flow. Mutual information analysis of cargo flow can support decision-makers to adjust the strategy of port operations, management, and capacity planning. Moreover, by identifying influential macroeconomic variables, the mutual information can increase the reliability of cargo flow forecast.

KEYWORDS

Cargo Flow, Mutual Information, Macroeconomics, Iceland

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CLASSIFICATION SOCIETIES AND MARITIME SAFETY: INTER-ORGANISATIONAL DYNAMICS IN INTERNATIONAL SHIPPING

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ABSTRACT

Classification societies play a major role in maritime safety and the regulation of the international shipping market. They have a dual mission, namely the classification and certification of ships. Paradoxically, the academic literature on the strategic behaviour of classification societies remains very limited. More often than not, the scope of prior research has been limited to the definition of their missions in the shipping ecosystem with an emphasis on their changing legitimacy as maritime accidents occur. Consequently, this paper aims at providing a better understanding of the specific role of classification societies in maritime safety and within the inter-organisational dynamics of international shipping. The study is based on a conceptual framework provided by the behaviourist approach and applied to the inter-organisational



dynamics of supply chains. This approach enables in-depth analysis of actors' strategic behaviours by focusing on four dimensions: power, leadership, conflict, and cooperation. The main results highlight the increasingly central and paradoxical role of classification societies. This role encompasses, on the national level, classification, and certification processes, and, on the supranational level, the creation of new rules and regulations. The study highlights the importance of their ability to master the official framework and institutional vocabulary, which enable them to strengthen their power and leadership in the shipping market. This capacity helps them to limit conflicts between actors and to encourage certain cooperative behaviours based on relationships of dependence and inter-organisational interdependence.

KEYWORDS

Behaviourism; Classification Societies; International Shipping; Maritime Safety.

AUTHOR BIONOTES

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CRUISE PORT CENTRALITY AND SPATIAL PATTERNS OF CRUISE SHIPPING IN THE MEDITERRANEAN SEA

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ABSTRACT

The Mediterranean Sea is the second most important region in the cruise tourism industry. This paper investigates the centrality of cruise ports in the Mediterranean cruise market and applies a method to study the features of the cruise port network. We propose the hubs and authorities centrality metric as a directional synthesis of the hubs centrality and authorities centrality to explore a cyclical and directional element of character in the cruise network. To investigate the hubs and authorities centrality, we have applied social network analysis. The set of ports forms a network; therefore, we use the social network analysis to build this network based on nodes (ports) and to analyse the connections between each other. The development of the cruise shipping industry makes the research focus on identifying the attribute of hub ports of the Mediterranean cruise market. The main goals of the paper are (1) to develop a numerical analysis to identify the hub ports in the Mediterranean cruise port network and to explain their network dynamics, and (2) to build a series of graphs with the inter-port connections in the network analysed.

KEYWORDS

Cruise Shipping, Hub Port, Social Network Analysis, Mediterranean Cruise Market

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EFFORTS BY EUROPEAN PORTS TO IMPROVE THE SUSTAINABILITY OF THEIR OPERATIONS

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ABSTRACT

This paper examines how European seaports aim to improve the sustainability of their operations. This examination is approached with a literature search on the sustainability targets of ports, especially in Europe, and by reviewing the ten largest European container ports' webpages. Based on this literature search and webpage review, limiting carbon dioxide (CO₂) and other greenhouse gas emissions seems to be a high priority in these ports. Limitation of CO₂ emissions is further investigated in the light of the Port of Helsinki's aim to become carbon neutral by 2035. Our analysis indicates that ports have a major role in the maritime transport sector's efforts to improve sustainability. However, this will require clear targets as the timeframe is long. Otherwise, efforts risk being focused on actions that merely push the problem around, like moving CO₂ emissions elsewhere or increasing other pollutants when CO₂ is cut. Besides concentrating on the organization and operations of ports, balancing subsidies for cleaner vessels with extra charges for more polluting ones could help motivate shipping companies to purchase new, cleaner vessels or acquire technological solutions to mitigate the harmful effects of existing ones.

KEYWORDS

Port, Sustainable Supply Chain Management, EU Transport Policy, CO₂ Emissions

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EMERGING TRENDS AND IMPACTS DEFINING THE PORTS ECOSYSTEM IN 2025 AND 2040: APPLICATION OF DELPHI METHOD IN THE PORT OF BARCELONA

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ABSTRACT

Important trends taking place, some from the port and maritime sectors and others from outside (technology, new sources of energy, etc.), can have an important impact on the business model of ports. Since the port ecosystem will be considerably different in the following two decades, decision-makers need to have a Port Vision of 2040 to prioritise investments and build a strategic plan. This paper seeks to analyse the current trends impacting on ports and analyse the changes in their roles. The impacts are identified using the Delphi method process within the Port Community of the Port of Barcelona. The results of this paper will contribute to the state of the art of Ports of the Future by identifying the main trends impacting on ports in the long term (2040).

KEYWORDS

Port of the Future, Maritime and Port Trends, Port Strategy, Delphi Methodology

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Jordi Torrent is currently the Strategy Director of the Port of Barcelona. In this position he has developed the Port's III Strategic Plan which has adapted the Port's strategy and objectives to the latest global and regional trade and logistics trends. He is particularly involved in the intermodal sector, and has designed and implemented initiatives in this field, such



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EMPLOYING FUZZY MATCHING FOR CLEANING MANUAL AIS ENTRIES

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ABSTRACT

The Automatic Identification System (AIS) is an automated tracking system used on ships and vessel traffic services to monitor vessel movements in real-time. While most AIS information is generated via onboard instruments, the destination field is manually entered by the ship personnel. As a result, the destination entries are polluted with misspellings, truncations, inserted punctuation marks, unexpected abbreviations, and other irregularities. Such dirty data can disturb the maritime authorities' duties and make AIS data harder to use in higher-level digital applications. This work's main objective is to devise a method for automatically cleaning the manually entered destination field in AIS signals and converting the dirty input records into clean, standardised port names. In particular, a novel fuzzy matching algorithm is proposed that receives dirty port destination entries and finds the corresponding clean port names based on matching similarities with standardised port records from a reference table. The proposed fuzzy matching algorithm uses a set of domain-specific rules and a custom distance function that takes into account the edit distance, the number of tokens (e.g., port codes, country codes, port names), token order, and relative frequencies. Hence, the matching process is resilient to various errors present in the input records. Besides, the cleaned records are associated with a score that indicates the quality of the match. To date, the developed approach has successfully cleaned over 2.7 million dirty destination records with a 91.6% matching rate.

KEYWORDS

Automatic Identification System, Port Destination Field, Cleaning Data, Fuzzy Matching

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ABSTRACT

For centuries, the maritime industry has continually upgraded its information sources and processing capabilities to improve safety, efficiency, and reliability. The global positioning system and satellite communication have become essential information sources for modern navigation in the digital era. Today, shipping is a capital, energy, and information-intensive industry. This article introduces the discipline of Maritime Informatics, which studies the application of information systems to increasing the efficiency, safety, and ecological sustainability of the world's shipping industry. The shipping industry's future depends on digitisation, digital data exchange standards, collaborative decision-making, and spatial-temporal analytics.

KEYWORDS

Maritime Informatics, Digitization, Sustainability, Future of Shipping

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Terje Rygh is a full-time special adviser in the Smart City department in the City of Stavanger. He has extensive experience from his 10 years leading IT- and digitalisation projects, as the IT-coordinator, at the Port of Stavanger (Norway). There he also participated as the ports technical delegate in the STM Validation Project (PortCDM) 1 a co-financed EU project. Terje's expertise is the fields of big-data, data analysis, artificial intelligence, standardisation as well as technology in general. He also has a leading role in the Open Data group in the national Smartbyene2 network coordinating open data issues and open data standardisation efforts among the 14 Norwegian member cities. Lately he has worked closely with city officials and the Emergency Unit of the City of Stavanger, collecting COVID-19 data and other types of data, relevant in the city's efforts to prevent further spread and to battle the pandemic and to mitigate unwanted side-effects. Terje is addition the smart city representative in the Open & Agile Smart Cities3 network, which works on standardising for tomorrow's standards for city data, services, and technology. He holds a MSc in Technology and Operations Management. Terje Rygh is the Co-author in three of the concept notes in STM Sea Traffic Management, a co-financed EU project: 'Balancing just-in-time operations – Coordinating value creation'(2018)4, 'Substantial value for shipping found in PortCDM testbeds' (2019) 5, and 'Coordinated Value Creation in Cruise Call Operations – The case of the Port of Stavanger'(2018)6.

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Dominic Thomas is an Associate Professor of Information Systems at the Coles College of Business, Kennesaw State University. His current research focuses on improving the usefulness of technology in healthcare both in organisational and individual settings. He has published articles in leading journals in his field including Communications of the ACM, Journal of Management Information Systems, Management Information Systems Quarterly, European Journal of Information Systems, Project Management Journal, and Information Systems Management. Dr. Thomas holds a Ph.D. in Management Information Systems from the University of Georgia (2005), a B.A. in English and American Literature from Brandeis University (1994), and foreign language certifications in Russian, Nepalese, and Japanese.

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Robert Ward is a mariner and hydrographic surveyor. For nearly 25 years he represented Australia and subsequently the International Hydrographic Organization (IHO) at the highest international level in relation to the development and implementation of nautical charting standards, digital data exchange standards, and related subjects including e-Navigation. He regularly addressed these subjects in the UN, the IMO, IALA and with various international non-governmental and maritime industry organisations.



GREEN SHIPPING ONBOARD: ACCEPTANCE, DIFFUSION & ADOPTION OF LNG AND ELECTRICITY AS ALTERNATIVE FUELS IN GREECE

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ABSTRACT

Today, alternative fuels are seen as a critical area of sustainable technological growth in maritime transport. The International Maritime Organisation (IMO), the United Nations body for maritime issues and other international bodies are in the process of amending and updating the regulations applicable to the shipping industry. Greece is ready to enter the era of liquefied natural gas (LNG) and electricity as marine fuels, as Eastern Mediterranean projects are heading towards adopting these alternative fuels. This study aims to explore the intention of the Greek stakeholders in accepting and using LNG and electricity as alternative fuels. The research objectives are to identify, analyse and evaluate the determinants that influence the intention to accept, diffuse and use alternative fuels, LNG and electricity for marine propulsion, and develop, construct and validate a hybrid model that can be used for future study. This research will clarify possible challenges or barriers to the implementation of technology by stakeholders and contribute to a deeper understanding of the green shipping network. It will also highlight the role of key players in the diffusion phase of technological innovation and the technology itself and its characteristics. Moreover, this research will suggest a unified model using the expansive Technology Acceptance Model (TAM) in conjunction with the Innovation Diffusion Theory (IDT) and external variables affecting LNG and electricity 1) investigate the intent of implementing the use of such alternative fuels and 2) inform policymakers concerning sustainable shipping.

KEYWORDS

Technology Acceptance Model (TAM), Innovation Diffusion Theory (IDT), Liquefied Natural gas (LNG), Electricity

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INSURANCE RELATED PROBLEMS IN BAREBOAT CHARTER AGREEMENTS

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ABSTRACT



In 2017, the majority of the United Kingdom Supreme Court held in its judgment in the *Gard Marine and Energy v China National Chartering* (“The Ocean Victory”) case that, in bareboat charters under the BARECON 89 form, if both the owner and the charterer are jointly insured under a hull policy, the damages caused to the vessel by the charterer cannot be claimed by the insurer by way of subrogation after indemnifying the owner because the interpretation of the charter party leads to the conclusion that the liability between the parties is excluded. Faced with the Supreme Court’s decision, the Baltic and International Maritime Council adopted, only a few months later, a new standard bareboat charter agreement, the BARECON 2017 form, which amends, among other clauses, the one related to insurance. The present paper analyses the new wording of the aforementioned clause, as well as its incidence on the relationship between the parties of both the charter agreement and the insurance contract, as well as its consequences for possible third parties.

KEYWORDS

Bareboat Charter, BARECON, Marine Insurance, Joint and Composite Insurance, Subrogation of the Insurer

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IN THE QUEST FOR THE PORT AUTHORITIES IDENTITY: THE BRAZILIAN MINISTRY OF INFRASTRUCTURE MOTIVATION AND PERSPECTIVE

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ABSTRACT

Port activity in Brazil had undergone profound and relevant changes since 1993 when Law 8.630/93 came in force moving the public port service management to the landlord model. This legal framework addressed Antwerp and Rotterdam’s port management principles, aligning the country to public ports’ administrative scenario located in northern Europe. In the latter ones, the landlord model consolidated itself after World War II and remains a strategic reference in port planning through public governance in partnership with private initiative. Thus, Brazilian Port Authorities reached the year 2000 with all the Organised Ports’ operational areas in charge of private enterprises. It seems that, at that moment, the operational port activities undergone by private stevedoring companies was enough for the Federal Government authorities. Therefore, they left behind the remaining points to fully reach the Authorities’ landlord governance model. The other remaining adjustments’ incompleteness provided an open door for strong party-political influence in Port Authorities’ management. In 2013, subject to a political motivation, rather than economic or fiscal demands, the Government brought out a new regulatory framework, Law 12.815. This new law drove Port Authorities’ strategic management to increase further their dependence on the Central Government, including in what concerns infrastructure investments or public bidding, a unique approach provided in the world. Soon after enacting Law 12.815, a new market adaptation process took place, including the standstill of investments while prevailing the Port Authorities’ heavy political influence. In 2019, the new Federal Government further attempted to elaborate on the Port Authorities’ identity. Although the landlord model in Brazil remains not entirely settled, the Brazilian Ministry of Infrastructure considered a new identity for the port authorities based on the private service port model inspired in the United Kingdom and Australian models. This paper assesses the management models that lead Brazilian’s Port Authorities seaports from 1993 to 2020 and their effects that drive the Government toward private service port consideration, outlining a management analytical approach concerning the United Kingdom, Australian and Antwerp models qualitatively. This paper will not explore the different regulatory framework regarding lease terminal and Private User Terminal in Brazil. Also, will not go through the unions’ relationship with leases terminals and Private User



Terminals or even the workers' pension fund, all of them as a legal challenge by the Government to be settled toward fully private service port.

KEYWORDS

Port Management Models; Port Authority; Brazil

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Cláudio de J. M. Soares. Cláudio is a member of the board of commissioners from the Port Authority of Rio de Janeiro. He worked in the National Waterway Transport Agency in Brazil, leading studies related to cargo and passenger's transportation concerning maritime shipping, inland navigation and port operations, concerning Brazilian market. Including tariffs, prices, market and regulatory studies to support the formulation of public policies, proposing actions for the industry development. He also worked as a team leader to assess and authorise private port facilities regarding new projects, expansion plants or facilities enhancement. He is the former Director of Planning and Business Affairs, from Port Authority of Rio de Janeiro (Cia Docas do Rio), conducting strategic and budgetary planning. He leads commercial relationship and the development of operational and non-operational businesses, accountable for analysing and evaluating projects investment, including market analysis, tariff management, and port statistics. As a Port Specialist, Cláudio conducted Market Analysis, Leasing and Tariff Structure, feasibility studies for port projects, and public bidding processes. He also worked in the Centre of Transport Engineering and 7th Division of the Department of Engineering and Construction from the Brazilian Army. He was a team leader to conduct a multidisciplinary study in transport engineering, focusing on the analysis of port capacity, dredging projects, environmental impact, perception of the benefit of port activity, analysis of bureaucracy and ICT application - Information and Communication Technology. Studies presented: "Evaluation of bureaucratic processes in Brazilian customs" and "Evaluation of the Application of Information and Communication Technology in national ports". Academic speaking, Cláudio is a DSc in Transport Planning by the Federal University of Rio de Janeiro – Brazil with a sandwich program with Cardiff University (UWC), Great Britain, as a Visitor Researcher as a member of the Logistics System Dynamics Group - LSDG team. His doctorate work as entitling as "Analysis of Container Terminals and their capabilities to add value in their own logistics system. A Modelling Approach in Systems Dynamics with an Information Technology Application framework". The mental model was based on various simulation tools such as Arena 10, Visio Process Mapping and Vensim Software applications. In collaboration with the University of Delft's Technological Centre, in the Netherlands, for simulation with Arena and Ventana Systems Co. Cláudio did his MSc degree in International Transport at the University of Cardiff - Great Britain. His major in graduation was in electrical engineering. Regarding academic and industry publication Cláudio works as a technical revisor in the translation for a Portuguese version, 2017, Maritime Economics, Martin Stopford, 3rd Version. He also public a paper entitled "A Model for Predictable Capacity of a Container Terminal State: A System Dynamics Approach". Journal of Traffic and Transportation Engineering 4, United States of America, 2016.

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IS THE SHIPPING INDUSTRY ENCOUNTERING A BLACK SWAN EVENT?

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ABSTRACT

The first half of 2020 was undoubtedly exceptional: the spread of the Covid-19 pandemic completely disrupted the economy and society, everywhere in the world. This extraordinary situation impacted on several industries, causing a dramatic effect in terms of both reduced incomes and on the capability to spend for many communities around the world. This double impact of the pandemic generated a remarkable domino effect on the transport industry, with airline business almost zeroed, many further restrictions for all other transport solutions and a contraction of the overall demand for transport that will probably last for all 2021. This situation generated both short term (e.g., re-routing) and long term (e.g., capacity issues, new regulations) effects with unclear impacts on the profitability of certain businesses (e.g. container shipping recorded an increase in revenues due to the adaptation of most companies to the new situation). The paper focuses on the liner shipping industry and, with the help of the available data, looks back at how the industry experienced the first six months of the Covid era and on that basis reflects on what the medium to long term repercussions for the industry may be.

KEYWORDS

Covid-19 Pandemic, Shipping Network Adaptation, Disruption Management, Shipping Demand Analysis

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MARITIME INFORMATICS TECHNOLOGY

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ABSTRACT

Smart sensor technologies and digitisation of information are transforming today's world, including the maritime sector. Ships are currently equipped with hundreds of sensors for monitoring various parameters of interest related to the physical environment in which a vessel is operating (i.e., ocean data), the characteristics and state of the vessel, and the physiological and mental condition of the crew. Ports are also equipped with advanced monitoring systems and tracking technologies, using various sensors, such as inertial sensors, ultrasonic sensors, eddy current sensors, radar, LiDAR, imaging sensors, and RFID readers and tags, which allow ports to provide essential services in a faster and more efficient manner. The collected data from these various sensors include both spatial and temporal information. They can be linked both with a geographical location and the time of occurrence of a specific event. To extract useful information from the data, we need to have appropriate techniques for data acquisition, management, analysis, and visualisation. Such intelligent algorithms will empower human users to 'make sense' of the spatiotemporal data and provide enhanced decision support. This paper provides more details on each of these important dimensions of dealing with spatiotemporal data.

KEYWORDS

Maritime Informatics, Digitisation, Information Technology in Shipping and Ports, Spatiotemporal Data Analysis

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Michalis Michaelides is an Assistant Professor with the Department of Electrical Engineering, Computer Engineering and Informatics at the Cyprus University of Technology. He has held a tenure-track position since January 2012. Michalis research interests include communication systems, wireless sensor networks, event detection and localisation, fault detection and diagnosis, fault tolerance, collaborative signal and information processing, computational intelligence with applications to environmental monitoring, intelligent systems and maritime informatics. Michalis has been involved as a principal investigator in many research projects, both local (CUT, RIF) and European (EU, FP7) including the Sea Traffic Management Validation project (EU, 2016-2019). He is currently the coordinator of the STEAM Project (RIF, INTEGRATED/0916/0063, 2019-2021). In 2014, he received the Elsevier Building and Environment Journal Best Paper Award.

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MARITIME INFORMATICS AND DECISION MAKING

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ABSTRACT

Maritime informatics takes a holistic approach to shipping, noting that information requirements are strongly influenced by the self-organising nature of the industry and the spatial-temporal data needed to manage operations pursued during sea transport as an integrated part of the global transport chain. It follows that the many actors involved must share data



in real-time to organise the many associated activities effectively and efficiently. Strong voices in the shipping industry are now pushing for a digital transformation that will result in higher levels of transparency, predictability, and visibility of all transport operations connected with shipping. There is a drive for enhanced situational awareness across the full spectrum of activities in the movement of goods from origin to destination. In this paper, we explore how maritime informatics may empower decision-making pursued among involved actors.

KEYWORDS

Maritime Informatics, Standardization, Smart Operations, Short-Sea Shipping, Financials Decisions

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ON THE FOUNDATIONS OF PORT AUTHORITIES' STRATEGIC PLANNING: WHAT IS COMMON, WHAT IS NEW, AND WHAT IS DIFFERENT?

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ABSTRACT

Strategic planning is a technique used for military purposes for more than 2,500 years, as a process to formulate medium and long-term goals and objectives and to establish the best way to achieve them. The current definition applied to the business environment arose in the sphere of Harvard University in the mid-1960s with the works of Michael Porter and Igor Ansoff, who can be considered the fathers of modern strategic thinking. In the port sector, strategic planning began to be applied systematically at the end of the 1980s following the works published by the Association of American Port Authorities in 1988 and UNCTAD in 1993. In following these pioneer works and after many years of practical application in ports and terminals, the Technical Association of Ports and Coasts (Spanish section of the PIANC) conducted an in-depth analysis of a sample of 150 Port Authorities. In this work, the main conclusions regarding the three core aspects of any Strategic Plan are summarised: the formulation of the vision, mission, and corporate values.

KEYWORDS

Strategic Plan; Master Plan; Port Authority; Vision Statement; Mission Statement; Corporate Values; Port Strategy

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PANAMAX MARKETS BEHAVIOUR: EXPLAINING VOLATILITY AND EXPECTATIONS

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ABSTRACT



It is widely accepted that the highly volatile Panamax market has many peculiarities. To name just a few, Panamax vessels transport the major and the minor dry bulk cargoes worldwide. In contrast, the variety of cargoes and the flexibility in following various trade routes, create a broad market with a relatively open structure. The importance of Panamax market has also been highlighted by a recently upgraded contribution of the Baltic Panamax Index (BPI) to the Baltic Dry Index (BDI), affecting the progress of the BDI significantly. This paper investigates the behaviour of the Panamax market focusing on expectations and time lags. Expectations play a critical role in the freight market both for short-term and long-term decision making. In particular, we investigate the relationship between time lags and time-charter, trip and spot market rates, and the average earnings of the Panamax vessels of various ages. Time series analysis is used to reach our conclusions. The Hannan – Quinn criterion has been selected to identify the Panamax freight market's important lags for the period 1989-2020. An autoregressive model has been constructed to perform the statistical analysis. The findings indicate a strong correlation between time lags and Panamax freight market, forecasting the behaviour of the market indeed. At a practical level, a better understanding of the Panamax market's behaviour can improve the planning decision of shipowners and charterers alike.

KEYWORDS

Panamax Markets; Expectations; Time Lag; Volatility

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PORT GREENING: DISCRETE CHOICE ANALYSIS INVESTIGATION ON ENVIRONMENTAL PARAMETERS AFFECTING CONTAINER SHIPPING COMPANIES' BEHAVIOURS

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ABSTRACT

Ports offer prosperity by facilitating maritime transport and offering economic and social development to the host community. For centuries, ports have functioned as an economic engine, allowing the transport of essential goods and services to human society throughout the world. Ports are gateways for international trade and play a vital role in the world economy by embracing shipping. It is not excluded that port operations can also have adverse effects on the environment.



Air and water emissions, marine sediments, noise, waste generation, loss and degradation of terrestrial habitats, and marine ecosystems' changes are just some of the leading environmental challenges with port's operations. Environmental management within port operations has been a rapidly growing trend, with many ports worldwide adopting different types of approaches and initiatives to improve ecological performance. Many ports around the world have implemented '*greening strategies for growth and sustainable development. Although there are ports that work on environmental aspects and the generation of 'green ports', many others have fallen behind in developing the theme, and environmental initiatives are poorly analysed, with limited scope for identifying best practices. For this reason, the work reported here aims to analyse what the best way to act should be, even starting from the beginning for a port that is not very innovative, to pursue the practical and theoretical levels of 'green port'.*

KEYWORDS

Green Ports, Shipping Companies, Ecology, Discrete Choice Analysis

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PORT'S TECHNOLOGIES FOR THE NAVIGATION OF AUTONOMOUS SHIPS IN RESTRICTED WATERS

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ABSTRACT

This work analyses autonomous ships' specific needs of external and environmental information in restricted pilotage waters. Harbour pilots use conventional well-tested techniques when piloting the manned vessel. In this work, we propose technological solutions to be installed or adapted in ports to feed the autonomous ships' systems with the information considered relevant by pilots. These technological solutions aim to allow vessels reaching critical areas in a position, a time, a speed and a course that compensates the external forces and/or avoid high-risk situations. We have proposed technological solutions considering those already available in the ports, particularly in Paranaguá and Antonina in Brazil.

KEYWORDS

Autonomous Ships, Port, Pilotage, Brazil.

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PORTUGAL AND THE PORT OF SINES IN THE BELT AND ROAD INITIATIVE

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ABSTRACT

The Belt and Road Initiative (BRI) is a Chinese strategy to improve connectivity and cooperation on a transcontinental scale. Despite the expressed interest by the Portuguese and Chinese governments, Portugal is not formally part of it. The routes that stretch from China throughout the Eurasia region end in Spain. In this context, this paper aims to perceive Portugal's competitiveness factors and its chances to be integrated into this Chinese Initiative. In particular, it seeks to ascertain, through a holistic analysis of the tangible and intangible characteristics, Portugal and Sines' value to the Initiative. Through documentary research and semi-structured interviews, several competitive factors enhance their strategic relevance in the logistical, industrial, and energy-related areas. Likewise, it was perceived that, despite the relevance of its technical and geographical factors, it is the Portuguese Soft Power that increases Sines competitiveness exponentially. However, this competitiveness depends on the materialisation of Sines expansion projects and the construction and improvement of the railway links to the hinterland.

KEYWORDS

Belt and Road Initiative, Port of Sines, Port Competitiveness, China, Soft Power

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POTENTIAL OPPORTUNITY OF BRI FOR IRANIAN PORTS

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ABSTRACT

Belt and Road Initiative (BRI) is a global infrastructural development plan initiated by China, covering 70 countries from West Asia to Europe and Iran is expected to be one of the main beneficiaries. Moreover, its unique geographical location



and significant resources nominate Iran to be one of the most important BRI network nodes. This study aims to analyse the possible impacts of the BRI projects on Iran maritime and hinterland transport. The paper locates the BRI within the region's politics and examines the opportunities that the initiative offers for the region, its inherent risks and challenges. The BRI has drawn the attention of numerous scholars all over the world. However, such literature neither focuses on the impact of the BRI on the Iranian ports nor the identification of the Iranian port, which has the potential of becoming a hub within the BRI initiative. The research adopted the Analytic Hierarchy Process (AHP) to determine the ports' competitiveness as regards the BRI initiative. AHP made feasible the combining of qualitative and quantitative standards simultaneously.

KEYWORDS

Belt and Road Initiative, Iran, Ports, Analytic Hierarchy Process

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RISK AND SAFETY IN MARITIME TRANSPORT: A REVIEW AND AGENDA FOR RESEARCH

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ABSTRACT

Historically the number of tanker accidents have fallen over the past thirty years. However, while, the frequency of maritime accidents may be in decline, one single incident can have catastrophic and long-term consequences for marine ecosystems, the environment and local economies. Maritime transport accidents are complex and caused by a combination of events or processes involving any number of actors. The consequences of these accidents can ultimately lead to disastrous consequences, including loss of human and marine life, ecological, environmental and economic damage. This paper reviews the types of maritime accidents and categorises them according to the concepts of risk or safety from a multi-disciplinary perspective – engineering, human and social sciences. From this, we propose a new framework to better understand the levels of risk and safety in the maritime transport sector, with the ultimate aim of reducing catastrophic maritime accidents.

KEYWORDS

Maritime Accidents, Risk, Safety, Bibliometric Analysis

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REDUCING TANKER ACCIDENTS BY TACKLING HUMAN ERROR: A SYSTEMATIC LITERATURE REVIEW AND FUTURE RESEARCH AGENDA

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ABSTRACT

According to the International Tanker Owners Pollution Federation, the number of tanker accidents has fallen over the past thirty years. Nevertheless, one single incident, such as the oil spills in Bahia Brazil and more recently in Mauritius, can have catastrophic and long-term consequences for marine ecosystems, the environment and local economies. Maritime transport accidents are complex and caused by a combination of events or processes that might ultimately result in loss of human and marine life, and irreversible ecological, environmental and economic damage. Many studies point to direct or indirect human error as a major cause of maritime accidents and oil spills, which raises many unanswered questions about managing people in maritime contexts to prevent catastrophic human error. Our paper takes a first step towards addressing some of these questions by improving our understanding of upstream maritime accidents and prevention, from an organisational perspective. This is an area of research in the field of organisation science that is currently underdeveloped. Here, we conduct a systematic literature review focusing on three main aspects of human error: human resources and management, socio-technical Information Systems (IS) and Technologies (IT), and cognition-related errors. Our initial findings suggests new organisational theory perspectives for researching and improving our understanding human error in maritime contexts, which can ultimately contribute to addressing human errors and improving maritime transport safety for the wider benefit of inter-connected environments, societies, ecologies and economies.

KEYWORDS

Tanker Accident, Human Error, Socio-Technical IT, Organisation

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SEAPORT OPERATIONAL PERFORMANCE IN NIGERIA: CASE OF APAPA PORT AND TIN CAN ISLAND PORT

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ABSTRACT

This study analyses the seaport performance at Apapa and Tin Can Island Port Lagos using specific port performance indicators. Data used were sourced from Nigeria Ports Authority's operational bulletin records. Cobb Douglas production function and ordinary least square method (OLS) was used for the analysis. E-view software version 10.0 was used for running the analysis. From the analysis, the result shows that Cargo throughput was used as a dependent variable and has a strong positive linear relationship with the explanatory variables (ship traffic, berth occupancy, turnaround time, and the number of employees) with the R^2 value of 85.89% for Apapa port and 98.79% for Tincan Island port. The test of the hypothesis shows that there is a significant statistical relationship between the dependent and independent variables at a p-value of 0.05. The result shows that Tin can Island Port is more productive than the Apapa port from the output summary result and the hypothesis testing. Recommendations were made, emphasising that there is a need to provide effective port operations in the Nigerian seaports. The government should improve port operations by reducing port congestion, Apapa road traffic gridlock, and ease delays in port documentation at the ports. There is also a need for the formulation and implementation of effective policies as a way of ensuring efficiency in the ports.

KEYWORDS

Port Performance, Turnaround Time, Port Operation, And Ship Traffic.



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SOCIAL MEDIA AS A NEW WAY TO COMMUNICATE CORPORATE SOCIAL RESPONSIBILITY IN PORTS: THE CASE OF TWITTER AT THE PORT OF ROTTERDAM

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ABSTRACT

Stakeholder relationship management (SRM) has assumed a key function in shaping port competitiveness. To this scope, European Port Managing Bodies (PMBs) have developed new practices to engage salient stakeholders and meet their specific requirements, including growing attention to corporate social responsibility (CSR). Due to the increasing pressure of public opinion on environmental and social issues, European PMBs' ability to communicate their CSR commitment and initiatives represents a key driver when searching for consensus of stakeholders and "license to operate". In this perspective, the advent of web 2.0 and social media have provided PMBs with unprecedented opportunities to redesign and strengthen CSR communication strategies. The research objective of the paper is twofold. First, it scrutinises the current state of the art concerning adopting the most popular social media by European PMBs through online field research on the top-25 European ports. Second, the paper investigates the use of social media in the CSR communication strategies of European PMBs. In this regard, it provides an in-depth case study analysis of the use of Twitter by the Port of Rotterdam. The paper performs a content analysis of the tweets published by the @PortOfRotterdam in the 2017-2019 timeframe, by applying an original framework to detect and code CSR-related contents. Although empirical findings report the top-25 European ports extensively use social media, uneven approaches emerge considering port sizes and cultural clusters. Finally, the content analysis provides interesting managerial insights and future research avenues on using social media to communicate CSR in ports.

KEYWORDS

Port Managing Bodies (PMBs); CSR Communication; Social Media Marketing; Twitter; Content Analysis



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THE CRUISE HUB PORTS IN JAPAN AND A FEASIBILITY STUDY ON OUTBOUND CRUISES

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ABSTRACT

In recent decades the world cruise market has grown to 31.5 million passengers (2019). Most of this growth has taken place in the Caribbean and the Mediterranean. In Japan, the number of inbound cruises, originating mainly from China, has increased rapidly, reaching about 2.15 million passengers in total (2019). However, in the same year, Japanese outbound cruises only had 217,000 passengers. This paper reviews the Kyushu region's efforts to promote inbound cruises about the "KYUSHU Connect Port Project" (MLIT in 2019). It then discusses the issues having to do with promoting outbound cruises, especially in Nagasaki Prefecture. The ports of Nagasaki city and Sasebo city are in Nagasaki prefecture, with 183 cruise port calls and 79 calls per year respectively, ranking fourth and tenth nationwide in 2019. However, the majority of passengers are on inbound cruises. The current main ports for outbound cruises in Japan are Yokohama, Kobe and Hakata. We analysed successful factors for outbound cruises and created a conceptual model. We also interviewed mainly government bodies to collect data and port characteristics to compare Hakata, Nagasaki, and Sasebo's ports. The results indicate that the ports in Nagasaki prefecture have the potential for becoming important outbound cruise ports. Finally, the research implications offer proposals for policymakers, and we briefly mention the post-COVID-19 situation.

KEYWORDS

Cruise Hub Ports in Japan, Nagasaki, Outbound Cruises

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Yutaka Yamamoto is a Japanese researcher on Maritime Economics and has been a Professor at The University of Nagasaki since 2015. He lectures on Global Logistics at the university. He has a strong shipping background with over 20 years in sales/marketing in Japan and the US. He was also a container terminal manager in Kobe, Japan. He has focused research on container shipping networks as well as shipping regulations and port governance. He has also researched the maritime history between Japan and the US. Now his interest has expanded to the cruise business because of the recent rapid increase of inbound cruises to Nagasaki ports and other Japanese ports. He was a visiting scholar at the Erasmus Center for Urban, Port and Transport Economics, Rotterdam, The Netherlands in 2018/2019. He is a member of various local port committees in Japan and also a member of the port strategy committee for the central government.





8. LIST OF EXTENDED ABSTRACTS

POTENTIAL TO SETTING UP OF MARITIME CLUSTERS IN ANGOLA

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ABSTRACT

This paper seeks to address the relationship between the concentration of economic activities associated with the sea and Angola's economic development. The investigation on Maritime Clusters arises from the fact that Angola has maritime infrastructures and a strong maritime activity being the sea hinterland of landlocked countries in Southern and Southern-Central Africa. It is also experiencing socio-economic and demographic changes generated by economic activities with a relevant impact on the business environment, bringing about opportunities for the establishment of industrial clusters in particular maritime clusters. Thus, this paper aims to understand that the setting up of clusters might reduce regional asymmetries and poverty in the country, showing the importance of maritime clusters for economic development and job creation by enhancing the growth of solid micro, small and medium-sized enterprise (MSME). It also enables to understand that maritime clusters are relevant not only to the diversification of country's economy that is still largely dependent from the oil industry but also to the integration of the Angolan economy in the Southern African Development Countries (SADC). Regarding the existing gap in knowledge about the issue, this research work represents an analytical contribute for further research initiatives, particularly quantitative nature.

KEYWORDS

Maritime Clusters; Regional Asymmetries; Economic Agglomeration; Economic Development

AUTHOR(S) BIONOTES

Gabriel Henriques Leitão, PhD in Management Science (Economics Faculty of University Agostinho Neto, Luanda/University Institute of Lisbon, ISCTE). Master Degree of Business Administration, with specialization in General and Strategic Management - Maastricht School of Management (MSM-Nederland). BSc (Hons) in Economics– (Dipl. Oec) with specialization in Planning of the National Economy – Hochschule für Oekonomie "Bruno Leuschner" Berlin - Germany. Post-Graduation in Neoclassic Macro economy - University of Agostinho Neto Luanda - Angola. In his professional activity he was mainly engaged as an official of the public administration of Angola as National Director of Public Investment and Coordinator of Emergency Multi-Sectorial Rehabilitation Program at the Ministry of Planning /World Bank. Since April 2018 to date, he is First Adviser of the Department for Population Policy at the Ministry of Economy and Planning in Luanda – Angola.

Maria de Lourdes Bravo, PhD in Economics (ISEG- Technical University of Lisbon), MSc in Development and International Co-operation, and BSc (Hons) in Economics, was in charge of the chair of Transport Economics and Logistics at the Portuguese Nautical College "Escola Superior Náutica Infante D. Henrique" (2001-2007). Her research activities are in the areas of Transport, Logistics and Supply Chain Management. While her master degree thesis focused on the "World fleet overcapacity and its incidence on the development of shipping in the developing countries" her doctoral thesis addressed the issue of "Container Traffic as Part of Multimodal Logistics - Focus: European Transport System." She has participated in several transport and logistics project studies and conferences. Between 2009-2011, she was a post-doctoral research working in Logistics Systems Dynamics Group (LSDG) at Business Scholl, Cardiff University. Currently, she is a full professor at the Faculdade de Economia – University Agostinho Neto.





SOCIAL TRANSFORMATION OF CRUISE INDUSTRY: TRENDS AND FUTURE OUTLOOK

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Ana Cristina Paixão Casaca, Founder and Owner of the 'World of Shipping Portugal' Initiative Parede, Portugal and CIMOSM, ISEL, Centro de Investigação em Modelação e Optimização de Sistemas Multifuncionais, 1959-007 Lisboa, Portugal, anaccasaca@sapo.pt

ABSTRACT

Social transformation is an emerging trend in the cruise industry in the 21st century. Cruise lines encounter stiff competition with their competitors and face sophisticated and unpredictable challenges from the wave of social transformation. The outbreak of COVID-19 pandemic has accelerated the social transformation phenomena in the cruise industry. As such, we may need to explore how social transformation reshapes the cruise industry. In order to investigate this social transformation, our study builds upon the 4C framework (i.e., Consumer, Technology, and Innovation, Consumer Behaviour, Consumer Experience, and Consumer Psychology) to suggest how cruise lines might take measures to create resilience against the influence affected by the social transformation. To this end, cruise lines can maintain sustainable development in the future.

KEYWORDS

Social Transformation, Cruise Industry, COVID-19, 4C Framework, Resilience

AUTHOR(S) BIONOTES

Yui-yip Lau. Mr Yui-yip Lau has published more than 200 research papers in international journals and professional magazines, contributed 10 book chapters, 2 books and presented numerous papers in international conferences. He has collaborated with scholars from more than 20 countries and regions spreading over five continents on research projects. He has also secured over HK\$ 7 million research grants. Recently, he has been awarded a Certificate of Appreciation by the Institute of Seatrians in recognition of his outstanding performance on research and the Best Paper Award in leading international conferences. In addition, he has participated in different consultancy projects with various (inter-)governmental organisations, academic institutions and industry associations. In addition, he has been appointed as Associate, University of Manitoba, Transport Institute, Winnipeg, Manitoba, Canada and Visiting Scholar, East China Normal University. His research interests include the cruise and ferry industries, regional development, climate change, supply chain management, and higher education.

Tsz Leung Yip. Ir Dr Tsz Leung Yip is an Associate Professor of Department of Logistics and Maritime Studies, The Hong Kong Polytechnic University. He is the Deputy Director, C. Y. Tung International Centre for Maritime Studies and the Programme Leader of BBA in International Shipping and Transport Logistics. While being an Editor of Maritime Business Review and Associate Editor of Asian Journal of Shipping and Logistics, he has also edited several special issues. He is serving on editorial boards of several journals. Dr Yip has published in many scholarly journals with an h-index of 45 according to Google Scholar Citations.

Ana Cristina Casaca holds a Ph.D. in International Transport/Logistics. Her academic background is supported by her nautical career in the shipping industry. After being at sea for a couple of years, she earned her Bachelor Degree in Management and Maritime Technologies at ENIDH in 1995, her M.Sc. Degree in International Logistics at the Institute of Marine Studies, the University of Plymouth in 1997, her professional accreditation from the Institute of Chartered Shipbrokers in 1998, and her PhD in International Transport/Logistics in 2003. She published several articles of a professional nature in some industry magazines. However, her research interest would lead her to publish several research papers in well-known international maritime-related journals. Since 2003, she has been invited by the European Commission to evaluate transport-related proposals, review transport-related projects, and peer review academic papers submitted to well-known international Journals. She cooperated with Cargo Edições and chaired the 2010 Annual Conference of the International Association of Maritime Economists and the 2012 International Research Conference on Short Sea Shipping. In cooperation with Leo Tadeu Robles, she translated into Portuguese the third edition of the "Maritime Economics" book written by Martin Stopford. Presently, she is developing and implementing the 'World of Shipping Portugal' web-based initiative within Maritime Economics's scope. She is a member of the Institute of Chartered Shipbrokers (ICS) and of the International Maritime Economists Association (IAME).



9. CONFERENCE PROGRAMME

28 January 2021 – MORNING

(0800 – 1155 UTC) (0900 – 1255 CET) (1600 – 1955 HK)

| ROOM 1 | |
|--|---|
| SESSION | OPENING CEREMONY |
| 0800 - 0815 UTC 0900 - 0915 CET 1600 - 1610 HK | <p>Ana Casaca 2021 World of Shipping Portugal. An International Research Conference on Maritime Affairs, Portugal <i>Welcome Speech</i></p> |
| 0815 - 0840 UTC 0915 - 0940 CET 1615 - 1640 HK | <p>Hassiba Benamara Trade Logistics Branch, Division on Technology and Logistics, (UNCTAD), Geneva, Switzerland <i>Covid-19, Maritime Transport and Trade. What the statistics say regarding trade patterns?</i></p> |
| 0845 - 0910 UTC 0945 - 1010 CET 1645 - 1710 HK | <p>Peter Sand The Baltic and International Maritime Council (BIMCO) Copenhagen, Denmark <i>How will the market behave in a post-Pandemic situation?</i></p> |
| 0915 - 0940 UTC 1015 - 1040 CET 1715 - 1740 HK | <p>Pierre Cariou Kedge Business School, Marseille, France <i>Liner Shipping, Containerisation and Mega Carriers. What structural changes to be faced by the industry operators?</i></p> |

COFFEE-BREAK

(0940 – 1000 UTC) (1040 - 1100 CET) (1740 – 1800 HK)

| ROOM 1 | |
|--|--|
| SESSION | OPENING CEREMONY (CONT.) |
| 1000 - 1025 UTC 1100 - 1125 CET 1800 - 1825 HK | <p>Harilaos Psarftis Technical University of Denmark, Department of Technology, Management and Economics, Lyngby, Denmark <i>Zero Carbon Shipping. Managing Change under Market Uncertainties</i></p> |
| 1030 - 1055 UTC 1130 - 1155 CET 1830 - 1855 HK | <p>Olaf Merk International Transport Forum at OECD, Paris, France <i>Shipping taxation in the COVID-19 era</i></p> |
| 1100 - 1125 UTC 1200 - 1225 CET 1900 - 1925 HK | <p>Maria Dixon ISM Shipping Solutions - Panama Shipping Matters Expert, Lingfield, United Kingdom <i>Shipping Registers in the Post-Covid-19 Pandemic. The case of Panama Shipping Register</i></p> |
| 1130 - 1155 UTC 1230 - 1255 CET 1930 - 1955 HK | <p>Theo Notteboom Shanghai Maritime University/Ghent University/University of Antwerp <i>The impact of Covid-19 on ports: demonstrating resilience during a bumpy ride</i></p> |



LUNCH BREAK (DINNER BREAK)

(1200 - 1300 UTC) (1300 - 1400 CET) (2000 – 2100 HK)

28 January 2021 - AFTERNOON

(1300 – 1440 UTC) (1400 - 1540 CET) (2100 – 2240 HK)

| | ROOM 1 | ROOM 2 |
|--|--|---|
| SESSION | SHIPPING MARKETS | SHIPPING OPERATIONS |
| Session Chair | Chin-Shan Lu, <i>The Hong Kong Polytechnic University, Hong Kong, China</i> | Mihalis Chasomeris, <i>University of KwaZulu-Natal, Republic of South Africa</i> |
| 1300 – 1325 UTC 1400 – 1425 CET 2100 – 2155 HK | Panamax markets behaviour: explaining volatility and expectations Ioannis Karaoulanis, <i>University of Piraeus, Greece</i> Theodoros Pelagidis, <i>University of Piraeus, Greece</i> | Biomimetic self-adhesives foils instead of paints: a business case for a sustainable ship hull coating Johannes Oeffner, <i>Fraunhofer CML, Germany</i> Jonathan Weisheit, <i>Fraunhofer CML, Germany</i> Fotis Oikonomou, <i>Danaos Shipping, Greece</i> Thomas Schimmel, <i>Institute of Applied Physics, Institute for Materials Research on Energy Systems and Institute of Nanotechnology, Germany</i> Carlos Jahn, <i>Fraunhofer CML, Germany</i> |
| 1325 – 1350 UTC 1425 – 1450 CET 2125 – 2150 HK | Is the shipping industry sailing a Black Swan? Claudio Ferrari, <i>University of Genoa, Italy</i> Alessio Tei, <i>University of Genoa, Italy</i> | Port's technologies for the navigation of autonomous ships in restricted waters Helio Sinohara, <i>Universidade de São Paulo, Brazil</i> Eduardo Tannuri, <i>Universidade de São Paulo, Brazil</i> |
| 1350 – 1415 UTC 1450 – 1515 CET 2150 – 2215 HK | Short sea shipping: an analysis of European promotion programmes from 2005 to 2019 Paco Gasparín Casajust, <i>CIMNE-UPC, Spain</i> África Marrero del Rosario, <i>CIMNE-UPC, Spain</i> Pablo Sanz Tuñón, <i>CIMNE-UPC, Spain</i> | Insurance-related problems in bareboat charter agreements Albano Gilabert Gascón, <i>Jaume I-University, Spain</i> |
| 1415 – 1440 UTC 1515 – 1540 CET 2215 – 2240 HK | A simulation-based approach for analyzing the combined sea-road transport Stefano Carrese, <i>Roma Tre University, Italy</i> Marco Petrelli, <i>Roma Tre University, Italy</i> Alessandra Renna, <i>Roma Tre University, Italy</i> Michele Valentini, <i>Roma Tre University, Italy</i> | A novel methodology using BPM to assess the implementation of blockchain in the midstream LNG supply chain Dimitrios V. Lyridis, <i>National Technical University of Athens, Greece</i> George O. Andreadis, <i>National Technical University of Athens, Greece</i> Christos Papaleonidas, <i>National Technical University of Athens, Greece</i> Violetta Tsiampa, <i>National Technical University of Athens, Greece</i> |

COFFEE-BREAK

(1440 - 1510 UTC) (1540 - 1610 CET) (2240 – 2310 HK)



28 January 2021 - AFTERNOON

(1510 – 1650 UTC) (1610 - 1750 CET) (2310– 1955 HK)

| | ROOM 1 | ROOM 2 |
|--|--|---|
| SESSION | GREEN SHIPPING & PORTS | PORT MANAGEMENT AND OPERATIONS 1 |
| Session Chair | Gul Denktas Sakar, <i>Dokuz Eylul University</i> , Turkey | Ana Rita Lynce, <i>VTM Global</i> , Portugal |
| 1510 – 1535 UTC 1610 – 1635 CET 2310 – 2335 HK | Green shipping onboard: acceptance, diffusion & adoption of LNG and electricity as alternative fuels in Greece Olga Sideri, <i>University of West Attica</i> , Greece, Nikitas Nikitakos, <i>University of the Aegean</i> , Greece Dimitrios Papachristos, <i>University of West Attica</i> , Greece | On the foundations of port authorities' strategic planning: what is common, what is new, and what is different? Ignacio de la Peña Zarzuelo, <i>Universidad Politécnica de Madrid</i> , Spain María Jesús Freire-Seoane, <i>University of A Coruña</i> , Spain Beatriz López-Bermúdez, <i>University of A Coruña</i> , Spain Carlos Pais-Montes, <i>University of A Coruña</i> , Spain |
| 1535 – 1600 UTC 1635 – 1700 CET 2335 – 0000 HK | Port greening: discrete choice analysis investigation on environmental parameters affecting container shipping companies' behaviours Lorenzo Franchi, <i>University of Antwerp</i> , Belgium Thierry Vanelslander, <i>University of Antwerp</i> , Belgium | Institutional indicators as determinants of efficiency in Spanish Port authorities María Jesús Freire-Seoane, <i>University of A Coruña</i> , Spain Beatriz López-Bermúdez, <i>University of A Coruña</i> , Spain Carlos Pais-Montes, <i>University of A Coruña</i> , Spain Ignacio de la Peña Zarzuelo, <i>Universidad Politécnica de Madrid</i> , Spain |
| 1600 – 1625 UTC 1700 – 1725 CET 0000 – 0025 HK | Efforts by European ports to improve the sustainability of their operations Ville Hinkka, <i>VTT Technical Research Centre of Finland Ltd.</i> , Finland Saara Hänninen, <i>VTT Technical Research Centre of Finland Ltd.</i> , Finland Lassi Similä, <i>VTT Technical Research Centre of Finland Ltd.</i> , Finland Tiina Koljonen, <i>VTT Technical Research Centre of Finland Ltd.</i> , Finland Reetta Mäkinen, <i>VTT Technical Research Centre of Finland Ltd.</i> , Finland | Corporate social responsibility communication strategies in European ports: the case of Twitter Francesco Vitellaro, <i>University of Genoa</i> , Italy Francesco Parola, <i>University of Genoa</i> , Italy Giovanni Satta, <i>University of Genoa</i> , Italy Nicoletta Buratti, <i>University of Genoa</i> , Italy David Arevalo, <i>University of Genoa</i> , Italy |
| 1625 – 1650 UTC 1725 – 1750 CET 0025 – 0050 HK | Reducing tanker accidents by tackling human error: A systematic literature review and future research agenda Carine Dominguez-Péry, <i>University of Grenoble Alpes</i> , France Lakshmi Narasimaha Raju Vuddaraju, <i>University of Grenoble Alpes</i> , France Isabelle Corbett-Etchevers, <i>University of Grenoble Alpes</i> , France Rana Tassabehji, <i>Bath University School of Management</i> , United Kingdom | Cargo flow analysis by mutual information analysis: a case study of the multi-purpose Port of Isafjordur in Iceland Majid Eskafi, <i>University of Iceland</i> , Iceland Milad Kowsari, <i>University of Iceland</i> , Iceland Ali Dastgheib, <i>IHE Delft</i> , The Netherlands Gudmundur F. Ulfarsson, <i>University of Iceland</i> , Iceland |



29 January 2021 – MORNING

(0800 – 0940 UTC) (0900 – 1040 CET) (1600 – 1740 HK)

| | ROOM 1 | ROOM 2 |
|--|--|---|
| SESSION | MARITIME SAFETY | PORT MANAGEMENT AND OPERATIONS 2 |
| Session Chair | Dimitrios V. Lyridis, <i>National Technical University of Athens, Greece</i> | Hyunmi Jang, <i>Pusan National University, Republic of Korea</i> |
| 0800 – 0825 UTC 0900 – 0925 CET 1600 – 1625 HK | Assessment of navigational risk Jens Froese (Guest Speaker), <i>University of Technology, Germany</i> | Analysis of port management and ownership models: motivation and consequences, 1980 – 2020 in perspective John Buor, <i>Ghana Institute of Management and Public Administration, Ghana</i> Edward Fekpe, <i>Ghana Institute of Management and Public Administration, Ghana</i> |
| 0825 – 0850 UTC 0925 – 0950 CET 1625 – 1650 HK | Risk and safety in maritime transport: A review and agenda for research Carine Dominguez-Péry, <i>University of Grenoble Alpes, France</i> LLakshmi Narasimaha Raju Vuddaraju, <i>University of Grenoble Alpes, France</i> Vikhram Duffour, <i>University of Grenoble Alpes, France</i> Jérémy Eydieux, <i>University of Grenoble Alpes, France</i> Rana Tassabehji, <i>Bath University School of Management, United Kingdom</i> | Comparative analysis of seaport performance in Nigeria: The case of Apapa Port and Tin Can Island Port Obioma R. Nwaogbe, <i>Nigeria Maritime University, Nigeria</i> Habib Y. Abdulhamid, <i>Federal University of Technology, Nigeria</i> Victor Omoke, <i>Nigeria Maritime University, Nigeria</i> Evans C. Ogbuji, <i>Nigeria Maritime University, Nigeria</i> John U Eru, <i>Nigeria Maritime University, Nigeria</i> Hauwa Wokili-Yakubu, <i>Federal University of Technology Minna, Nigeria</i> |
| 0850 – 0915 UTC 0950 – 1015 CET 1650 – 1715 HK | Classification societies and maritime safety: Inter-agency dynamics in international shipping François Fulconis, <i>Avignon University, France</i> Raphael Lissillour, <i>IPAG Business School, France</i> | In the Quest for the Port Authorities Identity: The Brazilian Ministry of Infrastructure Motivation and Perspective Cláudio J. M. Soares, <i>Cia Docas do Rio de Janeiro, Brazil</i> Ana Casaca, <i>'World of Shipping Portugal' and CIMOSM (Instituto Superior de Engenharia de Lisboa), Portugal</i> |
| 0915 – 0940 UTC 1015 – 1040 CET 1715 – 1740 HK | A conceptual cyber-risk assessment of port infrastructure Kimberly Tam, <i>University of Plymouth, United Kingdom</i> Kemedi Moara-Nkwe, <i>University of Plymouth, United Kingdom</i> Kevin D. Jones, <i>University of Plymouth, United Kingdom</i> | Emerging trends and impacts defining the ports ecosystem in 2025 and 2040: application of Delphi method Javier Garrido, <i>CIMNE-UPC, Spain</i> Sergi Saurí, <i>CIMNE-UPC, Spain</i> Carles Rúa, <i>Port of Barcelona, Spain</i> Jordi Torrent, <i>Port of Barcelona, Spain</i> Ester Raventós, <i>CIMNE-UPC, Spain</i> |

COFFEE-BREAK

(0940 - 1010 UTC) (1040 - 1110 CET) (1740 – 1810 HK)



29 January 2021 – MORNING

(1010 – 1150 UTC) (1110 - 1250 CET) (1810 – 1955 HK)

| | ROOM 1 | ROOM 2 |
|--|---|---|
| SESSION | EU RESEARCH PROJECTS | CRUISE OPERATIONS |
| Session Chair | Cassia Galvão, <i>Texas A&M University at Galveston, United States of America</i> | Assunta Di Vaio, <i>University of Naples "Parthenope", Italy</i> |
| 1010 – 1035 UTC 1110 – 1135 CET 1810 – 1835 HK | An Overview of SAFEMODE project “Development of a risk-informed framework for supporting Human Factors analysis in design and operations of maritime and aviation industries Nikolaos P. Ventikos (Guest Speaker), <i>National Technical University of Athens, Greece</i> Emmanuel Annetis (Guest Speaker), <i>National Technical University of Athens, Greece</i> | Cruise port centrality and spatial patterns of cruise shipping in the Mediterranean Sea Jerónimo Esteve-Pérez, <i>Universidad Politécnica de Cartagena, Spain</i> Manuel del Río-González, <i>Universidad Politécnica de Cartagena, Spain</i> |
| 1035 – 1100 UTC 1135 – 1200 CET 1835 – 1900 HK | Cyber-MAR: Cyber preparedness actions for a holistic approach and awareness raising in the MARitime logistics supply chain Eleftherios Ouzounoglou (Guest Speaker), <i>Crisis Management and Secure Societies Team Leader, I-SENSE Group, ICCS, Greece</i> | The cruise hub ports in Japan and a feasibility study on outbound cruises Yutaka Yamamoto, <i>University of Nagasaki, Japan</i> |
| 1100 – 1125 UTC 1200 – 1225 CET 1900 – 1925 HK | Holistic Ship Design & Optimisation / The European Research Project HOLISHIP Jochen Marzi (Guest Speaker), <i>Hamburgische Schiffbau-Versuchsanstalt GmbH, Germany</i> | Social Transformation of Cruise Industry: Trends and Future Outlook Yui-yip Lau, <i>The Hong Kong Polytechnic University, Hong Kong, China</i> Tsz Leung Yip, <i>The Hong Kong Polytechnic University, Hong Kong, China</i> Ana Casaca, <i>‘World of Shipping Portugal’ and CIMOSM (Instituto Superior de Engenharia de Lisboa), Portugal</i> |
| 1125 – 1150 UTC 1225 – 1250 CET 1925 – 1950 HK | The Role of Wind Propulsion in Accelerating Decarbonisation in Shipping Michele Acciaro (Guest Speaker), <i>Kühne Logistics University, Germany</i> | Introducing an innovative evacuation tool for passenger ships: The PALAEMON H2020 project Nikolaos P. Ventikos, <i>National Technical University of Athens, Greece</i> Marios Koimtzoglou, <i>National Technical University of Athens, Greece</i> |

LUNCH BREAK (DINNER BREAK)

(1150 - 1300 UTC) (1250 - 1400 CET) (1950 – 2100 HK)



29 January 2021 – AFTERNOON

(1300 – 1415 UTC) (1400 - 1515 CET) (2100 – 2215 HK)

| ROOM 1 | |
|--|---|
| SESSION | MARITIME CLUSTERS AND CORRIDORS |
| Session Chair | Amélia Loja, <i>Instituto Superior de Engenharia de Lisboa</i> , Portugal |
| 1300 – 1325 UTC 1400 – 1425 CET 2100 – 2125 HK | The Potential of Setting up of Maritime Clusters in Angola Gabriel Henriques Leitão, <i>Faculdade de Economia-UAN</i> , Angola Maria de Lourdes Bravo, <i>Faculdade de Economia-UAN</i> , Angola |
| 1325 – 1350 UTC 1425 – 1450 CET 2125 – 2150 HK | Portugal and the Port of Sines in the Belt and Road Initiative Rui Gaspar, <i>Lisbon University</i> , Portugal |
| 1350 – 1415 UTC 1450 – 1515 CET 2150 – 2215 HK | Potential Opportunity of BRI for Iranian Ports Arsalan Fakhraeirad, <i>University of Antwerp</i> , Belgium Siyavash Filom, <i>University of Antwerp</i> , Belgium |

COFFEE-BREAK

(1415 - 1445 UTC) (1515 - 1545 CET) (2215 – 2245 HK)



29 January 2021 – AFTERNOON

(1445 – 1625 UTC) (1545 - 1725 CET) (2245 – 0025 HK (30th January))

| ROOM 1 | |
|--|--|
| SESSION | MARITIME INFORMATICS |
| Session Chair | Ana Casaca, <i>'World of Shipping Portugal' and CIMOSM (Instituto Superior de Engenharia de Lisboa)</i> , Portugal |
| 1445 – 1510 UTC 1545 – 1610 CET 2245 – 2310 HK | <p style="text-align: center;">Foundations of maritime informatics</p> <p style="text-align: center;">Richard T. Watson, <i>University of Georgia</i>, United States Sandra Haraldson, <i>Research Institutes of Sweden</i>, Sweden Mikael Lind, <i>Research Institutes of Sweden</i>, Sweden Terje Rygh, <i>The City of Stavanger</i>, Norway Sukhjot Singh, <i>The University of Trinidad and Tobago Chaguaramas</i>, Trinidad and Tobago Dominic Thomas, <i>Kennesaw State University</i>, United States Jaco M. Voorspuij, <i>GS1 AISBL</i>, Belgium Robert Ward, Retired, former Secretary-General of the <i>International Hydrographic Organization</i>, Australia</p> |
| 1510 – 1535 UTC 1610 – 1635 CET 2310 – 2335 HK | <p style="text-align: center;">Maritime informatics technology</p> <p style="text-align: center;">Michalis Michaelides, <i>Cyprus University of Technology</i>, Cyprus Herodotos Herodotou, <i>Cyprus University of Technology</i>, Cyprus Patrick Schmitt, <i>BearingPoint GmbH</i>, Germany Mathias Karlsson, <i>Research Institutes of Sweden</i>, Sweden Ioannis Kyriakides, <i>University of Nicosia</i>, Cyprus Daniel Hayes, <i>Cyprus Subsea Consulting and Services C.S.C.S. Ltd.</i>, Cyprus Xiuju Fu, <i>Institute of High Performance Computing, A*Star</i>, Singapore</p> |
| 1535 – 1600 UTC 1635 – 1700 CET 2335 – 0000 HK | <p style="text-align: center;">Employing fuzzy matching for cleaning manual AIS entries</p> <p style="text-align: center;">Nicos Evmides, <i>Cyprus University of Technology</i>, Cyprus Sheraz Aslam, <i>Cyprus University of Technology</i>, Cyprus Aris Televantos, <i>Delevant Business Solutions Ltd</i>, Cyprus Apostolos Karagiannis, <i>Delevant Business Solutions Ltd</i>, Cyprus Andreas Paraskeva, <i>Delevant Business Solutions Ltd</i>, Cyprus Michalis P. Michaelides, <i>Cyprus University of Technology</i>, Cyprus Herodotos Herodotou, <i>Cyprus University of Technology</i>, Cyprus</p> |
| 1600 – 1625 UTC 1700 – 1725 CET 0000 – 0025 HK | <p style="text-align: center;">Maritime informatics and decision making</p> <p style="text-align: center;">Mikael Lind, <i>Research Institutes of Sweden</i>, Sweden Michael Bergmann, <i>Bergmann-Marine</i>, Germany Robert Ward, Retired, former Secretary-General of the <i>International Hydrographic Organization</i>, Australia Christine Harnischmacher, <i>University of Göttingen</i>, Germany Michalis Michaelides, <i>Cyprus University of Technology</i>, Cyprus Jin Hyoung Park, <i>KRISO</i>, South Korea Corrado Lilledund Forcellati, <i>Risk Consulting / Sustainability</i>, Singapore Photis M. Panayides, <i>Cyprus University of Technology</i>, Cyprus Hanane Becha, <i>UN/CEFACT</i>, Aix-en-Provence, France</p> |



2021 World of Shipping Portugal. An International Research Conference on Maritime Affairs
28-29 January 2021, Online Conference, from Portugal to the World

29 January 2021 – AFTERNOON

(1630 – 1700 UTC) (1730 - 1800 CET) (0030 – 0100 HK (30th January))

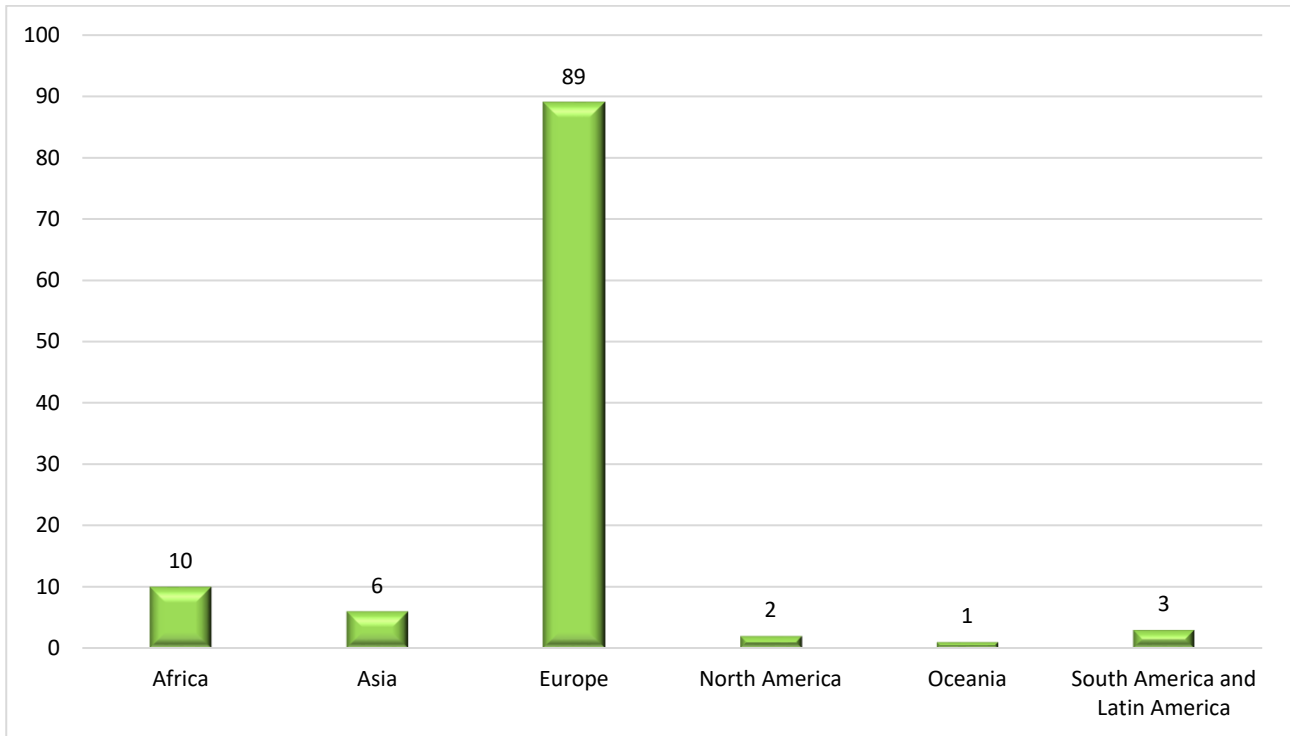
| ROOM 1 | |
|---------|--|
| SESSION | Closing Ceremony |
| | <p>Ana Casaca Chairman of the 2021 World of Shipping Portugal. An International Research Conference on Maritime Affairs, Portugal</p> <p><i>Summing Up</i> <i>Presentation of the Conference papers to be published in a Special Issue of the Journal of Shipping and Trade</i> <i>2022 World of Shipping Portugal. An International Research Conference on Maritime Affairs, 27-28 January 2022</i> or 3-4 February 2022, Online/Hybrid, Portugal</p> |

🚪🚪 EXIT DAY 2 🚪🚪

See you Next Year 2022!

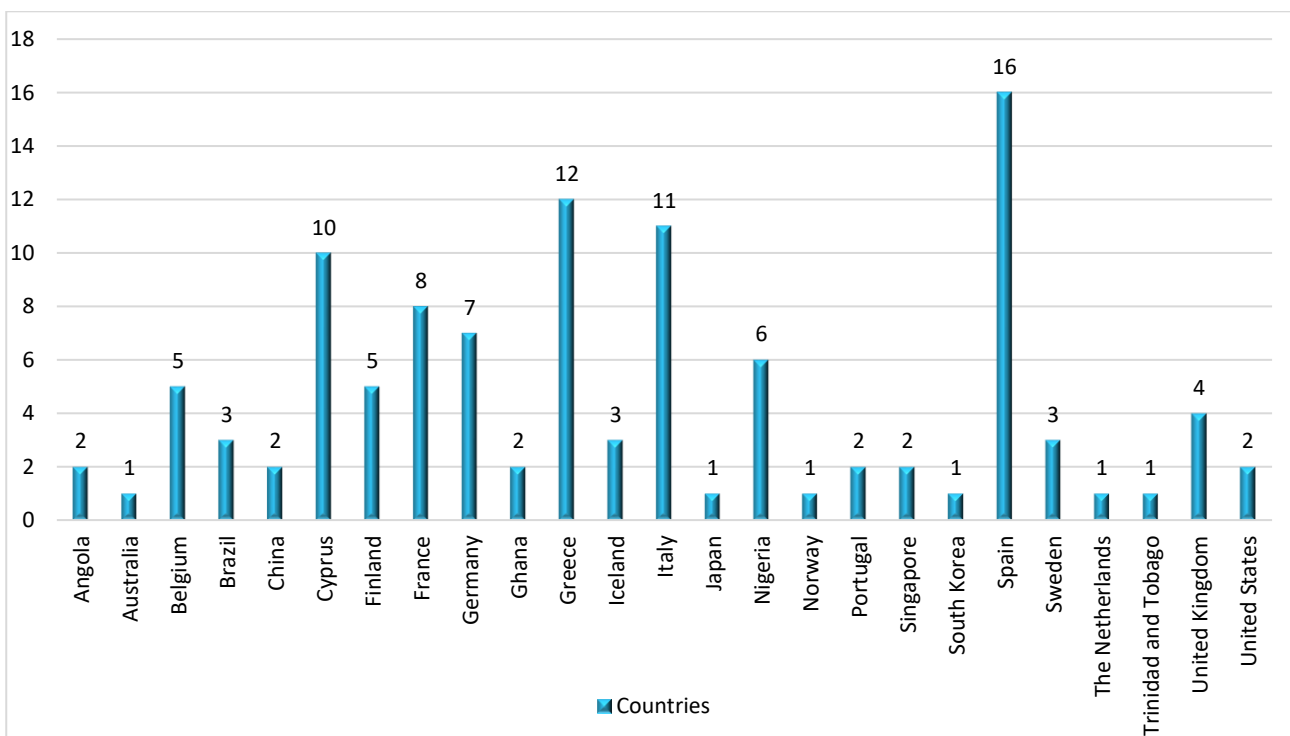
10. CONFERENCE STATISTICS

Graph 1: Authors by Continent



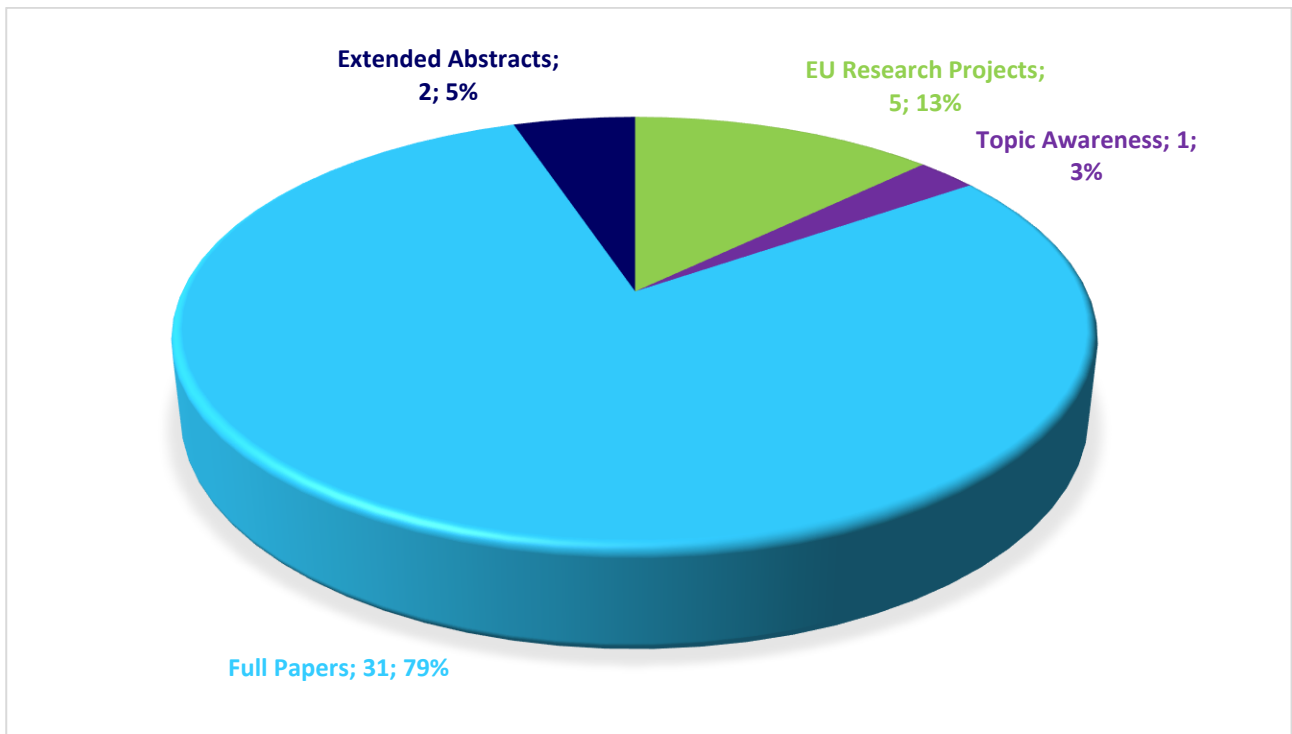
Source: 2021 World of Shipping Portugal

Graph 2: Authors by Countries



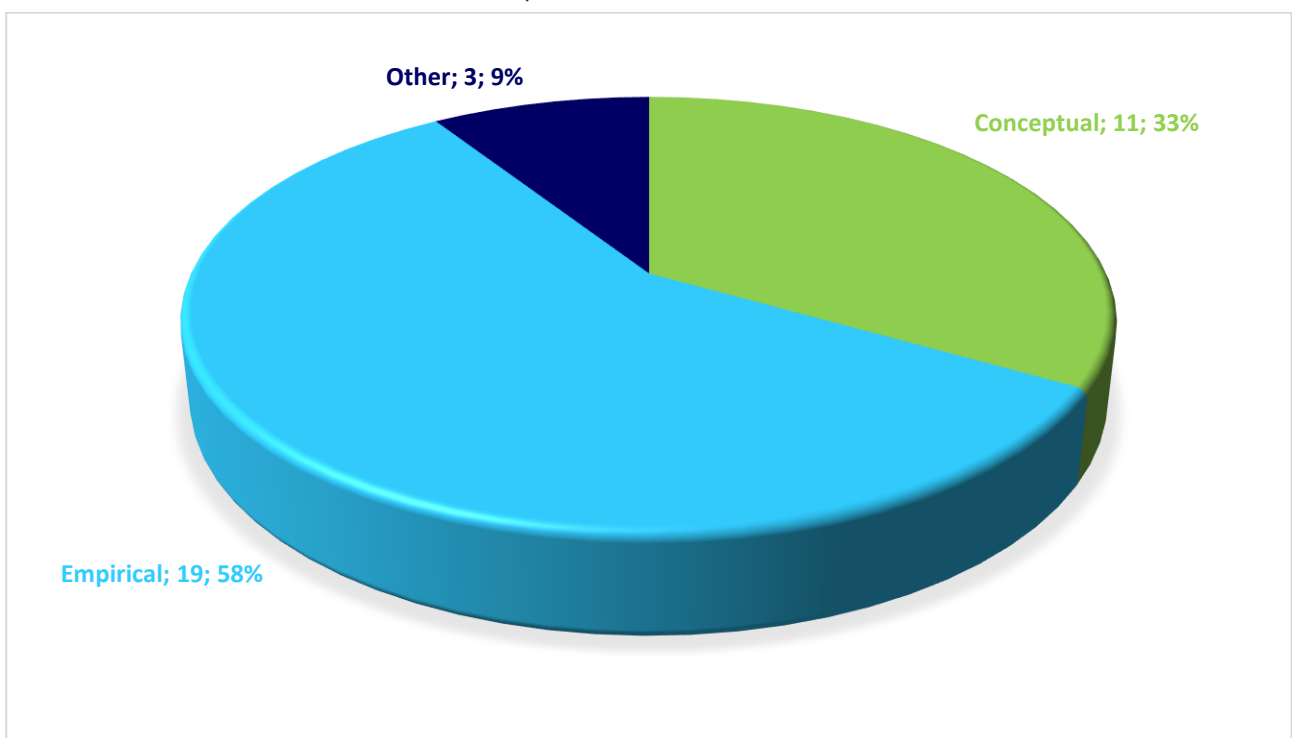
Source: 2021 World of Shipping Portugal

Graph 3: Type of Presentation



Source: 2021 World of Shipping Portugal

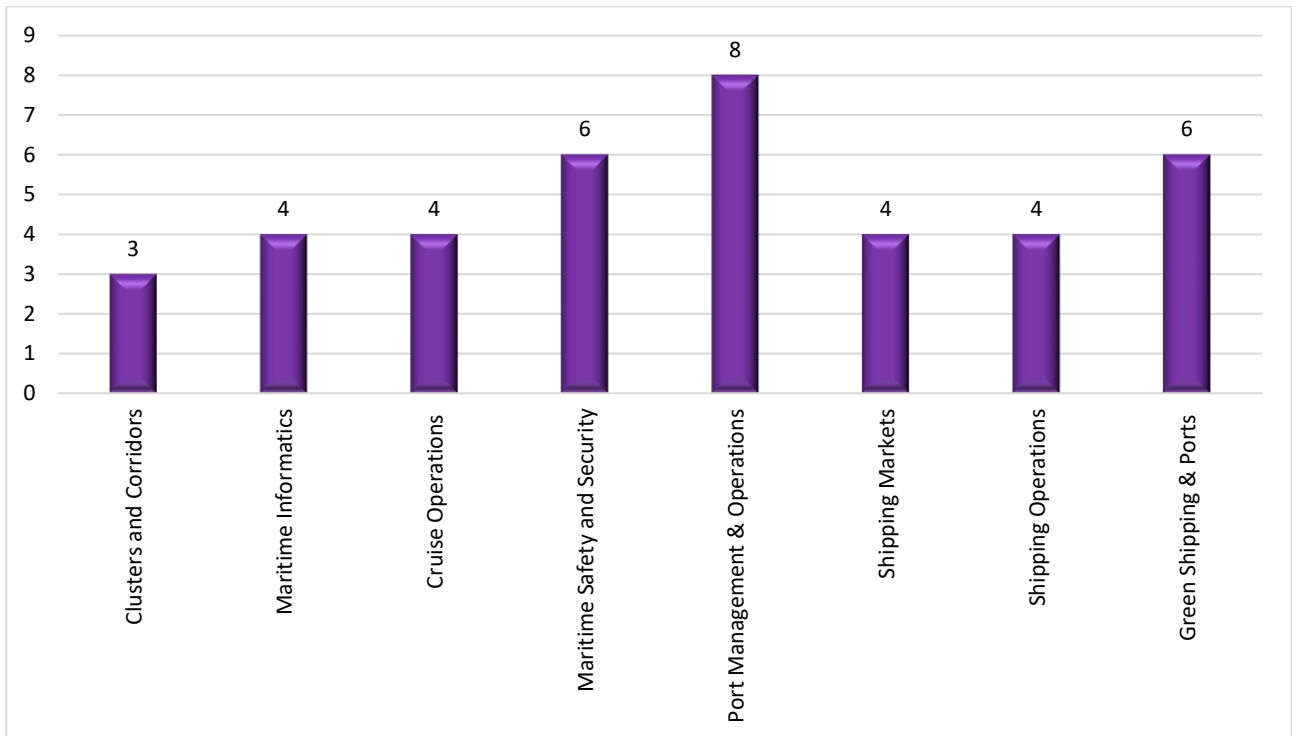
Graph 4: Nature of Research



Source: 2021 World of Shipping Portugal



Graph 5: Topics Covered



Source: 2021 World of Shipping Portugal



2021 World of Shipping Portugal. An International Research Conference on Maritime Affairs
28-29 January 2021, Online Conference, from Portugal to the World

2022 WORLD OF SHIPPING PORTUGAL CONFERENCE

2021 World of Shipping Portugal

An International Research Conference on Maritime Affairs

27-28 January 2022 or 3-4 February, Portugal¹

Maritime Economics in the post-Covid-19 Pandemic

Important Milestones

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| 1st Call for Papers & Call for Sessions | 7 February 2021 |
| 2nd Call for Papers & Call for Sessions | 28 February 2021 |
| Sessions' Proposal Due | 11 March 2021 |
| Notification of Sessions' Selection | 30 March 2021 |
| Last Call for Papers | 30 March 2021 |
| Abstracts Due | 15 April 2021 |
| Abstracts Review Decision to Authors | 23 May 2021 |
| Full Paper submission Due | 15 August 2021 |
| Full Paper Decision to Authors | 15 October 2021 |
| Revised Paper Submission Deadline | 25 November 2021 |
| Paper Format Revision Deadline | 2 December 2021 |
| Authors' Registration Due | 2 December 2021 |
| Nomination of Presenting Author | 11 December 2021 |
| Final Programme Publication | 28 December 2021 |
| Submission of PPTs Deadline | 22 January 2022 |
| Delegates Registration Due | 21 January 2022 |

Visit Conference website at http://worldofshipping.org/WofSP06_Conference.html/

or contact us at conference@worldofshipping.org

¹ Rooms availability to be confirmed by the Hotel. Dates to be confirmed at a later stage. Also the evolutionary path of the current COVID-19 Pandemic may force to deliver the Conference Online. This decision will be made in due time.



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