



Hybrid Conference : 5-6 October 2023

Book of Abstract Conference Proceeding

ICSTSM

**International Conference
of Sustainable Transportation
and Safety Management**

Theme: "Green Transportation"

Book of Abstract Conference Proceeding

The International Conference of Sustainable Transportation and Safety Management (ICSTSM)

**Hybrid International Conference
5-6 October 2023**



**POLITEKNIK
ILMU PELAYARAN
SEMARANG**



Book of Abstract Conference Proceeding The International Conference of Sustainable Transportation and Safety Management (ICSTSM)

E-ISBN No.: 978-623-5724-17-1 (PDF)

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First publication, October 2023

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FOREWORD



**POLITEKNIK
ILMU PELAYARAN
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Politeknik Ilmu Pelayaran Semarang (henceforth PIP) is a technical executive unit under the Human Resources Development on Transportation Agency of the Ministry of Transportation (MoT) of Indonesia that organizes maritime education and training. This institution has fulfilled the standards of the International Maritime Organization (IMO) and has achieved approval based on the IMO convention.

PIP provides maritime education and training for students who want to pursue a career as seafarers (for the Deck and Engine Department) and Port and Shipping officers to meet the needs of national and international marine industry necessities. The Diploma IV graduates will be awarded the academic title of Bachelor of Applied Science (B.AS) or S.Tr.Pel.

PIP Semarang is a maritime polytechnic that carries out educational programmes for students. The quality of the graduates has met the standards set by the National Accreditation Agency for Higher Education (BAN-PT). It is indicated by the issuance of an Accreditation Certificate of BAN-PT SK.363/SK/BAN-PT/Akred/PT/XII/2018, dated December 12, 2018, stated that PIP Semarang has been accredited "A". Excellent Accreditation has been achieved by each study program, namely Nautical Studies based on SK.2353/SK/BAN-PT/Ak.KP/STr/VI/2023, Marine Engineering based on SK.2246/SK/BAN-PT/Ak.KP/STr/VI/2023 and for Port and Shipping Management based on SK.2499/SK/BAN-PT/Ak.KP/STr/VI/2023. These excellent accreditations are a benchmark that PIP Semarang is a Higher Education Institution whose quality indicators are in accordance with the National Higher Education Standards (SNPI).

PIP Semarang Quality Assurance System (SPM) refers to the quality management system of ISO 9001: 2015. It can be shown by the SNI ISO 9001: 2015 certificate issuance with No. QSC Certificate 00903. For the Certificate Approval of training, PIP Semarang undergo a surveillance audit from the Directorate General of Sea Transportation (DJPL) annually. Until now, the number of training programs organized by PIP Semarang is 39 courses in which respective training program has been approved by DJPL.

<https://pip-semarang.ac.id>



Research Synergy Foundation is a digital social enterprise platform that focuses on developing the Global Research Ecosystem towards outstanding global scholars. We build collaborative networks among researchers, lecturers, scholars, and practitioners globally for the realization of knowledge acceleration and to contribute more to society and humanity.

As a social enterprise, our aim is to provide a good research ecosystem and platform for researchers to share, discuss, and disseminate their ideas. In addition, it helps you to improve your research and contribute to the knowledge. Therefore, creating social value and impact is our priority.

From 2017 to 2021, more than 20.000 scholars have participated in our programs from Asia, Australia, Africa, America, and Europe continents. With the average of the increasing number of members by more than 5.000 each year, we continuously strengthen the global research ecosystem by having four support systems that are ready to help members from across the world.

There are various agendas (work and program) that we have already done since 2017 up to present. The agendas are coming from all the support systems in the Global Research Ecosystem, named: Scholarvein, ReviewerTrack, Research Synergy Institute, and Research Synergy Press. Research and publication cannot be seen as a separate part. Otherwise, we should take both as a comprehensive program. Moreover, the quality of the paper is the biggest concern for publication. To achieve the Organization/University/ Institution goal, we provide some agendas that can support you in research and publication enhancement. Some of the prominent agendas are:

1. International Conferences: It aims to create a "tipping point" of opportunities for participants to disseminate their research globally and have reputable scientific publication output.
2. Scientific and Academic Writing Coaching Clinics: It aims to provide a targeted and intensive learning strategy for publishing papers in high-impact Scopus/ WOS international journals.
3. Workshops: It aims to provide a vibrant learning forum to enhance the author's capability of scientific writing skills and the manuscript's quality.
4. Learning and Knowledge Sharing Programs: It aims to provide the best practice and guide from the experts, editors, and publishers' perspectives in research and publication enhancement.
5. Social Programs: It aims to empower and encourage society to share the value of creating an impactful program with us.
6. Research Synergy Foundation welcome all individuals, organizations/institutions (universities, governments, and private sectors) to be part of our Global Research Ecosystem.

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CONFERENCE CHAIR MESSAGE

The International Conference of Sustainable Transportation and Safety Management (ICSTSM) is an international conference organized by The Politeknik Ilmu Pelayaran Semarang and Research Synergy Foundation that is held hybrid on 5 October 2023, live from Auditorium of PIP Semarang Campus and virtual through Zoom platform. Supported by Scholarvein, Research Synergy Institute, Reviewer Track, Research Synergy Press, F1000Research, Cogent Open Access Journals, and Taylor & Francis Group.

We are delighted to welcome all participants of ICSTSM, bringing the theme of "Green Transportation." As we convene at this event, we embark on a journey toward sustainable solutions aimed at addressing the global challenges of our era. The conference seeks to establish a platform where researchers, students, practitioners, policymakers, and various stakeholders can converge to discuss innovative approaches for achieving new framework surrounding interdisciplinary of transportation. By bringing together experts from diverse fields and regions, the conference has the potential to identify inventive solutions contributing to a more resilient future for all.

It has been an honor for us to arrange this conference. Our heartfelt gratitude extends to the conference organizing committee, the editorial board, the program chairs for their insightful guidance and excellent contribution in this ICSTSM.

We encourage active participation, the sharing of insights, and engaging in stimulating discussions through all the plenary session and academic discussion session. Embrace this opportunity as a way to find new perspectives and take advantage of the discussion to learn from one another.

We extend a warm welcome to you at this conference and hope that this year's event will both challenge and inspire you, fostering new knowledge, collaborations, and friendships.

Best regards,

Dr. Capt. Tri Cahyadi, M.H., M.Mar.
Conference Chair of ICSTSM

CONFERENCE CHAIR



Dr. Capt. Tri Cahyadi, M.H., M.Mar.

Director of Politeknik Ilmu Pelayaran Semarang

Dr. Capt. Tri Cahyadi, M.H., M.Mar., has been the Politeknik Ilmu Pelayaran Semarang director from March 2023 until now. Previously, he served as Director of the Politeknik Pelayaran Malahayati, Aceh, as Head of Education at the Maritime Transportation Human Resources Development Center, as First Deputy Director of the Politeknik Pelayaran Surabaya, and has many other experiences. He has studied D-III formal education at the Center for Shipping Education and Training (BPLP), S-1 STIP, ANT-1 at the Jakarta Center for Refresher Education and Maritime Science Improvement (BP3IP), Masters at Sultan Agung Islamic University, and PhD at Sultan Agung Islamic University. He is active in various international activities, such as being a member of the delegation of the Republic of Indonesia at the IMO session, Port and shipping training at Bremen University Germany, lecturer exchange at GCNS Glasgow UK, instructor upgrade training at the United States Merchant Marine Academy

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Dr. Hendrati Dwi Mulyaningsih

Founder & Chairperson of Research Synergy Foundation

Dr. Hendrati Dwi Mulyaningsih is the chairperson and founder of Research Synergy Foundation that has shown great commitment on creating Global Network and Research Ecosystem. This GNR ecosystem has been developing since 2017 up to the present and having increasing numbers of the member up to more than 25.000 from all around the globe. Her passion in how to create impact and co creation value among all the stake holder of RSF has made her focus on upholding integrity in the scientific process through enhancement of RSF's support-support system as like Reviewer track, Scholarvein, Research Synergy Institute and Research Synergy Press. Thus, her work in this area has made her as the Nominee of Impactful Leadership Awards from Tallberg Foundation Sweden 2019.

As lecturer, she has been working in the University since 2008 – at present in Indonesia as assistant professor and she hold her Doctoral Science of Management graduated from School of Business and Management Institute of Technology Bandung (SBM-ITB) and she has strong interest to her research project as well as her research field in Social Entrepreneurship, Social Innovation and Knowledge Management.

As researcher, her work studies and research on this research field made her be invited as reviewer in many reputable Scopus and WOS indexed journals and as keynote speaker in many International Conferences in Philippines, Thailand, Malaysia, Indonesia, Australia, Japan, and US. She also has shown her great passion on writing her research study into some books chapter, papers and contemporary scientific articles that has already been published in Springer, Emerald, Taylor and Francis and in many reputable international publishers. The terrific association between her professional experiences as researcher, lecturer, the certified Trainer & Coach combined with her wider horizon on networking in the research area made her establish the strong commitment on having global learning platform to accelerate knowledge through many workshops and research coaching in Research Synergy Institute as one of RSF's support system.

OPENING SPEECH

Assalamualaikum wr wb.

Good morning and best wishes to everyone.

The honorable keynote speakers of the International Conference of Sustainable Transportation and Safety Management,

1. Prof. Takeshi Nakazawa, Ph.D., C.Eng., FIMarEST, Executive Director, International Association of Maritime Universities (IAMU), Japan;
2. Prof. Kerry Brown, Edith Cowan University, Australia;
3. Dr. Seunghye Choi, Executive Director of APEC Seafarers Excellence Network, South Korea;
4. Capt. Qasim Masood, Msc., MRINA., AFNI, Nautical Institute, United Kingdom;
5. Prof Ari Purbayanto, Ph.D., Director of the Executive Board of the National Accreditation Board for Higher Education (BAN-PT);
6. Dr. Capt. Antoni Arif Priadi, M.Sc, Senior Advisor to the Minister for Transportation on regional and environment Of transportation, Concurrently Acting Director General of Sea Transportation.

The honorable

1. The Secretary of Human Resource Development on Transportation Agency;
2. Head of Human Resources Development Center of Sea Transportation;
3. Head of Human Resources Development Center of Land Transportation;
4. Head of Human Resources Development Center of Air Transportation;
5. All the Principles of Maritime Education and Training Institutions;
6. All conference participants.

Distinguished Guest, Ladies and Gentlemen,

Since the conference is hybrid, I want to welcome the keynote speakers in Semarang and Zoom to this special event. I also thank PIP Semarang, who initiated the International Conference of Sustainable Transportation and Safety Management.

Let's start the conference by expressing our gratitude to the Almighty God for all His blessings so we can attend this international conference today.

Ladies and Gentlemen,

The movement of people and other products by motor cars, automobiles, trains, trucks, airplanes, ships, and different vehicle modes is included in the transportation industry. The environment has suffered due to the transportation industry's rapid growth. According to estimations, the transportation industry is the second largest source of carbon dioxide emissions from burning fossil fuels. The total amount of emissions from the transportation sector has been rising since 2013. Therefore, the necessity of greening the transportation system must receive special consideration.

The green transport strategy's overarching goal is to maintain or improve the output from transportation in terms of mobility while simultaneously reducing energy inputs,

specifically in terms of the utilization of non-renewable resources. This will decrease emissions, especially CO₂, which will support the sustainability of the environment. It is necessary for both energy use and output to gradually decline over time to make a convincing case for green transportation.

Ladies and Gentlemen,

Increasing the safety level has always been the central priority for the transportation area. Nevertheless, there may need to be more than decreasing the risk up to an acceptable level due to the development of transportation and the availability of the probability of increasing the number of accidents of different kinds. The system causes many accidents in the transportation area and has led to procedures for the identification and control of risks and the development and expansion of safety management systems in the transportation area. The safety management system should be systemic, proactive, and precise.

Distinguished Guest, Ladies and Gentlemen,

This conference can improve the academic climate and increase lecturer competence. Increasing lecturer competency is a lever for institutional progress. I am sure that increasing lecturer competency will have an impact on the quality of education and teaching received by cadets and the quality of the institution, as well as supporting the acquisition of PIP Semarang accreditation, especially for PIP Semarang's preparations for facing international accreditation visits from AQAS Germany.

Apart from that, the challenge of producing professors from the Human Resources Development Agency the Ministry of Transportation, must begin to be addressed together. We provide full support to lecturers to increase capacity and enhance lecturer careers.

Distinguished Guest, Ladies and Gentlemen,

Those are several points and expectations that I'd like to convey on this special occasion. Finally, by asking for blessings and guidance from the Almighty God, I declare that the International Conference of Sustainable Transportation and Safety Management Politeknik Ilmu Pelayaran Semarang 2023 is officially opened.

Have a fruitful conference, and may the Almighty God always bless our efforts.

Thank you and Wassalamualaikum warahmatullahi wabarakatuh,

Head of Human Resources Development Agency
Ministry of Transportation



Dr. Capt. Wisnu Handoko, M.Sc.

Secretary of Human Resource Development on Transportation Agency (BSDMP)

Dr. Capt. Wisnu Handoko, M.Sc. currently serves as Secretary of Human Resource Development on Transportation Agency. Starting to serve as a civil servant since 1999, he has served as Head of the Belawan Main Port Authority, Head of the Tanjung Priok Main Port Authority, Head of the Tanjung Priok Main Harbormaster's Office, Director of Sea Traffic and Transport, Head of Merak Banten

Port Authority, Director of PIP Semarang, and others.

In terms of formal education, he completed his undergraduate degree at the Semarang Shipping Education and Training Center (now Politeknik Ilmu Pelayaran Semarang), the Bachelor's and ANT-1 levels from STIP Jakarta, a Master's Degree from World Maritime University Sweden, the Doctoral Degree from Universitas Negeri Jakarta. He actively plays a role in various international activities, some of which are the IMT-GT Strategic Planning Meeting in Bangkok, Thailand, the Republic of Indonesia Delegation in the IMO Assembly 27 Meeting and IMO Council 106 Meeting in London, IMO-MSC 83 Meeting in Copenhagen, Transas Simulator User Conference in Washington USA.

CLOSING SPEECH



Dr. Ir. Ahmad, M. MTr, QIA, Cfr.A

Head of the Center for Maritime Transportation Human Resources Development

Dr. Ir. Ahmad, M.MTr, QIA, Cfr.A serves as Head of the Center for Maritime Transportation Human Resources Development. Previously, he served as Director of Balai Besar Pendidikan Penyegaran dan Peningkatan Ilmu Pelayaran, Jakarta, Director of the Sea and Coast Guard Unit, Head of the Center for Sustainable Transportation Management, Head of the Center for Research and Development of Maritime Transportation and ASDP, and others.

He has received formal undergraduate education from the Adhi Tama Institute of Technology Surabaya, a master's degree from Veteran University, and a doctoral degree from Trisaksi University. He is active in various meetings at both national and international forums, including Head of Delegation Indonesia Marine Pollution Maritime, Head of Delegation Indonesia Marine Pollution Exercise (MARPOLEX), Chair of the delegation of Indonesia – Australia Transport Security Forum, Head of Delegation Indonesia Port State Control Committee (PSCC31) Tokyo MOU. Apart from that, he is also active as a resource person in national and international seminars, including the International Ship Port Security Code Seminar (ISPS CODE) and The International Academic Symposium of Social Science 2022 (IASSC 2022).

KEYNOTE SPEAKERS



Prof. Takeshi Nakazawa, Ph.D., C.Eng., FIMarEST

Executive Director of the International Association of Maritime Universities (IAMU)

Professor Takeshi Nakazawa is the Executive Director of the International Association of Maritime Universities and Professor of the World Maritime University in part time basis. He graduated Marine Engineering Department at Kobe University of Mercantile Marine in 1980 and then worked for the Institute for Sea Training of the Ministry of Transport

Japan.

After 7 years' life at sea as an instructor and marine engineer on board training ships, he returned to the university with the Chief Engineer's license, and then put him into the research world in the field of mechanical engineering for his Ph.D.

His current research interests are in the fields of maritime technology and maritime education and training. He also assumes several advisory board members in those fields in Japan and the world.

Takeshi is also the chairman of the IMLA-ICERS steering board and a lifetime member of IMLA and a competent person to the STCW Convention.

Summary of speech

Topic: The role of educators at maritime higher education in a transitional period of shipping

The application of digitalization for shipping has been accelerated in recent years. This will absolutely introduce new methods and competences in traditional ship operation. At the same time, commitments of shipping stakeholders to environmental protection with visible outcomes are seriously required with the common policy on decarbonization and carbon neutrality. As everyone realizes, we are in a transitional period.

How do educators at maritime higher education adapt themselves to such a transitional period?

The speech introduces two key factors in transition of shipping, which are intelligence and environment. Based on the key factors, the speech also stresses that a variety of new technologies and methods will appear frequently in shipping during such a transitional period and some of them may disappear if cost-effective technologies and methods emerge as an alternative.

In conclusion, it is quite obvious that the important role that educators at maritime higher education has to play is to provide students with fundamental knowledge that is widely applicable for new technology, rather than to provide them with practical knowledge that is applicable only for a specific purpose.

KEYNOTE SPEAKERS



Dr. Seunghye Choi

Executive Director/ APEC Seafarers Excellence Network

Dr. Seunghye Choi is the Executive Director of APEC Seafarers Excellence Network and a full-time associate professor at the Korea Institute of Maritime and Fisheries Technology, which is the government maritime training institute of the Republic of Korea. Dr. Choi is an alumna of the University of Birmingham in the United Kingdom where she earned her MA and PhD in the field of English Applied

Linguistics with the specialization of teaching successful cross-cultural communication strategies across the world maritime industry. In terms of international technical cooperation programs, she has been successfully leading a number of capacity building activities with the international organizations such as IMO Technical Cooperation Programs and APEC projects. She continues to devote her interests and energy in international cooperation, maritime education and training, seafarers' welfare and their career development.



Prof. Kerry Brown

Edith Cowan University, Australia

Kerry Brown is the Professor of Employment and Industry in the School of Business and Law at Edith Cowan University, Perth, Australia. She is Immediate Past President and a Board Member (since 2016) of the Australia and New Academy of Management (ANZAM) and Board Member and Program Leader for the Governance and Organisational Planning Program of the Asset Institute.

As an Executive Board Member and Founding Fellow of the International Society for Engineering Asset Management (ISEAM) since 2007; member, Standards Australia Mirror Committee MB019 Asset Management (since 2009) and, member of International Standards Organisation ISO TC251 to develop an International Standard (ISO 55000) for physical assets and asset systems, has significant expertise in Asset Management. Professor Brown has researched and published in the area of infrastructure management including transportation management, strategy, policy and practice.

Summary of speech

Topic: Safe and Sound? Transport System Sustainability and Safety in the World of Autonomous Vehicles

The transportation environment is changing with the introduction of autonomous vehicles. AVs refer to a range of vehicles including electric vehicles with some level of automation, to a high level of automation (self-driving) and equipped with interoperable cooperative ITS systems and cloud connectivity used for services such as live traffic information,

automated crash notification, concierge and booking services. "Disruptive technology" as defined by Bower and Christensen (1995) refers to a technology causing a change or paradigm shift and is set to revolutionise an existing system or process. Rapid advances in technology, combined with increasing interest in improving transport efficiency, enhancing productivity, efficiency, safety and security have led to the emergence of a wide range of disruptive transport technologies. This research explores how the uptake of AVs may influence policy and practice in transport to deliver safety and sustainability.

KEYNOTE SPEAKERS



Prof. Ari Purbayanto, Ph.D.

Director of the Executive Board of the National Accreditation Board for Higher Education (BAN PT)

ARI PURBAYANTO was born in Lampung, Sumatra, Indonesia on January 21, 1966. He attended elementary education at Seputih Raman Lampung until grade 4, then moved to Central Sulawesi until completed his middle and high school education. Higher education in the field of marine fisheries was completed at the Faculty of Fisheries, IPB University in 1989. After graduating from the undergraduate program, he was then appointed as a young lecturer at the Faculty of Fisheries, IPB University in 1990. He then received a Monbusho scholarship from the Japanese Ministry of Education for continuing the Master and Doctoral program in the field of Marine Science and Technology at Tokyo University of Fisheries, Japan from 1994 to 2000.

Upon his return from Japan, he actively carried out teaching, research, and community service tasks. Various research activities that he carried out received financial support from national and international research grants, such as Japan Science and Technology (JST), JSPS Core university program in fisheries science, integrated research grants, and incentive research grants from the Indonesian Ministry of Research and Technology, Food and Agricultural Organization (FAO), a strategic research grant from Ministry of Education and Culture, Lemelson Foundation USA, etc. From these research activities, more than 100 scientific publications have been published in national as well as international scientific journals, with 730 citations indexed on google scholar.

In 2005 he invented the machine for separating fish meat and bone that has been implemented through community service activities. He got a professorship in the field of fishing technology from IPB University in June 2007 at a relatively young age.

In the field of higher education management and professional organizations, several important roles that have been and are being carried out include:

- Head of the Marine Fisheries Technology Study Program, Graduate School of IPB University
- (2010-2011)
- Coordinator of Government and Corporate Cooperation, Faculty of Fisheries and Marine Sciences IPB University (2007-2011)
- Experts in fisheries and marine affairs in several consulting firms (2004-2012)
- Secretary of Senate of Faculty of Fisheries and Marine Sciences, IPB University (2006-2010)
- Secretary of the Strategic Commission, Academic Senate, IPB University (2008-2012)
- Assessor of the National Accreditation Board for Higher Education (2008-2021)
- Secretary at the joint secretariat of 7 universities of legal entities [PTN-BH] (2009-2012)
- Secretary to the Board of Professors of IPB University (2012-2014)

- Educational and Cultural Attache of the Indonesian Embassy in Kuala Lumpur Malaysia (2014-
- 2019)
- Director of the Executive Board, National Accreditation Board for Higher Education (2021-2026)
- Vice President (ex-officio) ASEAN Quality Assurance Network (2020-now)
- General Chairperson of the Indonesian Professors Association (2020-2024)
- Member of the Indonesian Academy of Sciences in the field of engineering (2020-now).

KEYNOTE SPEAKERS



Dr. Capt. Antoni Arif Priadi, M.Sc.

Senior Advisor to the Minister for Transportation on regional and environment of transportation, Concurrently Acting Director General of Sea Transportation

Dr. Capt. Antoni Arif Priadi, M.Sc., currently serves as Senior Advisor to the Minister for Transportation on Regional and Environment of Transportation, Concurrently Acting Director General of Sea Transportation, Ministry of Transportation. He previously served as Secretary of Human Resource Development on Transportation Agency, Director of Maritime Traffic and Transport at the Directorate General of Sea Transportation, Head of the Class I Tanjung Priok Navigation District, Secretary General of the Transportation Attaché at the Embassy of the Republic of Indonesia in Malaysia.

He took formal education undergraduate in Nautical Studies from the Maritime Education and Training Center (now PIP Semarang), Master of Science in Marine Sciences from World Maritime University, Doctoral Degree in Civil Engineering from the University of Indonesia, and Doctor in Computer Engineering Specialization on Automation from the University of Le Havre France, while for professional education he has studied as a Marine Corps Officer II at PLAP Jakarta and a Level I Nautical Expert from STIP Jakarta



Capt. Qasim Masood, Msc., MRINA., AFNI.

The Nautical Institute, United Kingdom

Capt. Qasim Masood is The Nautical Institute's Head of Qualifications Marine & Offshore and is responsible for Dynamic Position Certification and Training Centre accreditation with 25 + years of experience working in the maritime and offshore industry.

Before joining the Nautical Institute, Capt Masood worked with Lloyd's Register from 2005 to 2018 as a Senior Technical Specialist (Surveyor) in Marine & Offshore and was responsible for marine & offshore assets. During his career with LR, Capt Masood managed several marine and offshore projects, primarily new constructions. Capt. Masood was also LR Class project manager for the world's largest FLNG offshore asset Shell Prelude which was 500,000 GT and is now stationed at Prelude Field, Australia. FPSO Glen Lyon, BP Project, and now stationed at Nort Sea, U.K. and many more.

Before joining the Lloyd's Register, Capt Qasim Masood was at sea for Ten years and sailed on Cargo vessels, Bulk carriers, VLCC Oil Tankers and Offshore vessels.

Capt. Qasim Masood earned an MSc. Degree in Maritime Safety at Middlesex University U.K in 2014. In addition, he completed all his maritime qualifications from the U.K.

MODERATOR



Santi Rahmawati, MSM.

Reserch Synergy Foundation

Santi is a Founder and Global Network Operation Director of the Research Synergy Foundation (RSF). She actively engaged with scholars around the world for strengthening the Global Research Ecosystem. As the Director of Scholarvein, she creates, maintains, and develops the integrated system for managing international scientific conference and forum since 2017 up to present and already give benefit to more than 8.448 participants coming from >85 countries. With the combination of engineering and management science educational background, she has built the optimum workflow for scholars to contribute more to the society and humanities.

Santi receiving her Master of Science Management (focusing on Entrepreneurship and Technology Management) from Bandung Institute of Technology (ITB) in 2015. Santi worked for several years as a Research Assistant and later as the Associate Director of the Centre for Innovation Entrepreneurship and Leadership at the Bandung Institute of Technology (ITB). In her roles Santi helped lead the centre's Micro-Enterprise Development project, designed to support economic development throughout West Java Indonesia through the provision of entrepreneurship capability development. She also collaborates with ITB and Victoria University of Wellington, New Zealand, on a project that focuses on how Information Technology start-ups acquire finance support in developing economies.

Santi has appointed as a Gateway Advisor in F1000Research (Scopus Q1) and Taylor & Francis Open Access Advisor (Scopus Q1, Q2). She has already been an editor of two published books (both published by Routledge, Taylor & Francis), a reviewer in many reputable international journals, an author and co-authored multiple research articles and book chapters. Santi also serves as the Managing Editor for six international journals <https://journals.researchsynergypress.com> : IJEBCE, IJEIIS, IJEASS, JSETP, IJMADIC, and JHASIB.

SESSION CHAIRS



Assoc. Prof. Dr. Rafeah Legino

Universiti Teknologi MARA, Malaysia

Rafeah Legino is an Associate Professor at the Fine Art Department of the Universiti Teknologi MARA Shah Alam in Selangor, Malaysia's College of Creative Arts. She is also the Coordinator of Logistics and Transportation, which facilitates any prospective collaboration between UiTM and its many potential partners. She enthusiastically anticipates fine art logistics within the existing state of the art and has identified knowledge gaps for future research in this new field to be more influential.

She also creates artwork utilizing primarily printmaking techniques, such as collagraph, monoprints, and other innovative technological approach. She received a Bachelor of Fine Art and a Master of Art & Design from the Faculty of Art & Design, UiTM, Malaysia. In a research project, she received her PhD in Fine Art—Visual Art and Culture Management—from the School of Art at RMIT University in Melbourne, Australia. Her key areas of interest include Malaysian and Asian Visual Arts, such as crafts, visual art heritage, and potential transdisciplinary practice-based or artistic research. She is currently a Visiting Professor at Universitas Andalas (UNAND) in Padang, Indonesia.



Prof. Mert Çubukcu

Dokuz Eylül University, Turkey

spatial statistics.

Kemal Mert Cubukcu is a Professor of City and Regional Planning at Dokuz Eylul University, Izmir, Turkey. He holds a Bachelor of City Planning degree from Middle East Technical University, and a PhD in City and Regional Planning from The Ohio State University. Cubukcu's research interests include quantitative planning techniques, transportation planning, and

Cubukcu's research has appeared in international journals including Land Use Policy, Journal of Transport Geography, Environment and Planning A, Applied Geography, The Annals of Regional Science, Journal of Architectural and Planning Research, Environment, Development and Sustainability, and Spatial Information Research. He is the author of two books, the runner-up for the Regional Science Association International (RSAI) Dissertation Contest, and the recipient of Stollman Planning Award. He is currently a consultant for two transportation master plans and one sustainable urban mobility plan in Turkey.

SESSION CHAIRS



Prof. Dr.-Ing. Youness Dehbi

HafenCity University, Hamburg, Germany

Youness Dehbi is a full professor and head of the Computational Methods Lab at the HafenCity University Hamburg, Germany. He studied computer science and communication research at the University of Bonn, Germany. After graduating in 2008, he started his academic career as a research assistant in the Geoinformation group at the Institute of Geodesy and Geoinformation at the same

university.

He finished his PhD thesis entitled “Statistical relational learning of semantic models and grammar rules for 3D building reconstruction from 3D point clouds” in the same working group, where he was responsible for the Urban Reasoning & Analytics field as Senior Researcher after his PhD. In his research, he is interested in both the efficient semantic interpretation of urban environments from dense observations and the probabilistic estimation of 3D city models from sparse noisy data. Youness Dehbi published a range of

scientific contributions including awarded papers, he is acting as a reviewer for several research journals and is a member of various scientific committees.



Prof. Danielle M. De Guzman

National University-Manila, Philippines

Danielle M. De Guzman acquired her master’s degree in Public Administration from Pontifical and Royal University of Santo Tomas in 2011. She had earned her Bachelor of Arts in Mass communication from San Sebastian College-Recoletos Manila in 2005. She is currently pursuing her PhD in Development Administration major in Public Governance at Philippine Christian University- Manila.

A licensed Professional Teacher and a former Senior High School National Trainer from Department of Education through Private Education Assistance Committee (PEAC) in 2017 to 2019.

She used to teach in prestigious University just like Far Easter University, Lyceum of the Philippines University and Philippine Women’s University, handling Social Sciences subjects and a consistent Top Faculty Performer. At present she is a regular full-time faculty in Communication Arts Department of National University Manila and an Adviser of the student organization The Comm.pendium.

SESSION CHAIRS



Prof. Veera Pandiyan Kaliani Sundram
Universiti Teknologi MARA, Malaysia

Dr. Veera is a highly accomplished and dynamic professional trainer who holds the prestigious certification of Certified Supply Chain Consultant from the International Purchasing and Supply Chain Management Institute (IPSCMI). His educational background is distinguished, having earned a doctoral degree in supply chain management from the esteemed University of Malaya. Additionally, he possesses an MBA and a bachelor's degree in Analytical Economics.

Dr. Veera's commitment to excellence in his field is evident through his credentials, which include being a Certified Purchasing Professional, awarded by the American Purchasing Society, and a chartered member of the Chartered Institute of Logistics and Transport (CILT). With a career spanning over two decades, he has acquired extensive experience in both government and military sectors.

Currently, Dr. Veera serves as a Professor of Operations Management and Supply Chain Logistics at Universiti Teknologi MARA, where he imparts his extensive knowledge and expertise to future professionals. His dedication to advancing the fields of logistics and supply chain management is underscored by his contributions, including the publication of numerous books and articles in globally recognized publications as well as local daily newspapers. He also plays a vital role as a peer reviewer for esteemed publications.

Dr. Veera's wealth of knowledge and experience has led him to serve as a highly sought-after trainer and consultant for several reputable corporate and government-linked organizations. His clients include distinguished entities such as PETRONAS, Public Bank, Johor Corporation, Sindora Bhd, Kulim Bhd, and KPJ Health Care.

Demonstrating unwavering commitment and a strong sense of responsibility to his discipline, Dr. Veera has served as the President of the Malaysia Logistics and Supply Chain Association for the past five years, showcasing his enduring dedication to the advancement of the industry.



Mrs. Ala Zuheir Keblawi
Universiti Sains Malaysia

Eng. Ala Zuhair Keblawi from Palestine. She got Bac. Of Civil Engineering in 2004 and Master in Urban and Rural Planning Engineering in 2017, she is now Ph.D student at USM in Civil Engineering school, Roads and Transportation field, and specialize in sustainable transportation index for unstable regions. Ala works now as Director of Projects and studies at Palestine Technical University-Kadoorie in Palestine, and she

was Traffic Safety engineer Director at ministry of Transportation from 2004-2022.

SESSION CHAIRS



Prof. Khaled Al-Sahili

An-Najah National University, Palestine

Dr. Al-Sahili has a doctorate degree of civil engineering from Michigan State University, USA, with a specialization in transportation/traffic engineering and planning. Dr. Al-Sahili is an associate professor at An-Najah National University in Nablus, Palestine. Dr. Al-Sahili has extensive experience in the area of road designs and planning for various size projects, transportation/traffic engineering and planning including public transportation, traffic impact analysis, traffic safety, environmental impacts, and strategic development planning. He managed and conducted several projects and research in these fields, and conducted training programs.

Dr. Al-Sahili has 30 years of professional experience, teaching, and research. He also published several articles and papers in professional journals and conferences. He received several awards for his work in research, teaching, and professional activities.

Dr. Al-Sahili worked on projects in the USA, South America, Jordan, Saudi Arabia, Iraq, Libya, Lebanon, and Palestine. He also worked with several international companies and agencies. He is a member of several international professional organizations. He is fluent in English and Arabic languages. Dr. Al-Sahili is a registered professional engineer in the State of Florida.



Assoc. Prof. Dr.Eng. Ahmed Mansouri

University of Batna 1, Algeria

Ahmed Mansouri studied architectural engineering at Biskra institute of architecture. He holds a Doctor of Engineering degree in architectural planning from Nagoya Institute of Technology (Japan). He was a lecturer at the faculty of urban science of Meijo University (Japan) and an associate professor at the department of barrier-free design of Nihon Fukushi university (Japan).

Ahmed is currently an associate professor at the institute of architecture and urbanism of the University of Batna 1 in Algeria. His experience includes eight years in design and construction management and 22 years in architectural teaching and academic research. His research activities cover agent based modeling, design theory, streetscape composition and space simulation.

SESSION CHAIRS



Dr. Emi Normalina Binti Omar

Universiti Teknologi MARA - Puncak Alam Campus, Malaysia

Dr. Emi Normalina Omar, an esteemed figure in the Faculty of Business and Management at UiTM, Malaysia, embarked on her academic journey with a degree in professional studies from The Chartered Institute of Logistics and Transport at UiTM. Her foray into the logistics industry preceded a transformative experience pursuing an MSc in International Logistics at the University of Plymouth (UK). Upon securing her master's accolade, Emi seamlessly transitioned into academia, joining UiTM as a lecturer. Presently a senior lecturer in the Centre for Technology and Supply Chain Management Studies, she specializes not only in the intricate domain of halal supply chain management for her Ph.D. thesis but also in humanitarian logistics, sustainable supply chain, and trade facilitation.

Emi's influence extends beyond the classroom; she actively collaborates with institutions like JAKIM, MITRANS, and IHALALMAS, contributing to programs on transport, logistics, and halal supply chain. Her prolific research, evidenced by numerous publications, explores the nuances of these multifaceted areas. Recognized for her contributions, Emi has secured grants, notably for projects like Developing the Halalan Tayyiban Supply Chain Framework and Roadmap of Halal Logistics in the Food Industry. As an appointed trainer for the Halal Executive Training Programme, she imparts her expertise to diverse students, enriching their understanding of halal practices and the broader realms of humanitarian logistics, sustainable supply chain, and trade facilitation in the professional arena.



Mr. Taha Hacha

HafenCity University, Hamburg, Germany











Taha Hacha is a researcher at HafenCity University, his doctoral research is about innovative and smart mobility and mobility as a Service.

He worked as a Tech-Engineering Specialist in Digital Transformation, focusing on Smart City Solutions, Digital Twins, BIM, GIS, and Intelligent Transportation Systems.

Taha is a polyglot, speaks 6 languages, and has several work experiences with IBM Africa, Google Developers Group, City Science Lab in cooperation with MIT, and many industry leaders and scientific research institutions in Europe, Africa, and the Middle East.

CONFERENCE PROGRAM

Thursday | 5 October, 2023

https://icstsm-pipsemarang.com		Organized by :          
CONFERENCE PROGRAM International Conference of Sustainable Transportation and Safety Management (ICSTSM) VIRTUAL CONFERENCE: 5-6 October 2023		
DAY 1 - Thursday, 5 October 2023		
Time	Dur'	Activity
Main Room: <i>*Please note that ALL TIME is in Jakarta Time/ UTC+7. Please check your time zone.</i>		Link zoom: https://bit.ly/ICSTSM-Zoom OR https://us06web.zoom.us/j/83442808193?pwd=DNLjO37CvpoQUppCB1QaeLUGOxEnt.1 Meeting ID: 834 4280 8193 Passcode: ICSTSM
7:30 - 8:00	0:30	Registration for ONSITE Participant at Auditorium PIP Semarang Campus - start at 7:30 - 8:00 AM Virtual Conference Participant Login and Join Virtual Conference by ZOOM - start at 7:50 - 8:00 AM, UTC+7
8:00 - 8:10	0:10	Safety Induction and Conference Introduction announcement by MC
8:10 - 8:15	0:05	Singing National Anthem "Indonesia Raya" & "Hymne Perhubungan"
8:15 - 8:20	0:05	Opening Prayer
8:20 - 8:35	0:15	Opening Performance from Taruna of PIP Semarang
8:35 - 8:50	0:15	Welcoming Remarks Dr. Capt. Tri Cahyadi M.H., M. Mar. Conference Chair of ICSTSM Director of Politeknik Ilmu Pelayaran Semarang
8:50 - 9:05	0:15	Opening Speech Head of Human Resource Development on Transportation Agency, Indonesia (BPSDMP) Represented by: Dr. Capt. Wisnu Handoko, M.Sc. Secretary of Human Resource Development on Transportation Agency, Indonesia (BPSDMP)
9:05 - 9:20	0:15	Global Research Ecosystem Introduction Dr. Hendrati Dwi Mulyaningsih Co-Conference Chair of ICSTSM Founder & Chairperson of Research Synergy Foundation
9:20 - 9:30	0:10	Conference Group Photo (Onsite and Virtual) & Preparation for Keynote Speakers Session
9:30 - 9:50	0:20	Keynote Speaker 1: Prof. Takeshi Nakazawa, Ph.D., C.Eng., FIMarEST Executive Director of the International Association of Maritime Universities (IAMU) Topic:
9:50 - 10:10	0:20	Keynote Speaker 2: Dr. Seunghee Choi Executive Director/ APEC Seafarers Excellence Network Topic:
10:10 - 10:30	0:20	Keynote Speaker 3: Prof. Kerry Brown Edith Cowan University, Australia Topic:
10:30 - 10:50	0:20	Keynote Speaker 4: Prof. Ari Purbayanto, Ph.D. Director of the Executive Board of the National Accreditation Board for Higher Education (BAN PT) Topic:
10:50 - 11:10	0:20	Keynote Speaker 5: Dr. Capt. Antoni Arif Priadi, M.Sc. Senior Advisor to the Minister for Transportation on regional and environment of transportation, Concurrently Acting Director General of Sea Transportation Topic:

11:30	-	12:00	0:30	Keynote Speaker Discussion Session (Q&A)
12:00	-	13:00	1:00	Break (Video played: University Profile, and Program of PIP Semarang; Research Synergy Foundation Profile; ICSTSM Agenda & Sessions)
13:00	-	13:05	0:05	Announcement and preparation of Academic Online Parallel Presentation Session
Breakout Room 1, 2, 3, 4, 5, 6, 7, 8				
13:05	-	13:15	0:10	Session Chairs Introduction of Online Presentation Day 2 - Session 1: Breakout room 1: Assoc. Prof. Dr. Rafeah Legino - Universiti Teknologi MARA, Malaysia Breakout Room 2: Prof. Mert Çubukcu - Dokuz Eylül University, Turkey Breakout Room 3: Prof. Dr.-Ing. Youness Dehbi - HafenCity University, Hamburg, Germany Breakout Room 4: Mr. Taha Hatcha - HafenCity University, Hamburg, Germany Breakout Room 5: Prof. Veera Pandiyan Kaliani Sundram - Universiti Teknologi MARA, Malaysia Breakout Room 6: Prof. Khaled Al-Sahili - An-Najah National University, Palestine Breakout Room 7: Prof. Danielle M. De Guzman - National University-Manila, Philippines Dr. Emi Normalina Binti Omar, Universiti Teknologi MARA - Puncak Alam Campus, Malaysia Breakout Room 8: Mrs. Ala Zuheir Keblawi - Universiti Sains Malaysia Assoc. Prof. Dr.Eng. Ahmed Mansouri - University of Batna 1, Algeria
13:15	-	15:15	2:00	Online Presentation Day 2 Session 1 - maximal 8 presenters 15 minutes/presenter
15:15	-	15:25	0:10	Awarding Certificate of Presentation, Testimonial, and Post-conference information announcement
15:25	-	15:40	0:15	Short Break, score recapitulation Best Presenters, and back to Main Room for ICSTSM Closing
15:40	-	15:50	0:10	Awarding Ceremony: Best Presentations Best Paper Session Chair Recognition
15:50	-	16:00	0:10	Closing Speech of ICSTSM 2023 Dr. Ir. Ahmad, M.MTr, QIA, Cfr.A. Head of the Center for Maritime Transportation Human Resources Development, Indonesia

LIST OF PRESENTERS

Tuesday | 5 October, 2023

Room: Breakout Room 1

Time: 13:05 - 15:25 (UTC+7)

Session Chairs: Assoc. Prof. Dr. Rafeah Legino - Universiti Teknologi MARA, Malaysia

Track Development in Science and Technology in Transportation		
Paper ID	Presenter	Paper Title
TSM23105	Andy Wahyu Hermanto	Designing a Fresh Water Generator Application using Adobe Animate
TSM23134	Agus Tjahjono	Enhancing Burner Efficiency on Marine Vessels: A SWOT Analysis Approach
TSM23114	Indah Nurhidayati	Analysis of I-V on Basic Electrical Circuit Using Ni Multisim App in Apply Physics
TSM23110	Amad Narto	Analysis of the Occurrence of Combustion Failure in the Steam boiler at KM.Nggapulu
TSM23117	Agus Tjahjono	Identify the Cause and Effect of Detonation in Main Engine
TSM23139	Darul Prayogo	Analysis of Causes of Combustion Failure in Burner Incinerators at MT. JS INEOS INNOVATION
Track Logistics		
Paper ID	Presenter	Paper Title
TSM23113	Muhammad Syarif Al Imam	Analysis of deadfreight claim in the coal loading process on MV. Ocean Time ship?
TSM23115	Kemal Joy Setyawan	Noise and Leak Handling in Main Cooling Sea Water Pump in MV. DK 03

Room: Breakout Room 2

Time: 13:05 - 15:25 (UTC+7)

Session Chairs: Prof. Mert Çubukcu - Dokuz Eylül University, Turkey

Track Environment		
Paper ID	Presenter	Paper Title
TSM23123	Awel Suryadi	Efforts to Overcome Environmental Damage Due to the Mining of the Octopus 1 Tin Suction Vessel in Matras Waters, Bangka Islands
TSM23119	Iksiroh El Husna	The Impact of Sea Transportation on Environmental Health
TSM23147	Pritha Kurniasih	Strategy For The Shipping Decarbonisation Using Marine Diesel Oil
Track Logistics		
Paper ID	Presenter	Paper Title
TSM23131	Awel Suryadi	The Influence of the Use of SAP Applications (System Application and Product in Data Processing) On the Smoothness of Logistics at PT. Mitrabahtera Segara Sejati Samarinda
TSM23120	Rima Megawanti	Optimization of Enterprise Resource Planning (ERP) Applications on the Crew Contract Extension System at PT. Sinarmas Lda Maritime
TSM23148	Sri Purwantini	The Impact of Clinker Spill in Loading and Unloading Activities at Private-Interest Terminal
6016	Aviska Berlian Fridayani	Optimization of the Small E-pass Card Issuance Process in Tanjung Emas Class I Ksop Semarang
6034	Yozar Firdaus Amrullah	Determination in the Selection of Logistics Service Providers by MSMEs in Kendal District

Room: Breakout Room 3

Time: 13:05 - 15:25 (UTC+7)

Session Chairs: Prof. Dr.-Ing. Youness Dehbi - HafenCity University, Hamburg, Germany

Track Character Building		
Paper ID	Presenter	Paper Title
TSM23151	Moh Zaenal Arifin	Monitoring System Development And Evaluation Of Character Building In Semarang Polytechnic Through The Utilization Of Information Technology
Track Maritime Law		
Paper ID	Presenter	Paper Title
TSM23155	Hadhitya Herjuna	Implementation of Supervision and Evaluation by the Directorate of Shipping and Marine Affairs to the Siuppak Owner Company
Transportation Material Technology		
Paper ID	Presenter	Paper Title
TSM23109	Muhamad Nastangin	Maintenance of Water Distribution Device and Shaft System at Mdo Purifier on mv.tanto Mitra
TSM23111	Amad Narto	Automatic Water Ballast System Based on Arduino R3
TSM23112	Amad Narto	Design of the Process of Ascending and Descending of Davits on Lifeboats Automatically
6000	Mustholiq	The Effect of Turbocharger Maintenance in Combustion Process on the Main Engine at MT Giat Armada 01
5978	Suharto	Coal Disharging in Rembang Sluke Port with Conveyor and Excavator as Electricity Generation in PLTU
TSM23145	Mustholiq	Causes of Leaks in the Main Engine Cooling Jacket Main Engine MT. Mulia Karsa 2

Room: Breakout Room 4

Time: 13:05 - 15:25 (UTC+7)

Session Chairs: Mr. Taha Hatcha - HafenCity University, Hamburg, Germany

Track Transportation Education and Management		
Paper ID	Presenter	Paper Title
TSM23106	Darul Prayogo	Optimization of Cargo Pump Treatment by Hydrochloric Acid (Hcl) Loading at MT. Cipta Anyer
TSM23124	Mustholiq	Identify of the Dropping in Hydrophore Tank Pump Pressure at MT. Inter Armada 01
TSM23118	Ilman Al Fahrobi	Developing Application Main Condensate Water System as a Learning Media
TSM23127	Ryan Puby Sumarta	How Vocabulary Size Affect Maritime English Achievement? A Correlational Study of Cadets in Sorong Merchant Marine Polytechnic
Track Green Transportation		
Paper ID	Presenter	Paper Title
TSM23116	Suherman	Reducing Environmental Pollution Due to the Use of Soap for Cleaning Ships by Using Innovation-Based Products Waste Lemons
Track Multimodal Transportation		
Paper ID	Presenter	Paper Title
TSM23121	Janny Adriani Djari	Constraints The Application Of Single Truck Identification Data For Operations At Tanjung Emas Port, Semarang
Track Transportation Facilities and Infrastructure		
Paper ID	Presenter	Paper Title
TSM23129	Agus Tjahjono	Towing Pin Optimization Strategy in SV. Triton 501
TSM23144	Wejang Miryan Febriviantino	Optimization of Lifeboat Maintenance at MV Dobonsolo

Room: Breakout Room 5

Time: 13:05 - 15:25 (UTC+7)

Session Chairs: Prof. Veera Pandiyan Kaliani Sundram - Universiti Teknologi MARA, Malaysia

Track Development in Science and Technology in Transportation		
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TSM23154	Agus Tjahjono	Ballast Pump Performance Optimization Strategy for Smooth Ship Operations in MV. DK 03
TSM23125	Andy Wahyu Hermanto	Solar Power Generator as an Alternative Energy Source for the Propeller Driver Motor
TSM23142	ling Mustain	Design of the Si-PDKT Application for the Memorandum-in Validation process when inspection of ship documents
6033	Amad Narto	Prototype of Firing Automation and Water Level on the Boiler Using The Microcontroller
5967	Agus Tjahjono	Proceeding Factors Affecting Internal Maintenance and External Conditions on Reverse Osmosis Performance on the MT. Sele
Track Logistics		
Paper ID	Presenter	Paper Title
6041	Nova Kurniawan	Delays in Loading and Unloading Services at PT. Indonesian Container Masaji Order
Track Human Resources in Transportation		
Paper ID	Presenter	Paper Title
6045	Didik Dwi Suharso	Comparative Analysis of the Effectiveness of Unmanned and Watchstanding Guard Systems in engine rooms MV. Helane
Track Transportation Material Technology		
Paper ID	Presenter	Paper Title
6049	Aga Surya Pradana	The Role of a Mentor in Guiding Cadets to Fill out Reports in The IP MAN Application at MT Meditran

Room: Breakout Room 6

Time: 13:05 - 15:25 (UTC+7)

Session Chairs: Prof. Khaled Al-Sahili - An-Najah National University, Palestine

Track Logistics		
Paper ID	Presenter	Paper Title
TSM23140	Latifa Ika Sari	The Qualifications Needed by Logistics Employees in the Future Industry and its Implications in Higher Education Institutions
TSM23135	Wiko Trya Andika	Crude Palm Oil Unloading Activities at MT. Giat Armada 01
TSM23146	Retno Hariyanti	Design and Development of a Website Crew E-Recruitment System in Improving Recruitment Chart at PT.
Track Transportation Education and Management		
Paper ID	Presenter	Paper Title
TSM23149	Aurendya Bulan Farah Syauvika	Implementation of Digitization of Audit Reporting for Supports the Performance of LPSQ Function at PT. Pertamina International Shipping
Track Sustainable Transportation		
Paper ID	Presenter	Paper Title
TSM23143	Okvita Wahyuni	Delays in Landing Process When Loading at Gurimbang Jetty Impact of Financia 101 Barge Bill Leaking Due to Anchor Chain Friction
TSM23126	Andy Wahyu Hermanto	Unreachable Temperature in the Food Storage Room at MV. Pan Flower
TSM23133	Sri Sarjana	Acceleration of the Battery Electric Vehicle Program through Carbon Tax and Strategic Management between Government Institutions
Track Development in Science and Technology in Transportation		
Paper ID	Presenter	Paper Title
6009	Andy Wahyu Hermanto	Analysis of the Cause of Connecting Rod Fracture in Central AC Compressor on MV Ship. DK 02

Room: Breakout Room 7

Time: 13:05 - 15:25 (UTC+7)

Session Chairs: Prof. Danielle M. De Guzman - National University-Manila, Philippines
Dr. Emi Normalina Binti Omar, Universiti Teknologi MARA - Puncak Alam Campus, Malaysia

Track Transportation Material Technology		
Paper ID	Presenter	Paper Title
TSM23152	Amad Narto	Electric Steering Gear Prototype Based on Arduino Microcontroller
Track Occupational Health and Safety		
Paper ID	Presenter	Paper Title
TSM23132	Akhmad Ndori	Implementation of ISM Code (International Safety Management) Code for the Safety of Crew and Passenger on KM Sinabung
TSM23108	Dede Rikasari	Implementation Permit to Work System As An Work Accident Prevention On Board Ship
TSM23130	Ivana Evagelista	The Analysis of Barge Misha's Anchor Loss Incident off the Coast of Pagerungan Island from the Perspective of Quality Health Safety Environment (QHSE)
TSM23141	Fatimah	The Perspective of Food Delivery Courier in Semarang toward Safety Riding
6012	Samsul Huda	Analysis of the Lack of Skilled Crew in the Use of Safety Equipments in MT. Kirana Tritya
Track Transportation Facilities and Infrastructure		
Paper ID	Presenter	Paper Title
6043	F Pambudi Widiatmaka	Identification of Fresh Water Generator evaporator damage at MV.SM.Roberts Bank
6048	Nabilah Santoso	Advanced Transport Planning in Supporting Intermodal Transportation Integration

Room: Breakout Room 8

Time: 13:05 - 15:25 (UTC+7)

Session Chairs: Mrs. Ala Zuheir Keblawi - Universiti Sains Malaysia

Assoc. Prof. Dr.Eng. Ahmed Mansouri - University of Batna 1, Algeria

Track Transportation Education and Management		
Paper ID	Presenter	Paper Title
6022	Janny Adriani Djari	Analysis Of The Influence Of The COVID-19 Pandemic Period And The PPKM Period On The Convenience Of Passenger KM.Labobar PT.Pelni
5948	Darul Prayogo	Management of Rising Diesel Generator Exhaust Gas Temperatures to Prevent Trips on Diesel Generators
TSM23158	Fajar Adit Helviyanto	Analysis of Crew Work Performance in Relation to Overtime Working Hours on MV. Manalagi Tisya
TSM23150	Andi Prasetiawan	Ship Crew Placement Optimization in Accordance with Safe Manning at PT. Pertamina International Shipping (PIS)
Track Transportation Facilities and Infrastructure		
Paper ID	Presenter	Paper Title
TSM23128	Iskandar	Analysis of the Effect of Equipment Readiness on the Tank Cleaning Process (Case Study of MT. Akra 102)
TSM23153	Samsul Huda	Analysis of The Pilot Fall from The Pilot Ladder While Climbing to The Board of MV Van Star in The Rouen River Area
Track Development in Science and Technology in Transportation		
Paper ID	Presenter	Paper Title
TSM23122	Ilham Ashari	Ensuring Safety and Compliance: Material Safety Data Sheet (MSDS) Implementation in On-Board Blending of Peralite (RON90)
6039	Andi Prasetiawan	Optimization the handling process of making seafarer identity documents for ship crews at PT.Aweidhia

Track: Logistics

Deadfreight Claim in The Coal Loading Process on Bulk Carrier: Causes and Mitigation |

Muhammad Syarif Al Imam¹, Latifa Ika Sari²

^{1,2}Politeknik Ilmu Pelayaran Semarang

Abstract

PT. Bahari Laju Anugerah Banjarmasin branch is a shipping company that handles and performs ship agency services in Banjarmasin, South Kalimantan. The ships Handled are mostly ships that will transport coal to be exported to various countries in the world. In coal export activities, the transportation process from the jetty to the berth area is carried out using barges. During the loading and unloading / transshipment process, there are often obstacles that can cause dead freight which causes losses to the owner of the goods. This research carried out in August 2021-February 2022. The purpose of this study is to determine the factors causing dead freight claims in the coal loading process on the MV. Ocean Time and the efforts made to reduce it. The research method in this study uses qualitative descriptive methods. Researchers use observation, interviews, and documentation (triangulation) in data collection. Researchers collect data as well as test the validity of the data by checking through several data sources such as conducting interviews with three different sources, namely Shipper on Board, Foreman on Board and Foreman jetty. The results of this research show that the cause of dead freight claims in the coal loading process on the MV Ocean Time is a problem during the loading process, spillage of coal cargo during the loading process, and theft of coal cargo from the barge. To reduce it, several efforts were made by PT. Tanjung Alam Jaya as the owner of the cargo includes effective and efficient coordination and communication. In addition, by escorting the cargo carried by the barge so that the amount of cargo remains intact.

Keywords : Deadfreight claim, cargo loading, Coal, Ship

Noise and Leak Handling in Main Cooling Sea Water Pump in MV. DK 03 |

Kemal Joy Setyawan¹

Politeknik Ilmu Pelayaran Semarang

Abstract

Auxiliary machinery on board is one of the supports in the smooth operation of the ship. Noise and leakage that occur in the main cooling sea water pump in MV. DK 03 will hinder the shipping process. Main cooling sea water pump is one of the pumps on board that functions to drain or transfer seawater to the ME plate cooler as a fresh water cooler jacket cooling ME. This study was conducted to determine the causes of noise and leaks in pumps, the impact that occurs due to noise and leaks in pumps, and efforts that can be made to overcome noise and leaks in the main cooling sea water pump. Researchers use qualitative descriptive methods, triangulation of observations, interviews, and literature studies. Researchers identified the causative factors, impacts and treatments carried out related to the causes of noise and leaks in the main cooling sea water pump. Researchers will also use data analysis techniques methods Software, Hardware, Environment, and Liveware or can be referred to as the SHEL model. The results obtained from this study show that the cause of noise and leakage in the main cooling sea water pump is caused by damage to the pump foundation and affects the shaft and impeller and other components on the main cooling sea water pump, with the damage will have an impact on the freshwater cooling process on the main engine. Handling carried out to prevent this is to carry out maintenance according to PMS (plan maintenance system) and replace ship spare parts with standards in accordance with the manual book and carry out operations according to the manual book

Keywords : Handling, leakage, pump, main cooling sea water pump

Optimization of Enterprise Resource Planning (ERP) Applications on the Crew Contract Extension System at PT. Sinarmas Lda Maritime |

Andi Prasetiawan¹ Arya Widiatmaja², Rima Megawanti³

^{1,2,3}Politeknik Ilmu Pelayaran Semarang

Abstract

: Technological developments are needed in today's digital era because they can help all human activities. PT. Sinarmas LDA Maritime created an Enterprise Resource Planning (ERP) application. The ERP application is used to simplify the work of employees in the process of inputting data and monitoring the working period of the crew and the validity period of documents. However, in using the ERP application there are obstacles to the crew contract extension system which still uses paper forms so that when inputting data into the application takes a long time besides that, the ERP application is very dependent on the internet network. This study aims to determine the constraints in optimizing Enterprise Resource Planning (ERP) applications on the crew contract extension system with the addition of problem solvers. This research method uses a qualitative description approach by conducting observations, interviews, literature studies and documentation directed at competent and directly involved informants and using SWOT analysis techniques to determine strategic factors for optimizing Enterprise Resource Planning (ERP) applications by linking the results of research data. Based on the research that has been done, it was found that optimizing the Enterprise Resource Planning (ERP) application in the crew contract extension system is filling in crew data that still uses paper forms and is dependent on the internet network. using a paper form is changed to using a g-form so that the input of crew data for extended counters is more effective and efficient. As well as the need for outreach to the ship's crew in order to know the stages of filling in the data. The results of the SWOT analysis show that the Enterprise Resource Planning (ERP) application is in a progressive strategy position, meaning that obstacles in optimizing ERP applications can be overcome because the company is able to take advantage of its strengths and opportunities

Keywords : : Enterprise Resource Planning (ERP) applications. Vessel Crew Contract Extension, PT. Sinarmas LDA Maritime

The Influence of the Use of SAP Applications (System Application and Product in Data Processing) On the Smoothness of Logistics at PT. Mitrabahtera Segara Sejati Samarinda |

Awel Suryadi¹, Arya Widiatmaja², Renaldi Sanjaya Putra³

^{1,2,3}Politeknik Ilmu Pelayaran Semarang

Abstract

Competition in the business world is increasingly, companies are trying to improve the quality of their companies by providing fast services and low costs compared to their competitors, one of which is in the logistic sector. To accelerate logistic activities, companies generally use application systems that are widely used today, called SAP (System Application and Product in Data Processing) which is capable of integrating data. One of the companies that uses SAP (System Application and Product in Data processing) is PT.Mitrabahtera Segara Sejati Samarinda. Therefore the researchers analyzed the effect of using the SAP (System Application and Product in Data Processing) on the smooth running of logistics at PT.Mitrabahtera Segara Sejati Samarinda. The method used in this research is descriptive quantitative method, called simple linear regression analysis using SPSS, by distributing questionnaires with a total of 52 respondents who are employees of PT.Mitrabahtera Segara Sejati Samarinda. The result obtained from the test, called t test with the result tcount > ttable (7.651 > 2.00) so that it can be said that the variabel using SAP application has a positive effect of logistic The results of the study show that there is a positive and significant influence related to the effect of using the SAP application on logistic at PT.Mitrabahtera Segara Sejati Samarinda.

Keywords : SAP Application, Logistic, SPSS (Statistical Program for Social Science)

Crude Palm Oil Unloading Activities at MT. Giat Armada 01 |

Moh Zaenal Arifin¹, Wiko Triya Andika², Darul Prayogo³

^{1,2,3}Politeknik Ilmu Pelayaran Semarang

Abstract

Loading and unloading is one of the activities carried out on board both when the ship is docked at the port or ship to ship. However, at the time of loading and unloading that occurred on the ship MT. Giat Armada 01 problems occur so that the loading and unloading process becomes less optimal. The research method that the writer uses in this thesis is qualitative descriptive with the Fishbone approach as a data analysis technique. Fishbone is shaped like a fishbone skeleton whose parts resemble the head and bones of fish. Fishbone is used to determine the causal relationship of the causal factors, the impact they cause, and the efforts made to optimize the handling of loading and unloading on the MT. Giat Armada 01. The results of the research conducted, it can be said that loading and unloading handling at MT. Giat Armada 01. is not optimal. caused by the lack of maintenance of the equipment used for loading and unloading, damaged and poorly maintained cargo pump, lack of heating, lack of application of procedures for handling loading and unloading, and the length of the Jetty Batilicin pipe line shore. These factors have an impact on the less optimal handling of loading and unloading during loading and unloading, increased working hours, damage and loss of equipment used to support loading and unloading activities. To overcome these factors, it can be done by carrying out maintenance and checking of each tool used for loading and unloading, carrying out routine repairs and maintenance on the cargo pump, carrying out cargo maintenance, loading and unloading and squeezing according to procedures, and always conducting safety meetings. before unloading or loading.

Keywords : Loading, Unloading, Optimization, Fishbone

The Qualifications Needed by Logistics Employees in the Future Industry and its Implications in Higher Education Institutions |

Latifa Ika Sari¹, Andi Prasetiawan ²

^{1,2}Politeknik Ilmu Pelayaran Semarang

Abstract

Human resources play a fundamental role in affecting logistics companies' performance. The advancement of technology has caused significant implications in the logistics industry. This research aims to explore the qualifications needed by logistics employees in the future industry and discuss the implications in higher education institutions. The authors used a semi-systematic review to examine five relevant research articles published in reputable journals, ranging from 2017-2022. Content Analysis was conducted to identify, analyze, and report patterns. The findings of the study revealed that there are several qualifications needed by logistics employees to perform challenging tasks in the future. Body fitness, problem-solving and decision-making, creativity and innovation, adaptability, communication, leadership, and teamwork are some of the industry's top qualifications. Higher education institutions need to anticipate the current issue of human resources. Some strategies that can be employed include integrating ICT in the teaching and learning activities to familiarize students with the use of ICT, conducting an internship program in the logistics industry to provide students with real working experience, involving stakeholders in the curriculum review and design.

Keywords : Education, Human Resources, Logistics, Qualifications

The Impact of Clinker Spill in Loading and Unloading Activities at Private-Interest Terminal |

Sri Purwantini¹, Anicitus Agung Nugroho², Muhammad Ilham Al Islami

^{1,2,3}Politeknik Ilmu Pelayaran Semarang

Abstract

Clinker spill problems often occur during loading activities to bulk carriers at the Special Terminal of PT. Semen Indonesia, Tuban. Clinker spills has an adverse effect on clinker loading activities and the depth of the jetty pool. This study aimed to determine the causes, impacts, and efforts to prevent clinker spills in loading and discharging activities at the Special Terminal of PT. Semen Indonesia, Tuban. The research method used is descriptive qualitative. The method of collecting data is primary data obtained through observation, interviews, and secondary data obtained through documentation studies. The results showed that the causes of clinker spills were shore grab leaked, The workers' mistakes in discharging clinker at the edge of the jetty, and crane operator negligence in operating the shore grab. The impact of a clinker spill is the siltation of the jetty, reduced amount of cargo, and delays in clinker loading. Efforts made to prevent clinker spills are periodic maintenance of shore grabs, periodic shore grab checks, providing directions and evaluating the performance of loading and discharging workers and crane operators, and installing concrete barriers at the Jetty.

Keywords: Prevention, Clinker, Spill, Special Terminal

Optimization of the Small E-pass Card Issuance Process in Tanjung Emas Class I Ksop Semarang |

Andi Prasetiawan¹, Aviska Berlian Fridayani²

^{1,2}Politeknik Ilmu Pelayaran Semarang

Abstract

Fridayani, Aviska Berlian, NIT. 561911317386 K, 2023, andquot;Optimization of Small E-Passport Card Issuance Process in Port and Maritime Office (KSOP) Class I Tanjung Emas Semarangandquot;; Thesis, Diploma IV Program, Port and Maritime Department, Politeknik Ilmu Pelayaran Semarang, Advisor (I)): Dr. Andi Prasetiawan, S.ST, M.M., Advisor (II): Dr. capt. Mustamin, M.Pd., M.Mar. In the era of digitization, various applications and websites with multi-purpose functions have appeared, forcing organizations to adapt to these changes. In the maritime sector, the General Directorate of Maritime Transport has introduced an online application called Small E-Pass. This program aims to simplify and speed up the service process, especially in global shipping. However, many stakeholders still struggle to understand and use the Small E-Pass application, which is a challenge for the service provider. To find out, this study aims to understand the process of issuing small E-Pass cards in KSOP Class I Tanjung Emas Semarang and identify possible strategies to optimize this process. This study uses a qualitative descriptive approach to gain an in-depth understanding of the underlying issues. The study will last at least 5 months and will be conducted at KSOP I Class Tanjung Emas Semarang. Information is obtained through direct observations at the research site and from available literature. Data collection methods include observation, interviews, documentation, and literature review. Using a fishbone diagram, the research process identifies the root cause of the problem. The accuracy of the information is checked for consistency by cross-referencing with observations and interviews. The research results show that the process of issuing small E-Pass cards in KSOP Class I Tanjung Emas is not fully optimized due to the fishermen's understanding of the Small E-Pass card, challenges related to vessel measurement distances and unstable internet connections . . KSOP Class I Tanjung Emas implemented several strategies to overcome these barriers, including awareness campaigns, the establishment of small E-Pass card points, and regular maintenance checks on computer systems and networks.

Keywords: Small E-Pass card, Application, Issuance process.

Determination in the Selection of Logistics Service Providers by MSMEs in Kendal District |

Yozar Firdaus Amrullah¹, Nazilul Hamidi²

¹Politeknik Ilmu Pelayaran Semarang, ²Sekolah Tinggi Ilmu Pelayaran (STIP) Jakarta

Abstract

To support their work, both for the distribution of production products to consumers and to obtain raw materials, Micro, Small, and Medium Enterprises (MSMEs) need the help of Logistics Service Provider (LSP). However, today, there are many choices of LSPs with advantages and disadvantages. Therefore, MSMEs need to choose the one that suits their needs carefully. This is what underlies the author's research. This research uses a qualitative descriptive method. Data was collected by researchers making observations delivering electronic questionnaires and interview questions in WhatsApp and Facebook groups with members of MSME in Kendal District in October 2022. Ten participants became the object of study. This research analyzes what factors underlie MSMEs in Kendal district in choosing an LSP to support their business supply chain. The proper service provider selection will impact the safety of goods, delivery time, and customer satisfaction. This research aims to describe the state of the object being studied based on the facts in the field. Thus, accurate and systematic data can be obtained. As a result, more than 50% of MSMEs use LSP to support their business supply chain. However, LSP service is still can be improved, so participants conveyed some suggestions.

Keywords: MSMEs, Selection, Logistics Service Providers, shipping

Delays in Loading and Unloading Services at PT. Indonesian Container Masaji Order |

Retno Haryanti¹

¹Politeknik Ilmu Pelayaran Semarang

Abstract

PT. Masaji Tatanan Indonesia Jambi branch is a loading and unloading company at a container depot. Delay is the main thing in the implementation of loading and unloading. The purpose of this research is to optimize and minimize loading and unloading obstacles at the depot to pay more attention to maintenance and repairs. This research method uses a qualitative description by conducting observations, interviews, and documentation. The research uses fishbone analysis techniques to identify research data. The obstacle to container loading and unloading services is the occurrence of delays caused by human factors, place/land, weather, and equipment facilities for loading and unloading that have not been maximized. Efforts that must be made are adding forklift tools to balance activities with a lot of demand for goods, repairing land so that unwanted work accidents do not occur, increasing work knowledge for all employees so that they pay attention to using safety equipment and improve maintenance to protect company assets

Keywords: Optimization, Delays, Containers, Land Care, Depots



Track: Environment

Implementation of Supervision and Evaluation by the Directorate of Shipping and Marine Affairs to the SIUPPAK Owner Company |

Fatimah¹, Hadhitya Herjuna²

^{1,2}Politeknik Ilmu Pelayaran Semarang

Abstract

The Ministry of Shipping and Marine Affairs (DITKAPEL) is part of the Directorate General of Sea Transportation of the Ministry of Transportation which manages the distribution of Indonesian ships and crews. The large number of Indonesian Workers (TKI) who work as Crew Officers (ABK) is the object of violations and problems especially from the company. To do so, the government must increase supervision and protection for them by monitoring the company that own SIUPPAK. SIUPPAK is the permit for the company to recruit and place the crew on board. For this reason, the objective of the study is to find out the forms of violations committed by the SIUPPAK owner company and the sanctions given to companies holding SIUPPAK for abuse of authority committed. The research method used in this study is a descriptive qualitative method by describing completely and systematically the supervision and evaluation carried out by DITKAPEL on companies that own SIUPPAK. The data sources used are primary and secondary data sources obtained through interviews, observations, documentation, and literature studies. The results showed that there were numbers of companies that owned SIUPPAK that committed violations. These companies received sanctions in the form of Warning Letter 1, Warning Letter 2, Warning Letter 3, and Company Inactivity. Supervision and evaluation by DITKAPEL on the company that owns SIUPPAK is carried out periodically called the Annual Audit. The annual audit carried out is in accordance with the established standards, and the DITKAPEL follows up cases of violations wisely and firmly in accordance with existing regulations.

Keywords: Keyword : : Supervision, Evaluation, DITKAPEL, Company Owner SIUPPAK.

Efforts to Overcome Environmental Damage Due to the Mining of the Octopus 1 Tin Suction Vessel in Matras Waters, Bangka Islands

| Awel Suryadi¹, Pritha Kurniasih², William Cahyo Paringhan³

^{1,2,3}Politeknik Ilmu Pelayaran Semarang

Abstract

Tin mining activities in Matras Waters, Bangka Islands, mostly use Kapal Isap Timah (KIP). Tin mining using KIP hurts the marine environment, ecosystems, and coastal areas. This study aims to determine efforts to overcome environmental damage from mining the KIP. Octopus 1 in Matras Waters, Bangka Islands. This research method uses a qualitative approach. Data sources in this study were obtained from primary and secondary data by conducting interviews, observation, documentation, and literature study. The data analysis technique used in this study is the method of Miles and Huberman. There are three stages to conducting data analysis: data collection, data reduction, data presentation, and conclusion. The results of this study are to show the efforts made by PT. Orion Transportasi Internasional in overcoming environmental damage, namely by improving the shape of the tailing chute that is not by the regulations and cooperating with PT. Pelayaran Lomasasta is related to the document of Persetujuan Kesesuaian Kegiatan Pemanfaatan Ruang Laut (PKKPRL).

Keywords : KIP. Octopus 1, Tin Mining, Environmental Damage.

Strategy For the Shipping Decarbonisation using Marine Diesel Oil |

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Abstract

Climate change has become a global problem. Transportation is one of the contributors to the problem of increasing carbon emissions. The world of shipping, as the most significant mode of transportation of goods worldwide, contributes to increasing carbon emissions. Greenhouse Gas Emission has led IMO to participate in implementing policies related to decarbonization in the maritime world which began in 2020. This research aims to understand the use of Marine Diesel Oil as one of the strategies implemented to reduce the impact of carbon emissions. This study uses a qualitative research methodology using primary data based on observations on board and secondary data from reputable international journals. In addition, data analysis uses the SWOT matrix. The results of this study are to determine the strengths and weaknesses of using MDO, as well as opportunities and threats to using MDO in Emission Control Areas. The hope is that ECA can be expanded, especially in world shipping lanes, to minimize the impact of carbon emissions. In addition, more in-depth research on decarbonization in the maritime industry and the port area can be carried out.

Keywords: decarbonisation, MDO, ECA, climate change, shipping



Track: Maritime Law

The Impact of Sea Transportation on Environmental Health |

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Abstract

*The discharge of untreated ballast water into harbor waters often contains pathogenic bacteria, posing a potential threat as pollutants to both the environment and fishery products. This study seeks to assess the bacteriological impact of ballast water disposal on harbor waters and fishery products. Comparative analyses, utilizing both morphological and molecular examinations, are conducted to determine the presence of pathogenic bacteria according to the BWM Convention standards. The findings of morphological research on ballast water, harbor waters, and captured fish reveal similarities in the types of pathogenic bacteria, specifically the presence of *V. cholerae* and *E. coli* bacteria. Similarly, the molecular examination confirms the presence of the same pathogenic bacteria, namely *V. harveyi* and *V. parahaemolyticus*, in both water and ballast samples. Additionally, other pathogenic bacteria are identified in the ballast water, including *V. fortis* and *V. alginolyticus*. Notably, there is no evidence of *V. cholerae* bacteria contribution from the river. The application of the BWM Convention is crucial and requires the attention of stakeholders to safeguard the maritime environment.*

Keywords : ballast water, fish, maritime environment, BWM Convention



Track: Human Resources in Transportation

Design and Development of a Website Crew E-Recruitment System in Improving Recruitment Chart at PT. Equinox Bahari Utama |

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Abstract

The effectiveness of recruitment and selection is a benchmark for the company's success which lies in its quality if the availability of the number of Human Resources supports and is sufficiently qualified and professional. PT. Equinox Bahari Utama is one of the companies engaged in crew management. The importance of media as a means of recruitment that takes place at PT. Equinox Bahari Utama can be used as the basis of increasing the quality of the company in order to make the company a reference for shipping companies in Indonesia. In this study, the author uses research and development methods that include designing or building a system that supports research. In addition, at the analysis stage researchers use descriptive qualitative analysis that uses observation. The e-recruitment system that was built is a system that aims to find out how to develop crew management system applications to improve the efficiency and effectiveness of the recruitment process that takes place at PT. Equinox Bahari Utama. And also in order to be able to help the staff of PT. Equinox Bahari Utama in carrying out the recruitment process required from the shipowner. With various requirements and a series of recruitment processes, the existence of this system is expected to increase the efficiency of the ongoing recruitment process.

Keywords: Crew Recruitment, website e-recruitment, Recruitment system

Comparative Analysis of the Effectiveness of Unmanned and Watchstanding Guard Systems in Engine Rooms MV. Helane

|
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Abstract

Unmanned and watchstanding guard systems in machine rooms are related to technological developments that allow supervision and operation without direct human presence. This is done to compare effectiveness to improve efficiency and safety in ship operations. This study aims to determine the understanding of the unmanned and watchstanding guard systems, the obstacles that arise when the system is enforced and regulate the guard system applied in MV. Helane. With qualitative descriptive methods, the results of triangulation data show that unmanned guard systems have the potential to improve operational efficiency through non-stop operations and continuous data analysis. The ability of this system to detect changes in conditions quickly and take immediate action is also an important point. However, comparisons to the ability to respond to emergency situations show that human involvement in watchstanding systems still has important value. The results showed that the unmanned guard system is an approach that relies on automation technology to replace or support the role of human guards in supervision and monitoring whereas watchstanding involves personnel on duty alternately to supervise and carry out duties during the voyage. Obstacles posed during unmanned and watchstanding guard include mastery of technology, security and problem decision making, early detection, limited skills and training and crew fatigue. In order to achieve optimal operational safety, an integrated approach that combines the advantages of both systems can be an attractive solution. Human involvement in emergency situations and critical decision-making can be combined with autonomous technology to improve the performance and effectiveness of guard systems in ship engine rooms.

Keywords: Keyword: Unmanned, watchstanding and comparison



Track: Sustainable Transportation

Unreachable Temperature in the Food Storage Room at MV. Pan Flower |

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Abstract

Refrigerator machines on board have an essential role in the process of storing foodstuffs so they last. The availability of fresh foodstuffs and the crew's comfort are essential on long voyages. Therefore, it is vital to check the condition of the components in the refrigerator engine. Thus, this study aimed to determine the factors, impacts, and efforts that need to take when there is an increase in the food storage space on board. The research method used in this study is qualitative, with the SHEL analysis method. The data sources for this study came from observations, literature studies, and interviews, while the researchers carried out sea practice from 10 June 2021 - 11 June 2022 on the MV. Pan Flower. The results showed that several factors were causing the rise in temperature in the food storage room, including non-compliance in carrying out the Plan Maintenance System, damage to the expansion valve components, dust-contaminated refrigerant cycles, too much dirt in the condenser, and a lack of communication between the crew. The impact of this damage is the disruption of refrigerator performance, the evaporator performance is not optimal, the temperature rises, the condenser performance is not optimal, and the occurrence of overtime to deal with the problem. Efforts are made to prevent such damage by maintaining according to the Plan Maintenance System, spraying the evaporator side, cleaning the condenser, checking the dryer filter, and always carrying out toolbox meetings. Thus, the operation of the cooling machine can be carried out correctly and reduce the risk of incidents that could endanger the ship and crew.

Keywords : Expansion Valve, Refrigerator Machine, Qualitative Method, SHEL analysis technique

Acceleration of the Battery Electric Vehicle Program through Carbon Tax and Strategic Management between Government Institutions |

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Abstract

The implementation of the Sustainable Transport Strategy aims to reduce global warming through the generation of environmentally friendly energy, the reduction of carbon emissions and the fight against extreme climate change. The use of vehicles in Indonesia, most of which still use gasoline-fuelled motor vehicles, produces polluting emissions, and can cause various problems. This study aims to find solutions to government policy management to realize the transition to sustainable transportation through battery electric vehicles. This study uses a descriptive qualitative research design. Data collection in this study using literature studies by collecting sources on the concept of sustainable development in the field of transportation, in the context of renewable energy. The data processing process carried out in qualitative descriptive research includes data reduction, data presentation, and verification or inferring data. The analysis technique used is in-depth analysis which means in-depth analysis techniques. The results show that, to answer these problems, the Indonesian government needs to increase the use of electric motor vehicles both for public and private vehicles and the right policy-making strategy is needed to target the acceleration of battery electric vehicle program can be significant. Through carbon tax policies and supporting consumer convenience which includes the construction of charging station infrastructure, spare parts distribution, and increasing mechanical competence, the level of public awareness to switch to using battery electric vehicles.

Keywords : Battery electric vehicle, carbon tax, consumer convenience

Delays in Landing Process When Loading at Gurimbang Jetty Impact of Financia 101 Barge Bill Leaking Due to Anchor Chain Friction |

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Abstract

The incident of a tugboat approaching the dock at Dermaga Gurimbang experienced friction between the barge hull and the anchor chain, resulting in a hull breach in the barge belonging to PT. Mitra Bahtera Segara Sejati's branch in Berau, East Kalimantan. Consequently, the coal loading activity faced departure delays. Therefore, as a ship owner company, they are responsible for all vessel-related activities from before entering the Port until the vessel departs the Port. The aim of this research is to identify the causes of the barge leakage during coal loading at the dock and the efforts made by PT. Mitra Bahtera Segara Sejati's branch in Berau to address the issue. The research method employed in this study is a qualitative descriptive research method. The research data consists of primary and secondary data collected through data processing from observations, interviews, and documentation with the branch office of PT. Mitra Bahtera Segara Sejati. The data was then analyzed by conducting daily operational reports provided by the ship's personnel, while interviews were conducted to obtain more in-depth information regarding the daily operational reports and to understand the efforts made to address the issues. The research findings indicate that the leakage of the barge significantly affects the company, leading to increased costs for docking services and a decrease in the monthly target of coal long towing from 4 to 3 due to the barge's hull leakage. Efforts have been made to prevent barge hull leakage by conducting regular inspections, routine monitoring, and coordination with relevant parties to address the issue and enhance the safety and operational performance of the vessel.

Keywords: Leakage, Barge Hull, Friction.



Track: Multimodal Transportation

Constraints The Application of Single Truck Identification Data for Operations At Tanjung Emas Port, Semarang |

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Abstract

Single Truck Identification Data which is an electronic system of data collection for every truck operating at a designated port to support activities at the port. Single Truck Identification Data will later become the single identity of each truck, with an electronic-based system connected to the port management IT system that contains a database covering the technical feasibility of trucks and their drivers, including data on truck vehicle police numbers and transportation company owners. But currently there are still many trucks and companies that have not registered their companies and have not pocketed a Single Truck Identification Data card, therefore there are obstacles faced by business actors so that until now they have not registered their companies. The lack of preparation of trucking companies in using the system, and the lack of knowledge about the Single Truck Identification Data system are obstacles in implementing the system. The factor of implementing the system is to facilitate the flow of goods at the port. Efforts that can be made to reduce existing obstacles are by providing socialization and technical guidance to truck drivers and operators, as well as improving services for trucking companies to register their fleets.

Keywords : Constraints, Single Truck Identification Data, Operational



Track: Green Transportation

Reducing Environmental Pollution Due to the Use of Soap for Cleaning Ships by Using Innovation-Based Products Waste Lemons

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Abstract

Strict provisions in the MARPOL rules that require every ship to neutralize any liquid that will be disposed of overboard in advance, forcing shipping business actors to provide an extra budget in order to comply with these regulations. The purpose of this paper is to examine the processing of lemon fruit waste to resolve the impact of ship cleaning soap waste which is very dangerous because it contains chemicals that are deadly to life in the marine environment. With these environmentally friendly natural ingredients, it is hoped that it will create innovative products for ship care washing soap that are environmentally friendly and safe for life around the coast and the sea, which can be utilized by both ships owned by shipping companies and ships owned by coastal fishing communities. around the harbour. The method used in this writing is descriptive qualitative, while the data collection method uses observation and literature study. Based on the data collection method, lime is one of the herbal plants that contains high citric acid which can be used as a basic ingredient for making ship cleaning soap. It is this lemon that will be developed into an innovative product to anticipate sea water pollution waste, which results from ship washing

Keywords : Pollution, Product innovation, Eco-friendly soap, Lemon



Track: Development in Science and Technology in Transportation

Designing a Fresh Water Generator Application using Adobe Animate |

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Abstract

Fresh water is highly essential on a ship, not only to meet the crew's needs but also for supporting the ship's operations, such as cooling the main engine, auxiliary machinery, and for cleaning other cargo loads (tank cleaning). Therefore, there is a need for auxiliary machinery capable of converting seawater into fresh water, which is known as a fresh water generator. The researchers chose this research topic due to the lack of understanding about the working system of a fresh water generator, and in the era of society 5.0, people are accustomed to coexisting with technology, as it facilitates various human affairs. Numerous simulation applications have emerged, such as Adobe Animate, which researchers currently use to design and develop a simulation application for the fresh water generator on computer hardware. The aim of this research is twofold: first, to explore how to create a simulation application for the fresh water generator based on Adobe Animate, and second, to understand the operational aspects of the simulation application. The researchers employed the Research and Development method, utilizing the Borg and Gall model, which comprises 10 research steps: preliminary research, information gathering, product design, design validation, product revision, product testing, product revision, product testing, product revision, and mass production. The outcome of this research, the Design and Development of an Adobe Animate-based fresh water generator application, indicates that the process of creating a simulation application for the fresh water generator using Adobe Animate can be accomplished on all types of computers with the Microsoft Windows operating system. Furthermore, the operational aspects of this simulation application can be executed on computers running the Microsoft Windows operating system without the need for an internet connection.

Keywords : design and development, application, fresh water generator, simulation, adobe animate

Analysis of the Occurrence of Combustion Failure in the Steam Boiler at KM. Nggapulu |

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Abstract

The availability of steam is crucial for the smooth operation of devices requiring hot steam. The operational activities of a ship can be hindered if the production of hot steam is insufficient due to problems arising from inadequate maintenance or other reasons, leading to the failure of combustion in the steam boiler. The objectives of this research are: 1. To identify the factors influencing the failure of combustion in the steam boiler on KM Nggapulu. 2. To understand the consequences of the combustion failure in the steam boiler on KM Nggapulu. 3. To ascertain the measures taken in the event of combustion failure in the steam boiler on KM Nggapulu. The research method employed in this thesis is qualitative. The data sources include primary and secondary data. Data collection techniques encompass observation, interviews, and documentation, ensuring the validity of the data. Based on the research conducted, the following conclusions can be drawn: The causes of combustion failure include irregular implementation of Planned Maintenance System (PMS), contamination of main burner components (automizer, electrode, solenoid valve), clogged exhaust gas pipes due to soot, excessive air composition in the furnace due to exhaust gas pipe blockage, poor fuel quality, and irregular cleaning practices. The impacts of boiler combustion failure involve operational difficulties for systems dependent on hot steam, inadequate hot steam supply for passenger or crew accommodation, and viscosity issues in MFO (Marine Fuel Oil) due to inadequate hot steam. Remedial actions that can be taken include checking and maintaining the automizer, inspecting and maintaining the main burner (electrode and nozzle), cleaning the fuel heater, replacing the solenoid valve, reducing fuel viscosity, and cleaning the steam boiler exhaust gas duct

Keywords : Analysis, Disturbance, Combustion, Boiler.

Analysis of I-V on Basic Electrical Circuit Using Ni Multisim App in Apply Physics |

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Abstract

Utilization of the NI Multisim application is useful for designing a circuit, starting with designing schematic circuits, analyzing and simulating. Increasing the use of technology so that it is very much needed in physics learning at the Polytechnic of Maritime Sciences on electrical circuit material. This study aims to measure and characterize I-V currents in an electrical circuit by comparison with laboratories and multisim applications. Research activities were carried out using the I-V Current and Voltage comparison analysis method using theory in the manual formula, practice with the circuit kit and NI Multisim simulation by building a circuit scheme on circuit composition namely resistance, voltage source and using voltage measuring instruments and current measuring instruments which are all regulated in such a way with reference to the theory of electric circuits. The results of this study are that there is a difference in the total resistance value between the values in the circuit kit module practice with the use of Multisim. But the difference is very slight with an error of about 1% for series circuits, about 4.4% for parallel circuits. Voltage values in series circuits using NI Multisim circuit kits and applications have differences with errors ranging from 0 to 3.3 %. The comparison of the voltage values in direct measurements of the circuit kit and the NI Multisim simulation has the lowest error of 0% and the highest of 20% at the 6V source in R2.

Keywords : Electrical Circuit, Ni-Multisim, Current, Voltage

Identify the Cause and Effect of Detonation in Main Engine |

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Abstract

In the process of shipping the main engine must always be maintained in prime condition to support the smooth sailing of a ship. In the main engine, there are often oddities or things that are not common in the main engine, one of which is knocking. The purpose of this study is to identify detonation that occurs in the main engine, analyze the causes and consequences of detonation. The research method used in this research is qualitative method. Sources of research data obtained from data collection techniques through observation, interviews, documentation, data validity techniques using internal validity. The place and time of the research was conducted at MV. Tanto Hemat for one year. SWOT method to analyze various factors that can be used as options in optimizing blasting systematically against Strengths, Weaknesses, Opportunities, and Threats. The results of the study identify detonation that occurs in the main engine, namely ignition delay, pre ignition occurs in the main engine. Factors that cause detonation in the main engine are poor fuel quality, high pressure and temperature in the engine combustion chamber, improper combustion timing. The impact caused by detonation on the main engine is detonation will cause an increase in fuel consumption, damage to engine spare parts, carbon build up in the combustion chamber.

Keywords : Knocking, Detonation , Timing

Ensuring Safety and Compliance: Material Safety Data Sheet (MSDS) Implementation in On-Board Blending of Peralite (RON90) |

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Abstract

The high public demand of Peralite (RON90) has significantly increased, causing Indonesia should choose to import, one is from Jamnagar Sikka Marine Terminal, India. In application, the loading port uses on board blending technique of mixing cargo with additives to achieve the desired octane number. According to the International Safety Guides for Oil Tankers and Terminals (ISGOTT) 6th edition chapter 12.1.6.15, the ship is not designed as a blending instrument, which in its operation experiences several incompatibilities that pose a risk of danger. As a mitigation, cargo manufacturers include Material Safety Data Sheet (MSDS) or work safety guidelines before operations begin to be understood and realized by all parties involved. The research method used in this research is a qualitative method with an explanative pattern. The unavailability of personal protective equipment (PPE) in accordance with the MSDS, the lack of blending facilities from the terminal and also skilled personnel, lack of awareness and familiarization with the MSDS itself causes several impacts during its operation, including health threats, environmental stability, and even material losses that will be obtained by the company. So it is necessary to apply and actualize the implementation of MSDS on board, as well as create good harmonization between the company and the terminal, so that this blending procedure can run optimally and produce fuel products that are in accordance with specifications.

Keywords : Blending, Risk, Material Safety Data Sheet.

Solar Power Generator as an Alternative Energy Source for the Propeller Driver Motor |

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Abstract

Solar Power Generation is one of the renewable energy modes currently being extensively developed. This is due to various environmental issues caused by non-environmentally friendly fossil fuel energy sources. The purpose of this research is to support efforts in reducing the use of fossil fuels by designing a model of an electric main engine using Solar Power Generation (PLTS) and understanding the working system of this design. The research method used is the Research and Development method, consisting of 10 stages. These stages include information gathering, product planning, initial product form development, initial testing, initial revisions, main testing, major revisions, testing and validation, final revisions, and product implementation. The results of this research include the process of designing the model, starting with assembling electronic and mechanical components and integrating them into the ship's body as a system. The working system of this design involves converting solar energy into electrical energy, which is then used as the energy source to drive the ship's propeller.

Keywords : research and development, solar power plant, solar power generation system, propeller driver motor

Enhancing Burner Efficiency on Marine Vessels: A SWOT Analysis Approach |

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Abstract

As the main heat source on board, the Thermal oil heater has a burner that is responsible for the combustion process. The burner has an important role in the operation of the Thermal oil heater. However, several problems were found in its operation, such as decreased performance and inefficient maintenance on the burner, which caused obstruction of ship operations and had an impact on company losses. This study aims to find a performance strategy for the burner to operate optimally. Based on the burner manual book found on the ship and the theory put forward by experts. This research is a qualitative study, using the SWOT method to analyze internal and external factors. To find out the cause of the decline in burner performance and also to find out the right maintenance management to prevent degradation of the burner. This research used observation, interviews, literature reviews, and documentation for data collection. Based on the author's observations using findings, manual books, and several related journals as data sources, he also interviewed several crew members as validators as well as for comparisons. The conclusion of this research is that by maximizing maintenance time and the accuracy of maintenance time according to the running hours in the manual book, The importance of maintenance has a significant influence on the optimization of the burner, but coordination with the maintenance team is also important.

Keywords : Burner, Manual Book, Thermal Oil heater

Analysis of Causes of Combustion Failure in Burner Incinerators at MT. JS Ineos Innovation |

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Abstract

Incinerator is an auxiliary machine designed as the main combustion chamber to burn wasted oil after going through the heating process in a sludge incinerator tube. The use of the incinerator on the ship aims to burn the waste on the ship and also burn dirty oil. Based on the author's research, the operation of the incinerator on board is still not optimal due to the failure of the combustion in the incinerator burner. This study aims to find out the causes and efforts to solve the problems raised by researchers, namely combustion failure in the incinerator burner at MT. JS Ineos Innovation. This study used a descriptive qualitative method. By using fishbone analysis techniques, researchers identified the factors and efforts made related to combustion failure at the Incinerator burner at MT. JS Ineos Innovation. Source of data taken from primary and secondary data. Data collection was carried out by interviews, observation, documentation, and literature study which was carried out during the research. Based on the research results, it can be concluded that combustion failure in the incinerator burner is caused by several factors, including a dirty burner nozzle, damaged steam valve, decreased steam supply from the steam service line, and jammed piston valve in the sludge dosing pump incinerator. Efforts made to overcome the occurrence of combustion failure at the incinerator burner are carrying out cleaning of the incinerator burner, carrying out maintenance or replacement of the steam valve, increasing the steam intensity from the steam service line to the inlet heater incinerator, and carrying out maintenance and repair of the piston valve in the sludge dosing pump incinerator.

Keywords : Incinerator, Qualitative Method, Combustion Failure

Design of the Si-PDKT Application for the Memorandum-in Validation Process when Inspection of Ship Documents |

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Abstract

Arriving Vessel Document Inspection System (Si-PDKT) is a web-based application that is implemented by utilizing information technology as a supporting tool for optimizing memorandum services in the process of inspecting arriving ship documents at the Class II Cirebon Harbormaster and Port Authority Office. The purpose of developing the Si-PDKT application that will be implemented in KSOP Class II Cirebon Section Legal Status and Ship Certification is more efficient management of ship data, digitally stored ship documents, avoiding document loss, facilitating the management of ship transactions, conducting validation and verification quickly. The method used is development research. In development research, a system design is carried out which is carried out in several stages based on an analysis of the needs of the system to be used. The stages are divided into 3 main stages, namely infrastructure requirements, system creation, and application usage. The research results show that the Si-PDKT that was built can be accessed at the address <https://sipdkt.ksopcirebon.id>. The stages of using Si-PDKT are 1. creating an account via email, 2. the user uploads the company decree, 3. after being verified the user changes the profile, 4. on the company data menu, the user can choose the company where it works, 5. on the ship data menu, the user can add ships, 6. on the menu data memo-in contains the ship's data along with the documents and the memo-in. 7. If it has been filled in, a memo-in history will appear. At the end of verification from the operator, a verification status will appear where there is a color change following the verification status, and if you click on verification, the verification history will appear. If it has been verified as final, then the Memo In document can be downloaded.

Keywords : web application, KSOP Cirebon, Si-PDKT

Ballast Pump Performance Optimization Strategy for Smooth Ship Operations in MV. DK 03 |

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Abstract

Operation of the ballast pump if it is not optimal will disrupt the stability of the ship and be very detrimental to many parties such as endangering the ship and crew, resulting in a very fatal loss, namely the sinking of the ship. The research method used is a qualitative method, to analyze the ballast pump performance optimization strategy for the smooth operation of the ship at MV.DK 03. Researchers use the SWOT method. To use a questionnaire with the slovin formula as a data collection technique, taken from semester VII cadets of the Semarang Shipping Science Polytechnic with a population of 95 cadets and a sample of 83 cadets. Research objectives: a) to analyze ballast pump maintenance in ship operations, b) to analyze the impact of ballast pumps that are not optimal. The results of the study concluded that the factors that caused the ballast pump's performance to be not optimal were interference with damaged seals, the crew's lack of experience and understanding of proper operating procedures. Disturbance to the stability of the ship can have an impact on the ship being unstable and can delay the loading and unloading process. The strategy that can be given is to anticipate internal and external factors that affect the performance of ballast pumps in order to reduce or avoid the impacts that occur, carry out periodic and scheduled plain maintenance systems for ballast pump components that are prone to damage.

Keywords: Optimization Strategy, Ballast Pump, SWOT

Optimization the Handling Process of Making Seafarer Identity Documents for Ship Crews at PT. Aweidhia |

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Abstract

Seafarer Identity Document (SID) is an important document that every crew member must own as official identification in carrying out duties at sea. PT. Aweidhia, a shipping company that focuses on recruiting ship crews, faces challenges in the SID manufacturing process that affect the efficiency and speed of service to ship crews. This study aims to optimize the procedure for making SID on ship crews at PT. Aweidhia. In this study, the research method used is a case study with a qualitative approach. Data were collected through interviews, observations, documentation and literature studies, the data collected were analyzed using SWOT analysis techniques to determine strategic factors of optimization in making SID. The results showed that the procedure for making SID at PT. Aweidhia experienced several obstacles, among others, the time needed was quite long, data collection needed to be more manual, and lack of human resources. Therefore, the author proposes several improvement strategies, such as using online ebsites and adding staff. As a result of the SWOT analysis, the process of making SID procedures is in a progressive strategy position, meaning that obstacles in optimizing SID making can be overcome because of tscannableble to take advantage of its strengths and opportunities. It is hThes of this study can provvaluableeful recommendations Aweidhiaeidhia in optimizing the handling of SID manufacturing procedures for ship crews. By implementing the proposed improvement strategy, the process of making SID is expected to be more efficient.

Keywords: Optimization, Seafarer Identity Document, efficiency, effectiveness

Prototype of Firing Automation and Water Level on the Boiler Using the Microcontroller |

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Abstract

This research starts from the framework of thinking while the writer was in internship program at sea in MV. TELFORD 25 OFFSHORE. The writer found several impacts in technological developments on the field of Technical, such as renewal of machinery that can operate efficiently. Main machinery technology and auxiliary machinery greatly support the work of crew members and fleet travel operators. One example of auxiliary machinery used is the boiler, which functions as a steam generator. The purpose of this study is to understand and explain the development process, understand the working principles, and understand the benefits and objectives of the development process as a learning method for prototype firing automation and water level in boilers using the microcontroller. The method used is research and development (RnD) with a procedural research model that outlines the coherent and gradual manufacturing steps from start to finish. Furthermore, the feasibility test of the props was carried out using a questionnaire and the value of the respondents' answers was calculated to determine the feasibility value. Based on the results of the due diligence of the respondents obtained 82.2%. This shows that respondents are very interested if this learning aid is used as a learning medium. and the overall results of this study have met the requirements in the very feasible category.

Keywords: Boiler, Microcontroller, Research, and Development (RnD), Prototype

Analysis of the Cause of Connecting Rod Fracture in Central AC Compressor on MV Ship. DK 02 |

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Abstract

The primary air conditioner, commonly known as the central air conditioner, is an air conditioning machine that can be controlled from one point of place and distributed centrally throughout the ship's accommodation. The compressor is the central part of the leading air conditioner; damage to the connecting rod makes the performance of the central air conditioner cannot be used on board. This study aims to determine the causes of connecting rod failure factors, the impact of connecting rod fractures, and efforts to handle connecting rod failure in the central AC compressor. The research method used in this thesis is a qualitative method with a descriptive pattern. Research data sources are obtained from primary and secondary data. Data collection techniques through observation, interviews and documentation, and literature studies. The data analysis technique used is by systematically searching and compiling all data obtained from interviews, field notes, and other relevant material sources so that the data is easily understood and can be informed to others quickly, which is supported by the use of fishbone data analysis methods and ultrasound (Urgency, Seriousness, Growth). They are testing the validity of data using the triangulation method. The conclusion of the results of this study, several factors cause connecting rod failure in the central AC compressor, namely, wear on the compressor bushings, not optimal lubrication of the compressor, the use of used compressor spare parts, the addition of refrigerant not according to procedures, lack of understanding of the ship crew on the central AC centraltenance procedures, and the conditions of the primary AC environment. Then it is known the internal impact of damage to the crankshaft, damage to valves, scratching of cylinder liners, and external impacts of inconvenience and disruption of air productivity, and deterioration in air quality. The efforts to overcome the causes of connecting rod failure in the compressor include replacing compressor bushings, replacing oil carter packing, planning the procurement of central AC compressor spare parts, being more thorough in adding refrigerant, increasing crew understanding of the central AC centraltenance, and adding cooling media in the air handling unit room.

Keywords: central air conditioner, compressor, connecting rod, qualitative.

Factors Affecting Internal Maintenance and External Conditions on Reverse Osmosis Performance on the MT. Sele |

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Abstract

Reverse Osmosis is the process of making fresh water by splitting water and salt through pressure in a semipermeable membrane. This research uses quantitative methods, researchers conducted research at the time of marine practice in the company PT. Pertamina International Shipping from August 12, 2021 to August 25, 2022. Meanwhile, the data analysis in April 2023 uses Statistical Product and Service Solution 26 (SPSS 26) with multiple linear regression analysis techniques. The purpose of the study: a) to determine how much influence internal maintenance has on the performance of Reverse Osmosis on MT ships. Sele, b) to find out how much influence external conditions have on the performance of Reverse Osmosis on MT ships. Sele, c) to determine how much influence internal maintenance and external conditions together have on the performance of Reverse Osmosis on MT ships. Sele. Based on the results of multiple linear regression analysis, it can be concluded that the coefficient of internal care variables on reverse osmosis performance has a positive effect of 21% and the coefficient of external condition variables on reverse osmosis performance has a positive effect of 34%. Based on the test results, the coefficient of determination of the adjusted R Square value is 0.507. This shows that the contribution of variable influence by 50.7%, the remaining 49.3% is influenced by other variables that are not contained in the study.

Keywords: Reverse osmosis, Internal maintenance variables and external conditions, multiple regression analysis.



Track: Occupational Health and Safety

Implementation Permit to Work System as A Work Accident Prevention on Board Ship |

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Abstract

Permit to work system is a formal written system that contains procedures, identification and permit related to the type of work that is considered to have a risk of danger. By not applying permits to work optimally, it will increase the risk of work accidents. This study aims to determine the causes and effects of the non-optimal application of permit to work and efforts so that permit to work can run optimally so as to prevent work accidents. The research method used in this study is a qualitative method with a descriptive pattern. Research data sources are obtained from primary and secondary data. Data collection techniques through observation, literature study, interviews and documentation. The data analysis techniques used are by collecting data, reducing data, presenting data and drawing conclusions. Testing the validity of data using the triangulation method. The results showed that the lack of crew knowledge about permit to work, lack of crew awareness and concern for safety, lack of supervision and coordination between crew and officers are the reasons why permit to work cannot run optimally. The impact of not optimal permit to work is work accidents which not only cause physical losses but also material losses. Efforts that can be made to optimize this are by carrying out familiarization, training and competence, as well as psychological approaches through motivation and sanctions then by improving supervision and coordination between crew and management on board through toolbox meetings and safety meetings.

Keywords : Optimal, Permit to Work, Work Accident

The Analysis of Barge Misha's Anchor Loss Incident off the Coast of Pagerungan Island from the Perspective of Quality Health Safety Environment (QHSE) |

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Abstract

Quality Health Safety Environment (QHSE) is a safety management enforced by a company to control safety at work by identification the hazard and risk cause working activity. The use of QHSE is needed in the resolving process of an accident that happened on the Barge Misha. This research aims to find the factors of wire breaks of Barge Misha and the efforts of handling the incident according to the QHSE function in PT. Transcoal Pacific. This research used a qualitative research method by describing an aspect obtained from observing, interviewing, and documenting through a series of sentences. The researcher involved 4 resource persons in the interview sessions, the Operation Manager, HSE Staff, Technical Staff and Captain of TB ETI 307- BG. Misha. Then, the researcher used data reduction techniques, presented data, and drew conclusions to analyse the data. The result of the research shown that the factors causing the incident loss of Barge Misha Anchor are human factors, method factors, machine and equipment factors, and environmental factors. PT. Transcoal Pacific has carried out the QHSE function in handling the incident by making efforts and prevent such incidents do not recur. Therefore, efforts can be done are company supervises the control of the implementation of safety meeting carried out regularly by HSE, technical, operation division and ship's crew. The company increasing the crew's knowledge of the anchoring procedure especially when it happens in emergency conditions, through the HSE and technical division. The company need to control ship maintenance according to schedule and monitored by technical division. The company needs to regularly improve machine and equipment that worn or rusted and replace the machine or equipment that does not conform with the standard of Badan Klasifikasi Indonesia (BKI).

Keywords : Quality Health Safety Environment, Wire, Barge, Safety

Implementation of ISM Code (International Safety Management) Code for the Safety of Crew and Passenger on KM Sinabung |

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Abstract

ISM (International Safety Management) Code is a rule that regulates safety on board ships. The ISM Code is useful for improving safety on board ships, especially for passenger ships which have the main priority of maintaining the safety of the lives of passengers in particular and the ship's crew in general. But in its application, there are several factors that hinder the implementation of the ISM Code. This study aims to determine how the implementation, inhibiting factors and steps that can be taken to improve the implementation of the ISM Code on KM Sinabung. The research method used in this research is descriptive qualitative method. Data sources were taken from primary and secondary data. Data collection techniques through observation, interviews and documentation studies during researchers carrying out sea practice at KM. Sinabung. Data analysis techniques used are data collection, data reduction, data presentation and conclusion drawing. Testing the validity of data using the source triangulation method The results showed that the implementation of the ISM Code on board KM. Sinabung has been implemented but not yet optimal, Lack of knowledge, awareness and supervision of the crew related to safety is a factor inhibiting implementation on board KM. Sinabung is not optimal. So that efforts that can be made to improve the implementation of the ISM Code are to carry out safety induction, maximize training and competence, install safety posters to provide strict sanctions against violators so that the implementation of the ISM Code can be carried out optimally.

Keywords : implementation, ISM Code, safety

The Perspective of Food Delivery Courier in Semarang toward Safety Riding |

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Abstract

Abstract The Gig-economy creates many e-commerce that makes the increasing number of couriers including food delivery courier. This group is potential to have or near miss crash accident. This study explored the perceptions of food delivery courier in Semarang about safety riding. In this study, 50 participants were chosen using the purposive sampling method. Web-based questionnaires were deployed to collect data. The questionnaire to elicit about the participants' perceptions and the work experience as well as the training. Data were analyzed using descriptive statistics. The result of the study revealed that courier had a positive perception towards the use of safety riding. Most of them agree that they should obey the rules to make them safe and use the safety riding equipment such as helmet, jacket, gloves, and shoes. However, some of them still had negative perceptions about the work load and the speed limit in riding. Some of them think that they can have maximum speed in work although it will not be safe for them. Many courier also think that it is OK to work in more than two work places. The recommendation it to give them the training about safety riding.

Keywords: Keywords : perception, e-commerce, courier, safety

Analysis of the Lack of Skilled Crew in the Use of Safety Equipments in MT. Kirana Tritya |

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Abstract

The number of accidents that occur on board due to human error that does not comply with the rules that have been applied which results in less error to the crew in the use of safety equipment. As happened to the MT. Kirana Tritya made a mistake in the use of safety equipment during the drill which resulted in an accident to the crew. The research method used to conduct this research is qualitative description. Research sources are obtained from primary data and secondary data. Data collection techniques use the triangulation method whose research is carried out by observation, interviews, and documentation. Data analysis techniques obtained use data collection, data reduction, data presentation, and conclusions. The human factor plays an important role as an operator of safety equipment on board, if the crew or crew on board does not have sufficient understanding and skills that do not meet the standards so that it will affect the smoothness and safety of the crew when conducting drills / safety drills, and the use of safety equipment on board becomes less than optimal. To reduce the risk of accidents during drills caused by the lack of understanding of the crew about the procedures for using safety equipment, it is necessary to have further familiarization with the crew and increase the ability of the crew to be able to drill and be able to use safety equipment in accordance with the correct procedures so that drill activities on board become optimal.

Keywords: analysis, skill, safety equipment 's.



Track: Transportation Material Technology

Maintenance of Water Distribution Device and Shaft System at MDO Purifier on MV. Tanto Mitra |

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Abstract

Purifier is one of the separators used on ships to separate fuel from water and dirt in the ship's fuel system. The purpose of this study is to determine the factors that cause damage and efforts to overcome problems in the Water Distribution Device caused by O-rings damaged seal and Shaft System due to damaged spiral gear and bearing on M.D.O Purifier at MV.Tanto Mitra. The research method used in this study is a qualitative case study method. Sources of research data were obtained from primary and secondary data including observation, literature study, ship documentation, and interviews with technical personnel responsible for maintenance of the M.D.O Purifier. The data obtained were then analyzed to identify problems and factors that influence its performance using Fishbone analysis. The results of this study indicate that the factors that cause damage to the Water Distribution Device and Shaft System in the M.D.O Purifier at Mv.Tanto Mitra are the lack of routine purifier maintenance according to PMS, the operation does not comply with S.O.P and the lack of purifier spare parts and crew engine communication for purifier maintenance. Through optimal maintenance, it can increase the operational efficiency of the purifier, reduce the risk of disruption, and extend the life and performance of the purifier to remain optimal on ship.

Keywords : Purifier, Water Distribution Device, Shaft System, Maintenance.

Automatic Water Ballast System Based on Arduino R3 |

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Abstract

In this modern era, technological development is very rapid, and many changes occur in the field of technology, especially in human life, which of course also applies in the maritime field. Technology is something that is very important to facilitate affairs in activities in human life so that everything that exists can be completed quickly, easily and effectively. Of course, the development of this technology is very much the ability to carry out important infrastructure to improve the quality of work and time efficiency. Technology is also very useful in the business field, because with the development of technology people will more easily get to know each other. This study aims to find out how the ballast filling system works and find out the components in the tool. The mode used is the Research & Development (R&D). Based on the findings and results of the study, it was concluded that the ballast system is a tool used to increase the stability of the ship and increase the G force to be easily controlled at the equilibrium point of the fast or dismantled ship structure. The design of water ballast system operation aids is carried out sequentially in each manufacturing process and has been adjusted to the problem formulation. This teaching aid is very useful as a learning medium so that the material is easier to understand because it is demonstrated using real teaching aids.

Keywords : water ballats auto, prototype, learning media

Design of the Process of Ascending and Descending of Davits on Lifeboats Automatically |

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Abstract

The Davits on lifeboats is a tool for lowering a lifeboat where the Lifeboat is a means of rescue when an accident occurs on the voyage. A lifeboat is a boat designed to save human lives in case of trouble at sea. Lifeboat generally refers to a vehicle carried by a larger ship for use by passengers and crew in an emergency. Researchers here use the RnD method, starting research at the time of marine practice on the MT ship. Fortune Pacific xlix when researchers practice, researchers began to make observations of lifeboats and goddesses on board. Researchers began to make a frame of mind to design goddesses on lifeboats automatically, after that researchers made skeleton designs of lifeboat goddesses, and carried out mechanical and electronic designs, researchers also tested mechanical and electronic devices, after testing. Researchers began to find problems in goddess poles and ropes, then researchers revised the product, after revising the product. Researchers make product improvements. The process of making the design of the rise and fall of the goddesses on the lifeboat automatically through data collection methods in the form of observation, documentation and data analysis methods begins with the design of the tool design in the form of the tool making stage, trial stage and evaluation stage and has been validated by Mr. Anang Budhi Nugroho M.Eng as a lecturer at the Semarang Shipping Science Polytechnic and in the process of making goddesses on the lifeboat automatically is also assisted by Nur Rokhim is a programmer who is currently carrying out education at UNNES. The suggestion for use in this design is not only to be applied to the system of rising and falling goddesses on lifeboats but can be applied to the shipping industry which in its work intersects goddesses on lifeboats. Then the important process is to make an initial concept of the design model that will be made automatic by relying on electronics and mechanics on the tool.

Keywords : Procedure, Process, Lifeboat Davits

Causes of Leaks in the Main Engine Cooling Jacket Main Engine MT. Mulia Karsa 2 |

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Abstract

Between the cylinder wall and the cylinder block is an intermediary cooling device called the primary cooling jacket of the main engine system. Here, the cooling fluid is able to draw heat away from the cylinder wall and continue its circulation. Due to an issue with the jacket cooling of the primary engine system, ship operations had to be suspended for maintenance, prompting the current investigation. The study aims to pinpoint the root causes of jacket cooling leakage in the main engine and suggest viable countermeasures. Observation, interviews, and reviews of relevant literature are just a few of the methods used to gather information. The study took a descriptive, qualitative approach, using tools like SHEL and the fishbone diagram to analyze data. According to the results of this research, a lack of attention to the planning maintenance system for the main engine, o-ring deterioration in the jacket cooling main engine system, corrosion of the cooling jacket, rust formation in the tank, suboptimal water pre-heating temperature, and a lack of maintenance all contribute to leaks in the main engine cooling system. Several variables contribute to the main engine's less-than-ideal cooling efficiency. Damage to the jacket cooling system's o-ring or a leak in the cooling jacket cooling system are two examples of these problems with the primary engine system. In addition, the primary engine cooler's cooling water jacket is of subpar quality, and its circulation is subpar as well. In addition, the exhaust gas temperature from the main engine is inconsistent, and rising temperatures have not yet resulted in the engine's shutoff. The primary engine system performs maintenance at the specified intervals specified in the handbook to handle problems with jacket cooling leaks. O-ring and cooling jacket replacement, chemical dosing, water pH testing, and routine temperature checks are all part of the maintenance process.

Keywords: Analysis, Leakage, Jacket cooling

Electric Steering Gear Prototype Based on Arduino Microcontroller |

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Abstract

Globalization has led to the advancement of science and technology in all aspects of human life. The rapid development of science and technology significantly influences both learning methods and employment. As a result, many effective learning methods are being utilized, and one of them is the control system in electric steering gear, which enables the remote control of auxiliary machinery. Therefore, the creation of a demonstration tool for auxiliary machinery on ships is highly suitable for the era of globalization. The type of demonstrative tool created by the author is an updated version of the electric steering gear with remote control capabilities. The Research and Development method is employed in this study, which involves a process or steps to develop a new product or improve existing ones, including both hardware and software components. The model used in this development research is the procedural model, outlining the sequential and gradual steps from the initial process to the final one. The construction of the demonstrative tool for the updated electric steering gear involves three electronic modules: the ESP 8266 module, the Servo Motor, and the Wi-Fi module. The ESP functions as the microcontroller, the Servo Motor is responsible for the steering direction and angle position control, while Wi-Fi serves as the control medium. The author has made improvements to the electric steering gear demonstrative tool, which typically uses a lever, by implementing smartphone control as a substitute. The working system of this demonstrative tool is to set the degree of the steering angle position and respond to control signals by moving the shaft to the desired position. This system functions with the support of the automation control system provided by the electronic modules.

Keywords: Props, Electric steering gear, electronics module

The Effect of Turbocharger Maintenance in Combustion Process on the Main Engine at MT Giat Armada 01 |

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Abstract

The main engine is the main mover that functions to convert mechanical power into propeller drive so that the ship can move using the combustion system as a power source. This power comes from a mixture of fuel and air and heat in the combustion chamber. To produce maximum combustion, one of the important factors in combustion is the availability of sufficient air to the combustion chamber. One of the main engine parts that functions as an air pump in the combustion process is the turbocharger. The turbocharger is the main component of the main engine that is useful for flowing air into the combustion chamber to get as much oxygen as possible for an efficient combustion process so that engine power increases. This study aims to find the factors that cause the decreased performance of the turbocharger so that combustion is not optimal. By using the SHEL approach to facilitate data analysis techniques and the method used in this study is qualitative descriptive. Based on the results of observations, interviews, and documentation conducted on turbocharger maintenance, the cause of non-optimal turbocharger on the main engine is poor lubrication and the appearance of soot on the turbine wheel blades and turbocharger ring nozzles as well as lack of maintenance of the combustion support system, resulting in dirty turbine wheel blades and turbocharger ring nozzles and resulting in a decrease in air pressure entering the combustion chamber. From these problems, it can be concluded that maintenance of the turbocharger work support system needs to be carried out periodically and in accordance with the manual made, to identify problems as early as possible and prevent more damage.

Keywords: Turbocharger, Combustion, Main engine, SHEL

Coal Discharging in Rembang Sluke Port with Conveyor and Excavator as Electricity Generation in PLTU |

Suharto¹

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Abstract

The first objective of this research is to improve the method of discharging coal at the Rembang PLTU, which is one of the business units of a subsidiary of PT PLN located in the Sluke sub-district, Rembang Regency, Central Java Province. It maps out the dimensions of the discharging speed using a conveyor and an excavator. The data collected through a survey to coal shipping companies is regressed in the Linear Regression model. The results show that two characteristics of the discharging service with conveyor and excavator affect time and cost (1) the length of time for discharging coal (2) the cost of discharging coal. Qualitatively and quantitatively on a primary secondary basis by means of direct observation in the field and data collection then the data is processed using multiple linear regression, the targeted contributions are national journals, national seminars, monographs

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Keywords: Efficiency of unloading power, time and cost.

The Role of a Mentor in Guiding Cadets to Fill out Reports in The IP MAN Application at MT Meditran |

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Abstract

All actions performed on the ship must be recorded through activity reports submitted by the ship's crew to the company's headquarters. The requirements to become an officer on a ship are to undergo training and have practical experience at sea for at least one year, with the aim of developing and shaping future maritime officers who have a global understanding. The method used in this thesis research is qualitative descriptive, using field research as a data collection technique, which involves interviews, observations, and documentation. Based on the research findings and data analysis, it can be concluded that the role of mentors in guiding cadets is still challenging due to their lack of understanding of the application usage. However, the IP MAN application functions help alleviate the duties of mentors on the ship because reports can be accessed through the application. The use of this application is also relatively easy and can be quickly learned if mentors are motivated to master it. Thus, mentors can work effectively and efficiently in carrying out their tasks and responsibilities on the ship.

Keywords: role of Officer, report filling, IP MAN application



Track: Transportation Facilities and Infrastructure

Analysis of the Effect of Equipment Readiness on the Tank Cleaning Process (Case Study of MT. Akra 102) |

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Abstract

Tank cleaning is defined as the activity of cleaning tanks from residues of previous cargo, including cleaning and checking pumping equipment, heater equipment, filling pipes, ventilation pipes and auxiliary engines. During the tank cleaning process there were many obstacles such as the tool not working normally, the crew's lack of knowledge, and the tank not being clean and dry which resulted in an attack on the loading process. The purpose of this study was to determine the effect of equipment readiness on tank cleaning. The research method used in this research is descriptive method with a quantitative approach. Sample data processing uses the IBM SPSS 26 application. Data collection techniques are carried out by giving questionnaires to respondents. The results showed that equipment readiness had a significant effect on the tank cleaning process.

Keywords : equipment readiness, tank cleaning.

Towing Pin Optimization Strategy in SV. Triton 501 |

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Abstract

AHTS (Anchor Handling Tug Supply) is a ship specifically designed to support the operation of offshore building systems. Supply vessel or AHTS equipped with a towing pin, shark jaw. Towing winch, anchor handling winch, tugger winch, are very supportive to assist work activities in the offshore industry (platform or rig). The purpose of this research is to analyze the factors that affect towing pin performance, what impacts can occur if the towing pin is not optimal, and the towing pin optimization strategy. The research method used is a qualitative method. This study uses the SWOT method (Strength, Weakness, Opportunity, and Threat). The results showed that the factors that caused the towing pin performance was not optimal due to several factors, including not optimal selenoid valve, dirty filters, mud in the towing pin gap, leaks or blocked hydraulic pipes, dirt in hydraulic oil, availability of spare parts, and human resources error. Advice that can be given is to anticipate internal and external factors that affect the performance of the towing pin in order to reduce or avoid the impacts that occur, learn how to handle components related to the towing pin directly, and carry out regular and scheduled system maintenance plans for hydraulic components, the towing pin is prone to damage.

Keywords : AHTS, towing pin, SWOT

Analysis of The Pilot Fall from The Pilot Ladder While Climbing to The Board of MV Van Star in The Rouen River Area |

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Abstract

Therefore, it is important to take care to protect both the equipment and current human resources on board given how often it is for work accidents to happen there, particularly during the pilot transfer phase. especially causing severe pain for everyone who is exposed to it, as in workplace mishaps involving stairfalls, stairway sliding, or other contributing elements like sea waves and wind speed. The goals of this study are to identify the variables that lead to pilot falls, how to maintain pilot ladders, and how to enable pilots to board ships securely. In order to ensure that the research process is in line with the facts, researchers employ theoretical underpinnings as guidelines and qualitative approaches that place a greater emphasis on technical factors. when conducting field research, where information is gathered through observation, documentation studies, interviews, and literature reviews. To address the problem formulation, the gathered data was then examined utilizing a fishbone diagram analysis technique. This study shows that during the manoeuvring of the MV pilot pick-up, pilot falls from the deck side of the boat via the pilot ladder. Van Star in the Rouen River area, specifically internal factors, such as a lack of safety awareness and disregard for pilot ladder pilots, and external factors, such as the ship was engaged in the process of manoeuvring a pilot pick-up, which resulted in the creation of high waves as the boat pilot approached. This demonstrates that the upkeep and use of the pilot rung Specifically, a deeper understanding of pilot ladder arrangements and performing PMS (plan maintenance system), notably on pilot ladders, are necessary if the ship's draft exceeds the prescribed limit in order to prevent the accident.

Keywords: Pilot, Pilot Ladder, Maintenance, Solutions.

Optimization of Lifeboat Maintenance at MV Dobonsolo | Tri Cahyadi¹, Samuel Palembang², Yozar Firdaus Amrullah³, Wejang Miryan Febriviantino⁴

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Abstract

This research was motivated by the maintenance of lifeboats on board which was less than optimal. This was proven when the Marine Inspector checked the lifeboat on board in the Java Sea on March 20, 2022 after the ship departed from Makassar Port to Tanjung Perak Port, 2 of the 12 lifeboats on board could not be hibernated, so the ship received Non-Conformity (NC). The purpose of this study is to find out how the implementation of lifeboat maintenance at MV Dobonsolo, the obstacles encountered in carrying out the treatment, and how efforts need to be made to overcome these obstacles. The research method used in the preparation of this thesis is qualitative descriptive by using triangulation (observation, interviews, and documentation) in data collection techniques, as well as using data reduction, data presentation, and conclusion drawing in data analysis techniques. The research conducted found that the maintenance of lifeboats at MV Dobonsolo was not optimal. The obstacles encountered include a large number of lifeboats, but the maintenance time is less due to the limited daily working hours of Senior Third Officer, the crew does not understand the lifeboat maintenance procedures, and the unavailability of spare parts on board. Efforts that need to be made include dividing the task of lifeboat maintenance between Senior Third Officer and Junior Third Officer, conducting safety meetings and training to the crew regarding the maintenance of lifeboats according to procedures, and asking for spare parts from the company.

Keywords: optimization, maintenance, lifeboat

Identification of Fresh Water Generator Evaporator Damage at MV.SM.Roberts Bank |

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Abstract

The Fresh Water Generator functions to produce fresh water which is used for cooling the main engine and auxiliary engines and is used for purposes such as drinking, cooking, washing on board. The method used in the Fresh Water Generator is the evaporation method, in which fresh water is produced through the process of evaporating seawater using heat from the cooling jacket water. In order to produce fresh water at about 70 degrees Celsius, it is necessary to reduce the atmospheric pressure by creating a vacuum in the evaporation chamber. The research method used in this study is a qualitative method. The sources of research data are obtained from primary data and secondary data. Data collection techniques include observation, literature review, documentation, and interviews, while data validity is ensured through triangulation technique. The data analysis technique used in this research is the Shell model (Software, Hardware, Environment, and Liveware). The results of the research conducted by the author on October 26 2022 concluded that the main factor causing damage to the Fresh Water Generator evaporator plate was the delay in filling the chemical (Ameroyal) which was dissolved with fresh water in the chemical drum. This greatly affects the buildup of salt crust on the evaporator plate. As a result of the delay in chemical filling in the Fresh Water Generator, namely the accumulation of salt scale on the evaporator plate so that the steam produced from the evaporation process decreases because the heat exchange process that occurs on the evaporator plate is hampered by salt crust. To overcome damage to the evaporator plate on the Fresh Water Generator, by carrying out routine checks on the evaporator plate when fresh water production decreases. Next, clean the evaporator plate using a chemical DC cleaner, which is a special chemical for cleaning salt crust. In addition, a chemical solution of sodium polyphosphate (Ameroyal) is used regularly according to the instruction manual book to reduce the salt content on the evaporator plate.

Keywords: Identification, damage evaporator Fresh Water Generator



Track: Transportation Education and Management

Optimization of Cargo Pump Treatment by Hydrochloric Acid (HCL) Loading at MT. Cipta Anyer |

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Abstract

The research is motivated by the occurrence of mechanical seal leakage in cargo pumps, which hampers the efficiency of the loading and unloading process. A mechanical seal is a mechanical component used in various industrial applications, such as pumps, to prevent leakage from the rotating shaft and stationary wall. The research method used in this thesis is qualitative descriptive, employing the SWOT (Strengths, Weaknesses, Opportunities, and Threats) approach to facilitate data analysis. The data collection methods utilized by the author include observation, interviews, and documentary studies to strengthen the data analysis. The objectives of this research are to identify the causes of damage to the mechanical seal, the handling of mechanical seal damage, and the efforts/methods to prevent mechanical seal damage on MT. Cipta Anyer. The conclusion revolves around the causes of mechanical seal damage, the methods to handle such damage, and preventive measures. The causes of damage include surface wear connected to the pump shaft, direct contact of hydrochloric acid (HCl) with the cargo pump, and incorrect installation of spare parts for the mechanical seal. Solutions to address the damage involve identifying the specific issues, replacing with genuine and compliant spare parts, and ensuring proper and procedure-compliant installation. To prevent damage, it is advisable to utilize modern equipment, maintain supervision by engineers, and select experienced crew members.

Keywords : Optimization, cargo pump, mechanical seal,HCl

Developing Application Main Condensate Water System as a Learning Media |

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Abstract

An innovation of learning media through application is the answer to the learning challenges in the digitalization era as well as the impact of the COVID-19 pandemic. In this study, main condensate water system is transformed into a learning media application for simulating the work process, distribution flow, and operation of the main condensate water system on board a ship. This study applied a research and development method using a five-stage research model known as "Mantap". The study was started by conducting an initial study and followed by model development through designing the basic concept of the application. Validation and effectiveness assessments were then conducted to determine whether the application was valid and applicable enough as learning media. The study revealed that the application visualized using Adobe Animate is valid as a learning media. It gained a validity score of 3.25 from the visual design expert and 3.5 from the curriculum experts. Besides, the application was assessed to be effective as a learning media by receiving a validity score of 3.69 from the Marine Engineering students.

Keywords : learning media, main condensate water system, Mantap research method

Identify of the Dropping in Hydrophore Tank Pump Pressure at MT. Inter Armada 01 |

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Abstract

Hydrophore tank or water pressure tank is a tank that functions to store water temporarily, then separate water and air through a membrane so that the air in it is compressed. The water in the tank is flowed into a distribution building. The pump works automatically which is regulated by a pressure detector, which closes/opens the switch of the electric motor driving the pump. The pump stops working when the pressure in the tank reaches a specified minimum. In this system the compressed air will press water into the distribution system and after repeatedly expanding and compressing over time it will decrease, because it dissolves in water or is carried out of the tank. Pressure tank systems are usually designed so that the volume of air is no more than 30% against the volume of a 70% tank filled with water. Factors causing pressure drops in the hydrophore tank pump at MT. Inter Armada 01 is a PMS that is not carried out properly, packing is impermeable, and fresh water pump does not work normally. The impact of lack of pressure on the hydrophore tank is the lack of fresh water supply to the accommodation and disruption of the comfort of the crew. How to prevent pressure drops on the hydrophore tank is to replace damaged components with new ones according to the manual book, periodically check the components and systems of the hydrophore tank so that the hydrophore tank system can run properly and normally again. The method used in this thesis is a qualitative descriptive method with SHEL analysis techniques as a method to determine the cause and efforts to overcome it. The formulation of the problem from this study is the factors causing the lack of pressure on the hydrophore tank, the impact caused by the lack of pressure on the hydrophore tank, and efforts that must be made to overcome the pressure drop in the hydrophore tank.

Keywords : hydrophore tank, metode SHEL, MT. Inter Armada 01

How Vocabulary Size Affect Maritime English Achievement? A Correlational Study of Cadets in Sorong Merchant Marine Polytechnic |

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Abstract

English, particularly in the context of maritime communication, has made a significant contribution to the field of education. Conversely, the efficacy of its educational instruction in Indonesia has been lacking. There are several variables that influence students' proficiency in acquiring foreign languages, and one such factor is the size of their vocabulary. The objective of this research was to investigate the relationship between the vocabulary size of cadets and their achievement in maritime English. The research design employed in this study is ex-post facto. The researcher employed a vocabulary test and assessed maritime English achievement as the primary instruments in their study. In this particular instance, the researcher administered a written examination designed to assess the cadets' vocabulary size. Subsequently, the researcher analyzed the data obtained from the assessment to determine the cadets' performance in maritime English. The findings indicated a statistically significant correlation between the two variables. Hence, the size of one's vocabulary serves as an indicator for the level of achievement that cadets can attain in their proficiency of maritime English.

Keywords : vocabulary size, maritime English, cadet, Sorong

Analysis of Crew Work Performance in Relation to Overtime Working Hours on MV. Manalagi Tisya |

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Abstract

Overtime work refers to working hours that exceed the normal working hours set by company regulations. Overtime work is often necessary to address urgent operational needs or emergencies. The limits of working hours have been established under the MLC 2006, which ensures that each crew member has working hours and rest periods in accordance with applicable regulations. The implementation of structured working hours is crucial to prevent undesirable circumstances. The research method used in this study is a qualitative descriptive method. Data sources were obtained through primary and secondary data. Data collection techniques involved observation, interviews, and documentation conducted by the researcher during sea practice on MV. Manalagi Tisya. The data analysis technique employed in this research is data reduction, data collection, and drawing conclusions. Factors causing overtime work include lack of worker skills, poor work planning, weather conditions, and frequent vessel malfunctions. Efforts to prevent overtime work on MV. Manalagi Tisya involve effective work scheduling, providing job training to enhance the crew's skills, and monitoring working hours to ensure efficient completion of tasks and avoid time wastage.

Keywords: Overtime work, work performance, ship crew.

Implementation of Digitization of Audit Reporting for Supports the Performance of LPSQ Function at PT. Pertamina International Shipping |

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Abstract

Loss Prevention Safety and Quality/Designed Person Ashore (LPSQ/DPA) is responsible for ensuring safety elements on Pertamina International Shipping vessels and ensuring the fulfillment of maritime-worthy documents before ships set sail. This research aims to identify the challenges faced by PT. Pertamina International Shipping in implementing digital audit reporting to support the performance of the LPSQ Function and to determine the benefits of implementing digital audit reporting on the performance of the LPSQ Function at PT. Pertamina International Shipping. The research method used in this study is a qualitative descriptive approach. Data collection techniques include interviews with internal and external sources, observations, and documentation. Data analysis techniques involve data reduction, data presentation, and drawing research conclusions. Data validity testing includes credibility testing, source and technique triangulation, and member checking. This research reveals several challenges in the data grouping process, human errors, and server downtime. The benefits of implementing digital audit reporting on the performance of the LPSQ Function at PT. Pertamina International Shipping include improved audit planning compliance and audit execution fulfillment, resulting in improvements in the audit reporting phase. The improvements obtained from using this application include easy presentation of audit results and more effective and efficient data delivery to audit leaders.

Keywords: LPSQ, Human Error, Server Down.

Ship Crew Placement Optimization in Accordance with Safe Manning at PT. Pertamina International Shipping (PIS) |

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Abstract

Placement of ship crew that is not in accordance with safe manning at PT. Pertamina International Shipping (PIS) is due to the limitations and availability of crew being the main cause of the uneven placement of crew, the lack of crew members who have essential skills or certifications for a particular division, so that an even distribution of ships cannot be achieved. Sending ship crew to carry out tasks on board must be in accordance with existing provisions and procedures. Crew competency certificates (COC) and skills (COP) must have met the validity according to the 2010 STCW amendments. The purpose of this study was to describe the factors that cause the uneven placement of ship crew in each division of the manning fleet. And to find out the efforts made by PT. Pertamina International Shipping in overcoming the uneven placement and delivery of ship crew in each manning fleet. The research method used is the descriptive qualitative method. Sources of research data obtained from primary data and secondary data. Data collection techniques through observation, documentation, and interviews. As well as a SWOT analysis. The research results show that the internal and external factors that influence the placement and distribution of crew in each division of the manning fleet are condition, work experience, demand from the company and supply of prospective crew to be selected, incomplete certificates, and interest from prospective crew members. As well as the efforts made by PT. Pertamina International Shipping in handling the problem of placing and sending ship crew for each manning fleet is the placement and sending of ship crew according to the needs of the ship referring to shipping regulations as well as provisions and structural positions in the company.

Keywords: Optimization, Ship Crew, Safe Manning

Analysis of The Influence of the COVID-19 Pandemic Period and The PPKM Period on the Convenience of Passenger

KM.Labobar PT.Pelni |

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Abstract

In order to prevent the contagion of the COVID-19 virus during the pandemic, which is very dangerous to humans, the government has made regulations by implementing the PPKM (Enforcement of Restrictions on Community Activities) period which is then also applied on board for passengers who choose to travel by sea. This implementation is carried out such as always wearing a mask during travel, activating the physical distancing, and ensuring that passengers have swab or have taken the 3rd dose of vaccine for the main requirements during the trip. Therefore, in addition to prioritizing passenger safety and health, KM. Labobar also prioritizes passenger comfort. The purpose of this research is to determine the effect of Covid-19 on passengers, the effect of PPKM period on passengers, and the effect of Covid-19 and PPKM period together on passengers on board KM. Labobar. The method used in this research is a quantitative method with the research data is in the form of primary data collected through questionnaires to ship passengers as many as 33 respondents. Then the data were analyzed using a Likert measurement scale and tested with SPSS software. The results of this research indicate that Covid-19 and the PPKM implementation period have a significant effect on passengers on board and also Covid-19 and the PPKM period together have a significant effect on passengers on board especially on KM. Labobar.

Keywords: Covid-19, PPKM period, Passengers

Management of Rising Diesel Generator Exhaust Gas Temperatures to Prevent Trips on Diesel Generators |

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Abstract

The fuel injection pump is a component whose job is to press fuel from the tank to the nozzle before the fuel is atomized in the combustion chamber of a diesel generator motor. During loading and unloading operations, problems often occur with the diesel generator motor one after another, starting from decreased lubricating oil pressure, jammed rocker arms, and sudden rises in exhaust gas temperature. These problems often occur so frequently that they should receive more attention because they can indicate that some parts are damaged. Have problems. This study uses a qualitative method using the triangulation method. Data is collected by direct observation on board and then analyzed. In this study, it can be concluded that the rupture of the below-ground exhaust manifold due to the high exhaust gas reaching 650oC when a dual-fuel diesel generator uses high-fuel oil as the primary fuel will cause damage to the engine components. One of them is the blower component on the bypass exhaust manifold. Erosion of the exhaust cylinder head on the diesel generator The exhaust valve functions as an exhaust gas disposal door, where the opening and closing times of the valve are set according to the valve mechanism, by using a brush regularly or by replacing the O-ring kit on a new plunger and other spare parts. Check the delivery valve on the plunger to see whether it is still functioning correctly or not to prevent obstacles in the fuel system.

Keywords: Fuel injection pump, Auxiliary engine, Fuel injection valve, exhaust manifold bypass



Track: Character Building

Monitoring System Development and Evaluation of Character Building in Semarang Polytechnic through the Utilization of Information Technology |

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Abstract

The character can interpret as a character; character; psychological qualities, morals, or manners that distinguish one person from another. (Poerwadar Minta Dictionary Ministry of National Education, 2010: 44). Character builder (character building) is the process of carving or sculpting the soul in such a way so that its 'shape' is unique, engaging, and different or distinguishable from others. Like a letter in the alphabet that is never the same as one another, so people with character can be distinguished from one another (including those who don't/have no character or are 'characteristic' despicable). Development of monitoring and evaluation systems Character Development in Cadets Polytechnic Knowledge Semarang cruise via utilization technology information use method waterfall. Method This expands system with a do approach systematically and sequentially, starting from the need system to stage analysis, design, and coding. Evaluation and testing of running information systems needed for information system continuity that alone so that application can use and utility to application high, then needed testing use black box, interview as well as charging questionnaire to the user the usual single sign-on. Research results with testing black box show that results testing can say has worked with excellent and proper by a hope that the users' system has described; it proved with the enhanced weighted average value in a manner whole before and after system development so can conclude the system already used with good however need exists additional menus on soft skills and physical cadets.

Keywords: Character, Technology Information, Monitoring, and Evaluation

CLOSING SPEECH

Excellencies, Presenter,

Attendees,

Ladies and Gentlemen,

I am very honoured and delighted to deliver the concluding remarks of The International Conference of Sustainable Transportation and Safety Management (ICSTSM) organized by The Politeknik Ilmu Pelayaran Semarang (PIP Semarang) and Research Synergy Foundation (RSF); Supported by: Scholarvein, Reviewertrack, ResearchSynergy Institute, ResearchSynergy Press, F1000research, Cogent Open Access Journals, and Taylor & Francis Group. The committee successfully hosted the event, breakout sessions and all presentations were delivered with minimum technical issues. I believe that during this conference, we have all had insightful, interactive discussions and great chance to share the outcomes of our research.

I would like to thank all participants, keynote speakers, presenters, attendees, and session chairs from more than nineteen (19) countries who have already given their best contribution to this ICSTSM conference. Next, my sincere gratitude and thank you, finally, to all the committee members for their hard work. Therefore, let me wish all of us a lot of energy, enthusiasm, shared trust and resolve on our way towards achieving a better future for all.

To conclude, thank you for the great contribution and hope that the knowledge and thoughts shared in this conference, new networks, and new friendships will be fruitful for all of us and could increase our professional development in the future.

See you at our upcoming event.

Keep in touch and thank you very much for your attention. Stay safe and healthy.

Best regards,

Dr. Capt. Tri Cahyadi, M.H., M.Mar.
Conference Chair of ICSTSM



Future Events

8th RESBUS

International Conference on Interdisciplinary Research on Education, Economic Studies, Business and Social Science (8th RESBUS)

<https://resbusconference.com>

Virtual conference – 6 November 2023

BICOMPACT 2023

Bakrie International Conference on Communication, Management, Politics & Accounting (BICOMPACT 2023)

<https://bicompact-ubakrie.com/>

Virtual conference – 15 November 2023

ICE-ScienceHUM

International Conference on Science and Humaniora (ICE-ScienceHUM)

<https://ice-sciencehum.com>

Virtual conference – 27-28 November 2023

JICRISD 2023

Jakarta International Conference on Research Innovation and Sustainable Development

<https://jicrisd.com>

Virtual conference – 5 December 2023

IC-STEM

International Conference on Interdisciplinary Research of Science, Technology, Engineering, and Mathematics (IC-STEM)

<https://ic-stem.com>

Virtual conference – 18 December 2023

IPC-MHR

International Psychology Conference on Mental Health and Resilience (IPC- MHR)

<https://ipcmhr-psiunisba.com>

Virtual conference – 22 February 2024

ISBN 978-623-5724-17-1 (PDF)



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