BULK TERMINALS *international*

SUMMER 2024

THE OFFICIAL MAGAZINE OF THE ASSOCIATION OF BULK TERMINAL OPERATORS

AIMING HIGH

Record-breaking crane orders boost ports' productivity

CRIMINAL ELEMENTS

Why does cargo crime continue to pose a problem for the industry?

CLASS ACTS

New rules from the classification societies to keep net-zero on track

abto
ASSOCIATION OF BULK TERMINAL OPERATORS

bulkterminals.org

THE POWER OF GREAT BULK HANDLING

Reduced handling costs, shorter turnaround times, reliability and flexibility: Nemag grabs give dry bulk terminals throughout the world that competitive edge they need in today's demanding market.

Driven to achieve the best performance, we closely listen to our clients' needs. For a hundred years, Nemag's innovative grabs make it possible to realize the highest productivity at the lowest costs.

Explore our comprehensive range of high-quality grabs and discover the power of great bulk handling.
From coal and iron ore to wheat, scrap metals, minerals and clinker: Nemag has the optimal solution for every dry bulk flow!

Contact us find out how we can take your bulk handling to the next level.

THE COMPLETE TOOLBOX

Take a peek

Scan the QR code

100 years nemag®

Deltastraat 15 • 4301 RC Zierikzee
T +31 (0)111 418 948 • **E** sales@nemag.com
nemag.com

Passion for Performance.

TOWARDS A GREENER FUTURE

BY SANDRA SPEARES

While ports continue to improve their efficiency and performance, meeting green targets is an increasingly important part of the mix

Efficiency and performance are essential in an environment in which all ports have to meet demanding targets while ensuring that costs remain within reasonable parameters, safety is not compromised and they can attract new customers and new purpose-built specialist facilities.

Regulation and safety are key elements of any shipping operation and while trends are positive in some cases, attention to issues needs to be ongoing, as does guarding against instances of cargo crime, whether these occur within port perimeters or on board vessels or other forms of transport.

Loss of purchasing power across the globe continues to fuel cargo crime, according to the recently published Annual Cargo Theft Report 2023 by TT Club and BSI SCREEN Intelligence, which pinpoints high inflation as a primary macroeconomic driver of cargo crime patterns. The rise in food and beverages as a stolen commodity is one such indicator.

Regulatory demands continue to increase, with more legal measures being put in place, for example to protect the environment through criminal law proceedings against transgressors – a new regulation brought into play by the EU in May this year.

The new and revised directive aims to establish a framework that is similar in all EU member states and is designed to increase the effectiveness of investigation and prosecution of environmental crime across the EU.

The scope of the directive is now also much wider, with the number of criminal categories increasing from nine to 18. Of relevance to the shipping community, the offences include:

» the ship-source discharge of polluting substances;
» ship recycling that does not comply with EU regulations;
» the introduction and dissemination of invasive alien species on EU territory; and
» the illegal shipment of waste.

Additionally, the directive calls on member states to criminalise the incitement, aiding or attempt to commit any of the crimes above. It also includes corporate liability for specific pollutant behaviours.

Harmonising penalty levels across all member states is also part of the amended directive. It also seeks to establish minimum penalty levels, proportionate to the crime. Ports, both within the EU and trading into the territory, will have to ensure that they comply with these new requirements or face criminal prosecution.

Ports will also have to continue to ensure that all machinery and equipment used in them is both compliant with safety regulations, but also meets any requirements of new green legislation.

These concepts should be complementary. However, in some cases in seeking to comply with environmental rules, users may introduce practices that may increase the chances of safety incidents that could have been avoided – an example being the use of engines with insufficient power to get a ship out of trouble should the need arise.

We hope you enjoy reading about new initiatives contained in this edition of *Bulk Terminals International*. We also hope to see you in Antwerp for ABTO's annual conference, which takes place 23-24 October this year. Visit *bulkterminals.org* for more information.

F120 MH

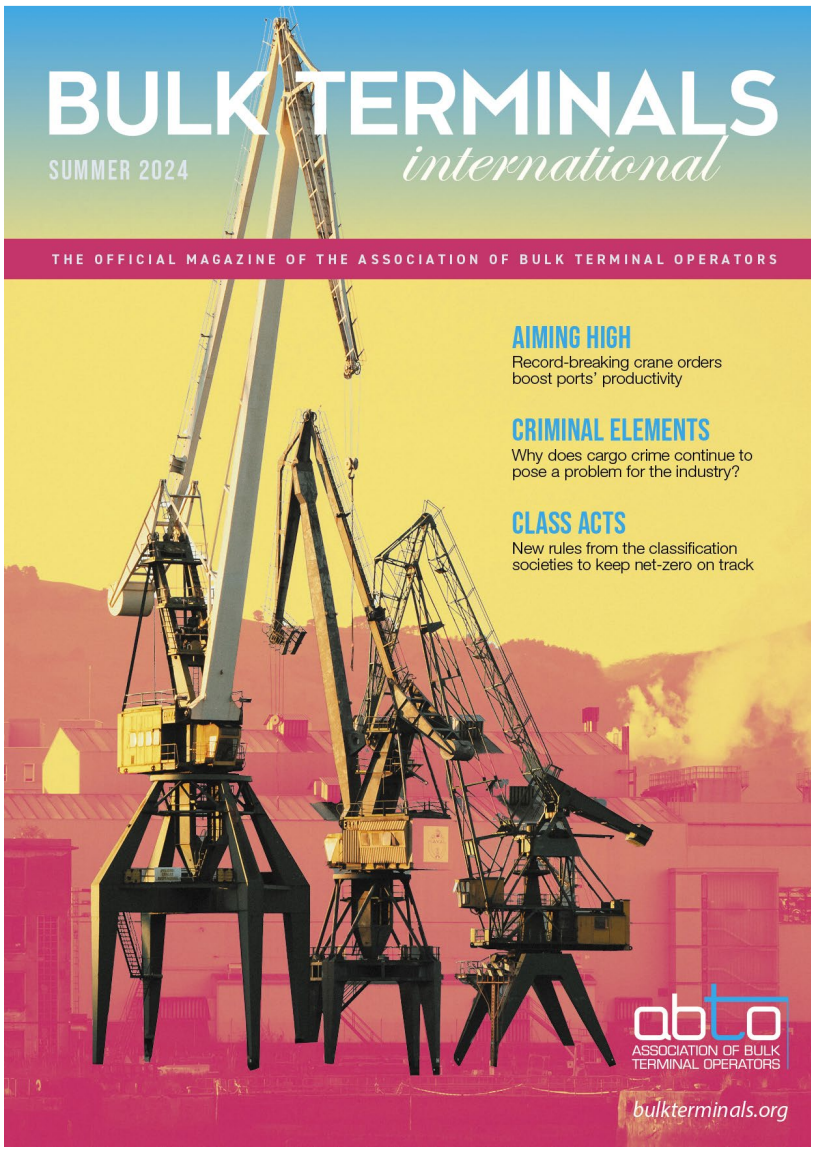
THE BEGINNING OF A NEW ERA

Discover More Fuchs World-Class Material Handlers

www.terex.com/fuchs

FUCHS®
A TEREX BRAND

F 120 MH · Technical Data
Engine Power: 350 kW (150 kW hybrid) · Operating Weight w/o Attachments: 120 - 150 t · Reach: max. 27 m



PUBLISHED BY abto ASSOCIATION OF BULK TERMINAL OPERATORS

EDITOR: SANDRA SPEARES
SPEARES1@AOL.COM

DESIGNER: JUSTIN IVES
JUSTINDESIGN@LIVE.CO.UK

PROJECT DIRECTOR: JONATHON FERRIS
JONATHON.FERRIS@BULKTERMINALS.ORG

PROJECT MANAGER: ALEX CORBOUDE
ALEX.CORBOUDE@BULKTERMINALS.ORG

SUB-EDITOR: SAMANTHA ROBINSON
SAM.ROBINSON.JOURNALIST@GMAIL.COM

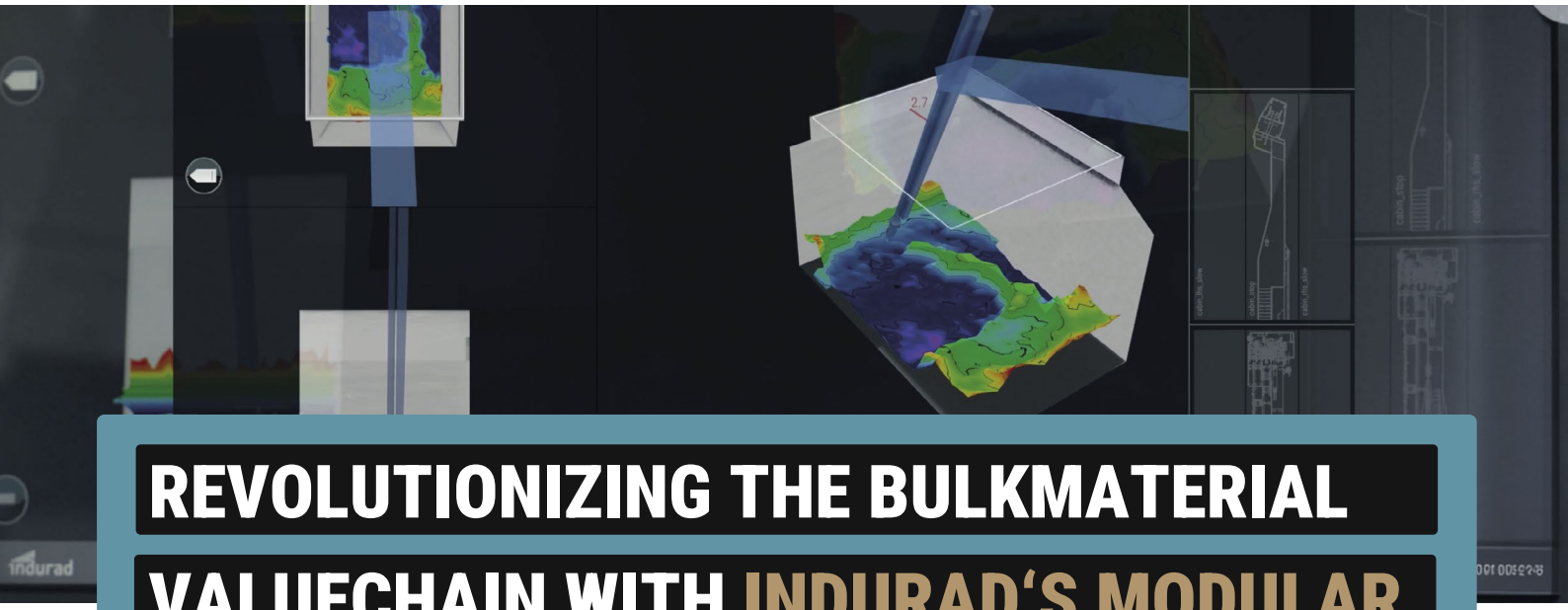
PUBLISHER: BILL ROBINSON
PRODUCTION@BULKTERMINALS.ORG

ABTO
35 BEACON DRIVE
NEWTON ABBOT
DEVON
TQ12 1GG

CHIEF EXECUTIVE: SIMON GUTTERIDGE
CE@BULKTERMINALS.ORG

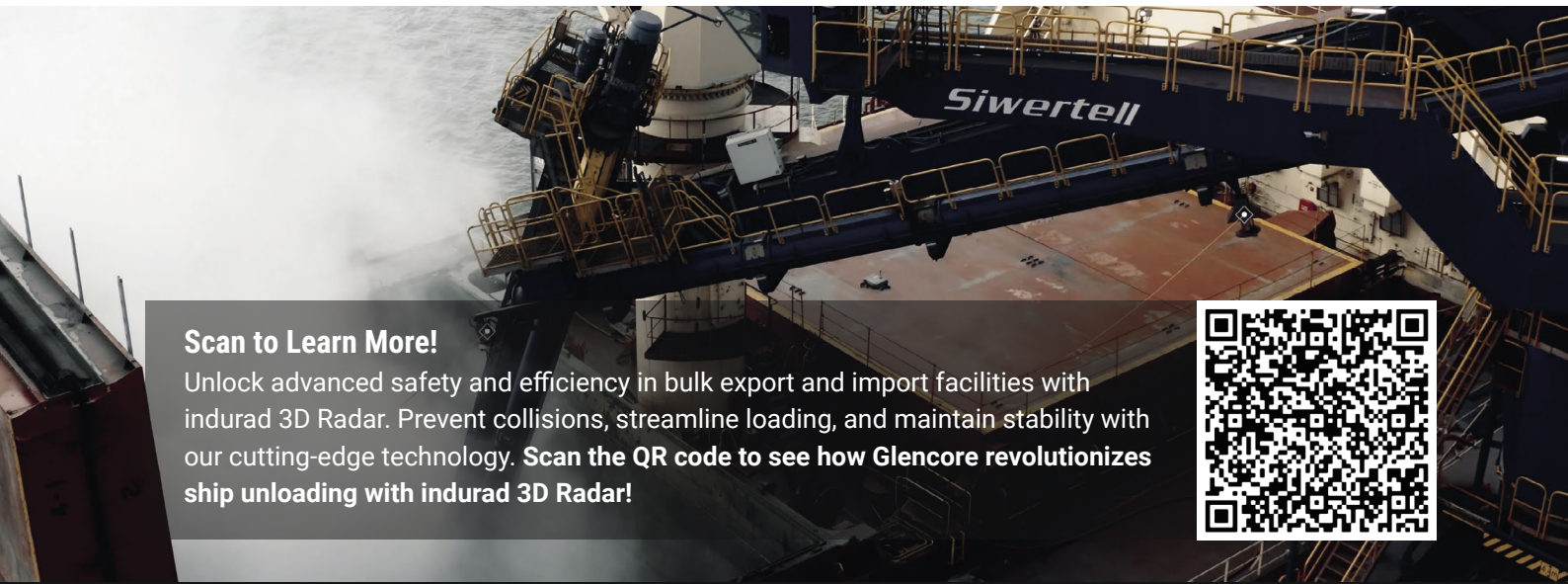
TECHNICAL ADVISER: IAN ADAMS
TECH@BULKTERMINALS.ORG

indurad



REVOLUTIONIZING THE BULKMATERIAL VALUECHAIN WITH INDURAD'S MODULAR SMART RADAR SOLUTIONS.

Ensure operational excellence and safety with our advanced radar solutions. Our **Collision Avoidance System (CAS)** modules prevent collisions with the ship and load, enhancing safety protocols. **Loading assistance modules, including hatch detection and pile mapping**, streamline the process and ensure precise load distribution. **Monitor roll, pitch, and yaw** for stability. Enhanced datasets enable **remote control and full automation** for intelligent, autonomous operations, optimal performance, and increased safety.

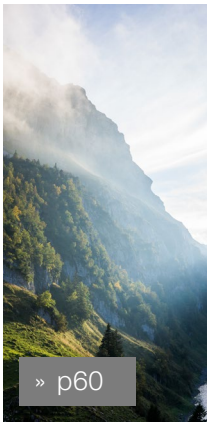


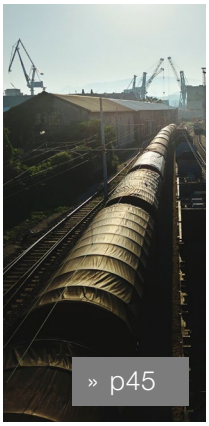
Scan to Learn More!
Unlock advanced safety and efficiency in bulk export and import facilities with indurad 3D Radar. Prevent collisions, streamline loading, and maintain stability with our cutting-edge technology. **Scan the QR code to see how Glencore revolutionizes ship unloading with indurad 3D Radar!**

www.indurad.com

CONTENTS

» p18


» p60


» p45


» p32

N.M. HEILIG B.V.
FROM CONCEPT TO INSTALLATION

FROM CONCEPT TO INSTALLATION

We offer single mobile units to stationary turn-key bulk handling systems.

Depending on the specific properties and bulk density of the materials, our bulk handling systems process up to 6,000 tonnes per hour. Everything is focused on an optimal production process.

For more information visit www.heiligbv.com
Direct contact: info@heiligbv.com or +31 (0)72 571 66 88

PART OF HEILIG GROUP

FORGING EVER-STRONGER LINKS

BY SIMON GUTTERIDGE

In an interconnected world, partnerships are crucial to the success of most organisations, whether the aim is getting a message out or forging beneficial collaborative commercial arrangements. None more so in the maritime world. It's not just those engaged in the actual business of shipping, running ports and operating terminals – it also applies just as much to the many associations serving the various parts of that huge and diverse sector – like our own niche of bulk terminals at ABTO

In 2019, ABTO and ICHCA International signed a Memorandum of Understanding, the first clause of which was an undertaking to "coordinate efforts on international issues of common concern", which the other eight clauses support and qualify. Both organisations place heavy emphasis on safety and the environment. In the same year ABTO become an Affiliate Partner of The Materials Handling Engineers' Association (MHEA), reflecting the shared interests of members common to both associations.

We are also grateful for the support of The Solids Handling and Processing Industry (SHAPA) and the Process Industries Division, Bulk Materials Handling Committee of IMechE.

ABTO enjoys a close relationship with The Wolfson Centre for Bulk Solids Handling Technology, based at the Medway campus of the University of Greenwich. The Director of The Wolfson Centre, Professor Mike Bradley, has been the Chairman of ABTO's annual Bulk Terminal conference for some years, as any of you who regularly attend the event will know.

Additionally, our training courses would not get off the ground without the input from Mike and The Wolfson. These include the popular Port and Terminal Operations for Bulk Cargoes, plus occasional ones like Biomass

Operations & Handling Technologies and Understanding the Total Cost of Ownership.

The Wolfson Centre is celebrating 50 years of excellence in bulk solids handling. 2024 marks 50 years from when the Wolfson Centre first came into existence, providing cost-effective solutions to industrial problems.

The Wolfson Centre was originally a department within the School of Engineering at what used to be Thames Polytechnic, later to become the University of Greenwich. At this time in 1974, the office and laboratories were based in Woolwich, where they remained until their relocation to Medway in Kent in 2005.

Asking The Wolfson for some background history to itself, I was told that the department was set up initially at the request of the then Head of School. When he had completed his PhD in something called solid-gas two-phase flow, he discovered that Thames Polytechnic did not cater for this discipline. He therefore appointed people to continue this stream of research.

Having a maritime media persons generalist background with a rudimentary scientific education, I wanted to discover what solid-gas two-phase flow was! Checking the term on the internet, solid-gas two-phase flow is defined in InfoScipedia as "one type of multi-phase flows that includes only solid phase and gas phase". I have to admit that did not help me a lot. However, the fact that elsewhere I found out that solid-gas two-phase flows are encountered in a wide variety of industrial applications was sufficient to satisfy me of their importance as a field of research.

Suffice it to say that its study in turn led to research into general bulk materials handling. The Bulk Solids Handling Unit was born. It was not until 1989 that the Wolfson Centre name was added, thanks to funding from the Wolfson Foundation.

Although the people, the location and the department name may have changed throughout its 50-year history, the aim of the Centre has remained the same – to help industry with its bulk solids handling issues.

Since 1974, Mike and his team have been building the Wolfson Centre to become what it is today. It is only one of three comprehensive bulk materials handling centres around the world – the only one of its kind in Europe, the other two being in Australia.

The Wolfson deals with all materials that are in the form of particles, a phase of matter that has its own unique (and little understood) patterns of behaviour unlike other materials. This point can hardly be over-emphasised in terms of its impact on operations and bulk handling equipment.

Attending the first Port and Terminals Operations for Bulk Cargoes short course ABTO ran with The Wolfson, Mike introduced it with an explanation of the differences in the characteristics of bulk solids and powders, compared with solids, liquids and gases. The characteristics of the latter three are taught in basic science lessons in school – but not those of powders and other bulk solids. Therefore, most in the bulk solids industry do not understand the how bulk solids behave.

Consequently, most of those designing equipment or their buyers do not understand either so much of, if not most, handling equipment does not work properly. Which of course provides a large part of The Wolfson's consultancy work – apart for the more perceptive clients out there who instruct the Centre in first place. If you are interested, I have written more on this in the Spring 2020 edition of *Bulk Terminals International* on page 7. Better still, join the next Port and Terminals Operations for Bulk Cargoes course.

Bulk materials, which are particles ranging from powders such as cement, through wheat grains to lumps of coal or minerals, are widely used in industry. Indeed, they are very much the basic building blocks of everything we use or consume. The Wolfson is recognised worldwide in both industry and academia for the work in this field through consultancy services, research and education through short courses, seminars and workshops.

Its range of consultancy services for the bulk terminals sector and indeed wider industry is impressive: design of new plant or advice on the updating of existing plant; advice on material blends for new products in the food and drink industries, homeware goods and biomass for the renewable energy sector; testing materials for their handleability and flowability properties; expert witness advice and advice on the aftermath of accidents – such as fires, destruction of silos and blow-outs.

The Wolfson has also been at the forefront of the design and implementation of unique tools and equipment, such as the widely used Brookfield Powder Flow Tester; Segregation Testers; Virtual Formulation Laboratory (VFL); Cellular Automata (CA)-based modelling to predict segregation in industrial hoppers and silos and a Mechanical Surface Energy Tester to predict bulk flow properties – to name but a few.

In addition to those short courses in collaboration with us, many more are regularly delivered to more than 200 delegates around the world each year, whether at their premises in Medway, onsite or online.

Research into new areas of technology has allowed them to provide studentships for around 50 PhD students since the early 1980s in subjects such as Pneumatic Conveying and Wear & Particulate Handling. Indeed, that is how Mike started. He graduated in 1990 and has remained in the Department ever since, moving from a student to an engineering consultant, to manager and is currently the Centre's Director and Professor of Bulk and Particulate Technology. Without Mike, the Wolfson Centre would not exist as it is today.

The Wolfson Centre remains a small independent department within the Faculty of Engineering and Science. Helping Mike with the technical services, research and teaching are Drs Tong Deng, Baldeep Kaur, Vivek Garg, Atul Sharma and Hamed Johnny Sarnavi, all experts in different areas of bulk solids handling technology.

Working hard in the background is Senior Technician Paul Wakeman, who

joined The Wolfson just over a year ago and brings a wealth of experience and expertise to the laboratories, and the Centre's Support Manager, Caroline Chapman, who has been with the department for nearly 20 years.

Testimonials are not in short supply. "Their availability and commitment to industry challenges make them an invaluable resource for companies involved in the processing of materials and other bulk solids," Linda White, MHEA Secretary, and "The knowledge base they have in bulk solids handling is unrivalled and the whole team at Wolfson is a pleasure to work alongside," Ian Birkinshaw, SHAPA Secretary.

And certainly, without Mike's input and advice our ABTO events, whether the short training courses or our annual Bulk Terminals conference, would be the poorer.

The Wolfson should, in my opinion, be the first port of call for any organisation in our industry that needs help to rectify a problem or advice as to how to proceed with a new project. Congratulations on your first 50 years.

On the subject of the our annual **ABTO Bulk Terminals conference**, this year we are going to Antwerp, from 23-24 October at the Radisson Blu Hotel, Antwerp City Centre.

We are very grateful for the support of the Port of Antwerp-Bruges, the port authority that manages the ports of Antwerp and Bruges (Zeebrugge) since their merger in 2022.

The second biggest port in Europe with an overall throughput of 271 million tonnes per year, the Port of Antwerp-Bruges is a critical hub in worldwide trade and industry, receiving containers, breakbulk, passengers, rolling stock, liquid as well as dry bulk.

Mike will again be the conference Chairman. Joining him to as session Chairmen will be Rahul Sharan, Deputy Director – Bulk Research, Drewry, and Garry O'Malley, Operations Director, Teesworks and Chairman, ABTO Technical Committee.

The Antwerp conference will set the scene with our traditional analysis of bulk markets, continuing with a full programme offering practical solutions to terminal operators for streamlining and increasing the profitability of operations, improving safety and ensuring environmental protection. As usual, the speaker panel is a mixture of regular speakers and new ones.

Here are a few highlights from the programme:

» Dr Wouter Jacobs, Executive and Academic Director Erasmus Commodity and Trade Centre, Erasmus University Rotterdam will address '**Bulk markets vulnerability to wars and political disruptions**'. We have addressed the effects of the war in Ukraine, China's weaponisation of trade and Houthi attacks on shipping in the Red Sea, both in this column and at the conference before. It will be interesting to hear how Dr Jacobs draws these stands together.

The most dramatic example the effect of the attacks on shipping in the Red Sea is on the fortunes of the Port of Eilat. Bulk was an important element in its operations. The port declared bankruptcy in July following the Houthi attacks which caused shipping to divert away from the Red Sea. Previously, Eilat handled more than two million tonnes of dry cargo, exporting minerals, phosphates, potash and ores and importing construction materials and foodstuffs. The effect on markets will be determined by the cost of using alternative Mediterranean ports.

» In a circular economy, existing materials and products are shared, reused, repaired and recycled for as long as possible to create more value. The transition to a circular economy is part of the Port of Antwerp's ambition to be a climate-neutral port by 2050. The port area, with an industrial cluster, waste-processing companies and logistics sites, offers numerous opportunities to take a circular approach. Furthermore, by making better use of resources taking a circular approach offers financial as well environmental benefits. In the Operations session on day one, a **Case Studies Panel will explore the benefits of taking a circular approach**, with experts drawn from the Port of Antwerp-Bruges Authority and bulk terminals.

» The Port of Antwerp aims to become the world's greenest port. New technology has the potential to make it possible. On day two, panellists drawn from the Port of Antwerp-Bruges Authority, port associations and technology providers will join the **Panel Discussion: Options for a green port strategy**.

Ample time is provided to network during the course of the conference proper during breaks and discussions. Additionally, the relaxed and convivial atmosphere of Ice Breaker Drinks on the evening before the conference and the Conference Reception at the end of day one at the De Koninck Antwerp City Brewery – sampling Belgium's famously strong artisanal beers – provides the perfect opportunity to renew old friendships and make new ones.

A further valuable networking opportunity is afforded by our traditional terminal visit on the afternoon of the second day. Our thanks to Euroports for inviting us to visit its Fertilisers and Minerals Terminal.

Keep in touch with programme developments on the events page on our website at: *bulkterminals.org/events*

If you would like to the conference, please drop us a line at: *events@bulkterminals.org* or call +33 (0)321 47 72 19.

To register and for details of how to take advantage of our special delegate rate at the Radisson Blu conference hotel, please complete the form on our website at: *bulkterminals.org/index.php/events/event-registration*

Together with our conference Chairman, Professor Mike Bradley, our session Chairman Rahul Sharan and Garry O'Malley, and ABTO's Technical Director Ian Adams, I look forward to welcoming you to Bulk Terminals Antwerp in October.

Meanwhile, enjoy the Summer edition of Bulk Terminals International.

Simon Gutteridge
Chief Executive
ce@bulkterinals.org
bulkterminals.org

MACHINE, REPAIR AND SERVICES

COMPANY NEWS

Established in 1977, MRS Greifer GmbH is a leading engineering company providing design, manufacture, supply and after sales services for grab buckets up to 30m³ capacity. Our commitment to continuous research and development ensures our grabs are world leaders in terms of technology, quality and performance.

With five decades of experience in the design, manufacture, research and development of grabs, plus an extensive after-sales service backed by our team of highly skilled engineers, MRS Grabs has clients from every corner of the world.

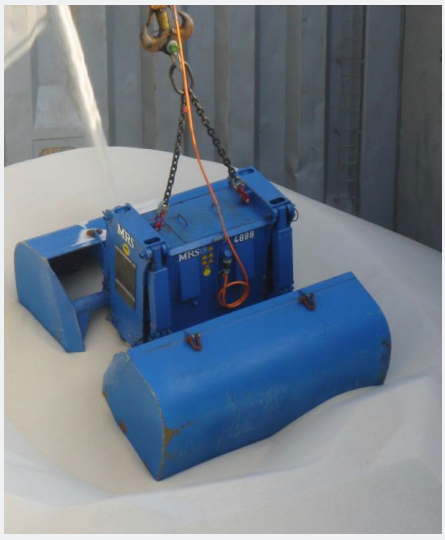
We design grabs to fully meet the needs of our clients and the parameters within which they work, producing equipment capable of unloading all kinds of bulk cargo. Our machines include the latest features and are of optimal weight, ensuring an exemplary performance for a longer period of time. When it comes to hydraulics and other outsourced parts, we only use trusted brands so the highest quality is ensured.

Each grab is manufactured under the industry's strict quality controls, according to the QAP approved by our experts. We are only too aware that delays in shipping can result in exorbitant costs so we keep a full stock of spare parts, and our committed after-sales service team is available to see to all our customers' needs in the quickest possible time.

With grabs to handle bulk, logs, scrap, underwater dredging and more, please don't hesitate to contact us to talk through your needs.

MRS GREIFER

For more information, contact:
MRS Greifer GmbH
Talweg 15 - 17
74921 Helmstadt
Tel: +49 7263 9129-15
Fax: +49 7263 9129-12
Email: export@mrs-greifer.de
mrs-greifer.de



WORLD NEWS ROUND-UP

Safety and seafarers rights have been high on the shipping agenda in recent times, and the International Day of the Seafarer has also been celebrated

On 25 June's International Day of the Seafarer, International Maritime Organization (IMO) Secretary-General Arsenio Dominguez paid tribute to the two million seafarers who keep global markets functioning and supply chains going.

In a video message to seafarers, . Dominguez said: "Seafarers have been sorely tested in recent years – facing hostile acts from piracy or in conflict zones. I humbly acknowledge seafarers' resilience and sacrifice in the name of work."

Without seafarers there would be no shipping. And shipping is a lifeline for global trade.

United Nations Secretary-General, António Guterres marked the day, saying: "Seafarers are vital in ensuring a seamless flow of essential goods that eventually make it into markets, homes, and on to our tables. But their own lives have been put on the line in the face of grave threats. Let us together salute them for their essential work and support their safety."

Since November 2023, innocent seafarers have been targeted in ongoing attacks on ships traveling through the Red Sea, stemming from geopolitical tensions. Too many attacks have been launched, damaging or sinking vessels, and resulting in at least four deaths, with many others injured.

IMO calls for the immediate and unconditional release of the Galaxy Leader and its crew, held for more than eight months.

IMO Secretary-General Dominguez said: "On this Day of the Seafarer, let us remember those who have lost their lives while simply doing their jobs, serving on these ships. Their dedication and sacrifice must not be overlooked. Attacks on the innocent can never be justified, and I will continue to advocate incessantly for the safety and well-being of seafarers."

To raise awareness about the safety of seafarers, an IMO social media campaign has been launched, focusing on safety at sea.

Seafarers are invited to share photos and top tips for safety at sea, using the hashtag, #SafetyTipsAtSea on Facebook, LinkedIn, X or Instagram.

KC Abigail Chin-Sood, a seafarer from the Philippines, shared her tips for women in the sector: "Safety at sea involves not only adhering to the highest standards of work safety but also, for women, establishing and maintaining clear boundaries with male colleagues. Preserving your dignity on board is crucial for ensuring your personal safety.

"By maintaining professionalism and setting boundaries, you can protect yourself from potential scandals and preserve your mental wellbeing, contributing to a safer and more positive experience on the ship."

Yrhen Bernard Sabanal Balinis, also from the Philippines, added: "Communication is key onboard ships. Whether it be anchoring, pilot boarding, or mooring, the officers need keen situational awareness to ensure that things are running safely.

"But effective shipboard communication is not only limited to

those. Is a crewmate feeling down, homesick, or anxious? Is he or she abruptly agitated or constantly isolated? Has their performance drastically plummeted? Tactful communication plays an instrumental role in seafarers' psychological safety."
Follow the conversation using #SafetyTipsAtSea or #DayOfTheSeafarer.

INTERCARGO AGENDA

Intercargo, the International Association of Dry Cargo Shipowners, met in Tokyo recently and high on the agenda were quality, sustainability, GHG emissions' reduction, and particularly the Carbon Intensity Indicator (CII) rating system.

The location of Tokyo was chosen specifically to highlight the importance of Japan to the dry bulk sector. Japanese economic growth has contributed hugely to trade in dry bulk, a sector that has supported one of the world's largest network of shipbuilders, with many shipyards across Japan including the world's leading ship builders and designers of dry bulk vessels. Japanese ship owners have been prominent players in supplying the world's economy with dry bulk products such as iron ore, coal, raw materials and grain.

Numerous members and guests from both Japan and abroad attended the Association's functions. Intercargo's Executive Committee and Technical Committee discussions focused on issues affecting the dry bulk sector. Intercargo's members represent about one-third of the global dry bulk fleet tonnage. While they are supportive of the IMO's decarbonisation aims, they expressed serious concerns that the CII, in its current form, will unfairly penalise the sector.

Dimitrios Fafalios, Chairman of Intercargo, says: "The issue of the CII again featured heavily in discussions with members at our meetings in Tokyo. Intercargo's members feel very strongly that the CII, in its current format, needs a fundamental reconsideration to account for the operating conditions in our sector."

He adds: "While we are, of course, supportive of the IMO's environmental aims, they must be enforced in a fair and equitable manner across the maritime spectrum. They also need to be applied in way that is not potentially damaging to the shipping industry, as well as to avoid the wider adverse effects on economies and on end consumers."

Also prominent on the agenda of Intercargo in Tokyo were discussions on:

- Safety and quality operations;
- Intercargo's messaging via environmental, social and governance;
- Recommendations on Port State Controls; and
- Macro-economic impacts on the dry bulk shipping, such as conflicts leading to re-routing of vessels and increased insurance costs.

The next calendar dates for Intercargo's members are the organisation's Annual General Meeting, Executive Committee and Technical Committee meetings in London on 24-25 October 2024.

DISTANCE EFFECT

The latest Maritime Strategies International (MSI) analysis finds 'distance effect' is among factors supporting deadweight demand for crude and product tankers

Large scale route diversions as a consequence of the Red Sea/Suez Canal crisis have seen deadweight demand for crude and product tankers increase by 5.5% and 4.5% respectively in 2024.

In its Q2 2024 report, MSI finds that the market is currently in an unfamiliar equilibrium after two years of extreme volatility. This has been supported by wider stability in oil markets and falling vessel deliveries.

Analysis of market movements in the first half of 2024 finds that deadweight demand growth far outstrips that of oil demand and trade. At close to 5% in 2024 it is about three times higher than growth in just cargo volumes. This is partly the 'distance effect' adding to cargo growth, driven by disruption to the Red Sea/Suez Canal.

Vessel tracking shows that diversionary activity is not uniform across tanker segments. In the LR1/2 segment there is the most pronounced change in operating activity.

Here, vessels moving through the Suez Canal dropped by about two-thirds in the first four months of 2024, with a commensurate increase in Cape of Good Hope transits. This has translated into LR2 spot earnings being some of the best performing in Q2.

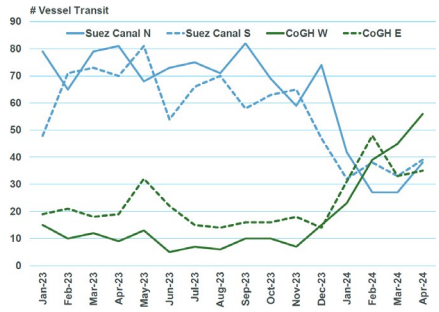
The duration of the Suez Canal disruptions remains a major uncertainty in forward analysis. MSI foresees conditions in the Red Sea normalizing in 2026, assuming a reversal in the escalation of conflict in the Middle East.

However, if the conflict is not resolved, an extension of high-risk conditions will naturally drive tanker demand and earnings even higher. Under the MSI base case, the expectation is that demand growth slows dramatically in 2025 and 2026.

Overall, demand levels are being elevated. Other factors, such as long-haul crude trade from Americas to Asia are countering the 'loss' of the Red Sea/Suez Canal diversion effect in 2025.

"The latest MSI Base Case sees demand levels remain permanently higher, but this also contends with higher fleet levels, driven both by lower scrapping, and in the latter part of our forecast, higher deliveries as a consequence of increased ordering," says Tim Smith, Director, MSI.

"The combination of these factors pushes our employment rate higher in 2024 and although we see the utilisation rate flatten from 2025 onwards, this is at very high levels. This outlook remains very positive for the tanker sector."



LR1/2 TRANSITS VIA SUEZ CANAL AND CAPE OF GOOD HOPE

HUMAN ELEMENT

The International Association of Classification Societies (IACS) Council, meeting recently in Rome for its 89th session (C89) under new Council Chair, Roberto Cazzulo, progressed a wide range of issues, foremost of which was the need for human element considerations to be taken into account at the earliest stage across all IACS work streams.

The requirement for increased awareness and focus on how a ship's crew can safely operate increasingly sophisticated vessels (the human element (HE)) has led IACS to develop internal guidelines to address this need in a structured and consistent manner.

C89 was informed that more than 150 IACS technical experts had received training related to the fundamentals of Human Element Impact Assessment in the maritime sector. This course was developed by IACS Members' HE experts who captured assumptions about modern ship and operating company operating context, including current trends of system complexity plus remote surveys and automation.

C89 agreed to develop this work into a high-level position paper to promote an understanding of these matters by industry/regulators and ensure that safety concerns related to the HE are fully considered in the development of new technology. Recognising the importance of collaborating with external parties on this issue, C89 also welcomed initial discussions with the Human Element Industry Group (HEIG) regarding the formation of an appropriate platform for collaboration with the industry.

The rapid deployment of new technologies into the maritime sector led IACS to establish its Safe Digital Transformation Panel last December. Council was appraised of the work that has been initiated in the past six months across areas such as complex systems, data quality and safety management for MASS and conceptualising the scope of IACS' engagement with digitalised data.

The establishment of project teams to develop recommendations on ship data quality and cyber security controls for ships-in-service was also welcomed.

C89 recognised the progress being made on safe decarbonisation with five unified requirements underdevelopment on approval of lithium batteries; materials for hydrogen; ammonia treatment systems; carbon capture; and fire-fighting systems for methanol. IACS' Council was also advised of a new workstream on nuclear power and the establishment of a Joint Industry Working Group on Safe Decarbonisation, together with an update on work with the Singapore MPA on gas dispersion simulation.

The evolution of IACS' Common Structural Rules was discussed and C89 noted the extensive consultation with Industry taking place throughout 2024, which is enabling IACS to address any concerns and deliver proposals that meet not only IACS' aims as a technical organisation, but the industry's common goals of safer and cleaner shipping.

C89 also noted that it is 18 months since the implementation of IACS' Unified Requirement on Remote Survey (UR Z29). Council reaffirmed IACS' commitment that remote surveys must be of at least the same quality as physical surveys and so initiated a review of UR Z29 that can build on feedback received from stakeholders and maintain its alignment with developments at IMO. C89 also recommended to extend the two quality management focus areas on the consistent implementation of UR Z29 and on the training of surveyors until end-2025.

C89 marked the end of LI Zhiyuan's tenure as Chair of IACS' General Policy Group, and Dr Ajay Asok Kumar was welcomed as the new Chair.

Speaking after C88, the IACS Council Chair, Roberto Cazzulo stated: "C89 held intensive discussions across a wide range of issues that will determine the shape of the industry for years to come. Ensuring the centrality of the role of the human element in those discussions substantially reinforces our commitment to delivering a safe digital and decarbonisation transformation"

SIRE 2 TO GO LIVE

The Oil Companies International Marine Forum (OCIMF) has confirmed that its digitalised Ship Inspection Report Programme (SIRE 2.0) is scheduled to 'go-live' on Monday 2 September 2024 and become the standard tanker inspection tool for the marine industry.

The final transition to SIRE 2.0 and the withdrawal of the option to request a SIRE Vessel Inspection Questionnaire (VIQ7) inspection from Monday 2 September 2024 has been given now that all pre-agreed 'Critical Success Factors' for going live have been met and approved by the OCIMF Vessel Inspection Programme Steering Group, Programmes Committee and OCIMF Executive Committee (ExCom).

This move to SIRE 2.0 will mark the end of the phased transition to the updated, enhanced and digitalised tanker inspection programme which is expected to transform how the marine industry assesses the safety and operational condition of tankers and their crew on an ongoing basis.

Aaron Cooper, Programmes Director, OCIMF, says: "OCIMF implemented a multiphase roll-out programme to ensure industry had the opportunity to engage with SIRE 2.0 before it became the standard inspection tool. A significant number of SIRE 2.0 inspections have been completed in Phase 3 enabling all sectors of the industry to fully participate as well as supporting the full end-to-end testing of the SIRE 2.0 system.

"This has worked very well as programmes users have been able to prepare and test their readiness under real-life test inspection conditions. As a result of this phased approach and robust testing, we're confident we can now proceed with implementing SIRE 2.0 as the standard inspection tool for industry. OCIMF appreciates the support of industry as we reach this final milestone."

The move to the digitalised inspection programme means that every tanker inspection will be bespoke and tailored to the individual vessel and its risk-profile and will require vessel operators and their crew to be prepared to respond to any potential inspection question from the SIRE 2.0 Question Library.

Using their intrinsically-safe tablet devices, SIRE 2.0 inspectors will provide a response to each question in the inspection's unique Compiled Vessel Inspection Questionnaire (CVIQ) in relation to hardware, processes and human factors. This will provide programme recipients with inspection reports that contain marine assurance data, information and feedback with greater detail than the existing SIRE reports.

"I cannot emphasise enough how important it is that all programme users use the next 60 days to ensure they are prepared to move permanently to SIRE 2.0," Cooper added. "During this time, Phase 3 inspections are still available, and programme users should make sure personnel at sea and onshore are fully familiarised with the new inspection process, procedures and guidance and they should also ensure their own in-house procedures, tools and systems are aligned. They can also use this time to complete the Pre-Inspection Questionnaire work before the go-live

OCIMF advises industry to use all the documentation and training resources available on the OCIMF website to ensure that personnel at sea and onshore are prepared for SIRE 2.0 inspections.

AARON COOPER, PROGRAMMES DIRECTOR, OCIMF (© OCIMF)

GLOBAL HEALTH GUIDE

The ICS Global Health Emergency Guide: *Helping shipping companies prepare, act and recover*, provides a comprehensive and practical framework for shipping companies to get ahead and prepare for any future global health emergency.

Drawing on lessons learned from covid-19 and other global health emergencies that have affected shipping operations, this guide sets out a step-by-step action plan that can be implemented within the safety management system and incorporated into the company crisis management plan.

With extensive insights from global agencies, shipping companies, crews, medical professionals and welfare organisations, this guide allows

companies to prepare for, act on, and return to normal operations after, a global health emergency.

Content includes:

- Roles and responsibilities for all ship and shore teams, including crewing, crisis management and communication teams;
- Seafarer health and wellness and supporting crew's mental health;
- Reducing risk of an outbreak on board;
- Crew change protocols for crewing and for seafarers;
- Procedures in the event of an outbreak in port and at sea;
- Access to medical care on board and at port;
- Emergency communications planning;
- Re-assessing protocols and implementing lessons learned after a global health emergency; and
- Maintaining compliance with international regulations, including the WHO International Health Regulations 2005, the ILO Maritime Labour Convention 2006 and the FAL Convention

Each part (before, during and after) comes with a handy toolkit of more than 30 checklists, posters, templates and forms to help companies practically implement these protocols into their safety management system and deliver on their crisis management plan in the event of an outbreak. The guide can be used across all shipping company departments on shore and on board, and encompasses all stages of emergency response.

The guide is priced at £180. For the full contents list, foreword and more details, visit icspublications.org

MARKET MOVEMENTS

Ocean freight container shipping spot rates are set to exceed the level seen at the height of the Red Sea crisis when the latest round of increases hit the market on 1 June, according to the latest data released by Xeneta .

Peter Sand, Xeneta Chief Analyst, says: "The ocean freight container shipping market has seen rapid and dramatic increases during May and that is set to continue with further growth in spot rates.

"On 1 June, spot rates will reach a level we haven't seen since 2022 when the covid-19 pandemic was still wreaking chaos across ocean freight supply chains.

"There is a cocktail of uncertainty and disruption across global ocean freight supply chains at present and this is fuelling the spot rate increases. However, it is the speed and magnitude of this recent spike that has taken the market by surprise – including the CEOs of the world's biggest ocean freight liner companies."

From the Far East to US West Coast, market average spot rates are expected to reach US$5,170 per FEU on June 1, which would surpass the Red Sea crisis peak of US$4,820 seen on 1 February. This is an increase of 57% during May and the highest spot rates have been on this trade for 640 days.

From the Far East to US East Coast, spot rates are expected to reach US$6,250 per FEU on 1 June, only slightly shy of the Red Sea crisis peak of US$6,260 and an increase of 50% since 29 April.

Spot rates are also set to exceed the Red Sea crisis peak on the Far East to North Europe trade, reaching US$5,280 per FEU on 1 June compared to US$4,839 on 16 February. This will be the highest rates have been on this trade for 596 days and an increase of 63% since 29 April.

It is a similar story on the Far East to Mediterranean trade, where spot rates are expected to edge past the Red Sea crisis peak of US$5,985 per FEU on 16 January to reach US$6,175 on 1 June. This would be an increase of 46% during May and the highest rates have been on the trade for 610 days.

The latest data released by Xeneta – the ocean and freight rate benchmarking and intelligence platform – indicates the market is heavily impacted by a cocktail of factors including ongoing conflict in the Red Sea, port congestion and shippers deciding to frontload imports ahead of the traditional peak season in Q3.

Sand says: "Importers have learned lessons from the pandemic and the most straightforward way to protect supply chains is to ship as many of your goods as you can as quickly as possible. That is what we are seeing with some businesses telling us they are already shipping cargo for the Christmas period in May.

"The early arrival of peak season is adding to the cocktail of uncertainty in the market. Back at the start of 2024 you could point to the Red Sea crisis as the root cause of spot rate increases, this time around it is far more nuanced.

"Ocean freight carriers have tried to remedy the diversions in the Red Sea by increasing transshipments in the Western Mediterranean as well as in Asia, but this has led to severe port congestion in several hubs.

"Carriers have tried to re-align capacity from other major trades to cope with longer sailing distances around the Cape of Good Hope on services from the Far East to Europe and US East Coast, but this has contributed to rates increasing on trades such as the Transpacific, which do not transit the Suez Canal.

"Everywhere you look there are knock-on impacts and unintended consequences which only serves to fan the flames of uncertainty across the ocean freight container shipping industry."

While the latest spot rate increases on 1 June is further bad news for shippers, Sand believes there is some cause for optimism. He says: "While average spot rates will increase again on 1 June, the growth is not as rapid as it was during May, which may hint towards a slight easing in the situation.

"This cannot come soon enough for shippers who are already having their cargo rolled, even for containers being moved on long term contracts signed only a matter of weeks ago.

"Carriers will prioritise shippers paying the highest rates. That means cargo belonging to shippers paying lower rates on long term contracts is at risk of being left at the port. It happened during the covid-19 pandemic and it is happening again now.

"We are also seeing freight forwarders being hit with new surcharges and being pushed onto premium services to have space guaranteed onboard ships. In such cases they have no other option than to pass these costs on directly to their shipper customers.

"Carriers will continue to push for higher and higher freight rates so the situation may get worse for shippers before it gets better."

SHELL DEBUTS CHARGER

Shell recently inaugurated its first self-developed megawatt charger for dual use by both electric trucks and shipping vessels at the Energy Transition Campus Amsterdam (ETCA). The capacity of the megawatt charger corresponds to about three 350 kW, regular fast chargers that trucks can currently use to charge.

"We want to help decarbonise our customers in the logistics sector," says Hilmar van den Dool, General Manager eMobility at Shell. "In addition to our investments in biofuels and liquefied natural gas, we also invest in electric mobility. There are not that many electric trucks and vessels yet, so with this we're investing ahead of the market that is growing quickly. It is in line with our ambition to provide more and cleaner energy solutions."

Melissa Williams, President at Shell Marine, adds: "We believe this solution will be helpful for shipping companies that control and operate logistics businesses across the supply chain, and often have facilities that serve both waterside and landside.

"The megawatt charger also offers the flexibility to charge a wide range of inland and port vessels such as barges, tugboats, service vessels and ferries. I'm excited at how the technology is now available, and deployed."

The megawatt charger is connected to ETCA's own microgrid. This smart grid enables integration between energy supply, energy storage, and energy demand. The ETCA microgrid includes 3,600 rooftop solar panels, stationary battery storage, 119 EV chargers for cars1, a hydrogen electrolyser and other research equipment.

The Megawatt Charging System (MCS) is equipped with two separate charging arms. One rotatable arm is dedicated to electric vessels, the other arm serves heavy-duty electric trucks and buses. With this innovation Shell wishes to contribute to a universal standard so customers do not have to use different cables or connectors.

By featuring a second adapter (CCS2) on each charging arm, the megawatt charger at the ETCA can accommodate a wide range of vessels, vehicles and battery types for fast and flexible charging. Even though the megawatt charger is a demonstration set-up, it is ready for use, and vehicles and vessels with megawatt charging capability can now visit by appointment.

BV CARBON CAPTURE GOALS

Bureau Veritas (BV), has released a report assessing the technical viability of current carbon capture and storage (CCS) technology within the marine market, and highlights the vital role that shipping can play across the entire CCS value chain.

The technology report, *Onboard Carbon Capture: An Overview of Technologies to Capture CO_2 Onboard Ships*, details the current state of play regarding a wide range of emerging CCS technologies. The paper explores the technical and commercial viability of implementing CCS technology onboard vessels, highlighting the results from key feasibility studies that showed achievable capture rates between 82% and 90%.

The report also details the challenges to the wider adoption and integration of CCS technologies, such as regulatory frameworks that are yet to be consolidated at a global level, as well as from an operational perspective. Concerns have been raised regarding the available space onboard vessels to accommodate CCS technologies, as well as the safe handling of CO_2 onboard.

While alternative fuels are generally seen as the key to ushering in a new era of sustainable shipping, the BV report recognises that the role of carbon capture technologies in decarbonising the maritime sector cannot be overlooked.

The paper also outlines the significant role that shipping can play in facilitating the development of a global carbon capture, utilisation, and storage (CCUS) value chain as a major mode of CO_2 transportation, particularly given the growing interest in offshore CO_2 storage sites. Globally, some 230 million metric tons of CO_2 are already used in industrial applications every year, including in the production of fertilisers, steel, and food and beverages.

Marcos Salido, Environmental Project Manager (Strategy and Advanced Services) at Bureau Veritas Marine and Offshore and main author of the report, says: "When assessing the feasibility of carbon capture technology onboard vessels, it is vital to do so within the context of the entire CCUS value chain, taking into account the potential challenges related to the management of the captured CO_2.

"With sufficient regulations and infrastructure in place, the maritime industry could benefit from the development of a truly circular CO2 economy, while contributing to the industry's ambitious decarbonisation targets."

Onboard Carbon Capture: An Overview of Technologies to Capture CO2 Onboard Ships is the second report to be issued by Bureau Veritas' Future Shipping Team initiative, and can be downloaded at: tinyurl.com/BTI-BVCCSReport

SEIZING THE MOMENT

Demands of electrification, digitalisation and other advances have pushed crane and grab manufacturers into new investments in technology. As ever, with environmental considerations and tight financial conditions, more efficient work practices are vital

Konecranes recently announced a number of port solution portfolio launches aimed at reinforcing its innovation and technology position as far as material handling is concerned.

New developments were announced at the TOC Europe 2024 event, aimed at underscoring Konecranes' commitment to eco-efficient technology and its vision of Ecolifting, which aims to reduce customers' carbon footprints across all stages of their operations.

"Today's launches reflect our strong commitment to continuous investment in digitalisation, electrification and technological advancements," said Juha Pankakoski, Executive Vice President of Port Solutions at Konecranes. "These investments contribute significantly to more efficient cargo handling, decarbonisation of the economy and the promotion of circularity and safety in the port industry."

© COPENHAGEN MALMÖ PORT

Konecranes' launches cover innovations in straddle carriers, lift trucks, integrated automated solutions and its port services portfolio.

As global container handling continues to shift towards more sustainable practices, Konecranes has redesigned its Konecranes Noell Straddle Carriers to give the industry greater flexibility with interchangeable power modules including hybrid, battery and hydrogen options.

The uniform design facilitates quicker delivery times and ensures the ready availability of spare parts. Maintenance demands are reduced, and each unit is pre-equipped for hydrogen use in addition to hybrid and battery power. The modular construction simplifies power system upgrades to meet the diverse energy needs of terminals now and in the future.

The **Konecranes E-VER electric forklift** is now offered with increased capacity to meet the high-performance demands of industries such as steel and mining in addition to ports. As of

June this year, the E-VER electric forklift was available in the heavy-duty range of 18-25 tons – without compromising performance.

The new model can lift 10% faster and accelerate up to 20% more quickly on slopes versus a diesel forklift, with reduced energy consumption and losses allowing the truck to use energy more efficiently. At the end of the forklift's service life, the batteries can be used as emergency reserves at charging stations or as backup power.

Developed in partnership with industry experts, **Future Fields** is an automation concept that incorporates an innovative multi-trolley ship-to-shore crane, an automated guided vehicle and automated high-bay container storage to tackle challenges such as increasing vessel sizes and the limited availability of land. Future Fields can improve productivity, consistency and capacity in container handling, and reflects one of Konecranes' core values: 'Driving for Better'.

Complementing the Ecolifting expanded portfolio launches, Konecranes has renewed its **Remote Support** services for ports and terminals, which reduce the need for technicians to travel to site locations or wait on resources. Remote Support gives customers instant access to Konecranes' experts through a dedicated hotline phone number, the Konecranes Support online platform and video calling for troubleshooting.

Konecranes recently handed over eight hybrid **Konecranes Noell Straddle Carriers** to Copenhagen Malmö Port (CMP). These straddle carriers were ordered last year and are intended for the new container terminal in Copenhagen. The parts were delivered to CMP in Q4 last year and have been assembled and extensively tested on-site at the current container terminal.

Next year, the existing container terminal will be relocated a few kilometres to a new and better location in Ydre Nordhavn. By & Havn, one of CMP's owners, is the developer of the container terminal, while CMP is responsible for the equipment and for operating the terminal.

A KONECRANES LADLE CRANE IN ACTION.

The new terminal will play a crucial role in regional development, supplying the growing Copenhagen capital area and the rest of Zealand with goods and commodities and catering to the export needs of businesses in the region.

"The new straddle carriers represent a significant step toward CMP's goal to achieve climate neutrality in our operations by 2025. These machines run on fossil-free HVO 100 biodiesel instead of fossil diesel and utilise modern hybrid electric technology, consuming significantly less fuel than previous equipment.

"With these new machines, efficiency and productivity will improve, meeting our customers' demands. We are delighted that Konecranes has fulfilled the mission and delivered the straddle carriers promptly, allowing us to use them immediately," says Povl Dolleris Røjkjær Ungar, COO of Copenhagen Malmö Port.

The new straddle carriers can lift containers 1-over-3, unlike the ones currently used at the existing terminal, which lift 1-over-2. This means that more containers can be stored in the same space.

Hubert Foltys, Head of Konecranes Straddle Carrier business, says: "CMP has

set the bar very high in terms of energy consumption and emissions. Konecranes was able to meet and in some respects even exceed their requirements with these straddle carriers. We are grateful for CMP's trust in our technology and performance, and look forward to building on our good relationship as we move forward."

In the beginning of 2025 Konecranes will also deliver two electric ship-to-shore cranes to CMP for the new terminal.

Meanwhile, the Port of Oulu has ordered a **Konecranes Gottwald ESP.7 Portal Harbor Crane** to improve cargo handling capability at itsbMain Quay.

The new Generation 6 machine allows operators to reach across special ro-ro vessels that have containers stacked high on deck, in addition to handling general cargo. Ordered in this year, the crane will be delivered in 2025.

One of the busiest seaports in northwestern Finland, the Port of Oulu provide extensive cargo services at three commercial harbour facilities, including Oritkari, which handles mostly containers.

As modern commercial sea traffic employs different types of vessels, the new Generation 6 portal harbour crane will be used to handle the ro-ro vessels with containers stacked high on deck. It will also increase flexibility to handle general cargo as well as heavy project cargo up to 125t.

"This new portal harbour crane will expand our container handling capacity, adding essential flexibility to handle also other kind of cargo," says Marko Mykkänen, Managing Director, Port of Oulu. "Slewing gives it the extra range of motion to access every container on the RoRo vessels, including those in hard-to-reach corners. In addition, its electric drive will reduce our energy consumption, which aligns to our state environmental permit.

Konecranes Noell Straddle Carriers have been redesigned around three power options – hybrid, battery and hydrogen – and are now available with power modularity that is easily interchangeable with a minimum of downtime. As container terminals make the transition to low-carbon operations, they now have the flexibility to choose the straddle carrier power source most suitable for their needs.

BOOST FOR LONDON GATEWAY

DP World has recently taken delivery of Europe's largest quay cranes at its flagship London Gateway logistics hub, marking its latest investment to boost the country's future trading capability.

Weighing more than 2,000 tonnes, the giant cranes will come into service at London Gateway's new £350m fourth berth, which is set to open this summer.

The cranes are expected to operate for a minimum of 25 years, making the arrival a rare event in the UK, and are sized to service the largest vessels currently in operation around the world – including 24,000 TEU containerships and even bigger vessels in the future.

Ahsan Agha, Vice President Port Operations at DP World London Gateway, says: "At a time when the pressure to manage costs, maintain reliability and improve speed has never been greater, DP World in the UK has been building a unique array

of assets and suite of capabilities to help our customers stay competitive in a fast changing and unpredictable trading environment.

"While they naturally choose us for our growing capabilities, it's also the quality of our service that makes our customers stay. Thanks to the capacity soon to be provided by the quay cranes and the new fourth berth, that service at London Gateway is future-proofed for years to come."

The cranes are not only the largest in Europe, but also the most advanced, having been fitted with the latest automation technology and can complete 'tandem' lifts, which involves the loading or unloading of two 40ft boxes or four 20ft boxes in a single move.

Another two quay cranes are expected to dock at London Gateway in early summer. These follow the arrival of the £56m automated stacking cranes (ASCs) and £12m electric straddle carriers, which are also set to go into operation at the new fourth berth.

ABB AUTOMATIC ORDER

ABB and crane builder Kuenz, headquartered in Austria, have secured the largest single order of automatic stacking cranes (ASC) ever made by a European terminal, as part of the groundbreaking 'phase 2' expansion of APM Terminals Maasvlakte II (APMT MVII) facility in Rotterdam, the Netherlands.

The companies will deliver 62 ASC and one Intermodal Yard Crane equipped with the latest electrical and automation technology enabling the terminal to double container capacity at APMT MVII. The financial details of the order were not disclosed.

For the expansion, APMT MVII is building on the achievements of the existing facility which deploys the highest level of yard crane automation, with fully automated stacks, automated guided vehicle (AGV) transfer zone as well as fully automatic handling of external trucks.

"This is an important step in the expansion for APMT MVII. ABB and Kuenz once again proved to be the best solutions for the handling of our containers," says Hans Jongejan, Project Director MVII-Expansion. "The combination between the reliable automatic handling provided by ABB and Kuenz's aerodynamic cranes makes this a sustainable choice. This allows us to not only become the most modern gateway to Europe but also the most efficient and sustainable. We look forward to another successful co-operation."

The high level of automation with the separation of personnel and handling operations delivers safety as well as efficiency gains. Experience from the current facility also underlines how automation enables smoother and 'machine-friendly' operations with less risk of damage to equipment, demonstrated in record-low maintenance hours for the terminal.

"Working with ABB as our systems partner for the expansion of APMT MVII continues a success story that started more than 10 years ago in the same location," says David Moosbrugger, Managing Director, Kuenz. "We are both delighted and proud that APM Terminals has chosen to work with our two companies once more as their partners in the MVII expansion project."

The scope of delivery from ABB includes control and information systems, automation sensors and software, and remote control capability to optimize the crane efficiency for remote crane management. Continuous development and solid revision management make it possible for APMT MVII to run both the existing facility and the expansion as a unified efficient facility at a high automation and performance level.

Ranged along 1,000 metres of new quay, the APMT MVII expansion will significantly increase the capacity of APMT MVII during 2027, strengthening APMT MVII's position among Europe's leading container terminals. Yard operations will be highly sustainable as well as automated, with each all-electric crane optimised for 1-over-6-high stacking to make most efficient use of land.

ABB heads to Rio Grande

Wilson Sons, the largest integrated port and maritime logistics operator in the Brazilian market, has selected ABB's Optical Character Recognition (OCR) system for ship-to-shore (STS) gantry cranes at Rio Grande container terminal, including the QuayPro module to digitalize container stowage confirmation processes.

The company has been using ABB's automated gate systems both at its Rio Grande and Salvador container terminals since 2013. Adding Crane OCR with QuayPro to the existing gate system supports their vision to automate and digitalize terminal processes.

"This partnership means one more step towards our commitment to achieve even more efficient and sustainable operations, through technology and process automation," says Paulo Bertinetti, Executive Director of the Rio Grande terminal.

The ABB Crane OCR solution automates the process of capturing data as containers are loaded and discharged by STS cranes. Using ABB's advanced AI imaging technology, the system captures container numbers, ISO codes, door orientation, bolt seal presence and hazardous material labels, as well as recording images for damage inspection purposes.

Management system clerks can correct or adjust transactions in real time from a remote location. The solution also includes ABB MatchMaker which identifies the terminal trucks, allowing for the automated handoff between crane and terminal vehicles.

"ABB Crane OCR gives us an efficiency edge while the ability to streamline the stowage process automatically represents a productivity differentiator," says Giovanni Phonlor, Operations Director of the Rio Grande terminal. "Minimising the risk of error on data entry means more efficient operations. Technology works hand in hand with leaner, greener operations, ready for growth in traffic and in vessel capacity."

The combination of ABB Crane OCR and the QuayPro module makes it possible to streamline the stowage

confirmation process, with increased productivity as a result. The module determines the actual stowage position of containers during vessel loading operations, providing input to the terminal operating system to create an accurate outbound BAPLIE (bayplan/stowage plan occupied and empty locations message) file, in addition to confirming the accuracy of inbound stow positions.

Any deviation from the load or discharge plan is reported in real time enabling the terminal to adapt to dynamic variations. In addition, crane drivers get audio-visual work instructions.

"The new QuayPro module is more than an extension of the OCR system; it will change the way container terminals operate. We are proud to further strengthen our relationship with Wilson Sons and to see the positive impact of our technology on the Rio Grande container terminal operations," says Richard Micheli, Product Line Manager OCR, ABB Marine and Ports.

HIAB EX.HIPRO

Hiab, part of Cargotec, has launched the HIAB eX.HIPRO crane featuring cutting edge technological advancements in load handling for energy efficiency, increased productivity and ease of use with minimal environmental impact.

Energy-efficient and electric vehicle (EV) ready – the new HIAB eX.HIPRO provides energy savings of up to 30% with its advanced all-new hydraulic systems. The cutting-edge, pressure-compensated, and load-sensing hydraulics are optimised for high oil flow, reducing fuel consumption and CO_2 emissions, making operations not only more efficient but also environmentally friendly and quieter. The HIAB eX.HIPRO is ready for the future with its compatibility with electric vehicles. When installed with a diesel engine, its engine control with Dynamic RPM and Automatic Start/Stop functionality further enhances energy efficiency, ensuring operations are at peak performance with minimal environmental impact.

Superior Control and Precision — at the heart of the HIAB eX.HIPRO is the SPACEevo control system, the latest in intelligent control technology. Combined with the Olsbergs V200 valve and PFD function, the eX.HIPRO offers smooth and fluid simultaneous movements, reducing pressure drops and heat generation. This system ensures precise control, making even the most complex manoeuvres easy to execute. "With our customers' needs in mind, we created the HIAB eX.HIPRO loader crane range to offer a leading market performance, substantial energy efficiency savings, superior capacity, speed and precision. Helping our customers in their sustainable growth journey is key for us and the HIAB eX.HIPRO is a product that will greatly aid in those efforts," says Barry McGrane, SVP Loader Cranes Light and Medium, Hiab.

Optimised for Complex Tasks – Designed for businesses that require superior performance, the HIAB eX.HIPRO excels in applications needing high capacity, speed, and precision. Its intuitive controls and state-of-the-art sensor safety features facilitate easy handling and training, enabling operators to achieve higher productivity with less effort.

Enhanced Productivity and Uptime – The HIAB eX.HIPRO is designed to maximise uptime and productivity. Its robust construction and superior quality components ensure long-lasting performance, backed by extensive warranties, five years on the steel structure and two years (three as option) on all other parts, and a wide network of service support. The HIAB eX.HIPRO can be tailored to the customer's specific needs with a range of optional features, including variable pump flow and crane tip control. These add-ons enhance the crane's versatility, making it the ideal choice for professionals who demand the best in every operation.

This launch includes the HIAB eX.142 HIPRO, HIAB eX.162 HIPRO, HIAB eX.192 HIPRO and HIAB eX.232 HIPRO cranes that are available in different configurations.

MACGREGOR LARGE ORDER

MacGregor has received a large order for its 50-tonne active heave compensated (AHC) crane to be installed on board *MMA Valour*, a versatile and flexible multi-purpose platform supply vessel. The vessel has a proven track record in servicing a broad range of offshore work scopes across the energy and offshore wind sectors.

The contract has been booked into Cargotec's second quarter 2024 order intake, with crane supply scheduled for the third quarter of 2025.

MacGregor's range of well-proven AHC cranes, including its subsea cranes, offer precise lifting capabilities in all conditions, including extreme environments and across temperatures of between plus to minus 40°C.

This contract follows successful deliveries of AHC cranes by MacGregor to MMA Offshore for two of its flagship vessels the *MMA Pinnacle* and *MMA Prestige*.

MMA Offshore Managing Director, David Ross say: "We are looking forward to fitting the MMA Valour with a MacGregor active heave compensated crane which will enhance the vessel's capability to provide a broader range of marine and subsea services to our clients. The conversion of the Valour to a multi-purpose support vessel will enable the vessel to provide light construction, ROV, survey and geotechnical support in addition to traditional supply services. We are excited to partner with MacGregor for this important conversion."

Senior Vice President, Offshore Solutions, MacGregor, Pasi Lehtonen says: "Our AHC cranes have a proven record for reliability, and we have extensive experience in supporting their operation with more than 250 units in service. MMA Offshore is a long-standing MacGregor customer, and we are delighted to add AHC lift capabilities as part of the *Valour* upgrade."

THINK CLEAN®

FASTER, CLEANER, SAFER RAILCAR UNLOADING.

Gate Openers

Railcar Vibrators

BootLift® Connectors

Martin manufactures railcar connectors, industrial vibrators and railcar openers that help evacuate bulk materials like coal, aggregate or grain quickly, efficiently and safely. From the railcar through the unloading gate and onto an under-track conveyor system – these tough, long-lasting products allow you to transfer more cargo with shorter discharging times, deliver better material containment to prevent spillage and help to eliminate unnecessary risks to workers.

martin® engineering

NEMAG: FROM CHALLENGE TO CONQUEST

COMPANY NEWS

Would you buy a new grab if you already had three grabs available?

That's a challenge that Nemag's client faced. SMT Shipping is a leader in the global maritime industry and has many years of experience with transshipment in the shallow shores of the West African region. Market transitions led them to this grab selection challenge. The solution had a significant impact: a 25% productivity boost – and it paid back over four times its cost in the first year.

The challenge: the search for the optimal crane and grab combination

To stay profitable, SMT Shipping needed to optimise its transshipment operations. The company owns and operates vessels with high-loading capacities and shallow drafts, allowing it to transport significant amounts of cargo from terminals, often located in rivers, to the open sea. Once there, it uses large cranes to transfer the cargo to cape-size vessels. For these rapid transfers, an efficient grab is essential. Marc Smeets, Technical Project Manager at SMT Shipping, explains: "We need to optimise the continuous cargo transfer process to maximise our profit."

Making the transition from bauxite to iron ore

Originally, SMT's vessels in West Africa transferred bauxite with a Nemag scissors grab that already improved productivity. However, when the bauxite market collapsed, it shifted to transfer iron ore for a client in Sierra Leone. This posed a new challenge as the specific gravities of bauxite and iron ore differ significantly. Bauxite is 1.6 tonnes per cubic metre, while iron ore is heavier at 2.5 tonnes per cubic metre. SMT Shipping found that its three existing grabs were not optimal for the heavier iron ore, leading to slower grab cycles and crane overloading.

The solution: enabling a higher efficiency rate with the NemaX Grab

Faced with suboptimal equipment, SMT Shipping needed a new grab specifically designed for iron ore. Nemag introduced the NemaX grab, which promised enhanced efficiency. Unlike traditional clamshell grabs, the NemaX requires significantly less wire to operate, saving valuable time on each cycle. Smeets recalls: "Saving seconds on each cycle doesn't seem much until you calculate the impact on an annual basis."

Nemag's initial presentation highlighted that the NemaX grab showed a productivity improvement of 14% to 19% compared to other grabs. These numbers convinced SMT Shipping to invest in the NemaX grab, seeing its potential to improve their overall efficiency.

> "Only some cars offer both reliability and performance. The same goes for grabs. So don't bring a road car to a Dakar rally. Use the right grab for the right job, as SMT did

The results: 25% productivity boost, three months ROI and easier maintenance

The NemaX grab's integration into SMT Shipping's operations led to impressive results. Initially, the crew needed time to adapt to the new equipment, but within the first month, the handling rate increased from 1,000 to 1,250 tonnes per hour. This represented a 25% productivity boost compared with the previous Nemag scissors grab, which wasn't optimally suited for iron ore.

The NemaX grab not only improved productivity, but also enhanced safety and maintenance efficiency. With fewer moving parts than traditional grabs, it significantly reduced the risk of breakdowns and made maintenance easier and faster.

Smeets notes: "Our owner always thought Nemag was a bit like the Mercedes or Ferrari of grab builders – the highest quality but overpriced when you only need to get from A to B. He later discovered that the price difference between Nemag and its major competitors wasn't significant. This ended his long-standing perception when he learned that Nemag's prices are reasonably in line with the market."

The introduction of the NemaX grab resulted in a 25% productivity increase, a three-month return on investment period, and easier maintenance – making it a pivotal asset for SMT Shipping.

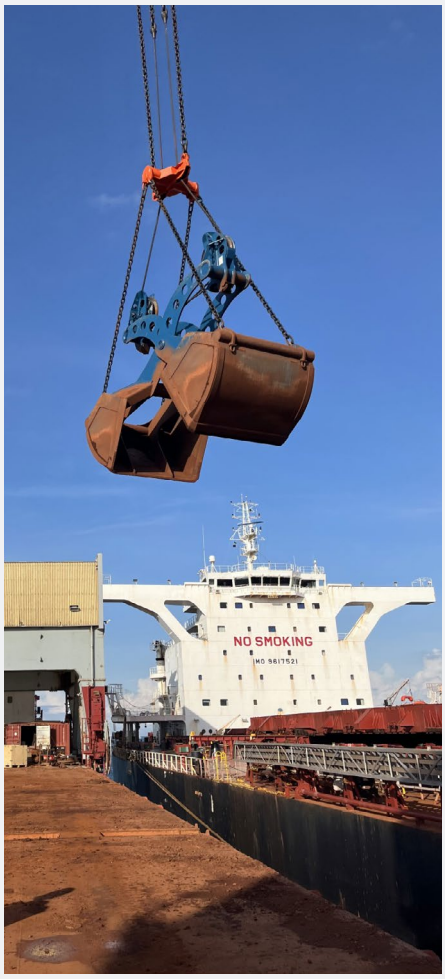
Future plans and the next steps

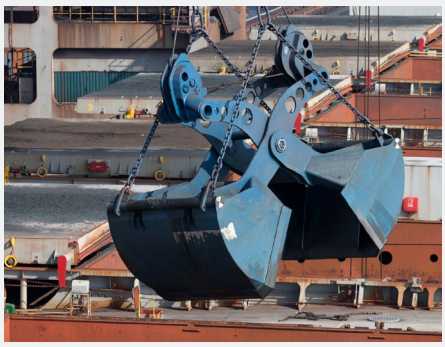
After seeing the success of the NemaX grab, Smeets was interested in buying another grab to increase productivity even further. The new grab includes custom SMT adjustments and a unique feature allowing weight adjustments, making it versatile for both wet and dry ore handling – another tailored innovation to improve their flexibility and overall performance with a hybrid grab.

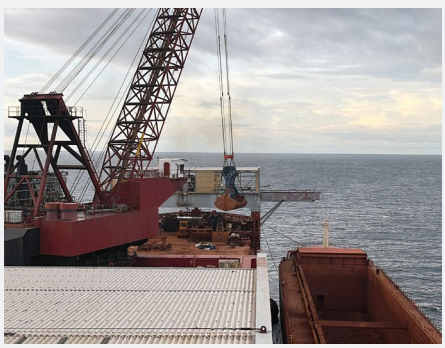
Any car can get you from A to B. However, only some cars offer both reliability and performance. The same goes for grabs. But more importantly, don't bring a road car to a Dakar rally. Use the right grab for the right job, as SMT did.

Read the complete case study to uncover more insights into SMT Shipping's journey and explore how Nemag's 'passion for performance' can boost your productivity. The case study also includes a video to experience their grab cycle speed and transhipment operation. To get your copy, visit: nemag.com/dc-int-case-study.

For more information, contact: nemag.com







UNIVERSITY of GREENWICH

The Wolfson Centre
for Bulk Solids Handling Technology

THE WOLFSON CENTRE FOR BULK SOLIDS HANDLING TECHNOLOGY

AT THE UNIVERSITY OF GREENWICH, MEDWAY.

EXPERTS OFFERING CONSULTANCY ADVICE AND SHORT COURSES FOR ENGINEERS HANDLING POWDER AND BULK MATERIALS

»» ONLINE COURSES NOW AVAILABLE

CONSULTANCY SERVICES

Some of our Consultancy services include advising on:

- Storage and Discharge of bulk materials
- Pneumatic Conveying of bulk solids
- Spoiling of materials in storage and in transit
- Plant and Equipment design/redesign
- Ship Unloading/ quayside operations
- Control of plant wear
- Dust control
- Bulk Materials characterisation
- ATEX/DSEAR compliance
- Expert Witness services

SHORT COURSES FOR INDUSTRY

We also provide a range of short courses to help delegates identify potential bulk materials handling problems and advise on how to avoid and/or overcome these issues. They fall under 4 main categories

Pneumatic Conveying:

- Pneumatic Conveying of Bulk Materials
- Pneumatic Conveying System Design
- Rotary Valves; Design, Selection and Operational Issues
- Commissioning and Troubleshooting 'Hand's On' Pneumatic Conveying Systems

Storage of Bulk Materials:

- Storage and Discharge of Powders and Bulk Solids
- Design of Equipment for Storing and Handling Bulk Materials
- Biomass Handling, Feeding and Storage (can be adapted to other materials such as waste, recycled goods, pellets)

General bulk materials handling:

- Overview of Particulate Handling Technology
- Port and Terminal Operations for Bulk Cargoes
- Measurement of the Properties and Bulk Behaviour of Particulate Materials
- Dust Control in Processes

Specialist areas of concern:

- Caking and Lump Formation in Powders and Bulk Solids
- Undesired De-blending and Separation in Processes and Equipment
- Electrostatics in Powder Handling
- Numerical Modelling of Solids Handling and Processing
- Powder Handling and Flow for Additive Manufacturing

bulksolids.com +44 20 8331 8646

FOOD FOR THOUGHT

There have been a number of investments in new grain terminals and operations in recent times, aimed at boosting exports as well as expanding capacity

The Canadian government has allocated $26.3m for the expansion of the ADM Grain Terminal at Port Windsor, aiming to enhance grain export capacity and alleviate supply chain bottlenecks.

This project aims to boost export capacity to markets in Europe, the US, and Latin America, benefiting agricultural production from southwestern Ontario.

Key features of the project include new grain drying equipment, increased grain storage capacity, enhanced conveyor loading capacity, and an automated truck kiosk system to improve traffic flow.

As part of the National Trade Corridors Fund (NTCF), this project will improve infrastructure for grain transportation, thereby supporting economic growth and efficiency in agricultural exports from southwestern Ontario.

ELECTRIC INITIATIVE

ADM Milling is participating in a trial programme with logistics firm Voltloader to use electric bulk fleet vehicles to transport wheat from farm fields in the UK to ADM processing locations.

Voltloader is delivering 10 loads a week from wheat farms to ADM's processing facility in Corby, Northamptonshire, England, using the state-of-the-art electric vehicles specifically designed for the agricultural sector.

Using Volvo FM Electric tractors and specially adapted Weightlifter tipping trailers, the vehicles are configured for optimum payload and range, the companies said. If successful, the program could expand to other ADM milling locations in the UK.

The programme aims to reduce the carbon footprint associated with wheat transportation, in line with the company's commitment to reduce Scope 3 greenhouse gas emissions by 25% by 2035.

"We are delighted to be working with Voltloader on this initiative to help answer our customers' call for more sustainably sourced field-to-flour solutions," says Ashley Fuller, Commercial Director, ADM Milling UK.

"ADM is uniquely positioned to reduce the carbon footprint of food and agriculture at every point of the value chain, from farm to customer, with initiatives ranging from our new UK regenerative agriculture programme, to this trial with Voltloader, to our efforts to enhance the efficiency of our processing facilities."

Replacing a diesel truck with one running on electricity can directly prevent up to 100 tonnes of CO2 per year from entering the atmosphere, says Dave Rose, Founder and CEO at Voltloader.

"We are very excited to collaborate with ADM, enabling it to move towards achieving its vision for a more sustainable and resilient food supply chain," he says. "This collaboration is about leading the industry towards a more sustainable future."

Tailored solutions

ADM has a global footprint, but a firm operational infrastructure in the US. Headquartered in Chicago, ADM's domestic operations comprise more than 160 ingredient manufacturing facilities and more than 300 crop procurement facilities, located across 29 US states; when it comes to grain handling, ADM is an expert.

The company's Ama, Louisiana, facility has been successfully operating for decades and when the time came to replace its aging, undersized ship loading equipment, ADM was looking for technology that could deliver on both a capacity and environmental basis.

The operator required a turn-key, tailored ship loading and conveyor solution, which could be specially designed to meet its needs. ADM also needed it to be delivered by a supplier with a US presence, and local 24/7 support.

ADM approached Bruks Siwertell following good references and seeing both Bruks and Siwertell bulk grain handling technology working well and benefiting other operators in the agribulk industry.

Bruks Siwertell worked closely with ADM to establish its current needs, but to ensure long-term suitability, the potential capacity for growth was also considered. The ultimate solution for the Ama terminal included three Bruks pedestal-mounted, shuttling, slewing ship loaders with completely enclosed loading conveyors, along with six totally enclosed belt conveyors to feed dry bulk material to the ship loaders. For this particular system, the operator also requested spacious access platforms for easy maintenance.

The entire ship loading system was manufactured and pre-assembled into large, complete assemblies on the Harvey Canal and then carried on a barge to the terminal for final installation. It was commissioned in 2018.

Each ship loader offers ADM a rated capacity of around 2,000t/h and can load post-Panamax sized vessels, up to 115,000 dwt and beam of 43m. They are in near-constant use and handle a broad range of grains including wheat, soya beans, milo, corn, meal, and dried distillers grains (DDGS).

ADM now has a system that offers completely enclosed dry bulk material handling, which not only eliminates waste from spillage, but crucially ensures that grain handling operations are dust free. The installation has transformed the terminal and sets grain handling standards in the US.

MONOPOLY OVERTURNED

The monopoly of handling grains at the Mombasa port held by Grain Bulk Handlers (GBHL) has ended after the Court of Appeal allowed a second firm install themselves at the port. The court's decision means Portside Freight Terminals can set up an operation at the port.

Court of Appeal judges Pauline Nyamweya, Imaana Laibuta and George Odunga found in favour of Portside, overturning a ruling in the High Court stopping Kenya Ports Authority awarding a contract to Portside.

The court's decision opens the way for greater competition in the grain handling sector in Kenya.This decision reshapes the grain handling landscape at the port, emphasising the judiciary's commitment to fostering a competitive market in Kenya.

The recent court case follows action by Atta Kenya, which delivers wheat flour and animal feed products based in Mombasa, whch recently filed a lawsuit against Grain Bulk Handlers relating to a grain dispute involving ownership of wheat supplies.

DP WORLD INVESTMENT

DP World has joined forces with Brazilian railway operator Rumo to build a new terminal at the Port of Santos, to handle 12.5 million tonnes a year of grains and fertilisers, positioning the port as Brazil's primary trade gateway and a key hub for South America.

Rumo estimates the total investment for the construction of this state-of-the-art facility at BRL 2.5bn (US$500 million), which will be financed through a combination of Rumo's resources, loans, and potential strategic partnerships.

This is in addition to recent investments in DP World container handling facilities increasing capacity from 1.2m TEUs to 1.4m TEUs, while expanding the size of the quay from 1,100 metres to 1,300 metres.

Once complete the new terminal will handle 9m tonnes of grains and 3.5m tonnes of fertilisers a year. With construction expected to take 30 months, all other services including container handling at Santos will continue, with no impact to container handling operations.

Under the 30-year agreement, DP World will provide the terminal area located on the left bank of Brazil's Port of Santos to Rumo and assume responsibility for operations and port services. The port is one of the largest and most modern private multi-purpose port terminals in the country.

The new terminal marks DP World's fourth round of investment since operations began in Brazil in 2013. It comes at a crucial time with the port achieving record cargo movements in January, handling 11.9m tonnes of cargo. Bulk solids, such as sugar and soy, accounted for 5 million tonnes, up 13.9% compared to the same period in 2023, according to the Port of Santos.

Commenting on the agreement, Fabio Siccherino, CEO of DP World Santos, says: "We are thrilled to partner with Rumo on this transformative project, which underscores our commitment to driving growth and innovation in Brazil's logistics sector. This new terminal will not only bolster trade capabilities but also create long-term value for our customers and stakeholders."

In line with DP World's global decarbonisation strategy, the new terminal will be equipped with 21 new pieces of equipment, featuring advanced technology to reduce consumption and emissions of polluting gases. DP World began the process of electrifying its rubber-tyred gantry cranes at the Port of Santos in 2023.

DP World already invested US$35m in 2023 to expand and modernise its facilities at the Port of Santos. The terminal currently inhabits 845,000 square metres, with an additional 130,000 square metres available for expansion.

BEUMER: PIPE CONVEYOR BOOSTS PORT GROWTH

COMPANY NEWS

BEUMER GROUP IS UNDERTAKING A CONTRACT TO SUPPLY A 2KM PIPE CONVEYOR TO THE PORT OF SAGUENAY IN CANADA, INCREASING ITS BULK HANDLING CAPABILITIES WHILE REDUCING ENVIRONMENTAL IMPACTS (© PORT OF SAGUENAY)

Beumer Group has secured a contract to supply a large two-way pipe conveyor system for a strategic development project at the Port of Saguenay in Quebec, Canada. The conveyor will connect the port with customers in the new industrial port zone, boosting economic growth and supporting the region's commitment to a more sustainable maritime supply chain.

The Port of Saguenay is located 500km north of Montreal. The Beumer pipe conveyor is central to the port's new multi-user bulk transport system, which will increase the port's ability to both import and export iron ore, pellets, wood ships, salt, aggregates and other ores. It will attract further investment in the region of Saguenay–Lac-Saint-Jean.

On awarding BeumerGroup the contract, the Port of Saguenay Authority commented that they were particularly impressed with the company's "engagement, commitment and flexibility in understanding our requirements, especially regarding the importance to work with the community."

The pipe conveyor will be roughly 2km long with a downhill (export) capacity of 4,150t/h and an uphill (import) rate of 2,750t/h. It runs along an existing steep and curvy road, reducing the need for truck transport and any associated carbon, dust and noise emissions.

Because the pipe conveyor is fully enclosed, it reduces any environmental impacts and protects bulk materials from the sun, rain, snow, and wind.

The scope of the contract includes all mechanical, structural and electrical equipment including prefabricated electrical buildings and the control system.

Markus Schmidt, CEO Beumer Group North America, says: "The Saguenay pipe conveyor project represents a very important milestone, both for this region of Canada and for BeumerGroup's Minerals and Mining business. The expertise inherent in our global team enables us to deliver a conveyor solution on this scale, meeting the client's criteria for improving capacity in bulk handling while reducing environmental impacts."

The pipe conveyor is expected to be fully operational in 2025.

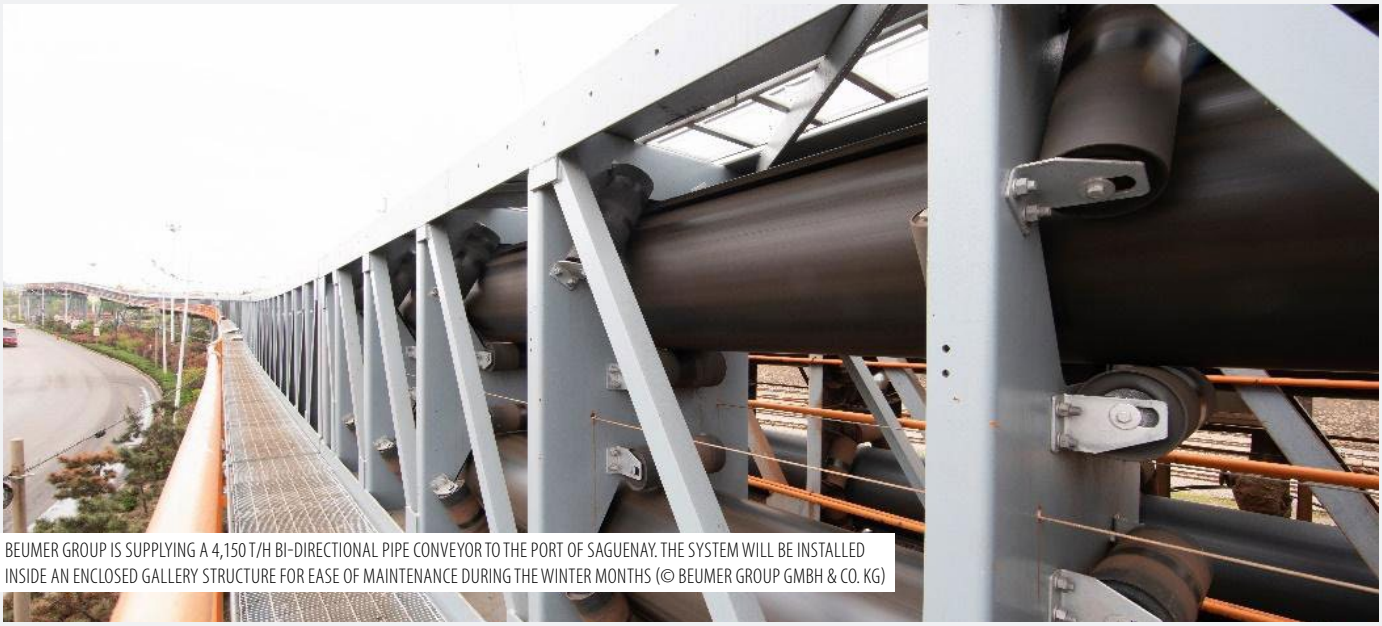
ABOUT BEUMER GROUP

Beumer Group is a global manufacturer of material handling solutions. As a third-generation family-owned business, the company offers high-quality system solutions and comprehensive customer support worldwide and is a 'partner of choice' for the mining, cement, building materials, petrochemical, consumer goods, postal, e-commerce, fashion and baggage handling industries.

With 5,500 employees worldwide, Beumer Group generates an annual order intake of around €1,25bn. In line with the company motto "made different", Beumer commits to the highest standards of quality, innovation and sustainability. In 2022, the group acquired FAM Minerals and Mining, an international supplier for bulk materials, process supplier for bulk materials, processing and conveying systems for open-cast mining, stockyards, and ports.

For more information, please visit: beumer.com

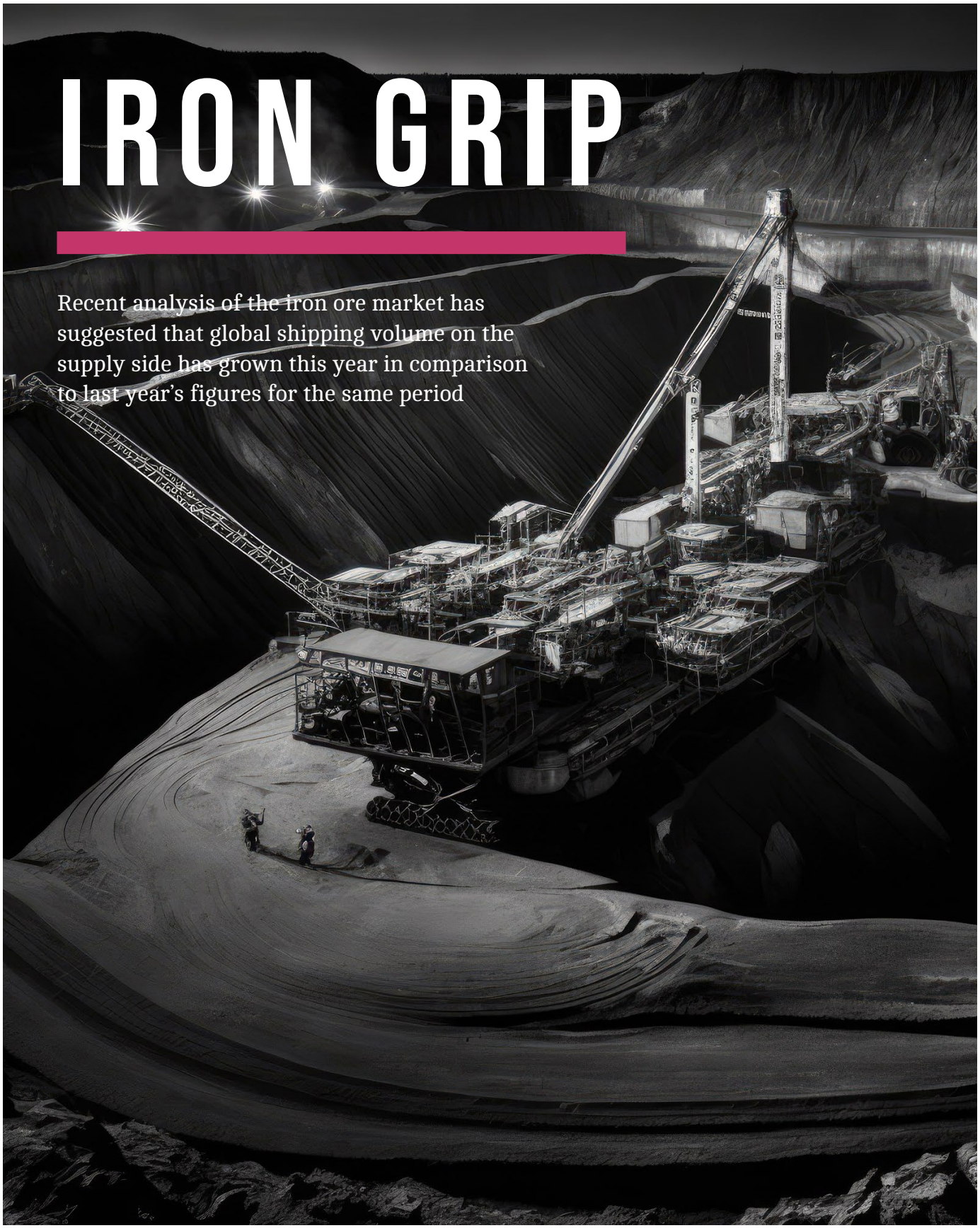
BEUMERGROUP



BEUMER GROUP IS SUPPLYING A 4,150 T/H BI-DIRECTIONAL PIPE CONVEYOR TO THE PORT OF SAGUENAY. THE SYSTEM WILL BE INSTALLED INSIDE AN ENCLOSED GALLERY STRUCTURE FOR EASE OF MAINTENANCE DURING THE WINTER MONTHS (© BEUMER GROUP GMBH & CO. KG)

IRON GRIP

Recent analysis of the iron ore market has suggested that global shipping volume on the supply side has grown this year in comparison to last year's figures for the same period



According to SMM, iron ore inventory's at major ports decreased at the beginning of July, although different types of iron ore were performing differently with stocks of fines, for example, increasing, while iron ore concentrates and pellets were down at the beginning of July.

As of 5 July, iron ore inventory at the 35 ports tracked by SMM was 146.04 million tonnes, up 610,000 tonnes month on month and 23.49 million tonnes year on year. The daily iron ore port clearance volume averaged 3.029 million tonnes, up 57,000 mt month on month, but down 4,000 tonnes year on year

According to SMM, port arrivals remained at a high level at that point. Pig iron output continued to increase and steel mills may make certain restocking, supporting the demand for iron ore concentrates, leading to an increase in port clearance volume. However, port inventory continued to accumulate amid high port arrivals.

Blast furnace pig iron output shows a trend of declining from the peak. In the off-season for steel demand, the pressure of steel inventory accumulation still exists.

Therefore, steel mills mainly purchase iron ore concentrates as needed, which may lead to a slight decline in port clearance volume.

Overall, iron ore inventory at 35 ports is expected to continue its accumulation trend .

A report by Huatai Futures recently suggested that iron ore port inventories have slightly decreased. Overall, from the supply side, the global shipping volume of iron ore has increased significantly to a new high for the year, higher than the same period last year.

On the demand side, pig iron production has maintained an upward trend, and iron ore port inventories have slightly decreased.

Subsequent attention should be paid to pig iron production, inventory reduction speed, steel mill profits, scrap steel arrivals, and macro policies.

RIO TINTO INVESTMENT

All conditions have now been satisfied for Rio Tinto's investment to develop the Simandou high-grade iron ore deposit in Guinea, including the completion of necessary Guinean and Chinese regulatory approvals.

Along with the recent approval by the board of Simfer, this allows Simfer to invest in and fund its share of co-developed rail and port infrastructure being progressed in partnership with Winning Consortium Simandou (WCS), Baowu and the Republic of Guinea.

More than 600km of new multi-use trans-Guinean railway together with port facilities will allow the export of up to 120 million tonnes per year of mined iron ore by Simfer and WCS from their respective Simandou mining concessions in the southeast of the country.

Together, this will be the largest greenfield integrated mine and infrastructure investment in Africa.

Rio Tinto Executive Committee lead for Guinea and Copper Chief Executive Bold Baatar says: "We thank the government of Guinea, Chinalco, Baowu and WCS for their partnership in reaching this milestone towards developing the world class Simandou project.

"Simandou will deliver a significant new source of high-grade iron ore that will strengthen Rio Tinto's portfolio for the decarbonisation of the steel industry, along with trans-Guinean rail and port infrastructure that can make a significant contribution to the country's economic development."

Under the terms of the transaction, Simfer will acquire a participation in the WCS project companies constructing rail and port infrastructure, commit to perform a portion of the construction works itself and commit to funding its share of the overall co-developed infrastructure cost, in an aggregate amount of approximately $6.5bn (Rio Tinto share approximately $3.5bn).

Chalco Iron Ore Holdings Ltd (CIOH) has now paid its share of capital expenditures incurred or required by Simfer to progress critical works up to completion.

A first payment of approximately $410m, for expenditures until the end of 2023, was made on 28 June 2024, and a second payment of approximately $575m, for 2024 expenditures, was made on 11 July 2024. These amounts settle all expenditures incurred up to date.

The co-developed infrastructure capacity and associated cost will be shared equally between Simfer, which will develop, own and operate a 60 million tonne per year mine in blocks 3 and 4 of the Simandou Project, and WCS, which is developing blocks 1 and 2.

Under the co-development arrangement, Simfer and WCS will deliver separate infrastructure scopes to leverage expertise. Simfer will construct the approximately 70km Simfer spur rail line and a 60 million tonne per year transshipment vessel (TSV) port, while WCS will construct the dual track approximately 536km main rail line, the approximately 16km WCS spur rail line and a 60 million tonne per year barge port.

Once complete, all co-developed infrastructure and rolling stock will be transferred to and operated by the Compagnie du Transguinéen (CTG) joint venture, in which Simfer and WCS each hold a 42.5% equity stake and the Guinean State a 15% equity stake6.

First production from the Simfer mine is expected in 2025, ramping up over 30 months to an annualised capacity of 60 million tonnes per year (27 million tonnes Rio Tinto share).

The mine will initially deliver a single fines product before transitioning to a dual fines product of blast furnace and direct reduction ready ore.

Simfer's capital funding requirement for the Simandou project as a whole is estimated to be approximately $11.6 billion, of which Rio Tinto's share is approximately $6.2bn.

BEATING THE BUILD-UP

BY BRAD PRONSCHINSKE, MARTIN ENGINEERING

How to safely mitigate silo and hopper clogs in ports

Ports and bulk terminals with silos can experience serious material flow issues caused by a series of factors – humidity, material type, settling, and so on – leading to clogging and expensive delays.

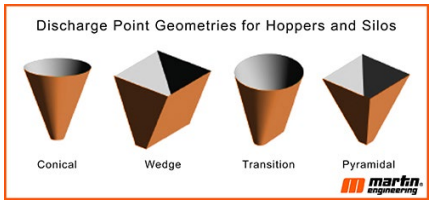
Once material adheres, the buildup is generally fast and dense, introducing a workplace hazard to remove. When operators notice material is no longer flowing, spilling over the edge of the vessel or backing up on conveyors, they know a clog has formed. Seeking ways to address it quickly without the proper tools or training can also be the moment when workplace safety degrades.

Flow aids are engineered to safely clear and prevent clogging, promote material flow and avoid costly downtime. To know what technology will work best for a specific application, the first step is understanding how, where, when and why clogs happen in any given vessel or transfer point. The second step is removing any worker involvement in clearing the clog, aside from pushing a button to activate the flow aid if it isn't automated.

SILOS ARE ENGINEERED CHOKE POINTS THAT SOMETIMES DON'T MEET PRODUCTION OR MATERIAL DEMANDS
(ALL PICS © 2024 MARTIN ENGINEERING)

Discharge point geometries

Discharge channels come in varying shapes, depending on the vessel and the material flow characteristics (see diagram, top right). Spouts that are narrow, such as those found on conical or pyramidal shapes, direct flow in a vertical column either into a chute or specific loading area. Slotted spouts, like those found on the wedge or transition shapes, distribute material in a narrowly defined line for loading on to conveyors or into containers (trains, trucks, and so on.)



THE DISCHARGE POINT GENERALLY MATCHES THE GEOMETRY OF THE VESSEL

The geometry of a vessel must match that of the discharge point or it will be prone to clogging. These discharge points can feature gates or grates that stop or separate the material. Grates can be used to slow or direct the flow of material when loading onto a conveyor or filling of transport bins on a train or truck. Either way, operators find that they can exacerbate clogging by stopping or slowing material at a structural choke point.

Unsafe practices

Once a clog has been detected, there are several unsafe practices that at the time may seem harmless, but frequently cause serious worker injuries or fatalities year after year. The two main causes of

injury are sudden discharge of adhered material and entrapment.

'HAMMER RASH', SHOWN HERE, WORSENS THE PROBLEM THAT HAMMERING WAS INTENDED TO OVERCOME

One unsafe method is beating the vessel walls with mallets or other objects to loosen adhered material. Over time, the more the walls are pounded, the worse the situation becomes, as the bumps and ridges left in the wall from the hammer strikes will form ledges that provide a place for additional material accumulations to start.

Another hazardous practice is poking or lancing underneath the clog at the discharge point. This can result in a sudden surge of falling material, burying or crushing the worker(s) below.

Perhaps the most prevalent cause of worker injuries and fatalities is confined space entry of the vessel. Along with potentially sinking into the material in the center, the material could be bridging and suddenly release. If a worker enters the vessel and stands on the volatile bridge, a sudden discharge could pull the worker into the cavity.

Another serious hazard of confined space entry is material buildup on the sides of the vessel, reaching higher than the worker. This buildup could fall from above, causing serious injury or burial.

Air lancing the clog from the mouth of the vessel at the top is an option many operations have chosen, but guardrails are highly recommended. The reach of the lance and the pressurised air stream must match the size of the vessel. Workers can fall in trying to reach the lance down to the clog, even if guardrails are present.

All these hazards can be avoided by introducing flow aids to the vessel to mitigate clogs, promote material flow and reduce downtime.

Flow aids result in greater safety with less downtime

As the term implies, flow aids are components or systems installed to promote the transport of materials. Flow aids come in a variety of forms, including rotary and linear vibrators, high- and low-pressure air cannons and aeration devices, as well as low-friction linings and special chute designs, to promote the efficient flow of bulk materials.

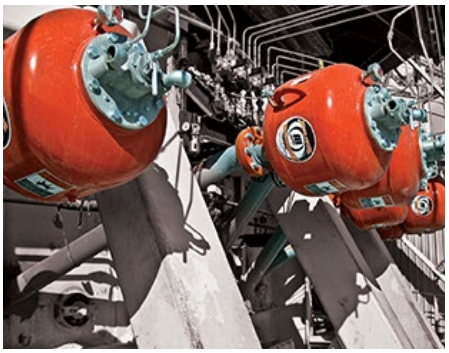
These modular systems can be combined in any number of ways to complement one another and improve performance. The components can be used for virtually any bulk material or environment, including hazardous duty and extreme temperatures. One of their primary advantages is that an operation can obtain a level of control over the material flow that is not possible any other way.

When employing flow aids, it's critical that the chute and support components are sound and the flow aid be properly sized and mounted, because the operation of these devices can create potentially damaging stress on the structure.

A properly designed and maintained vessel will not be damaged by the addition of correctly sized and mounted flow aids.

It's also important that any flow aid device be used only when discharges are open and material can flow as intended. The best practice is to use flow aids as a preventive solution to be controlled by timers or sensors to avoid material buildup, rather than waiting until material accumulates and restricts the flow.

Using flow aid devices in a preventive mode improves safety and saves energy, since flow aids can be programmed to run only as needed to control buildup and clogging.



A SERIES OF AIR CANNONS CAN BE PROGRAMMED TO DELIVER PRECISELY-TIMED DISCHARGES FOR MAXIMUM BENEFIT

Engineered vibration

The age-old solution for breaking loose blockages and removing accumulations from chutes and storage vessels was to pound the outside of the walls with a hammer or other heavy object. A better solution is the use of engineered vibration, which supplies energy precisely where needed to reduce friction and break up a bulk material to keep it moving to the discharge opening, without damaging the chute or vessel.

The technology is often found on conveyor loading and discharge chutes but can also be applied to other process and storage vessels, including silos, bins, hoppers, railroad cars, screens, feeders, cyclones and heat exchangers.

LIGHT AND PORTABLE VIBRATORS ALLOW QUICK ATTACHMENT TO HELP LOOSEN ANY PACKING DURING TRANSPORT

Air cannons

One solution for managing material accumulation in chutes and vessels is the low-pressure air cannon. It uses a plant's compressed air to deliver a powerful discharge to dislodge the buildup.

Cannons can be mounted on metallic, concrete or wood surfaces. The basic components include an air reservoir, fast-acting valve with a trigger mechanism and a nozzle to distribute the air in the desired pattern to clear the accumulation most effectively.

The device performs work when compressed air (or some other inert gas) in the tank is suddenly released by the valve and directed through an engineered nozzle, which is strategically positioned in the chute.

Often installed in a series and precisely sequenced for maximum effect, the network can be timed to best suit individual process conditions or material characteristics. The air blasts help break down material accumulations and clear blocked pathways, allowing solids and/or gases to resume normal flow.

In order to customise the air cannon installation to the service environment, specific air blast characteristics can be achieved by manipulating the operating pressure, tank volume, valve design and nozzle shape.

AIR CANNONS DELIVER A CONTROLLED BURST OF COMPRESSED AIR TO DISLODGE MATERIAL BUILD-UP

In the past, when material accumulation problems became a recurring issue, operators would have to either limp along until the next scheduled shutdown or endure expensive downtime to install an air cannon network.

That could cost a business hundreds of thousands of dollars per day in lost production. Many designers now proactively include the mountings in new designs so that a future retrofit can be done without hot work permits or extended downtime.

Valve replacement

Over time, the valve in an air cannon will wear and it is common practice to refurbish them rather than replace with new ones. Because clearances and fits are critical to proper operation, it is recommended that flow aid devices be rebuilt and repaired by the manufacturer, or that the manufacturer specifically trains plant maintenance personnel to properly refurbish the equipment.

EXTERNAL VALVE MAINTENANCE ELIMINATES THE NEED FOR TANK REMOVAL TO SERVICE THE AIR CANNON'S MOST PROMINENT WEAR PART

To simplify the process and avoid system downtime, one manufacturer has created a programme to supply factory-rebuilt air cannon valves that carry the same warranty as new valves. Customers can receive a standard pallet-sized container with six refurbished valves, so there's no need for users to rebuild worn-out components.

The changeout can be accomplished in just 10 minutes, at less than half the cost of new valves.

The used valves are shipped back to the company, where the units are rebuilt to as-new condition by factory-trained technicians. Customers save time and money, with no need to stock repair parts or provide the training / labor to rebuild.

Let the silo flow

Ports and bulk terminals have centralised automated systems that monitor nearly all the activities of the operation. Flow aids are the same, able to be added to the central control logistical system to be fired remotely.

They are also accompanied by a separate solenoid box mounted a safe distance away that can be fired manually if need be. Having these redundancies available allows operators full control over bulk material flow and produce a safer workplace with less downtime from clogging resulting in a lower cost of operation.

About the author

BRAD PRONSCHINSKE, GLOBAL AIR CANNON PRODUCT MANAGER / MARTIN ENGINEERING

Bradley Pronschinske is responsible for the development and management of Martin Engineering's air cannon products and vibration systems as used to improve bulk material handling in applications around the world.

He joined Martin Engineering in 1998 as a Product Specialist–Air Cannons and became Global Product Manager–Air Cannons in 2005 and continues in that role today.

Pronschinske holds many US and International patents on air cannon models with additional patents on nozzles for air cannon systems.

He has a BS in Electronics Engineering from Hamilton Technical College in Davenport, Iowa.

SUSTAINABLE SOLUTIONS

The latest high-tech innovations are saving ship owners fuel and time – and improving the industry's environmentally friendly credentials

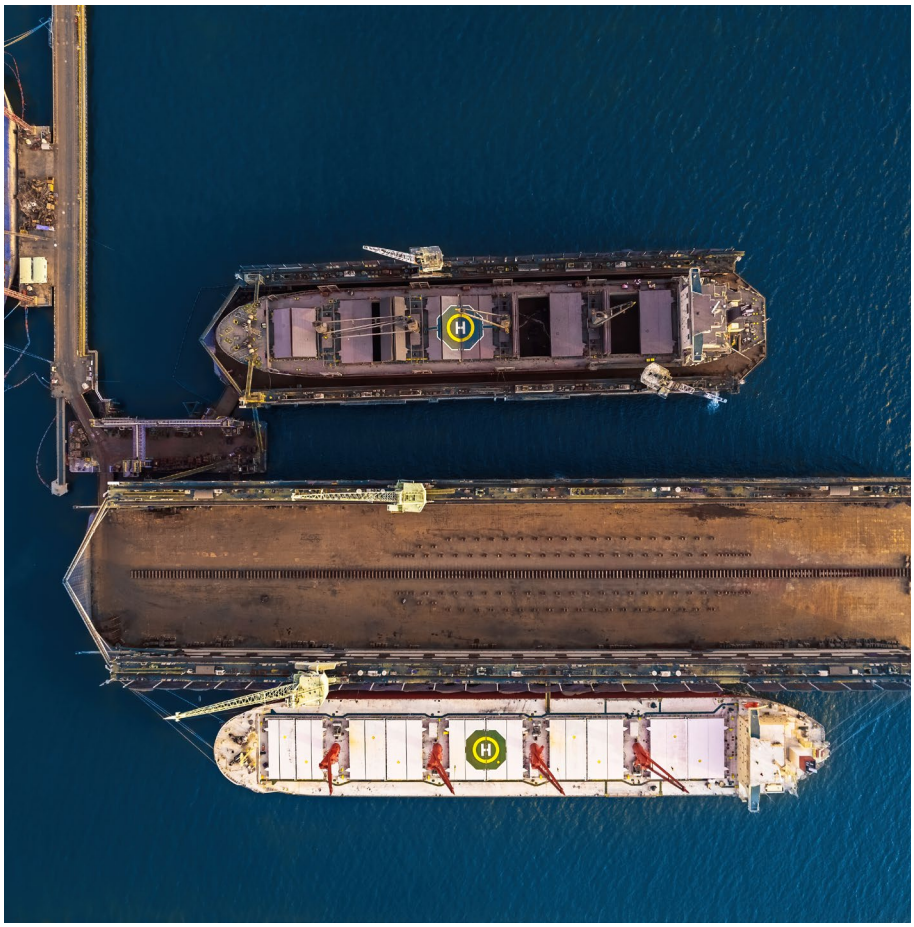


ABB has introduced a new feature to its routing services portfolio that will allow vessel owners to manage fuel costs on a through-voyage basis by optimising vessel optimal route and speed at the same time.

As what ABB describes as the first solution in the market equipped to optimise track and operating speeds simultaneously against anticipated weather, the feature is included in the ABB Ability™ Routeguard onshore routing service – in a first upgrade since ABB acquired the shipping business of DTN Europe BV and DTN Philippines Inc. earlier this year.

Optimal speed routing offers capability to advise operators of any changes they should make to the vessel track or speed to avoid heavy weather as part of overall calculations made within Routeguard covering route optimisation.

It uses latest available meteorological information and real-time inputs like vessel daily hire costs, fuel costs and user defined vessel performance models to recommend slowing down to let

rougher conditions pass or speeding up to stay ahead of them, thereby minimising fuel consumption on calculated routes to cut costs and reduce emissions as a result.

OPTIMISATION AGREEMENT

NAPA and Union Marine Management Services enter agreement on Voyage Optimization and CII simulator deployment.

NAPA's Voyage Optimization and CII Simulator digital systems will be deployed on an initial 55 bulk carriers in the fleet managed by Union Marine Management Services (UMMS), under a new agreement between the Finnish maritime software provider and the Singapore-based ship management company.

The use of NAPA Voyage Optimization on board has the potential to reduce greenhouse gas (GHG) emissions by an estimated average of 5-10% for the fleet of bulk carriers, ranging between 25,000 and 180,000 deadweight tonnage (DWT) and operated globally.

Under the agreement, NAPA's Voyage Optimization and CII Simulator systems were integrated into UMMS's existing in-house ship management web portal, IntuitShip, and are now accessible for shipowners directly on the platform. Formal contracts have already been confirmed with individual shipowners for the two NAPA tools to be used on 55 vessels.

This will enable around 20 ship owners whose fleets are managed by UMMS to use NAPA Voyage Optimization to reduce fuel consumption and associated GHG emissions from their vessels. Using real-time data on weather and sea conditions, the system proposes the best possible routes and speed profiles to minimize costs and the vessel's environmental footprint, while ensuring safety.

In addition, the NAPA CII Simulator will allow owners to predict the CII rating of each vessel for any sea passage, chartering period or at the end of the year, and model the impact of different measures on the vessel's rating. This will enable these ship owners to proactively manage their ships' CII and keep them within targets amid tightening regulation, as well as predict EU ETS cost.

Vinay Gupta, Managing Director at Union Marine Management Services (UMMS), says: "With the introduction of new regulations such as CII, EU ETS, and soon FuelEU Maritime, shipowners are increasingly interested in digital technologies that can reduce fuel consumption and greenhouse gas emissions immediately.

"This is why we are partnering with NAPA to integrate their ready, proven solutions into our existing platform and provide proactive support for our shipowner clients in their decarbonisation journey. Operational improvements achieved through voyage optimisation and simulation tools represent a low-hanging fruit yet are essential to future-proofing fleets, ensuring compliance and maintaining thriving businesses."

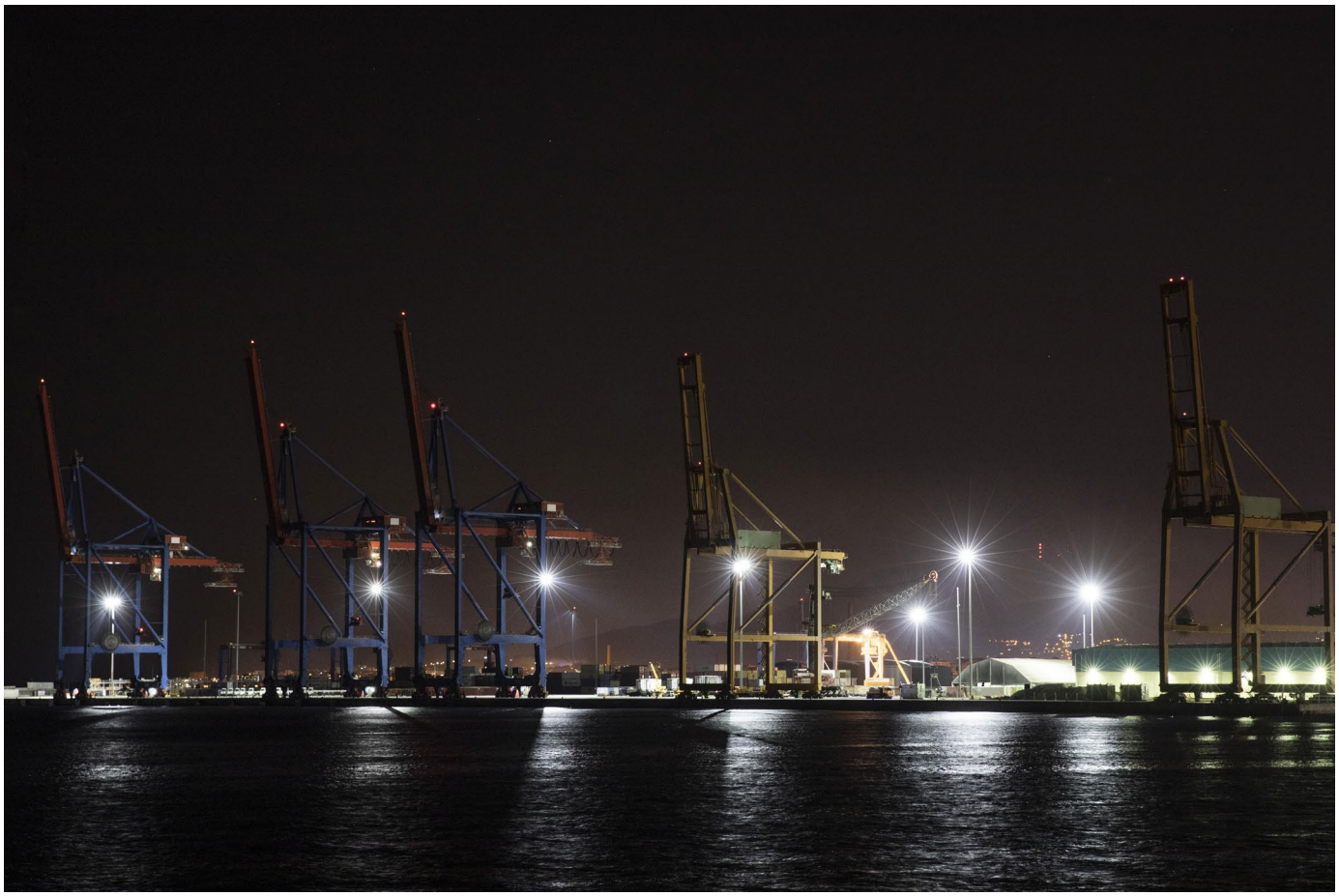
Pekka Pakkanen, Executive Vice President for Shipping Solutions at NAPA, says: "Digitalization is critical to the success of decarbonization because it offers pragmatic, practical and immediate solutions to reduce greenhouse gas emissions from fleets.

"Taking this to the next level, there is a huge opportunity to collaborate with providers of digital solutions. This will enable us to enhance our wealth of insights and create truly integrated solutions that respond to the industry's needs, from bridge to boardroom, and act as a catalyser for decarbonisation efforts within the maritime industry."

NAPA AND UNION MARINE MANAGEMENT SERVICES ENTER AGREEMENT ON VOYAGE OPTIMIZATION AND CII SIMULATOR DEPLOYMENT.

SAFETY STAYS IN SPOTLIGHT

Safety is key to any shipping operation and while trends are positive in some cases, attention needs to be ongoing. Meanwhile, high inflation is seeing a rise in cargo crime



Loss of purchasing power across the globe continues to fuel cargo crime, according to the recently published Annual Cargo Theft Report 2023 by TT Club and BSI Screen Intelligence, which pinpoints high inflation as a primary macroeconomic driver of cargo crime patterns. The rise in food and beverages as a stolen commodity is one such indicator.

Key findings of the 2023 report include:

- Increase in food and beverages (including alcohol) stolen from 16% to 24% of global total
- Most common mode remains road at 71%
- Facilities as a location for theft down from 30% to 23%
- Top countries include Mexico, US, South Africa, Germany and Italy
- Electronics slightly down at 9% of incidents, but still significant in terms of value

Modus operandi differs by region: examples include 'Blue light crime' in South Africa & 'insider activity' in Asia

BSI and TT's report is intended to serve as cautionary advice to all concerned with supply chain security and also to provide mitigation recommendations to combat these threats which are likely to persist into the current year.

Tony Pelli, Practice Director at BSI, says: "Cargo theft is a problem that costs companies tens of billions of dollars each year and can cause significant disruption to important supply chains, from pharmaceutical products to semiconductors. Having accurate and up-to-date intelligence is the first step in combatting this problem and pinpointing the locations and types of theft that are most likely to harm global supply chains."

TT's Managing Director Loss Prevention Mike Yarwood adds: "In identifying shifting crime patterns in terms of new fraudulent methodologies and a focus on both historic and current geographic risk, we seek to assist operators in tightening their security processes.

"In addition to the details of the global trends in commodities stolen and the types of theft we have provided a series of case studies drawing attention to prevalent regional or country specific dangers."

The 2023 Cargo Theft Report is available for download free of charge at bsigroup.com

HEAVY LIFT IN SPOTLIGHT

P&I Club Skuld has written a piece on the safe stowage of heavy lift cargoes and the insurance and legal implications of getting it wrong. The project cargo trade, as with many segments of the shipping industry, experienced a boom during the pandemic owing to the constraints on available tonnage to match demand.

This development emphasised the importance of careful stowage of multifaceted cargoes, as contracting parties sought to optimise cargo space on vessels. While market conditions may have changed, correct stowage remains vital to charterers involved in this trade. Strict compliance with the vessel's cargo securing manual is essential.

Read more at: tinyurl.com/BTI-Skuld

AWARENESS IN NAVIGATION

The Operator-Centred Enhancement of Awareness in Navigation Project, known as OCEAN Project, in collaboration with The Nautical Institute, has announced the release of a series of seven free training videos designed to elevate maritime education and training (MET) standards. These videos address evolving gaps in navigational awareness and maritime safety, providing mariners with the tools they need to navigate today's dynamic and technologically advanced maritime environment.

The OCEAN Project is an initiative funded by the European Union, focused on augmenting navigators' capabilities to improve safety, reduce incidents, and mitigate whale strikes.

Part of the initiative is dedicated to advancing maritime education and training by addressing gaps in current maritime navigation practices and providing innovative, high-quality resources to enhance the skills and knowledge of maritime professionals worldwide.

The project consortium comprises 13 members from even European countries: Norway, Greece, Spain, Denmark, Portugal, Ireland, and the UK.

Through a collaborative and comprehensive approach, this part of the project aims to shape the future of maritime training in alignment with emerging trends and technological advances.

The OCEAN Project's free training videos were developed in response to identified knowledge gaps between industry best practice and minimum training standards and represent a significant advance in maritime training, promoting industry best practice.

Through extensive academic research, interviews, surveys, and workshops, the project pinpointed areas where existing MET could be enhanced to better prepare seafarers for contemporary challenges.

The training videos are available on the OCEAN Project's website and on the OCEAN Project's You Tube channel, ensuring easy access for mariners, companies, MET institutions, Flag States, and industry stakeholders. These platforms allow for quick distribution, automatic updates, and the ability to reach a global audience. The training videos can also be downloaded for offline viewing, ensuring accessibility even without internet access.

For more information, visit: theoceanproject.org

ANCHORING PROTOCOL

The recent High Court decision of Afra Oak serves as a timely reminder of how risky it can be to anchor Outside Port Limits (OPL) . Owners should make sure to obtain the necessary permissions from local authorities when anchoring in these waters. Gard P&I Club has put pen to paper to discuss the issues.

For more information, visit: tinyurl.com/BTI-GardAnchor

DISASTER RISK MANAGEMENT

The Insurance Development Forum (IDF) and the French Development Agency Group (Agence Française

de Développement and Expertise France (AFD Group) have announced the formation of the Integrated Disaster Risk Management Alliance (IDRIMA).

Signed at the IDF Summit 2024, this strategic partnership aims to strengthen the long-term resilience of sovereign, sub-sovereigns and public utilities in the Global South to the impacts of climate disasters through comprehensive financial solutions, combining the expertise of development finance institutions, public development banks, and insurers.

FIRE PREVENTION

Global Survival Technology solutions provider Survitec has highlighted the dangers of inadequate maintenance, testing, and inspection of ship fire safety systems in a new white paper, which points to an alarming increase in fire-safety-related deficiencies found during Port State Control Inspections and subsequent ship detentions.

In the white paper , Survitec highlights that fire continues to be a leading cause of major shipping incidents, accounting for more than 20% of total losses, and the most expensive cause of marine insurance claims. The highest level of fire safety deficiencies in a decade was recorded by the Paris MoU in 2022, and the Tokyo MoU also reported an increase in detentions, with a staggering 15,562 deficiencies reported in 2023.

"Analysts report a 17% year-on-year rise in shipboard fires, which correlates with an increasing number of reports and testimonies from our network of certified service technicians and engineers that document serious faults requiring immediate corrective measures," says Metkel Yohannes, Director of Service and Rental Solutions, Survitec.

Survitec has found that the economic downturn and the emphasis on cost reduction post-covid have negatively impacted fire safety, with some ship owners and operators maintaining and inspecting safety equipment themselves in an attempt to save costs.

As Yohannes explains: "We're finding basic errors and oversights that do not become apparent until either the ship fails an inspection and is detained – or there is a fire."

He quotes an example. Survitec was called out to a vessel after an engine room fire. The crew had managed to extinguish the fire, but suspected there was a fault with their high expansion foam firefighting system.

The cause of the fault was a blockage in the system. The crew had installed a new foam pump and forgotten to remove one of the protective caps from the inlet.

Survitec also finds wrong parts being used or poorly fitted, or low-quality parts that deteriorate rapidly and fail. For example, in CO_2 firefighting systems, hydraulic hoses are often mistaken for high-pressure hoses, but they are not designed for CO_2 applications and may burst under pressure.

"We see evidence of a slip in standards regarding basic safety practices but also a wide disparity in service quality between service providers. Approval stamps are being applied to fire systems and appliances that would or should not pass inspection. Some issues are self-evident; for example, rust on a valve or fire extinguisher is clear to see, but other issues are less obvious and can have catastrophic consequences," says Yohannes.

The white paper highlights an incident involving a bulk carrier. The vessel had completed a fire safety inspection and received full certification from a local service provider. Shortly after leaving port, a fire broke out in the engine room. More than half of the cylinders failed to activate despite the CO2 system having been inspected and approved.

While the fire was eventually extinguished, it caused significant damage to the vessel, resulting in off-hire and repair costs estimated between US$2-3m.

Yohannes states: "The development and introduction of alternative fuels, including the use and transportation of lithium-ion batteries, brings new fire risks and safety challenges that can't be ignored. Fire systems and equipment must be maintained and tested as mandated by the International Convention for the Safety of Life at Sea, the IMO and the Fire Safety Systems code.

"Ship owners and operators need accredited service partners they can trust. They must have confidence in the system of approvals. It is clear there are substandard inspections taking place, which is worrying. Although service providers may boost many approvals, they may not be suitably equipped or resourced to perform all the required tests."

Yohannes concludes: "As an industry, current practice should be reviewed to determine if more oversight and governance, and more quality control procedures are required to protect crew and vessel safety."

The white paper can be downloaded in full at: tinyurl.com/BTI-SurvitecWhitePaper

POSITIVE SAFETY TRENDS

Annual safety figures compiled by the International Marine Contractors Association (IMCA) show continuing positive offshore safety trends, as the hours recorded increased by more than 50% to 958 million hours .

Key safety metrics registered improvements again this year, including the Total Recordable Injury Rate , Lost Time Injury Frequency Rate, Safety Observation Frequency Rate and Fatal Accident Rate.

The report also features comparative figures from stakeholder groups which allows for cross-sector comparisons. Split by business size, it also enables individual companies to benchmark their own performance with appropriately sized peers.

Commenting on the publication of the annual safety statistics, Iain Grainger, CEO, IMCA, says: "We are pleased with the increase in hours recorded in our safety data this year to more than 950 million, demonstrating the unwavering commitment of our members to improving safety and performance.

"The figures themselves continue trends seen in the last few years, showing small improvements across the major metrics collected from incidents at contractor members. However, they also reveal broader questions for IMCA and the industry – what should we now collectively explore if we wish to see a step change in offshore safety? How can we reduce avoidable serious incidents and offshore deaths? What lessons should we be learning from each other?

"With this in mind, IMCA will be working closely with G+ over the coming months to reduce incidents. We will also be exploring emerging safety approaches at the IMCA Global Summit in December, where we will have a focus on the potential of Human and Operational Performance (HOP) to improve safety.

"For more than 50 years, safety has been fundamental to IMCA's mission, and we have witnessed a dramatic decline in offshore incidents. The industry needs to come together and find the new approaches which will build on this good work as we strive towards a world where working offshore is as safe as possible."

IMCA has also produced an Information Note on Human and Operational Performance (HOP).

HOP was born out of the safety science community and took a fresh approach to how the worker is viewed. In essence, HOP is about learning and understanding how humans and organisations interact to accomplish work. HOP is a 'philosophy' that allows organisations to build error-tolerant systems. HOP accepts that it is not realistic to expect perfection from workers or processes.

Commenting on the Information Note's publication, Nick Hough, Consultant – Safety, IMCA says: "We're delighted to be able to support our members to understand this emerging safety philosophy and share some examples of successful adoption.

"An unrelenting commitment to safety means exploring new ideas and concepts, which is why I'm also looking forward to the discussion of its potential at the IMCA Global Summit later this year, where we'll hear first hand from members who have made steps to implement the approach."

EU'S GREEN TRANSITION

On 20 May, the revised EU Directive on the protection of the environment through criminal law entered into force. The purpose of the revision was to contribute to more efficient protection of the environment, as the previous EU directive was thought to not be dissuasive enough.

Directive 2008/99/EC was adopted by the European Parliament and the Council and in 2008. It outlined the general purpose of protecting the environment and decreasing the environmental crime levels in the EU.

The new and revised Directive aims to establish a framework that is similar in all EU member states and is designed to increase the effectiveness of investigation and prosecution of environmental crime across the EU.

The scope of the Directive is now also much wider, with the number of criminal categories increasing from 9 to 18. Of relevance to the shipping community, the offences include:

- the ship-source discharge of polluting substances;
- ship recycling that does not comply with EU regulations;
- the introduction and dissemination of invasive alien species on EU territory; and
- the illegal shipment of waste.

Additionally, the directive calls on member states to criminalise the incitement, aiding or attempt to commit any of the crimes above. The directive also still includes corporate liability for specific pollutant behaviours.

Harmonising penalty levels across all member states is also part of the amended directive. It also seeks to establish minimum penalty levels, proportionate to the crime.

DAVIT SYSTEMS

Safe and reliable operation of boat-handling systems onboard vessels is dependent on regular inspection and maintenance by qualified technicians both to preserve the integrity and prolong the lifespan of davit equipment. And using rogue service providers to cut corners on cost poses safety and commercial risks as it can endanger lives as well as impact operations, according to Vestdavit.

Davits have a variety of applications on different vessels across several ship segments, from release of lifeboats on cruise ships and merchant vessels, to deployment of workboats from offshore support vessels and launch-and-recovery of rapid response craft used for naval missions.

The common denominator for all these applications is that human lives are at stake and boats carrying passengers or personnel must be deployed from davits in variable sea states in a safe and responsible manner to minimise risk both to people and other assets onboard.

"Davit maintenance is therefore an essential safety factor that should not be taken lightly. Just like an elevator in a building, service work should be entrusted to trained and certified technicians from the original equipment manufacturer (OEM) to safeguard life," says Magnar Bøyum, Managing Director of Dutch subsidiary Vestdavit .

Shipping companies are required by SOLAS regulations to perform annual and five-yearly services of davit systems that should be conducted by "certified personnel of either the manufacturer or an authorised service provider", as dictated by IMO Resolution MSC.402(96) that covers requirements for maintenance, testing, overhaul and repair of lifeboats and rescue boats, launch appliances and release gear. This regime also envisages the use of genuine fully tested spare parts for repairs.

The resolution, implemented in 2020, was earlier adopted by the IMO's Maritime Safety Committee in response to a succession of accidents, detentions and losses over recent decades due to failures of on-load release mechanisms, inadequate maintenance of lifeboats and launching

equipment, unsafe practices and design faults, among other factors.

The amendment to SOLAS regulations relating to operational readiness, maintenance and inspections sought to address these issues by establishing a uniform, safe and documented standard with specific procedures for periodic servicing of davit systems.

However, Bøyum believes the shipping industry still has a way to go to live up to this standard, highlighting the fact that vessel operators may select lower-cost rogue service providers with technicians that apparently have the required certification but actually lack the necessary competence to perform highly specialised davit maintenance work.

"Price remains the overriding decision driver when selecting service providers for annual and five-yearly surveys, especially with merchant shipping companies in areas such as ferries and fishing as they may have multiple davits from different suppliers onboard and typically go for the lowest bid to service all of these units," he explains.

This is especially the case for operators with vessels that mainly have only smaller rescue davits that are not used beyond what is required to meet SOLAS requirements, which means they seek the minimum cost to gain periodic service compliance. Consequently, they may take onboard service personnel without specialist training and competence related to the davit system.

"Frequently, though, we get contacted by these clients because the service provider they have been using for years has not been able to understand the product correctly or lacks the spare parts necessary to keep the davit safe, which means we have to step in to fix it," Bøyum says.

He points out that davit systems can differ widely in terms of design, level of technology and functionality, so it is erroneous and risky to assume that any davit supplier can certify technicians with the necessary competence for all such systems.

In line with SOLAS regulations, Vestdavit therefore strongly advocates

VESTDAVIT SERVICE TECHNICIANS ARE PROPERLY TRAINED AND CERTIFIED TO EFFECTIVELY PERFORM SAFETY-CRITICAL MAINTENANCE ON ITS DAVIT SYSTEMS (PHOTOS: VESTDAVIT)

that annual and five-yearly inspection and maintenance of its davits should be carried out by OEM-approved technicians with certification from the company's in-house training programme.

Vestdavit's high-end naval and coast guard clients have typically adopted the practice of original equipment manufacturer (OEM) inspection and maintenance, even though they are not bound by SOLAS service requirements, as they are more dependent on safe and reliable equipment to avoid the risk of failure with mission-critical operations, according to Bøyum.

"These clients have davits that are in frequent daily use – sometimes up to 20-30 times a day – so they are wholly reliant on having a high-quality system with a minimum of downtime," he explains.

Vestdavit's boat-handling systems are sophisticated solutions, with wave-compensating winches, shock absorbers and other technologies, which are designed for high performance and frequent use over a long lifespan, often in harsh conditions with high sea states, compared with lower-spec systems that are typically used less frequently in more benign marine environments.

"This demands in-depth knowledge of the product, understanding of its functionality and a high level of competence to ensure the system is properly serviced, which can only be provided by a Vestdavit technician working with our systems on a daily basis," Bøyum says.

Vestdavit can now combine servicing of its davits with selected types of rescue boats supplied for its systems, which is beneficial for clients. The company is also optimising davit maintenance by providing OEM instruction for service partners and crews at its training centres so they can properly run and maintain its systems during day-to-day operation.

Supply of spare parts is another key factor with OEM maintenance as Vestdavit can quickly provide genuine tested components from available stock within a day to avoid waiting time for long-lead items such as bearings, brakes and accumulators that can cause delays.

There is a risk of using non-original parts as these may have hidden shortcomings, such as materials or surface treatments that have not been subject to the test regime, which could hit system performance and ultimately lead to malfunctions or failures with potentially serious safety consequences – including fatalities.

"Regular davit servicing by a certified Vestdavit technician is therefore a vital prerequisite for safe operations and regulatory compliance, while there are also commercial benefits in less downtime and an extended product lifespan, as well as reduced reputational risk with less potential for incidents," Bøyum concludes.

DECK CARGO WARNING

Deck cargoes present a significant risk of water entrapment, highlighting the complexities of maritime logistics, as Britannia P&I Club warned in a recent advisory note.

"Ensuring proper handling and stowage of deck cargo is paramount to mitigate potential hazards. From compliance with contractual clauses, to assessing cargo suitability for deck carriage, there are multiple layers of responsibility involved and it is essential to address the issue of deck cargo liability," the club says.

"As members will be aware, there shall be no recovery (from the Club) where the mhas become liable in consequence of the carriage of deck cargo unless the cargo is suitable for carriage as loaded on deck and either:

1. Special cover has been agreed
2. The bill of lading is suitably claused
3. The bill of lading contains an appropriate liberty clause
4. Where the contract of carriage is compulsorily subject to the Hamburg Rules by law the Member has complied with paragraphs 1 and 2 of article 9 (of the Hamburg Rules).

Members are directed to Rule 19.17.8.9 of the Clubs Rule Book for full details."

On ships that are not specifically designed to carry cargoes on deck, the bills of lading should be claused to say, "the cargo is carried on deck upon the shipper's instructions and at the shipper's sole risk. The carrier shall in no case be responsible for loss of or damage to deck cargo whatsoever and howsoever caused, even if caused by the negligence of the carrier or his servants or agents", or words to that effect, Britannia says.

Despite the above clause, it may be a breach of contract to stow deck cargo in an unsuitable place on deck. Similarly, even where the bill of lading is claused for deck carriage, and all parties are aware of this fact, stowing cargo that is unsuitable for deck carriage on the deck may still be considered a breach of contract. Goods may be considered unsuitable for deck carriage if exposure to sea water would cause damage to the cargo.

Additionally, the shifting of deck cargo can be a safety risk to the crew and ship. This means that the master and crew still have an interest in checking that the deck cargo is adequately stowed, even in cases where the master is not directly responsible for stowage. ***For the full story, including a case study, visit: britanniapandi.com***

> "Ensuring proper handling of deck cargo is paramount

CARGOS OF CONCERN

The industry bodies of the Cargo Integrity Group have identified a number of cargoes, commonly carried in containers, which under certain conditions can cause dangerous incidents. They urge everyone handling these goods to follow all applicable regulations, the CTU Code and industry best practices.

In addition to promoting sound packing and shipping practices, the Cargo Integrity Group aims to increase awareness about the types of goods, often less obvious, which can compromise safety in the container supply chain under certain conditions.

The Group has identified 15 such 'cargoes of concern' that are commonly transported by sea and intermodally. While these are usually transported safely when regulations and guidelines are followed, the Group has created a list to highlight cargoes that can become hazardous if handled incorrectly.

It emphasises that cargoes that are mis-declared or have incomplete or incorrect information about their identity are more likely to be involved in incidents.

This list is not exhaustive, but each item illustrates a common type of hazard, divided into three categories:

Reactive Hazards These cargoes can catch fire and cause significant damage and casualties under certain conditions. They are generally subject to Dangerous Goods regulations. Examples are:

- Charcoal / carbon
- Calcium Hypochlorite
- Lithium-ion batteries
- Cotton and wool
- Fishmeal and krill
- Seed cake

Spill or Leak Risks These commodities can present a risk if not packed properly or if they are damaged. Spills or leaks from these cargoes can harm the health of people cleaning up the spill as well as the environment. Examples are:

- Hides and skins
- Wine
- Bitumen
- Cocoa butter
- Waste – recycled engines and engine parts
- Vegetable and other oils, particularly when packed in flexitanks

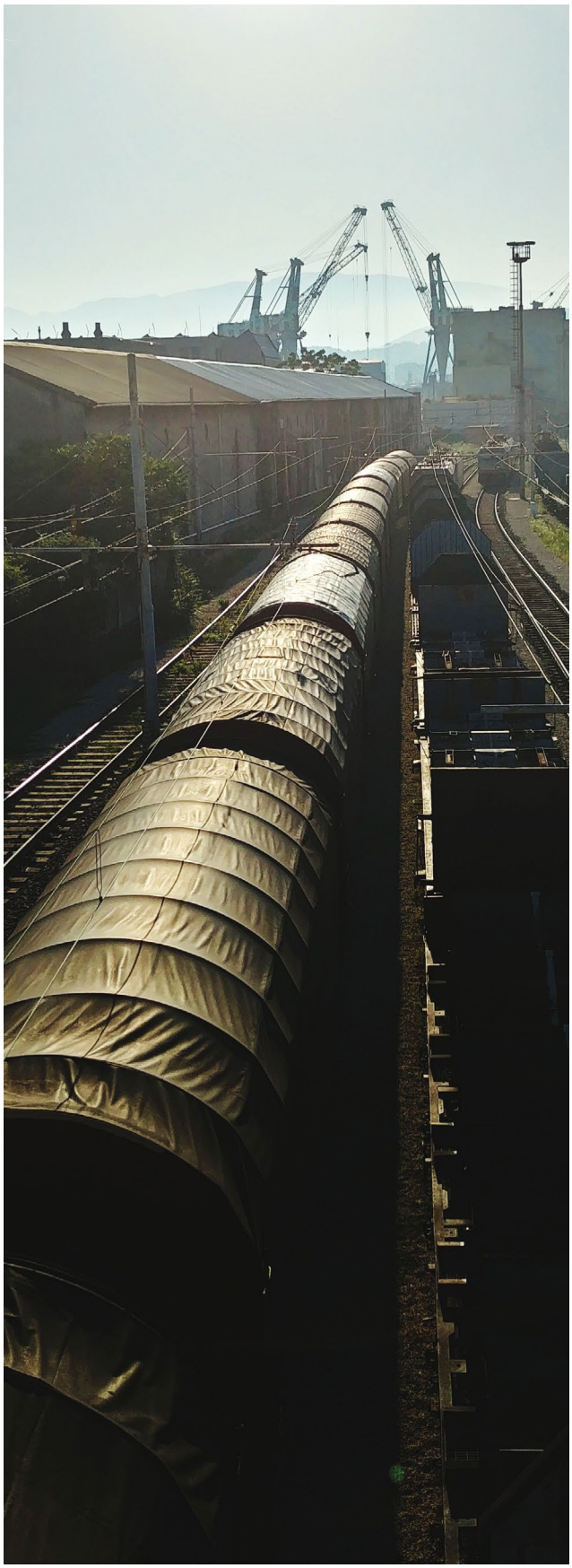
Improper Packing Consequences Cargoes that are poorly or incorrectly packed or secured in the container can lead to injuries to personnel or damage to nearby containers, property, or other cargo. Such incidents can cause severe accidents at sea or on land, such as truck rollovers and train derailments. Examples are:

- Logs and timber
- Steel coils
- Marble and granite

In the coming months, the Cargo Integrity Group will publish additional guidance on the identification and safe handling of these cargoes.

Dedicated to improving the safety, security and environmental performance throughout the containerized supply chain, a primary goal of the Cargo Integrity Group is to increase awareness and wider use of the IMO/ILO/UNECE Code of Practice for Packing of Cargo Transport Units – the CTU Code.

As part of this effort the Group has developed a 'quick guide' to the CTU Code, together with a checklist of actions and responsibilities for the guidance of those undertaking the packing of cargoes in freight containers. These are now available in all six official IMO languages as well as Italian.



KEEPING ON TRACK

Rail and barge facilities are becoming an increasing part of operators' activities to improve efficient, environmentally friendly movement around ports

DP World and Asian Terminals Inc (ATI) recently announced the opening of Tanza Barge Terminal in Cavite, Phillipines to facilitate smoother and faster transport for goods and raw materials to and from the capital via sea barging.

Located within the newly designated MetroCas Industrial Estates Special Economic Zone, Tanza Barge Terminal is designed to handle almost 240,000 TEUs annually and will be managed by ATI-subsidiary Tanza Container Terminal Inc.

In the face of ongoing road congestion issues, Tanza Barge Terminal offers cargo owners a more efficient and sustainable alternative to trucking. With its container yard, causeway, berth, jetty, breakwater and deck facilities, the barge terminal is projected to save around 150,000 truck trips yearly.

Initially, three weekly trips will shuttle containers between Tanza Barge Terminal and Manila South Harbor (also operated by ATI), with each leg able to carry around 100 x 40ft laden containers each way, with plans for future expansion of services. The barge berth has two fixed harbor cranes, with the 4-hectare yard complemented by two reach stackers and four internal transfer vehicles.

The terminal is also registered as a Customs Facility and Warehouse under the Philippines' Bureau of Customs. Eusebio

Tanco, President, ATI, says: "We are very pleased to offer an innovative and transformative trade solution for the Philippine supply chain. Through our partnership with DP World, Tanza Barge Terminal brings shipment faster and smarter to beneficial cargo owners, which in turn fast-tracks production cycles and on a bigger scale stimulates local economic activity, particularly in the industrial growth corridor of Cavite.

"This is a perfect complement to the government's push for inclusive and sustainable growth anchored on trade facilitation and job generation initiatives in partnership with local and international stakeholders."

Tereso Panga, Director General, Philippine Economic Zone Authority (PEZA) saiys: "The proclamation of MetroCas Industrial Estates as a special economic zone earlier this month was meant to catalyse sound and balanced development by generating jobs, exports and economic opportunities for its surrounding communities.

"The opening of Tanza Barge Terminal by DP World and ATI represents a vote of confidence in the new special economic zone, with an investment that will not only spur growth in the area but also bolster trade more widely around the Philippines. By establishing a direct sea link between Cavite and Manila, the new barge terminal offers a vital conduit for the efficient movement of goods, thereby boosting development within and beyond the export zone."

Bienvenido Rubio, Commissioner, Bureau of Customs, says: "Tanza Barge Terminal's accreditation as a Customs Facility and Warehouse is testament to its adherence to international best practices for the import and storage of finished goods and raw materials.

"With the launch of this new facility, DP World and ATI are elevating standards for cargo processing and warehousing in the Philippines, and we look forward to their continued efforts to smoothen trade operations and reduce logistical bottlenecks in Cavite and beyond."

DP World became the strategic foreign equity partner of ATI in 2006. This partnership has resulted in the modernisation of the Batangas Port as a full integrated port gateway and the continued optimisation of operations at Manila South Harbor. The latest partnership in Cavite leverages DP World's experience in building supply chain networks globally and ATI's local port operations capabilities.

DP World and ATI have also been making a positive difference in the community through sustainability programmes aimed at children, water and women. These include academic scholarships for underserved segments of society, watershed reforestation and mangrove plantation, Manila Bay rehabilitation, and women empowerment programmes in partnership with government and non-governmental organisations.

"Tanza Barge Terminal is a fantastic example of how DP World collaborates with its partners across the world to enhance trade networks through smart solutions. As strategic partners, DP World and ATI have developed a long-term solution that addresses customer needs and fosters economic development across the country.

"Apart from connecting different parts of the local supply chain ecosystem, we are confident that this innovative sea transport system will serve as a template for how domestic seaways can be transformed into economic superhighways, elsewhere in Asia Pacific and around the world," Sultan Ahmed bin Sulayem, Group Chairman and CEO, DP World says.

The new barge terminal will be operated by ATI-subsidiary Tanza Container Terminal Incorporated and will enable greater connectivity by sea within the Philippines. Starting with three weekly trips to and from the ATI-operated Manila South Harbor, the new facility will give customers an alternative option to move goods in and out of the Port of Manila

Tanza Barge Terminal will also help reduce road traffic in and around Metro Manila, by saving around 150,000 container truck trips annually.

PORT IN PROGRESS

The Port of Los Angeles has America's most extensive and modern network of on-dock and near-dock rail services connecting the US imports and exports to international markets. About 35% of intermodal containers utilise the Port's rail network, which includes one near-dock railyard aand five on-dock railyards that serve the Port's seven container terminals. The use of on-dock rail is growing annually.

The Port's world-class rail infrastructure consists of more than 65 miles of on-dock track for building and sorting double-stack trains that speed imports to markets nationwide and US products to the Port for delivery to consumers around the globe. The average train is made up of 30 double-stack cars, eliminating approximately 400 truck trips and related air pollution on each run while optimising the movement of cargo.

Five modern on-dock rail yards and a sixth yard – a multipurpose staging and storage facility – serve the Port's full complement of seven marine container terminals. The network operates 24/7 and links to the Alameda Corridor, a dedicated rail expressway that connects the docks to the transcontinental rail system for cargo to flow nonstop between the Port and markets throughout North America.

The Port's rail network also consists of the near-dock Intermodal Transfer Container Facility (ICTF) and five off-dock mainline rail yards – three operated by Union Pacific Railroad (UP) and two operated by BNSF. The UP East Los Angeles Yard and the BNSF Hobart/ Commerce Yard near downtown Los Angeles, approximately 24 miles north of the San Pedro Bay ports, handle the majority of the intermodal cargo.

Over the past 10 years, the Port has invested more than $300m in railway-roadway grade separations and rail system projects to reduce truck trips and optimise cargo flow. The Port and its terminal operators are planning to expend millions more on rail system projects over the next 10 years.

TIGHTENING THE RULES

All classification societies have had to release new rules to deal with issues such as decarbonisation in recent times, as the industry faces up to tougher environmental legislation

Classification society DNV has published updates to its rules for classification of ships and offshore structures. In addition to rules supporting the development and deployment of decarbonisation technologies, the new in-operation class notations seek to bring clarity to the responsibilities of class customers for notations that have a mix of design and operational requirements.

"One of the most striking aspects of the maritime industry today is the huge diversity of challenges and opportunities where our customers are looking for classification support," says Geir Dugstad, DNV Maritime's Global Technical Director. "It's not just new fuels, but ways for owners and managers to demonstrate their own efficiencies, new vessel types to unlock new markets, through to advanced technologies like on-board carbon capture."

With the in-operation notations, DNV has developed the first classification framework with dedicated fleet-in-service notations that enables owners and operators to showcase how they are differentiating themselves in the market by deploying advanced procedures and reporting processes for greater safety and efficiency.

The new notation clearly shows the split of responsibilities between the yards for the new building phase and the owners and operators in the operational phase of the vessel.

Designed to unlock innovation in the shipping industry while enhancing safety, the new rules also build on DNV's leading expertise in maritime decarbonisation with the introduction of two new class notations, gas-fuelled hydrogen and OCCS (for carbon capture and storage on board vessels).

While hydrogen is a potential zero-carbon fuel for shipping, it is presently not covered by international regulations. The gas-fuelled hydrogen notation sets out the requirements for the ship's fuel system, fuel bunkering connection, and consumers, providing owners with a practical path to develop hydrogen-fuelled newbuildings.

Onboard carbon capture and storage (OCCS) systems are currently being trialled and offer a way for vessels to reduce emissions and contribute to greater sustainability and regulatory compliance. The OCCS notation offers a framework and requirements for these new systems, including exhaust pre-treatment, absorption, after-treatment systems, liquefaction, CO_2 storage, and transfer ashore.

Some of the additional highlights of the rules include:

- The new boil-off gas notation provides requirements for the design and installation of pressure and temperature control systems for liquefied gas tanks
- New notation for the transport of live fish creates a new vessel type for this growing industry
- New class notation for stability pontoons provides guidance and requirements for pontoons used in heavy lift operations to increase stability
- Introduction of a new qualifier 'NC' for the notation hatchcover-less, enables vessels not intending to transport combustible materials to reduce investments in fire detection and fire-fighting equipment
- New service notation for floating spaceports sets requirements for units and installations intended for launch and/or recovery of spacecraft
- New qualifier 'EV' for the class notation Additional fire safety, specifically developed to target vessels transporting electrical vehicles
- Revised rules and standards for diving systems aligned with IMO 2023 diving code.

The publication of the new rules took place on 1 July and the new rules will enter into force on 1 January, 2025.
To find out more, visit: standards.dnv.com

MOU FOCUSES ON AMMONIA

KR has announced a Memorandum of Understanding (MoU) with Hanwha Ocean, Amogy and Hanwha Aerospace.

The MoU focuses on the technical collaboration and certification for the application of ammonia reformers and ammonia fuel cell systems to ships. The ammonia reformers, used to produce gas with hydrogen as the main component and supply it to fuel cell stacks, are essential equipment for the adoption of fuel cell systems.

Amid the increasing global decarbonisation regulations, ammonia is emerging as a highly efficient alternative fuel.

This agreement aims to apply reformers and fuel cell systems to ships, enhancing energy efficiency and reducing carbon emissions, thereby lessening the environmental burden.

The MoU encompasses collaboration across various technological areas related to the application of reformers and fuel cell systems in ships. This includes design, development, testing, and certification of ammonia reformers and fuel cell systems.

Ultimately, the safety and suitability of these systems will be verified based on KR's rules, international conventions and standards, with KR planning to issue a New Technical Qualification certificate.

CLASSNK GUIDANCE UPDATE

ClassNK has released *Guidelines for Ships Using Alternative Fuels (Edition 3.0)*. In addition to safety requirements for ships using methanol, ethanol, liquefied petroleum gas and ammonia as fuel, this edition adds requirements related to hydrogen-fuelled ships, providing guidance for the design of alternative-fuelled ships.

The guidelines comprehensively describe safety requirements for alternative-fuelled ships. It stipulates requirements for installation, controls, safety devices, and so on, aiming to minimise the risks to ships, seafarers, and the environment posed by the use of alternative fuels.

In the newly released edition 3.0, the provisions of its rules including part GF of its *Rules and Guidance for the Survey and Construction of Steel Ships* incorporating the IGF Code (International Code of Safety for Ships Using Gases or Other Low-Flashpoint Fuels), are taken as the basic requirements.

Based on the deliberations at the IMO Subcommittee on Carriage of Cargoes, held in 2023, and the knowledge gained from design reviews conducted by

ClassNK to date, additional requirements corresponding to the physical properties of hydrogen fuel and assumed hazards are newly established as Part D.

Specifically, it includes requirements that contribute to the safety of hydrogen-fuelled ships, such as points of consideration for preventing explosions due to the ease of ignition of hydrogen and impacts on seafarers and the environment due to hydrogen fuel leakage.

The guidelines are available to download on ClassNK's website after registration at classnk.com

JOINT PROJECT IN NEW DESIGN

Bureau Veritas (BV) has announced the successful conclusion of a Joint Development Project (JDP) with Hanwha Ocean for the development of a 270K liquefied natural gas (LNG) carrier.

Hanwha Ocean's proprietary hull design for a 270K LNG carrier was developed to anticipate and fulfil the future demands of the LNG market.

By optimising the hull's performance and maximising cargo capacity, it exceeds the capabilities of the existing 263K LNG and FSRU design.

This collaboration marks a significant milestone in the partnership between Hanwha Ocean and Bureau Veritas, showcasing their combined expertise in advancing cutting-edge LNG carrier technology.

Throughout the project, Hanwha Ocean prepared the development of hull key drawings for the 270K LNG carrier design in compliance with BV's requirements and relevant regulations. Subsequently, Hanwha Ocean and BV agreed to jointly develop this new size vessel to secure structural reliability and obtain an Approval in Principle.

To verify the hull key drawings provided by Hanwha Ocean, BV performed 2D local scantling and 3D cargo hold finite element analysis, assessing the longitudinal strength of the hull, as well as the yielding and buckling of longitudinal and transverse members. Fatigue analysis was also conducted using a local fine mesh to evaluate the details of hull structures sensitive to fatigue.

Upon the completion of the comprehensive verification of the hull design, the certification was delivered to Hanwha Ocean in February this year.

Sang-Don Kang, Vice President of the Basic Design Department at Hanwha Ocean, says: "The newly developed 270K LNG carrier is dedicated to minimising unit freight costs and ensuring structural robustness for the vessel's safety performance. I am pleased that the structural reliability of this new vessel will be verified once again through this JDP with BV."

Captain Drago Pinteric, Country Chief Executive, Bureau Veritas Korea, comments: "The development of a new standard 270K LNG carrier holds immense importance for BV as it aligns with our core responsibilities of ensuring safety, compliance, and quality in maritime operations. This involvement reinforces BV's commitment to industry leadership, innovation, and the promotion of sustainable and safe shipping practices.

"We commend the strong collaboration between Bureau Veritas and Hanwha Ocean, showcasing a robust partnership in the maritime and related industries. Such alliances contribute to enhanced safety, quality assurance, and sustainable practices in the ever-evolving maritime landscape."

> "Methane slip is a major contributor to greenhouse gas emissions, with a global warming potential 28 times greater than that of CO_2 over a 100-year period.

PLASMA POWER

Daphne Technology's innovative SlipPure system has been awarded Approval in Principle (AiP) by Lloyd's Register (LR) for its plasma-catalytic technology. The solution improves efficiency by lowering plasma power consumption, enabling very high methane slip reductions at exhaust temperatures well below those required for catalyst-only solutions.

The advanced SlipPure system, which previously received AiP for its plasma-only configuration, now runs its full plasma-catalytic process and has undergone several rigorous test campaigns, utilising exhaust gas produced from a land-based test engine (746kW lean burn spark ignited engine type RR MTU 8V4000M55RN) installed at the Maritime Center of the University of Applied Science in Flensburg, Germany.

Methane slip is a major contributor to greenhouse gas emissions, with a global warming potential 28 times greater than that of CO_2 over a 100-year period.

In January 2023, safe operation of the WPP power supply in the plasma-only system was demonstrated over nearly 75 hours of operation. Earlier this year, the plasma-cCatalytic process was evaluated over nearly 100 hours of operation, and LR witnessed 4.0 g/kWh removal of methane slip (62% methane slip reduction at 75% load) from exhaust gas with temperatures as low as 380°C.

"We are again very honoured to be working closely with Lloyd's Register and delighted to receive this AiP," says Dr Mario Michan, CEO and Founder of Daphne Technology. "This validates our innovative approach and the witnessed results are a testament to the efficacy and reliability of our SlipPure system. The performance results demonstrate our technology's readiness for market deployment and its impact on reducing methane emissions."

Panos Mitrou, Lloyd´s Register Global Gas Segment Director, says: "LR has been working with Daphne Technology for several years and following recent testing, it's clear that its plasma-catalytic technology is moving the bar in helping companies to meaningfully mitigate methane slip in the maritime and land-based oil and gas industries."

MaritimeAMC

Secretariat Services for Maritime Associations

Your Trusted Partner

The Maritime Association Management Company (Maritime AMC) provides comprehensive secretariat services for trade associations operating across all sectors of the global maritime and offshore industries.

When it comes to entrusting the management of your association to a specialist services provider, we are your ideal partner.

Whether your association is a fledgling or established entity, Maritime AMC has the expertise to ensure growth, develop your association and influence regulatory and media agendas on behalf of your membership.

Our directors have extensive maritime industry and trade association expertise, with demonstrable successes in association governance, publishing, conference production and communications. We speak your language and understand the maritime world.

Maritime AMC currently provides full secretariat services to the Association of Bulk Terminal Operators (ABTO) and previously to the Clean Shipping Alliance 2020 (CSA 2020).

Maritime AMC Ltd
35 Beacon Drive,
Newton Abbot
TQ12 1GG
T. +44 (0) 1626 681103
E. info@maritimeamc.com

www.maritimeamc.com

TAKING A DETOUR

How port tariff data highlights the impact of rerouting during the current geopolitical environment

Access to real-time data, especially port tariffs for the dry bulk sector can be invaluable for decision making. Demystifying these fees has grown in importance as geopolitical events have an impact on the market, explains Harbor Lab founder and CEO Antonis Malaxianakis.

The bulk sector has faced numerous challenges over the past 18 months due to geopolitical instability, which has affected freight rates and added unpredictability to the sector. Having access to key disbursement accounting (DA) and port tariff data can help ship owners and operators regain some control over voyage costs amid these disruptions. The current geopolitical climate, particularly the Houthi attacks in the Red Sea, underscores the need for transparency and real-time data to navigate these complexities.

The maritime industry, known for its resilience, is now navigating the repercussions of recent Houthi attacks on commercial vessels in the Red Sea. Since mid-November 2023, there have been numerous attacks, leading many shipping companies to reroute their vessels away from the Suez Canal and the Red Sea, opting for longer and more expensive routes around the Cape of Good Hope. This has extended voyages by up to 14 days, increasing costs and adding further volatility to the dry bulk market.

The impact on port tariffs and commercial viability

These geopolitical tensions have led to a notable impact on port tariffs and the overall commercial viability of shipping routes. Ports in eastern Africa have seen increased demand as vessels avoid the Red Sea, leading to potential adjustments in tariffs to capitalise on this new traffic dynamic. Conversely, the Suez Canal has experienced a 15% rise in transit expenses for Suezmax vessels, despite a drop in traffic and husbandry calls by 94%.

The role of real-time data

In the traditional process of port operations, owners and operators often grapple with fragmented information and opaque tariff structures, leading to inefficiencies, potential inaccuracies, and missed opportunities for cost optimisation. The manual, paper-based disbursement processes of port cost analysis, is often time consuming and prone to error.

Disbursements – port costs that occur to a vessel when calling a port – constitute the second largest expense of a commercial voyage after bunkering and are essential for precise voyage calculations. Port expenses are costs such as port dues, canal transit fees, towage and pilotage costs that are based on official port tariffs, issued by the port authorities for vessels making use of its infrastructure and services.

In addition, principals pay agent fees for the services port agents offer to their vessel and husbandry owner expenses for crew handling, crew transportation and accommodation, and fees for getting spare parts onboard, for example.

Increasingly, companies are opting for digital DA options as a transparent and efficient alternative to traditional, paper-based disbursement processes, to have instant access to real-time port costs and bridge the transparency gap to assist stakeholders make informed decisions.

When time is money and margins are razor-thin, the importance of real-time data cannot be overstated. Harbor Lab has made leaps and bounds in modernising this area of the industry alongside owners and operators to develop pragmatic solutions that best tackle real-world problems.

Harbor Lab's Port Cost Estimator and Disbursements tool leverages real-time data obtained from ports and verified by human port analysts to determine port fees for individual vessels.

These tools have become increasingly critical as operators seek to understand the financial implications of rerouted voyages and changing port tariffs. For instance, from 2023 to 2024, Harbor Lab data show that transit expenses for the Suez Canal have risen by 15% for Suezmax vessels despite the drop in traffic and husbandry calls.

In North African ports, the problem is reversed, whereby demand has been growing among vessels avoiding the Red Sea, seeking bunkering and restocking services that enables port operators to capitalise on growing traffic. Some North African ports have seen a 45% increase in husbandry calls, while ports such as Las Palmas have seen a 2.2% increase in tariffs due to heightened demand from rerouted vessels.

We posed the question at Harbor Lab as to whether we could utilise our real-time data of husbandry port calls across the region to see the impact on tariffs. Compared with the period of August to November 2023, Harbor Lab data shows that husbandry calls – covering everything from crew changes to spare parts for example – were down 94% in the Suez Canal, impacting revenue for the Canal by 40%. Dry bulk vessels have been impacted slightly less, whereas higher risk cargoes, such as chemical and crude tankers, have seen a larger 97% reduction.

Ultimately, what we are seeing is that while many bulker vessels are still choosing to use the Suez Canal rather than divert, they are not choosing to make their husbandry calls at regional ports in great numbers. Instead, they are choosing to make their calls at alternative ports, spurred on by the growing transit expenses.

As expenses and port tariffs increase in ports in and around the region, ship owners and operators are using real-time data more than ever to enable them to fully understand the commercial reality in ports, and how that will impact their bottom line. This data is even more critical to bulk vessels operating on the tramp trade, whereby visiting new ports becomes challenging when relying on data that may not reflect the reality of ever-changing dynamics.

Demystifying tariffs through digitalisation

Securing accurate data of port tariffs and fees is a traditionally cumbersome task. Through digitalising these processes, it is clear to see the value that can be provided in added transparency and understanding of how this will impact the commercial operating costs of shipping companies.

It is important to eliminate opaque pricing structures and fees to help provide both agents and principals with access to authenticated port tariff information, thereby enhancing transparency in the disbursement process.

Costs incurred at ports represent significant expenditures for principals, and securing accurate data on these expenses is crucial for maintaining profitability. Harbor Lab continues to work closely with ports to collect reliable data and develop sophisticated algorithms powering their online DA Tool.

This approach helps operators and charterers achieve significant savings by providing transparency and allowing for more informed decision-making based on real-time data.

In conclusion, the ability to navigate the changing dynamics of port tariffs and route adjustments, particularly in light of the ongoing Red Sea crisis, hinges on access to high-quality, real-time data. This transparency enables better decision-making and helps mitigate the financial impacts of geopolitical disruptions on maritime trade.

BOOST FOR PORT BUSINESS

US West Coast ports have been receiving substantial investments to upgrade their facilities and improve performance

One example of a new technological approach to port development is the Port of Los Angeles' Port Optimizer technology data portal, which will receive a series of major enhancements, due to an $8m grant from the California Governor's Office of Business and Economic Development (GO-Biz).

The award was the largest of five GO-Biz grants totalling $27m to improve data and supply chain functionality across California's port network.

"We're thrilled that this GO-Biz grant to the Port of Los Angeles will help fund three new components to its well-established Port Optimizer technology," says GO-Biz Director and Senior Advisor to Governor Gavin Newsom, Dee Dee Myers.

"Our state's ports are critical to the stability of our national and global supply chains, and these historic grants will allow California ports and its stakeholders to benefit from its data sharing capabilities."

"This GO-Biz funding will help the Port of Los Angeles accelerate our proven technology, the Port Optimizer, to further improve efficiency, lower impacts on our communities and make us more competitive," says Port of Los Angeles Executive Director Gene Seroka.

"We're grateful to the state of California and GO-Biz for being the first state to step up with policy and funding to enhance supply chain digitalisation."

First introduced in 2017 and the only port community data platform of its kind in operation in North America, the Port Optimizer is a cloud-based information portal that digitalises maritime shipping data for cargo owners and supply chain stakeholders through a secure single access point.

By integrating data from across the port ecosystem, the portal enables ports and the supply chain to operate more efficiently and helps cargo owners bring their goods to market in a more predictable and timely manner.

The $8m GO-Biz grant will accelerate the development and deployment of three new enhancement tools for the Port Optimizer.

The grant will expand enhancements to the Port's truck appointment system, currently under development. Specifically, the grant will enable interoperability with the Port of Long Beach allowing bay-wide coverage for a new universal truck appointment system that will improve the ease of identifying, moving and managing containers across the entire San Pedro Bay port complex.

It will also provide funding for the development of a new California Ports Mobile Application (CalPorts) providing mobile access to the Port Optimizer and other port dashboards when available. CalPorts will make it easier for California ports to send and receive data on items like cargo status, which will help reduce supply chain disruptions and allow stakeholders to better anticipate operational issues.

CalPorts will also provide the capability for sharing environmental performance and port security data, among other information.

Another enhancement to the Port Optimizer will be the addition of a single, online gateway for collecting carbon impacts of port operations. The gateway, once developed, will provide users a near real-time Green Asset Score based on rail, trucking, vessel, and on-port equipment particulate and greenhouse gas emissions.

Using this score, the gateway will help Port Optimizer stakeholders select more optimal routes that balance cargo speed and emissions impacts.

> "The port has a long history of being a major economic driver in South Florida

EVERGLADES IMPACT

Port Everglades continues to be a significant contributor to the economy locally, regionally and state-wide based on a recently released annual economic impact report. Most notable is the 12% increase in direct local jobs.

The port used Martin Associates to measure its influence in terms of jobs, personal earnings, business revenue, and state and local taxes for the port's Fiscal Year 2023. The results indicate that Port Everglades created:

- $26.5bn in economic activity
- $925,431m in state and local taxes
- 10,778 direct local jobs
- 192,688 Florida jobs supported statewide

"The port has a long history of being a major economic driver in South Florida and this study underscores our financial impact, especially when it comes to the buying power of 10,778 direct local jobs whose spending led to an additional 8,570 induced and 8,215 indirect jobs," says Glenn Wiltshire, Acting Port Director.

Since the previous economic impact report for Fiscal Year 2022, the port has added new cargo services, increased its operational capacity with three new Super Post-Panamax container gantry cranes, completed its first liquefied natural gas bunkering for a cruise ship, and is prepared to welcome new-builds from Princess Cruises, Ritz-Carlton Yacht Collection, and Silversea Cruises, and Crystal's shifting from Miami.

"The momentum is strong, and we anticipate continued steady growth in the cruise, energy and cargo sectors that will result in greater gains when the annual economic impact report is updated next year," Wiltshire says.

Warehouse opportunities

Also at Port Everglades, business opportunities are expanding with the construction of two warehouses that will offer distribution and logistical services.

Seagis Property Group reported recently that it is 75% complete with its 199,624 sq ft speculative development in

Hollywood, Florida. It expects construction to be complete in September. The building sits just outside Port Everglades' security entrance allowing for prompt entry to the seaport's cargo terminals, Port Everglades International Logistics Center (PEILC) and Florida East Coast Railway's near-dock facility.

The other new build is by Bridge Industrial, which anticipates completing its 171,983 sq ft speculative logistics facility in the first half of 2024. The distribution building is less than a mile from Port Everglades in Dania Beach, Florida.

"The creation of warehouses immediately adjacent to Port Everglades is an indication of our seaport's strength and standing in the marketplace," says CEO and Port Director Jonathan Daniels.

"The private sector understands the advantages of partnering with our port. In addition to being conveniently located near major modes of transportation, we are responsible for more than $28.6bn worth of trade in 2022. That is attractive to businesses."

These new privately owned warehouses will complement the PEILC, a public-private partnership with CenterPoint Properties that was built in 2020 on 16.657 acres of Port-owned property. The entire PEILC is activated as Foreign Trade-Zone No. 25 allowing for the efficient distribution of goods at lower duty and tariff costs.

TRADE UP AT LONG BEACH

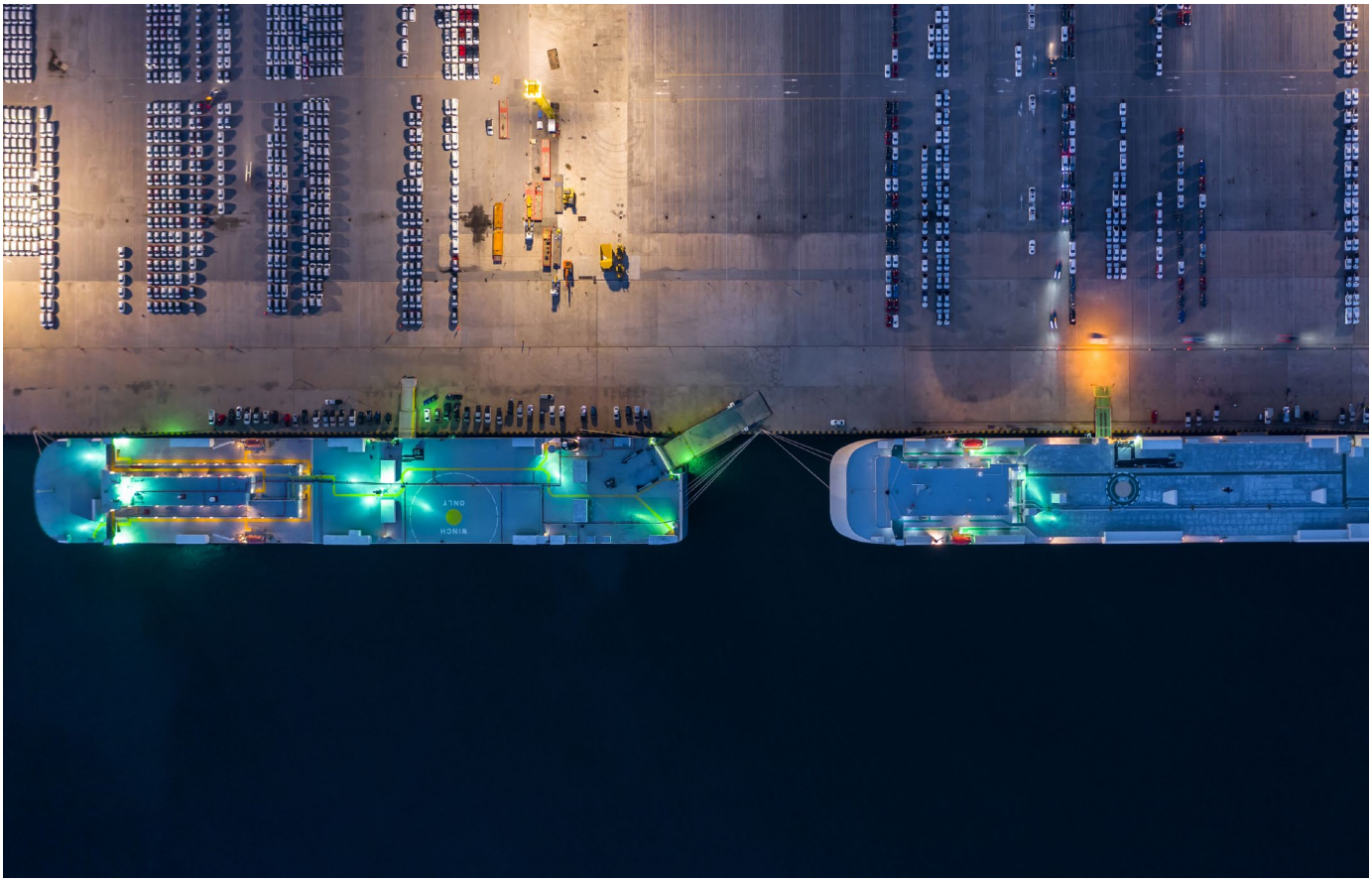
The Port of Long Beach achieved its busiest June on record, driven by vibrant consumer spending, potential tariff increases and ongoing labour contract negotiations at seaports on the East and Gulf coasts.

Dockworkers and terminal operators moved 842,446 twenty-foot equivalent units (TEUs) in June, up 41.1% from the same month last year and surpassing the previous record set in June 2022 by 7,034 TEUs.

Imports jumped 53% to 419,698 TEUs, exports rose 4% to 98,300 TEUs, and empty containers moving through the Port increased 42.1% to 324,448 TEUs.

"We are recapturing market share and consumer spending is driving cargo to our docks as we head into the peak shipping season," says Port of Long Beach CEO Mario Cordero. "I see modest growth for the second half of 2024 as we strengthen our competitiveness and continue to invest in our rail infrastructure projects that will maximise cargo velocity efficiently and sustainably for decades to come."

"Our waterfront workforce and terminal operators are delivering top-notch customer service by promptly processing a hefty increase in containers during the very busy summer months," says Long Beach Harbor Commission President Bobby Olvera Jr. "We are focusing on our efforts to keep cargo flowing smoothly and secure our position as the premier gateway for trans-Pacific trade."



MAKING CONNECTIONS

Improving transport efficiency and boosting economic growth are key issues for Indian ports

Adani Ports and Special Economic Zone (APSEZ) has handled 420mmt (+24% Y-o-Y) cargo in FY24 (including international ports), with domestic ports contributing more than 408mmt cargo.

It has also handled its highest ever monthly cargo volumes (including international ports) of more than 38mmt in March 2024. Ten of the company's ports and terminals handled record cargo volumes: Mundra 180mmt, Tuna 10mmt, Hazira 26mmt, Mormugao 5mmt, Karaikal 12mmt, Ennore 13mmt, Kattupalli 12mmt, Krishnapatnam 59mmt, Gangavaram 37mmt and Dhamra 43mmt.

During FY24, more than one-fourth of all India cargo volumes was routed through APSEZ ports. India's largest port operator comfortably surpassed its cargo volume guidance of 370mmt – 390mmt provided at the start of the financial year.

Karan Adani, Managing Director, APSEZ, says: "While it took 14 years for the company to achieve the first 100mmt of annual cargo throughput, the second and third 100mmt throughputs were achieved in five years and three years.

"The latest 100mmt mark has been achieved in less than two years. This is a testament to our ongoing commitment and efforts towards enhancing operational efficiencies and maintaining our position as a top port operator in the industry."

The past year has seen APSEZ achieving various new operational milestones. Its flagship port Mundra became the first in India to handle 16mmt cargo in a single month (October 2023).

In addition, its container terminal CT-3 achieved a milestone of becoming the first in India to handle three million TEUs during the year and around three lakh TEUs (20-foot equivalent units) in a single month (November 2023). It berthed the largest-ever vessel at any Indian port (around 399m-long and 54m-wide) and handled the highest number of TEUs (16,569) on a single ship, *MSC Livorno*, surpassing the national best of 16,400 TEUs. It handled more than 4,300 vessels, bypassing its previous record of 3,938 vessels.

In the container segment, the ports at Mundra, Hazira, Kattupalli and Ennore handled record volumes. Around 44% of the containerised seaborne cargo in India moves through APSEZ ports. Its container volumes have grown by 2X of India's container growth (~11% as compared to the all-India growth of ~5%) in the last five years.

Mundra port handled record container volumes by rail of 1.9m TEUs, a growth of 12% over last year. Till February 2024, the double stack coefficient was 59% as compared with last year's 54%.

In the dry cargo segment, ports such as Tuna, Mormugao, Karaikal, Krishnapatnam, Gangavaram and Dhamra handled record volumes this financial year.

Dhamra berthed its first liquefied natural gas-powered cape-sized vessel, *MV Ubuntu Unity*, while Krishnapatnam berthed its largest-ever vessel with dimensions of LOA 335.9m and beam 42.9m. With regard to liquid cargo, Mundra, Kattupalli, Krishnapatnam and Dhamra handled record volumes.

BEUMER'S GROWTH PATH

Beumer Group is continuing on its growth path and expanding its commitment in India. The global manufacturer of material handling solutions invests more than INR 2bn in a new, state-of-the-art production city in Reliance MET City/Jhajjar.

The new production site will further strengthen Beumer's global factory footprint, as well as boosting the success of its Beumer India subsidiary.

With an area of more than 10 acres, the new plant will be placed at a highly strategic location, with Reliance MET City offering exemplary infrastructure and support. Beumer will be the first German company to set up production in the development zone. Construction work will commence this summer, the inauguration of the new plant is scheduled for September 2025.

Beumer Group has been active in India since 2003. Initially catering to the cement industry exclusively, Beumer India has grown significantly over the years and now offers solutions for the airport industry, minerals and mining, for automated warehouses and distribution centres in the retail industry as well as in the areas of e-commerce and courier, express and parcel.

In addition, the Indian office is also providing engineering support to the group's global network.

On the product side, Beumer India has been a trailblazer of new bulk as well as discrete material handling technologies to India, for example: high-capacity, high-speed automatic loop sortation for passenger baggage, fully automated truck loading for cement bags, high-efficiency bulk material transport, as well as curved belt and pipe conveyors.

Over the years, Beumer has strengthened its position in India through various steps, such as diversifying to all business segments as global operations, acquisition of Enexco Technologies India, FA M India and the establishment of a modern manufacturing unit at Naurangpur, Haryana.

"This expansion reflects Beumer Group's strategic focus and commitment to long-term success in India. The new production site plays an important part in our global factory footprint, strengthening our position as a quality leader and partner of choice for our customers", says Rudolf Hausladen, CEO Beumer Group.

"Our new production site at Reliance MET City offers a convenient ease of business and synergy in approaching infrastructure and facilities with a vision towards sustainable development. Setting up a manufacturing unit in the context is truly 'plug and play', with Reliance staying true to its goal of developing a 'model economic town'", says Nitin Vyas, Cluster Asia CEO, Beumer Group.

MOU AIMS FOR COLLABORATION

Indian Register of Shipping (IRS) and the Uttar Pradesh Transport Department have signed a landmark Memorandum of Understanding (MoU) to establish the UP Inland Waterways Authority. This collaboration aims to develop and regulate inland waterways in Uttar Pradesh, enhancing transportation efficiency and fostering economic growth.

IRS will assist the Uttar Pradesh government in formulating the UP Inland Waterways Authority and developing relevant rules based on the IWAI Act 2021 and IWAI Rules 2022. IRS will also provide technical support to the newly formed authority, ensuring the implementation of best practices for safety and green initiatives in compliance with the latest national and international requirements.

IRS will further help identify various upscaling opportunities for department officials and other stakeholders, contributing to skill enhancement and capacity building.

This partnership marks a significant step towards sustainable development and efficient utilisation of Uttar Pradesh's inland waterways, aligning with the broader vision of environmental conservation and economic growth. By leveraging the state's extensive river network, the authority aims to facilitate seamless movement of goods and passengers, enhance connectivity, and stimulate regional development.

Shri Chandra Bhushan Singh, Transport Commissioner, Uttar Pradesh, expressed his gratitude towards IRS for its ongoing support. He emphasised that the formation of the authority will boost the local economy by providing low-cost and green transportation options for cargo and passengers through navigable channels.

He also highlighted the potential for pilgrimage tourism under the vision of

Prime Minister Narendra Modi and Chief Minister Yogi Adityanath. Additionally, the authority aims to contribute to river conservation, pollution prevention, and overall improvement in the quality of life for residents.

TRANSSHIPMENT MILESTONE

Adani Ports & SEZ recently announced the arrival of the first mother ship at its Vizhinjam port. This is a milestone event marking India's entry into the global transshipment and ushering in a new era in India's maritime history, positioning Vizhinjam as a critical player in the international trade routes.

The event was inaugurated by the Chief Minister of Kerala, Shri Pinarayi Vijayan, and the gathering was presided over by Shri V N Vasavan, the Minister for Ports, Kerala. Shri Sarbananda Sonowal, the Union Minister for Ports, Shipping, and Waterways, was the chief guest.

This also marks the debut of India's first automated port with state-of-the-art infrastructure and facilities, capable of handling large ships, with its modern container handling equipment and world-class automation and IT systems. *San Fernando*, the 300m-long container vessel operated by Maersk with a capacity of 8,000-9,000 TEUs (20-foot equivalent units), will be availing the services at the port to offload about 2,000 containers and for 400 container movements within the vessel.

Highlighting Vizhinjam's significance, Karan Adani, Managing Director of Adani Ports and SEZ Limited (APSEZ) says: "*San Fernando* – now berthed at our harbour – is a symbol of a new, glorious achievement in Indian maritime history. It is a messenger that will tell the world that India's first transshipment terminal and the largest deepwater port has begun commercial operations".

Talking about the port's state-of-art infrastructure, he says: "No other port in India – including our own highly advanced Mundra Port – has these technologies. What we have already installed here is South Asia's most advanced container handling technology. And once we complete the automation and the Vessel Traffic Management System, Vizhinjam will be in a class of its own as one of the most technologically sophisticated transshipment ports in the world."

Currently, 25% of India's container traffic is transshipped en route to the destination. Until now, despite India's rising trade with the world, the country did not have a dedicated transshipment port, resulting in three-fourths or 75% of India's transshipped cargo being handled by ports outside India.

Vizhinjam will not only facilitate the movement of transshipment traffic into India, but the strategically located port will also play a pivotal role in handling traffic along major routes connecting India, such as traffic between the US, Europe Africa, and the Indian subcontinent as well as US, Europe, Africa and the Far East, and thus playing a critical role in the international trade routes.

> Vessel Traffic Management System, Vizhinjam will be in a class of its own as one of the most technologically sophisticated transshipment ports in the world

Sustainable role

In addition, Adani Ports and Special Economic Zone (APSEZ) has been recognised by not-for-profit sustainability charity CDP for its exceptional efforts in tackling climate change and implementing best practices across its supply chain through a robust engagement program.

The award was presented at the 'Climate Action in India: Role of Businesses and Supply Chain' ceremony, co-hosted by the Federation of Indian Chambers of Commerce & Industry (FICCI) in New Delhi.

CDP has assigned APSEZ a leadership band A, in both climate change and supplier engagement. The company received the highest rating of A for its initiatives in emission reduction, climate governance, supplier engagement, scope 3 emissions and risk management processes.

Notably, only a handful of companies make it to the leadership band in both climate change and supply chain engagement every year. In its latest assessment, Sustainalytics also upgraded APSEZ's environmental, social and governance (ESG) performance. With a score of 11.3, APSEZ is now close being categorised as a company with negligible ESG risks (score band of 0-10).

Of the 16215 companies rated by Sustainalytics globally, APSEZ has 95 percentile score. Furthermore, APSEZ managed to maintain its position as the top-ranked company in the low carbon transition rating within the port sector, demonstrating strong improvement in the last few years.

Commenting on the achievements, Ashwini Gupta, Chief Executive Officer, APSEZ, says: "At APSEZ, we remain resolute in our commitment to sustainability, with concerted efforts to reduce carbon emissions. We are pleased with the continuous improvement in our ESG performance and the 'climate leadership position' assigned by multiple ESG rating agencies. We are now working on net-zero commitment by 2040 through renewable capacity deployment and greening the transportation.

Additionally, APSEZ had received an 'Advanced' rating in the last Energy Transition Rating from Moody's, reflecting its leadership position. Moody's also evaluated APSEZ on an environmental, social and governance basis in 2022, wherein the company secured first rank in the Transport and Logistics sector and ninth across all sectors/ industries in the Global Emerging Markets. In India, APSEZ was ranked first on ESG performance across all the sectors.

GREEN LIGHTS

Environmental issues have been high on the agenda for Scandinavian countries and operators, as they try to put in place procedures to limit damage to the environment

Norwegian P&I Club Gard has recently been considering the issue of how liability regimes can adapt to new fuels and new cargoes.

"The green transition presents us with a regulatory challenge that has received too little attention so far: current liability and compensation regimes are not really catering for new fuels and new cargoes. So how can we close the gaps," asks the club.

Industries across the board are seeking to reduce their carbon footprint and embrace more sustainable practices. As part of this, there is a huge effort within our industry to decarbonise, using alternative fuels such as biofuel, liquefied natural gas, liquefied petroleum gas, ammonia, methanol and hydrogen.

Until now, there has been much focus on operational risks associated with the use of alternative fuels. This includes increased explosivity, flammability, and corrosivity.

However, the green transition also presents us with a separate challenge, which has received less attention so far: the potential barriers in the legal and regulatory frameworks which will come sharply into focus if there is an accident.

Currently, the club says: "Existing international liability and compensation regimes do not fully cater to the changes that the use of alternative fuels will bring."

For example, the club explains " an ammonia fuel spill would not fall under the International Convention on Civil Liability for Bunker Oil Pollution Damage (Bunkers Convention), potentially resulting in a non-uniform approach to jurisdiction and liability.

Similarly, an ammonia cargo incident would not fall under the International Convention on Civil Liability for Oil Pollution Damage (CLC). Uncertainties may also exist in the carriage of CO2 as part of Carbon Capture and Storage (CCS) projects, which may be treated as a pollutant, with corresponding penalties or fines.

"A multitude of questions will arise depending on what happens, where it happens, and the values involved, many of which may end up as barriers for would be claimants. How will such claims be regulated, will there be scope for limitation of liability, and would there be a right of direct action against the insurers."

> "The green transition presents us with a regulatory challenge that has received too little attention so far: current liability and compensation regimes are not really catering for new fuels and new cargoes

GREEN CORRIDOR

Port of Gothenburg, North Sea Port, and Danish shipping company DFDS have welcomed Port of Antwerp-Bruges to the Green Shipping Corridor, bolstering the green ambitions of the project.

By 2030, two ammonia-fuelled ro-ro vessels are expected to operate on the routes between Sweden and Belgium, and the ports will step up efforts on electrification and ammonia bunkering, potentially making it the world's first green ammonia shipping corridor for freight vessels.

2,500km is the distance from the northernmost to the southernmost point of the Green Shipping Corridor between Sweden and Belgium that Port of Gothenburg, North Sea Port, DFDS and Port of Antwerp-Bruges want to establish to promote near zero emission transport.

The corridor potentially connects 11 European countries through sea, land and rail routes from Norway in Northern Europe to Spain in the South. In this corridor, the ports of Gothenburg, North Sea Port and Antwerp-Bruges work as transportation hubs as well as important origin and destination zones of industrial activity.

The aim is to have at least two DFDS ammonia-fuelled vessels in operation on the Corridor from 2030, a part of DFDS's ambition to have six low – and near-zero-emission vessels in operation by 2030.

The ammonia vessels will be complemented by electric trucks and rail transport on land, as well as onshore power supply for the vessels. Therefore, efforts are being intensified by the ports to facilitate electric terminal operations and enable safe ammonia bunkering.

Furthermore, the partners are planning to start producing significant amounts of renewable electricity.

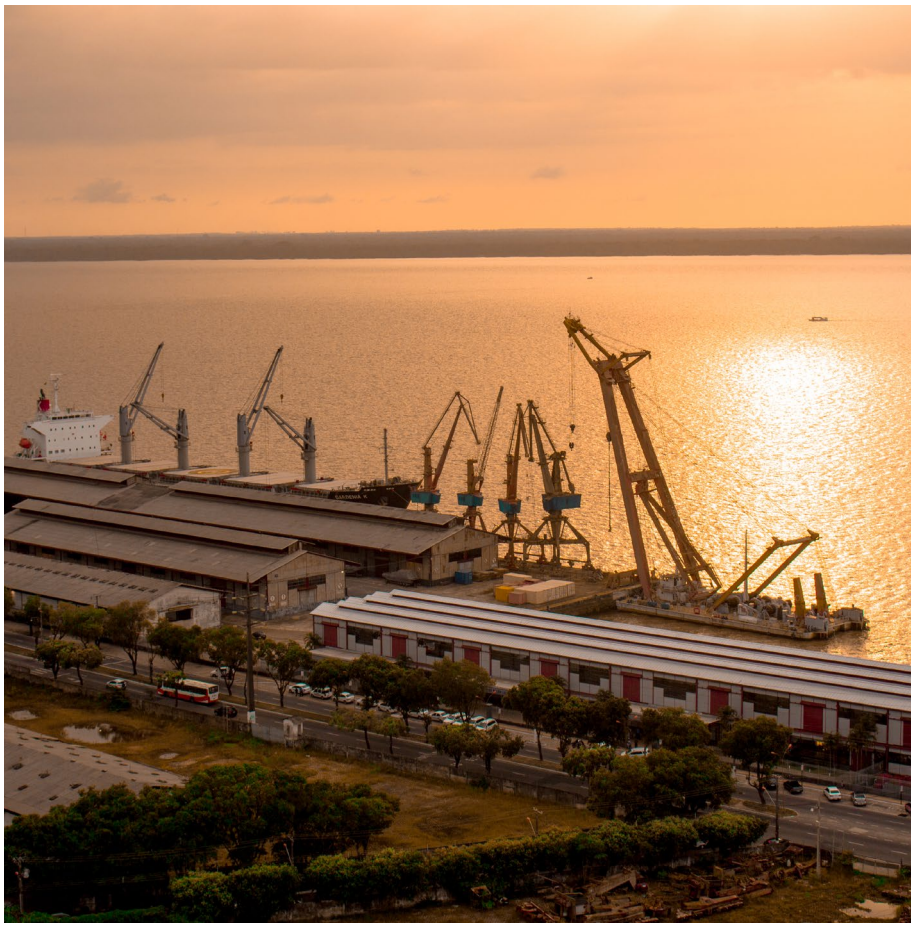
The three original partners signed an MoU in 2022 to work together to decarbonise the shipping corridor between Sweden and Belgium and to create a scalable solution. The addition of the Port of Antwerp-Bruges to this coalition strengthens this commitment.

DFDS has applied for funding for a total of four ammonia-fuelled vessels and, if the funding is granted, the project including electrification in the ports is expected to reduce 328,000t CO2e emissions per year corresponding to around 11% of DFDS's scope 1 greenhouse gas emissions compared to 2023.

Patrik Benrick, Head of Strategic Development and Innovation at the port of Gothenburg, comments: "The Port of Gothenburg is already in the early stages of developing operating regulations for a safe and efficient handling and bunkering of ammonia propelled vessels. We are also working on establishing an ammonia value chain, with the purpose of being able to facilitate everything needed for ammonia propelled vessels calling and bunkering in the port on a regular basis in 2030 and beyond."

BUILDING BRIDGES

South Africa's Transnet National Ports Authority has been trying to accelerate the progress on port infrastructure projects in recent times as a means of reducing congestion and improving capacity



Earlier this year, Transnet National Ports Authority (TNPA) highlighted the role that port infrastructure development projects had to play in tackling congestion and increasing capacity at the Eastern Region ports of Durban and Richards Bay.

The port authority recently highlighted a number of projects it has in progress under its mega projects portfolio – the KwaZulu-Natal Logistics Hub (KZN LH) and operational projects aimed at easing congestion at the two ports.

The flagship KZN Logistics Hub portfolio aims to reposition the ports of Durban and Richards Bay to increase the capacity of handling container, automotive, dry bulk and liquid bulk commodities.

TNPA Managing Executive for the Eastern Region ports, Moshe Motlohi, says: "For effective execution of these projects, we at TNPA rely on collaboration between ourselves and customers to find best solutions to improve port efficiencies."

TNPA has obtained funding from the Development Bank of Southern Africa

for projects in the region. These include the Point Container Terminal Marine Infrastructure and Bulk Services project which aims to expand the terminal capacity from 0.2m TEUs to 1.8m TEUs.

For the Port of Richards Bay, TNPA has appointed the terminal operator for the handling of liquefied natural gas (LNG) in the South Dunes Precinct. The aim is to develop the port's infrastructure to support the LNG terminal. Construction work will include building berths, bollards, fenders, pipe racks and bund walls as well as the development of a gas transmission pipeline for handling LNG imports and bulk services infrastructure.

Commenting on these projects, TNPA Portfolio Director for the KZN Logistics Hub, Dr Bridgette GasaToboti, says: "Our continued investment in infrastructure and the repositioning of the two ports is pivotal in meeting the demands of the maritime industry - in particular, the increasing size of container vessels calling at our ports and introducing new energy mix within the port system."

The project pipeline for the region also encompasses the deepening and lengthening of berths 203, 204 and 205 at the Pier 2 Durban Container Terminal at the Port of Durban. The project will commence between August and December this year. The project will result in a berth length increase from 914m to 1 210m to safely accommodate the simultaneous berthing of three Super Post Panamax vessels of 350m in length and draft of 14.5m.

Bulk facility

TNPA also recently signed a Terminal Operator Agreement (TOA) with Mnambithi Terminals for the development of a liquid bulk facility at the port of Durban's Maydon Wharf precinct. The project will result in improved operational efficiencies at the Maydon Precinct as Transnet pursues a number of tactical initiatives to drive volume recovery and improve efficiencies across its divisions through the business-wide recovery plan.

The signing followed the successful conclusion of a section 79 directive issued by the Minister of Transport for TNPA to grant Mnambithi Terminals a terminal operator agreement for the handling of liquid bulk at Maydon Wharf 6, for a period of 20 years. TNPA says this demonstrates the effectiveness of the National Ports Act of 2005 section 79 in promoting the national, strategic and economic interests of the country.

The agreement with Mnambithi Terminals, a subsidiary of Mnambithi Group, underpins TNPA's quest for transformation at the Port of Durban, the authority says. It also ensures the facilitation of trade through the import and export of high-flash liquid bulk cargo at the Port.

The new terminal will feature direct rail and road loading, an on-site truck staging area with automated loading systems that will ensure maximum operational efficiencies while alleviating road congestion in the Maydon Wharf precinct. With an investment value of R1.3bn, the liquid bulk facility is also set to create over 50 to 100 direct and just over 400 indirect job opportunities for communities surrounding the Port of Durban from the project's inception phase.

"TNPA is deliberate about enabling transformation in the industry and breaking barriers of entry by ensuring inclusion and access for all. We are, therefore, delighted to welcome Mnambithi Terminals, and hope that this strategic relationship will promote the national, strategic, and economic interests of the country as mandated by Section 79 of the National Ports Act of 2005," says Transnet Group Chief Executive, Michelle Phillips.

The project is in two phases, with the initial phase entailing the demolition of the existing structure including foundations, installation of tanks, associated infrastructure, road loading gantry, as well as bulk transfer of pipelines connecting Mnambithi Terminals to the relevant berths to receive liquid cargo. The second phase will entail the installation of remaining tanks and associated infrastructure.

Leasing opportunities

TNPA has recently opened approximately 100 leasing opportunities for port land and commercial developments across its seven ports. Within the lease opportunities on offer, facilities will be repurposed for economic activity, while vacant buildings will be available for office, recreational and industrial purposes, opening business opportunities within the port cities.

"While these leasing opportunities allow TNPA to fully optimise the use of land within the ports, they undoubtedly present an untapped opportunity for the business to unlock the future of South Africa's trade economy whilst opening up the market for new entrants," says Dr Dineo Mazibuko, acting TNPA general manager for commercial services.

Fresh water

TNPA recently announced plans to develop its first Water Desalination Plant to improve freshwater supply. The project is set to improve the reliability of freshwater supply to users of South Africa's only river port, the Port of East London. The authority has also awarded a Joint Venture - Norland Civil Engineers and Contractors and Impact Water Solutions (PTY) Ltd (IWS), trading as Sun Water East London - a R60m contract to construct and operate the solar-powered water desalination plant over seven years.

"The introduction of this alternative water solution is a step towards the advancement of the port system and seeks to minimise TNPA's reliance on external parties for the provision of freshwater. The project is in line with the Ports Authority's strategic plan of increasing its utilities supply resilience and ensuring security of utilities supply by 2029," says acting TNPA Chief Executive, Advocate Phyllis Difeto.

The first-ever seawater desalination plant will produce 0.5 mega litres (ML) per day and convert seawater into potable water in line with drinking quality standards. Key to this initiative is the authority's use of renewable energy to complement other energy sources.

MaritimeAMC

Secretariat Services for Maritime Associations

Your Trusted Partner

The Maritime Association Management Company (Maritime AMC) provides comprehensive secretariat services for trade associations operating across all sectors of the global maritime and offshore industries.

When it comes to entrusting the management of your association to a specialist services provider, we are your ideal partner.

Whether your association is a fledgling or established entity, Maritime AMC has the expertise to ensure growth, develop your association and influence regulatory and media agendas on behalf of your membership.

Our directors have extensive maritime industry and trade association expertise, with demonstrable successes in association governance, publishing, conference production and communications. We speak your language and understand the maritime world.

Maritime AMC currently provides full secretariat services to the Association of Bulk Terminal Operators (ABTO) and previously to the Clean Shipping Alliance 2020 (CSA 2020).

Maritime AMC Ltd
35 Beacon Drive,
Newton Abbot
TQ12 1GG
T. +44 (0) 1626 681103
E. info@maritimeamc.com

www.maritimeamc.com

ARGUS METHANOL FORUM
9-11 SEPTEMBER 2024
Houston
www.argusmedia.com/en/events/conferences/methanol-forum

ARGUS SUSTAINABLE FUELS
11-13 SEPTEMBER 2024
Houston
www.argusmedia.com/en/events/conferences/sustainable-marine-fuels

SAFETY4SEA
18 SEPTEMBER 2024
London
https://events.safety4sea.com/2024-safety4sea-london-forum/

TOC AMERICAS
1-3 OCTOBER 2024
Panama
www.tocevents-americas.com/en/home.html

WORLD PORTS
8-10 OCTOBER 2024
Hamburg
www.worldportsconference.com

ARGUS BIOFUELS EUROPE
15-17 OCTOBER 2024
London
www.argusmedia.com/en/events/conferences/biofuels-europe-conference-and-exhibition

BULKEX 24
15-16 OCTOBER 2024
Warwick
www.mhea.co.uk

WIND PROPULSION 2024
22-23 OCTOBER 2024
London
https://rina.org.uk/events/events-programme/wind-propulsion-2024/

BULK TERMINALS ANTWERP 2024
23-24 OCTOBER 2024
www.bulkterminals.org/index.php/events

TOC ASIA
26-27 NOVEMBER 2024
Singapore
www.tocevents-asia.com/en/home.html

MANAGING CII
21-22 JANUARY 2025
London
https://rina.org.uk/events

BREAKBULK MIDDLE EAST
10-11 FEBRUARY 2025
Dubai
https://middleeast.breakbulk.com

CMA SHIPPING
1-3 APRIL 2025
Stamford
www.cmashippingevent.com

ARGUS EUROPE CARBON
12-14 MAY 2025
Nice
www.argusmedia.com/en/events/conferences/europe-carbon-conference

BREAKBULK EUROPE
13-15 MAY 2025
Rotterdam Ahoy
https://europe.breakbulk.com/

TOC EUROPE
17-19 JUNE 2025
Rotterdam Ahoy
www.tocevents-europe.com/en/home.html

BREAKBULK AMERICAS
15-17 OCTOBER 2025
Houston
https://americas.breakbulk.com

BULK TERMINALS ANTWERP 2024

THE ONLY EVENT AIMED AT THE ENTIRE BULK TERMINALS INDUSTRY

The Annual Conference of the Association of Bulk Terminal Operators (ABTO)

23-24 OCTOBER 2024

INCLUDING VISIT TO EUROPORTS BULK TERMINAL

Organised by abto ASSOCIATION OF BULK TERMINAL OPERATORS

OFFERING PRACTICAL SOLUTIONS SESSIONS WILL COVER

- An in-depth sector by sector market analysis
- Streamlining operations and increasing efficiency
- Protecting against cyber attack
- Minimising risk
- Improving safety
- Ensuring environmental protection and compliance
- How equipment and service providers can provide solutions to terminal operators' needs.

Host port

Port of Antwerp Bruges

To discuss speaking and sponsorship opportunities please call
Simon Gutteridge +33 (0)321 47 72 19 or email events@bulkterminals.org

Supporting Organisations

University of Greenwich, Bioenergy Europe, ICHCA International, Institution of Mechanical Engineers, IPCSA, MHEA, SHAPA, The Nautical Institute

Media Partners

Bulk Terminals International, Baltic Transport Journal, bulk-online, All About Shipping, Jura-Mope-Sea, Logistics Voices, Marasi News, Newsfront Naftiliaki, SupplyChainBrain, Transportes & Negócios

For more details and to register, visit: bulkterminals.org/index.php/events

All-electric dynamics

Operate locally emission-free with power, speed, and precision.
www.liebherr.com

LIEBHERR

LPS 420 E

Discover