BULK TERMINALS *international*

SPRING 2024

THE OFFICIAL MAGAZINE OF THE ASSOCIATION OF BULK TERMINAL OPERATORS

SEIZING THE MOMENT

Booming wind power industry gives boost to crane manufacturers

CROSSING THE DIVIDE

The consequences of Baltimore's Francis Scott Key Bridge collapse

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COUNTING THE COSTS

BY SANDRA SPEARES

While safety continues to be a key element for shipping and ports that serve the industry, recent events have once again shone a spotlight on the wider impact that political events can have on the industry as a whole

Recent events in Baltimore have emphasised once again the potential dangers faced in ports by both the ships that serve them and in this case bystanders that just happened to be in the wrong place at the wrong time.

The most recent incident will evidently be an expensive one, not only from the point of view of loss of life, but also from the point of view of finding the culprit or culprits and holding them to account, either personally, financially, or both.

One again, as the blame culture machine starts rolling, will anyone actually act in the future to avoid similar conditions occurring again? As we have said many times in this publication, the frequency of enclosed space incidents and casualties has not led to these being stamped out.

In the case of Baltimore, while the emphasis is on whether the vessel was manoeuvring safely given its position in the port, or was watch keeping – both on the ship and ashore – defective to some degree. All these issues will be debated in the months and years to come and it remains to be seen whether lessons will be definitively learned from this tragic accident.

Political events in the Middle East are also clearly having a major impact on traffic flows through affected areas and concentrating companies' attention on whether or not to take long-haul voyages to avoid the danger zones.

There have been a number of reports seeking to calculate the longer term impact of political events in terms of the movement of goods, and some of them have provided very different viewpoints.

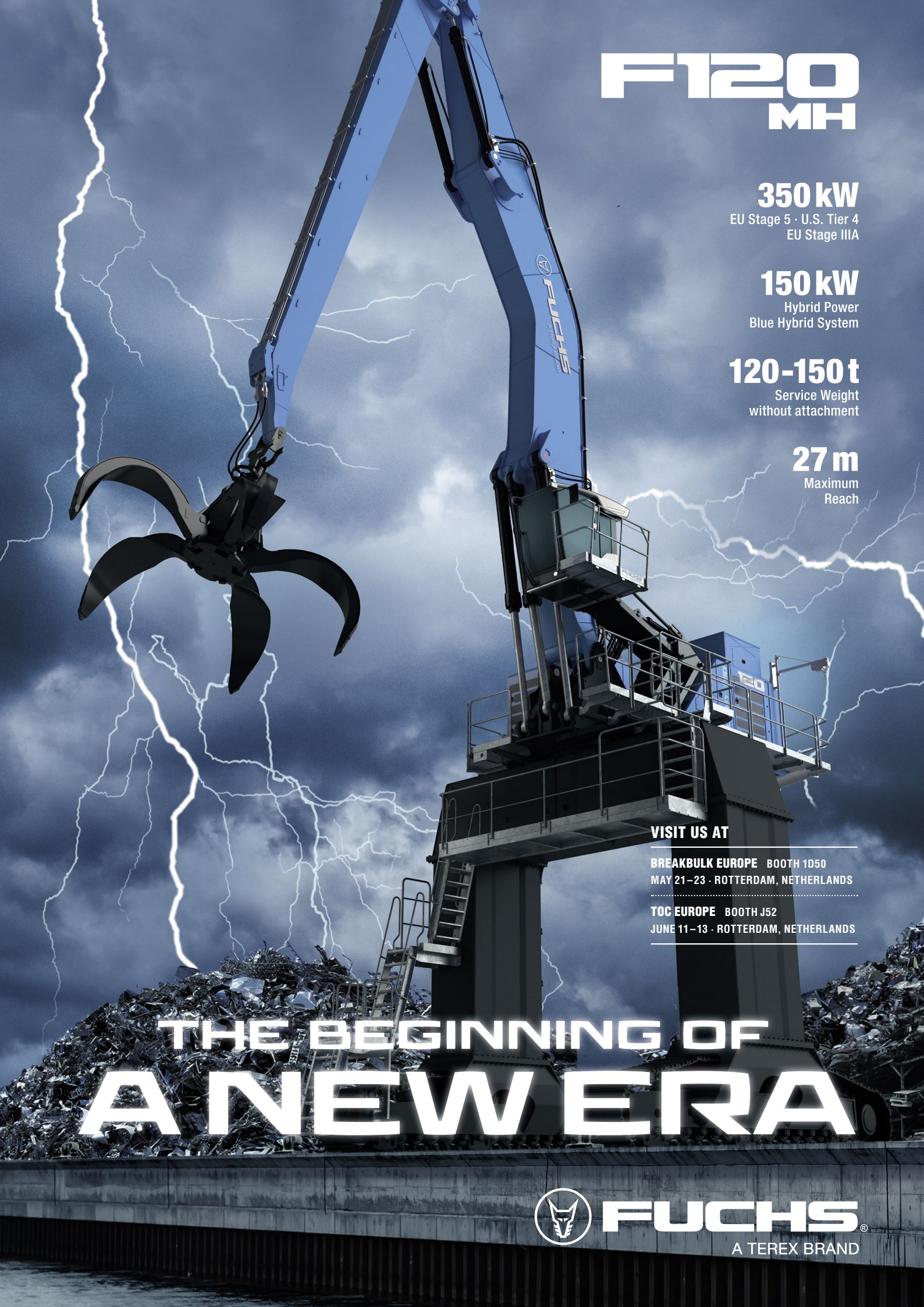
Bulk cargo operators are likely to be affected by political moves affecting products from certain regions. For example, the European Commission proposes to increase the tariffs on imports into the EU of cereals, oilseeds, and derived products from Russia and Belarus, including wheat, maize, and sunflower meal.

These tariffs, while high enough to suppress such imports into the EU in practice, would not affect exports to third countries, the Commission believes.

Furthermore, Hamburg-based maritime technology firm OceanScore has calculated the widescale diversion of marine traffic is fuelling the costs of shipping companies due to significantly higher exposure to the EU Emissions Trading System, which imposes liability for 50% of emissions for voyages to and from the EU and 100% for port calls and transits within the bloc.

As is usual in the ports and ship industry as a whole, efficiency and speedy operation continues to be important as port facilities seek to keep costs down in an uncertain environment. There have been a number of recent collaborations between companies and organisations in this respect. The arrival of new technologies sometimes seems to be an almost daily occurrence.

There should be some lively debates at the next ABTO conference due to take place in Antwerp later in the year and we look forward to welcoming readers there. In the meantime, we hope you enjoy the latest edition of *Bulk Terminals International*.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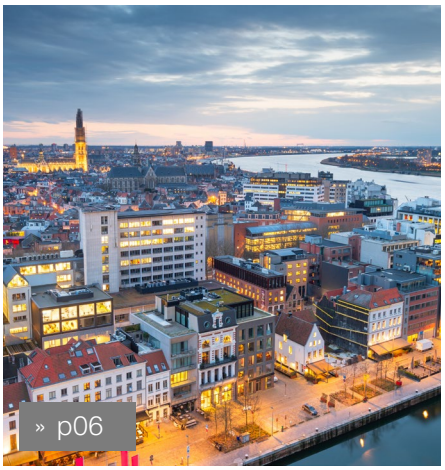
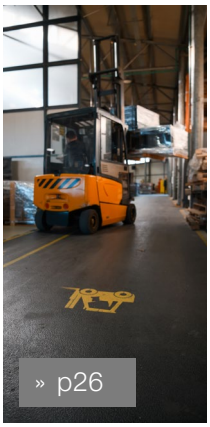
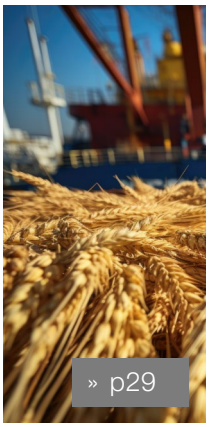
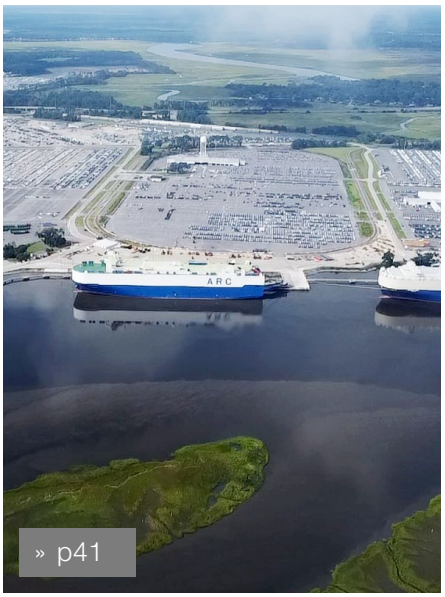
CONTENTS


» p06


» p26


» p29


» p41

ON COURSE FOR SUCCESS

BY SIMON GUTTERIDGE

Two of ABTO's core functions are 'Developing training schemes and educational seminars to facilitate advancement and best practice' and 'Providing relevant events and conferences at which Bulk Terminal Operators can meet to exchange their views' – and our members can partake in a wide range of courses and conferences that more than meet these aims

Together with The Wolfson Centre for Bulk Solids Handling Technology at The University of Greenwich, we have organised courses on 'Port and Terminal Operations for Bulk Cargoes', 'Biomass Operations' and 'Understanding the Total Cost of Ownership' – this latter course with input from the Solids Handling & Processing Association (SHAPA).

Our first event this year, in March, was the popular and always well received 'Port and Terminal Operations for Bulk Cargoes' short course. This course is for anyone who needs to understand the issues surrounding the safe handling and storage of bulk materials in port terminals and at sea.

It was delivered online over four days and included a mixture of practical and theoretical elements, with case studies being used to illustrate the presentations where applicable. Being interactive allowed the delegates to discuss real life issues and analyse specific problems experienced by them.

Attendees included participants from Vassiliko Cement Works, Lynemouth

Power Station, Royal HaskoningDHV, San Antonio Terminal Internacional and the Beumer Group.

The areas covered included: equipment; maintenance; fire and explosion; safety; environmental protection; and cargo handling.

If you are interested in attending next time, you can see the full details of that course together with details of our other course offerings on our website: *bulkterminals.org/events/courses-and-training*

NOT-TO-BE-MISSED COURSES

In addition to the courses where we collaborate with The Wolfson Centre, other short courses offered by the organisation will be of interest to many in the bulk terminals' community – particularly those courses dealing with the storage and discharge, or the pneumatic conveying, of bulk solids.

Coming up on 15-16 May is 'Design of Equipment for Storing and Discharging Bulk Materials'. This is an advanced course offering an assessment of storage and handling requirements of bulk materials for drawing up specifications and designing hoppers and silos. For details and how to register, please visit: *tinyurl.com/BTI-WolfsonDesign*

ABTO members have been kindly offered a discount on fees for all of The Wolfson Centre's other short courses.

We congratulate The Wolfson Centre as it celebrates its 50th anniversary this year. It is the leading centre providing cost-effective solutions to industrial problems relating to powders, bulk solids and particulate materials. The Wolfson Centre offers consultancy, research and short courses for industries that handle powder or granular materials as part of their processes.

SIGN UP TO THE CONFERENCE

We are looking forward now to our own annual conference in October. The Annual ABTO Bulk Terminals Conferences are designed for all those involved in the transportation, storage and handling of bulk commodities.

As well as terminals and ports, we welcome equipment and service suppliers, professional advisors and academics to the conference. Indeed, ABTO feels strongly it is only through the interaction with these others that bulk terminals will achieve increased operational efficiencies, together with safety and environmental compliance.

Bulk Terminals 2024 is being held from October 23-24 in Antwerp, at the Radisson Blu Hotel, Antwerp city centre. Professor Mike Bradley, director of The Wolfson Centre, has kindly agreed to be chairman again. We are also 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 ABTO Bulk Terminals Antwerp conference will set the scene with our traditional analysis of bulk markets, continuing with a full programme focused on the concerns of operators

The second biggest port in Europe with an overall throughput of 271million 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.

With terminals equipped to receive capesize or panamax ships, the Port of Antwerp-Bruges handles a wide variety both major and minor of dry bulk products, such as energy bulk, minerals, grain, fertilisers and scrap – all with multimodal access.

The Port of Antwerp-Bruges is more than a loading and unloading site for these dry bulk goods. It prides itself on offering such services as blending, liquefying, repackaging and preparation for transport, also specialist storage facilities and the highly efficient transit of goods, with most logistics companies in Antwerp having the AEO-full certificate.

The ABTO Bulk Terminals Antwerp conference will set the scene with our traditional analysis of bulk markets, continuing with a full programme focused on the concerns of operators: offering sound practical solutions to terminal operators for improving safety, streamlining and increasing the profitability of operations, and ensuring environmental protection.

HOW TO REGISTER

The provisional programme will follow soon, so keep in touch with programme developments on the events page on our website: *bulkterminals.org/events*

If you would like to contribute to Antwerp's developing programme or to sponsor the conference, please drop us a line at *events@bulkterminals.org* or call +33 (0)321 47 72 19. Presentations including case studies are especially welcome!

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: *bulkterminals.org/index.php/events/event-registration*.

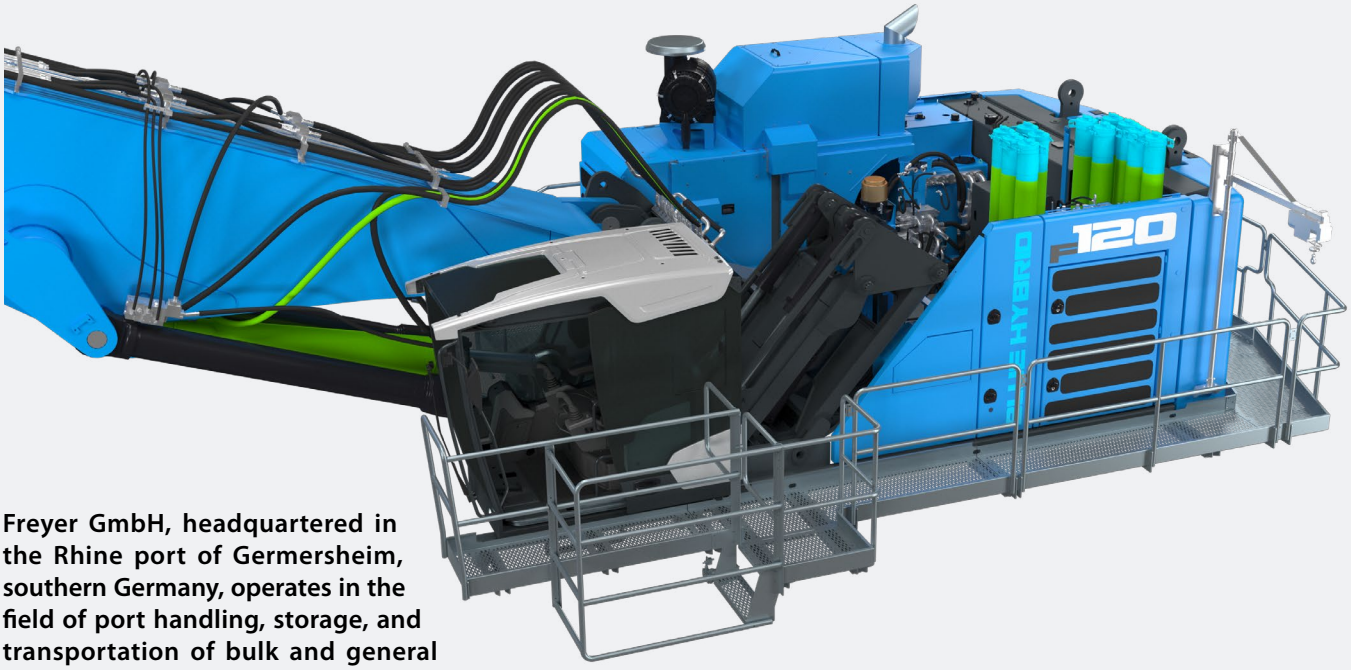
Together with our chairman, Professor Mike Bradley and ABTO's Technical director Ian Adams, I look forward to welcoming you to Bulk Terminals Antwerp in October.

Enjoy the Spring edition of *Bulk Terminals International*.

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

FUCHS: F120 MH SETTLES INTO EVERYDAY WORK

COMPANY NEWS



Freyer GmbH, headquartered in the Rhine port of Germersheim, southern Germany, operates in the field of port handling, storage, and transportation of bulk and general cargo. The company is connected to all major waterways in Europe through the river Rhine.

In recent years, Rheinhafen Germersheim has evolved to become a powerful and modern freight hub in the economic region of Rhineland-Palatinate/Baden/Alsace, often referred to as the "gateway to the world." Thanks to its trimodal infrastructure, the port provides customers with excellent opportunities for import and export from the harbour quay.

In 2019, Freyer decided to acquire the first Fuchs material handler for port handling, an MHL375. The demands on port handling machinery at Rheinhafen Germersheim are highly challenging and diverse. Customer expectations for the Fuchs machine are accordingly high: optimal reach and high stability, along with agility, performance, and reliability.

From the first day, the MHL375 impressed with its remarkable handling performance. It ensures swift loading of scrap on to ships while simultaneously allowing space-efficient storage of materials on the premises. The mobile version of the MHL375 distinguishes itself with exceptional flexibility throughout the entire port area.

The positive experience with the MHL375 prompted Freyer to acquire the brand new Fuchs F120 MH, to increase handling volume.

The F120 MH is mainly used for loading and unloading ships with a payload between 1,000-5,000 tonnes (2,204,622 -11,023,113lbs), handling various bulk goods such as gravel, sand, fine gravel, granite stones, scrap, logs, fertiliser and grain. Thanks to the quick coupling system,

"We continually take measures to increase efficiency in our company. Previously, handling operations were carried out with five port cranes. Gradually, we are now replacing these port cranes with modern handling machines. The new F120 MH giant with the Blue Hybrid System is a tailor-made machine for our daily operations, delivering exceptional handling performance, meeting all safety requirements, and significantly boosting our efficiency."
Peter Freyer, managing director, Freyer GmbH

"Thanks to its massive undercarriage, the F120 MH ensures exceptional stability when working directly at the quay wall. I enjoy an extremely comfortable, well-equipped, and convenient workplace in the Fuchs cabin. The optimal all-around view from the cabin provides a comprehensive overview of the entire surrounding area. The sensitive joystick steering allows for effortless and precise control of the Fuchs "giant."
Lars Knittel, operator at Freyer GmbH

the operator can easily switch between different attachments within minutes, all from the driver's seat. Tool Control allows the individual adjustment of oil quantities and pressures for attachments via the display. The integrated rotary motor in the quick coupling system enables the use of attachments without separate rotation drives.

This F120 MH is characterised by its customised robust portal undercarriage and generously dimensioned support area. This ensures secure positioning at the quay wall, even when handling heavy loads with a maximum reach of 28m. The gantry undercarriage provides an exceptional bird's-eye view of more than 12m and is ideal for loading silos. In addition, passing trucks can be loaded and unloaded quickly and efficiently.

A standout feature of the F120 MH is the Blue Hybrid System, which stores excess energy when lowering the loading equipment to use it in the next loading cycle. Together with thermal regulation that ensures the optimal operating temperature of the hybrid system, the F120 MH achieves the highest energy efficiency.

BLUE HYBRID SYSTEM

- The Fuchs Hybrid System increases energy efficiency and enables energy savings of up to 35% through recuperation.
- Due to the energy recovery, the installed diesel engine power and, consequently, fuel consumption were significantly reduced.
- During each loading cycle, excess energy is stored and subsequently utilised to lift the boom in the next loading cycle.
- All components are safely and conveniently accessible from the service platform.
- It is thermally controlled to permanently maintain the optimum operating temperature of the hybrid system and thus ensure maximum energy efficiency.

TOP-CLASS SERVCE

The daily tasks handled by the new F120 MH require a top-class service. Therefore, the comprehensive, long-standing experience with Kiesel Service was a crucial factor in the purchasing decision. A service team, specially trained for the F120 MH, consisting of Fuchs and Kiesel personnel is available around the clock to perform maintenance and service quickly and competently.

Freyer GmbH has been active since the founding of Germersheim Harbour in 1969, offering its customers individual solutions in port handling, storage, and transportation. The use of state-of-the-art equipment and technology ensure customers a swift and seamless handling of goods. The storage infrastructure consists of open and covered silos as well as spacious storage capacities in outdoor areas and halls with more than 10,000m^3 of storage volume. This enables precise, sorted storage and environmentally friendly handling of bulk goods.

For more information, visit: terex.com/fuchs

MARINE ENGINEERING: ALTERNATIVE FUELS FOR DECARBONISATION

Institution of MECHANICAL ENGINEERS

25 June 2024
Southampton Football Club, Southampton

> We need to be well-prepared for the rapid implementation of zero-emission maritime energy solutions at scale, so the technical focus of this seminar is very welcome.
>
> **Jon Hood, UK Sustainable Shipping Manager, Transport & Environment**

New European regulations have asked to cut ship emissions by 2% as of 2025 and by 80% as of 2050, to help the EU become climate neutral. Therefore, uptake of alternative fuels to achieve a greater number of zero emission vessels is essential.

Speakers include:
Jon Hood, UK Sustainable Shipping Manager, Transport & Environment
Louise Wright, Lead Technical Specialist – Risk Assessment & RBC, Lloyd's Register
Thomas Beard, Clean Shipping Service Lead; Principle Marine Engineer, BMT

Organised by the IMechE, this technical seminar will explore the range of engineering concerns for low carbon fueling of marine vessels.
Benefit from discussions covering safe, compliant and cost-effective fuel storage, security, transportation and associated infrastructure.

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WORLD NEWS ROUND-UP

Safety continues to be a major focus across the industry, with many initiatives being put in place to benefit bulk cargo operators and facilities

POWERING AHEAD

Posidonia 2024

3-7 June, Athens Greece

www.posidonia-events.com

Despite mandatory international and national regulations on the transport of dangerous goods, these goods continue to be misdeclared or not declared, driving an alarming increase in ship fires. Addressing the need for improved safety measures, the World Shipping Council (WSC) is developing the Cargo Safety Program and recently announced that the National Cargo Bureau (NCB) has been selected as the independent provider for the Cargo Safety Program digital platform.

NCB is a non-profit organisation and leader in delivering safety initiatives and services to the maritime industry. Its software, Hazcheck, used for the detection, inspection, and validation of dangerous goods, is well-established in ensuring the safe and compliant transportation of cargo.

The WSC Cargo Safety Program solution will be an evolution of that platform building on Hazcheck Detect, a proven cargo screening tool currently processing more than 10 million bookings per month. The system emphasises the importance of standardisation and a unified approach to cargo screening and inspection, including a feedback loop for inspection results, ensuring that safety procedures are consistent and comprehensive.

"WSC and NCB have a shared commitment to the safety of life and cargo at sea," explains John Butler, president and CEO of the WSC. "With NCB's considerable expertise and experience, the Cargo Safety Program is a substantial new tool for making workplaces safer for ship crews, transport workers, and communities, as well as enhancing operational efficiency for shippers."

"As an organisation founded with the purpose of preventing maritime disasters through the enhancement of safety, we are honoured to be selected to deliver this solution and are excited to witness the collaborative benefits of a global, standardised approach to cargo screening and inspections. This is truly a transformational step for the industry," says Ian Lennard, NCB president and CEO."

The Cargo Safety Program will rely on a digital solution made up of a Common Screening Tool, Verified Shipper Database, and a Database of Approved Container Inspection Companies, provided and operated by NCB as an independent third-party vendor.

The core functionality of the system will be to screen booking information against a comprehensive keyword library and risk algorithm. High-risk bookings will be flagged for further investigation and/or inspectio. The emphasis is on identifying and correcting worrying conditions before containers with dangerous cargoes are introduced into the supply chain.

This common safety approach will significantly mitigate the risks associated with non-declared or improperly declared, labelled or packed dangerous goods across the supply chain. At the same time, the system will streamline the transport of compliant dangerous goods in line with national and international regulations.

SHIP SEIZURE

The seizure of a container ship by Iran in the Strait of Hormuz on 13 April is "extremely concerning" and threatens to put trade lanes in the Middle East at risk, shipping analytics company Xeneta says.

It has been reported that the *MSC Aries* was seized by Iran Revolutionary Guards 92km northeast of Fujairah, an area close to the Strait of Hormuz that forms the entrance to the Arabian Gulf.

The latest incident follows ongoing conflict in the Red Sea region – the gateway to the Suez Canal – which has seen ocean freight container ships avoiding the area due to missile attacks by Houthi militia.

Peter Sand, chief analyst at Xeneta, says: "An already bad situation in the Red Sea and Gulf of Aden has just got worse and could put ocean freight container imports and oil exports in the Middle East at risk.

"We don't yet know the full details of the incident in the Strait of Hormuz, but any widening of the conflict – which has already resulted in huge disruption to ocean freight services in the Red Sea region – would be extremely concerning.

"For example, Dubai is a regional hub for imports as well as sea-air corridors, with containers arriving by ocean via the Strait of Hormuz for onward travel by air to Europe and North America. If ships are impacted from sailing into the Arabian Gulf then the disruption would be considerable."

CONTROL OF DRUGS

The Oil Companies International Marine Forum (OCIMF) has recently published an updated information paper, *Guidelines for the Control of Drugs and Alcohol in the Maritime Industry (2024)*, which provides guidance on how to manage the risks and potentially serious impacts associated with the use of drugs and alcohol in relation to marine operations.

The updated publication aims to provide general guidance and recommendations for the maritime industry (operators of tankers, barges, offshore vessels and terminals associated with the ship-shore interface) in developing and implementing controls for the use of drugs and alcohol.

In the guidelines, drug and alcohol use includes the use of prescribed and over-the-counter medication, self-medication, recreational drug or alcohol use, drug or alcohol dependency, and accidental exposure to drugs or alcohol. The information paper covers workplace testing, but does not address testing associated with treating and recovering identified substance dependency cases or return-to-work testing.

When designing a policy and procedures in relation to the control of drugs and alcohol, OCIMF advises that legal and other medical professional advice should be sought on the specific circumstances, including a review of legal authority in the country or jurisdiction where workplace drug and/or alcohol testing may take place.

Saurabh Sachdeva, publications and advocacy director, OCIMF, welcomes

the updated guidelines: "The reasons behind substance use can be complicated. To address this issue, OCIMF places great importance on having a well-defined drug and alcohol policy encompassing preventive and supportive measures, a testing programme and disciplinary actions.

"It is crucial to foster an environment where individuals feel supported and comfortable seeking help to manage this risk effectively."

These guidelines replace OCIMF's *Guidelines for the Control of Drugs and Alcohol Onboard Ship (1995)*. The scope of the updated guidelines has been expanded to cover ships, barges, terminals and the offshore industry and includes new information on sampling and testing methods.

Details of substances to be tested are included and a human factors lens has been applied throughout the document.

To download the paper, visit: ocimf.org

OCIMF advises the industry to use all the documentation and training resources available on the OCIMF website.

MARTIN RESTRUCTURES

A world leader in bulk material handling solutions, Martin Engineering, has restructured its Italian business and relocated to a new purpose-built facility to boost customer service and accelerate growth.

The move heralds a new chapter for the Italian branch of the US engineering firm, which supplies belt conveyor products and material flow aids to bulk handling and material processing companies to boost production efficiency and workplace safety.

Martin Engineering has been present in Italy for more than 30 years, supporting the country's producers of coal, cement and aggregates. Moving to a new fit-for-purpose warehouse near Monza, north-east of Milan, allows the company to broaden its remit to solve material handling problems in sectors such as recycling, glass, steel, paper and ports.

The new location also enables Martin to bring a wider range of products to the Italian market, including the innovative N2 remote monitoring system for conveyor belt cleaners, which enables maintenance teams to track conveyor belt cleaner blades on a mobile app. Also being introduced in Italy is Martin's unique range of CleanScrape belt cleaners, which are proven to last up to four times longer than standard cleaners with no retensioning or extra maintenance required after installation.

SAFETY FOR SAR PERSONNEL

The International Maritime Rescue Federation (IMRF) has launched its #SARyouOK? Guidance and Best Practice Framework . The initiative is supported by the Trinity House DFT Maritime Safety Fund and aims to promote awareness of mental health and wellbeing issues and break down the attached stigma for those working in the maritime search and rescue (SAR) sector.

This initiative provides comprehensive guidance on mental health and wellbeing for maritime SAR services. The aim is to recognise the unique psychological challenges that SAR personnel face while dealing with high-stress and traumatic situations in their line of duty.

The core of the guidance is structured around the 'Prepare, Normalise, Support' approach, which provides a structured pathway to managing stress and trauma among SAR personnel.

The guidance stresses the importance of an organisation's commitment to promoting mental health and wellbeing. This entails assessing the organisational culture, ensuring favourable working conditions, and having well-defined policies and procedures in place. Allocating budgets for mental health support and nurturing a culture of transparency are also identified as crucial steps.

The guide addresses an important issue – the management of secondary trauma. It refers to the emotional and psychological distress that SAR personnel can experience when they are exposed to the traumatic experiences of others. The guide recognises that SAR personnel can be vulnerable to both primary and secondary trauma and provides strategies to mitigate these effects.

It further aims to provide a comprehensive approach towards understanding and addressing mental health and well-being within the SAR work environment.

It ensures that individuals can access the necessary support to overcome the challenges they face during their operations. By incorporating these practices into their daily operations, SAR organisations can enhance the effectiveness of their operations and ensure the long-term health and well-being of their personnel.

#SARyouOK? has received support from SAR organisations worldwide and organisations have shared case studies that showcase different models and best practices in use across various contexts. These real-life examples provide practical

THE #SARYOUOK? GUIDANCE AND BEST PRACTICE FRAMEWORK PROVIDES A COMPREHENSIVE APPROACH TOWARDS UNDERSTANDING AND ADDRESSING MENTAL HEALTH AND WELL-BEING WITHIN THE SAR WORK ENVIRONMENT

insights into how SAR organisations can effectively support their staff and volunteers.

Caroline Jupe, CEO of the IMRF, welcomes the framework: "A society that values and supports mental health is a society that is better equipped to address the challenges of the modern world. And the same is true for organisations."

Captain Ian McNaught, deputy master at Trinity House, says: "We are proud to once again partner with the IMRF and support the #SARyouOK? initiative that looks to improve the mental health and wellbeing of maritime SAR personnel all over the world, ensuring the barriers that stop people from talking about their experiences are broken down."

Jupe adds: "The #SARyouOK? initiative is a vital step in creating an open and honest environment in the maritime SAR community, ensuring that individuals and organisations can all benefit from a better environment. I want to thank everyone who played a part in the development of this guidance and framework. The IMRF community has once again come together to showcase how collaboration is key if real progress is to be made."

By following the guidelines presented in the document, search and rescue organisations can cultivate a culture of support and resilience, ultimately improving their ability to save lives at sea while taking care of their most valuable asset – their personnel.

SEISMIC SHIFT FOR SIRE

The Oil Companies International Marine Forum (OCIMF) has commenced 'Phase 3' of the transition to its digitalised Ship Inspection Report Programme (SIRE 2.0), meaning all programme users can now participate in trial SIRE 2.0 inspections.

OCIMF has been rolling out SIRE 2.0 (the digitalised and enhanced version of the widely used tanker inspection programme SIRE)in a 'phased approach' over the past year. Phase 3, the industry-wide 'beta-testing' phase of the roll-out, provides the opportunity for all vessel operators, programme recipients and submitting companies to fully familiarise with the new inspection process under SIRE 2.0.

OCIMF has notified its membership and programme users that this will be the only opportunity to participate in SIRE 2.0 inspections and identify areas for improvement before SIRE 2.0 becomes the commercial tanker inspection regime at Phase 4 and SIRE (VIQ7) is withdrawn.

Aaron Cooper, programmes director, OCIMF, explains: "SIRE 2.0 represents a seismic shift in the way tanker inspections will be conducted which is

AARON COOPER, PROGRAMMES DIRECTOR AT OCIMF

why we have taken a gradual approach to rolling out the new programme. Having successfully completed end-to-end trial inspections with a sample group, we've now reached a critical milestone; giving all programme users the opportunity to trial SIRE 2.0 inspections in Phase 3 of the roll-out.

"Programme users have been working exceptionally hard to familiarise themselves with all the resources and training materials developed to support the new inspection regime, and for that we are very grateful. This trial inspection period coupled with the anonymisation of reports allows all users to put theory into practice with no commercial implications. We strongly encourage all programme users to participate."

SIRE 2.0 inspections will be conducted in digital format, in real-time, with inspectors completing a Compiled Vessel Inspection Questionnaire (CVIQ) using a tablet device. The move to a digital solution means that every tanker inspection will be bespoke, with questions drawn from the 'SIRE 2.0 Question Library' using an algorithm to select questions based on the type of vessel, its outfitting and operational history to create a one-time Compiled Vessel Inspection Questionnaire (CVIQ).

As the CVIQ generated will be bespoke and specific for each inspection for each individual vessel, users of SIRE 2.0 should be prepared to respond to all questions within the SIRE 2.0 Question Library applicable to a particular vessel. Every question will require the inspector to give a response in relation to Hardware, Processes and Human Factors, and observations can be supported with photographs, where allowed.

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

PLUG-AND-PLAY ROBOTS

Pramac and BlueBotics have announced a partnership that sees BlueBotics providing ANT navigation technology and fleet management software for Pramac's new line of X-ACT mobile logistics robots.

"When we created Lifter Mobile Robotics, we wanted to build on our expertise in the field of material handling equipment by integrating the best and latest technologies possible, to ensure these products are plug-and-play ready and reliable," says Federico Piersimoni, business group director of Pramac's Material Handling Division. "When it came to automating and managing our X-ACT solutions, it soon became obvious that BlueBotics was the best-in-class choice. Their ANT navigation is accurate and robust, requiring minimal infrastructure changes when installing the robots on-site, and their ANT server fleet manager is as powerful as it gets, meaning our X-ACT robots can move intelligently and safely in dynamic environments, whatever the payload size or shape, and without deadlock

Dr Nicola Tomatis, CEO at BlueBotics, says: "We are delighted to partner with Pramac as the company moves strongly into the AGV market. Pramac has the highest credibility in material handling space, excellent technology, and an impressive global network. We are sure its X-ACT solutions represent a valuable addition to the market, and we predict great things for Lifter Mobile Robotics in the coming years."

Pramac's X-ACT solutions are designed to work in dynamic environments such as warehouses and factories. At present, three models are available, all driven by ANT navigation and managed by BlueBotics' ANT server fleet management software:

Hybrix is X-ACT's collaborative mobile robot pallet truck. It features autonomous movement and unloading, but pallets are loaded onto this robot manually. The Hybrix is easy to deploy, programme and use, thanks to its fully integrated ANT navigation software. Hybrix is the easiest solution

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

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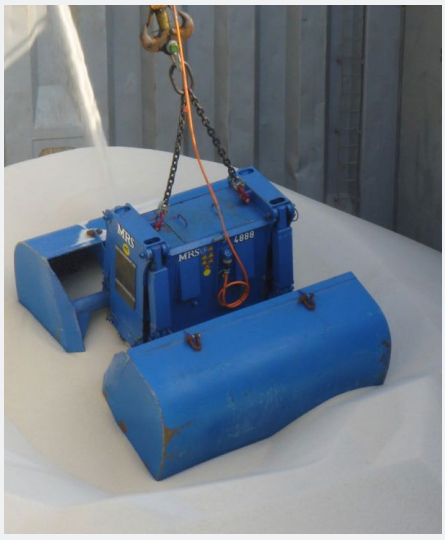


with which to upgrade a company's existing logistic processes and it can be quickly integrated in every existing workflow without the need of additional infrastructure.

APTIX, by contrast, is X-ACT's fully autonomous pallet truck. This stacker solution is designed to move goods in warehouses automatically, from picking to drop off, with precision and efficiency.

AMRIX is X-ACT's fully autonomous platform robot. This omnidirectional unit load solution is designed to transport boxes, crates, pallets and general goods throughout a warehouse.

"Designed in compliance with ISO standards, X-ACT robots are designed to evolve a business's logistics processes to the next level – there is really a solution for virtually every use case," says Piersimoni. "X-ACT can evolve your business to the next level with flexible solutions, perfect for upgrading traditional and advanced logistics. Thanks to our collaboration with BlueBotics, X-ACT range is plug and play: it integrates perfectly in your warehouse without the need for additional infrastructure, granting maximum safety. All of its technologies are quick and easy to use and grant a quick return on investment, plus X-ACT systems can be easily configured, updated, and monitored using our cloud solution."

"These X-ACT robots are a worthy addition to Pramac's portfolio of material handling equipment," adds Tomatis. "With offerings such as the ultra-flexible Hybrix, these solutions are perfectly designed to help companies kick-start their logistics automation programs, easily and in a way that makes sense for their operation. And thanks to the ANT navigation technology inside they are inherently accurate, reliable, quick to commission, and fleet ready."

JOINT APPROACH

Harbor Lab, a global leader in maritime technology for centralising and simplifying port disbursement costs, recently announced a new contract with one of the world's largest dry bulk shipping companies - Oldendorff Carriers.

OLDENDORFF CARRIERS AND HARBOR LAB TEAM

Harbor Lab's software-as-a-service (SaaS) platform provides real-time, accurate information on disbursements that brings clarity and efficiency to port transactions for all parties. By deploying this software platform, Oldendorff will be embracing a technology-first approach to solving three core challenges that impact every company in the maritime shipping industry:

The Harbor Lab platform streamlines disbursement accounting processes and ensures timely payments, to the benefit of shipping companies, port agents and vendors. It also enhances the handling capacity of disbursement accounts. Harbor Lab's technology calculates and evaluates port expenses – down to the individual terminal and berth – against the real-time port tariffs published by port authorities.

Harbor Lab automatically identifies discrepancies and incorrect invoices, instantly saving money for Oldendorff. The technology of the platform highlights discrepancies and makes it easier to identify differences between estimated disbursement costs and actual invoices.

The platform establishes a single source of truth for disbursement costs. This removes the lack of transparency that is time-consuming and facilitates quicker decision-making giving easy access to information on costs that can be shared with internal stakeholders.

Oldendorff's decision to contract with Harbor Lab underscores Harbor Lab's scalability, adaptability,and flexibility. Oldendorff's drybulk business includes 21 offices around the world and a workforce of over 4,500 employees. Harbor Lab's SaaS solution can easily accommodate evolving needs and scale alongside client growth.

Antonis Malaxianakis, founder and CEO of Harbor Lab, says:. "To have one of the largest bulk shipping companies in the world decide to contract with us is a testament to the strength, and global nature of our platform. Together, we look forward to charting new territories and improving our SaaS solution together."

Sven Möller, managing director operations at Oldendorff Carriers, comments: "Oldendorff has always been embracing change and efficiency at all levels. Digitalisation and platforms such as Harbor Lab, who are offering automated solutions/processes, will continue to change how our industry will operate in future.

"It will reduce operational cost, improve efficiency, data quality and give

our employees more time to concentrate on Oldendorff's core business."

Disbursements accounts'(DAs) are the costs that arise to a cargo ship during its time in port and it's the second largest annual expense for a ship management company. By pre-planning the costs that will be incurred during a port visit, DAs allow the charterer or operator to ensure that the vessel is not incurring any unnecessary charges. These DAs are highly irregular, varying from port to port depending on local factors as well as global economic trends. These payments are largely still handled through manual processes which lack transparency.

Harbor Lab's SaaS platform reduces the administrative burden for shipping companies and improves the transparency and cost evaluation for settling DAs.

Harbor Lab centralises and simplifies the management of port fees and related costs, providing real-time, accurate information on disbursements that brings clarity and efficiency to port transactions for all parties.

> To have one of the largest bulk shipping companies in the world decide to contract with us is a testament to the strength, and global nature of our platform

METHANOL FIRE HAZARD

A new fire safety study by survival technology solutions provider Survitec has revealed that existing fire-fighting methods used to extinguish machinery space spray and pool fires on conventionally fuelled vessels are inadequate when dealing with methanol-based fires.

This follows extensive comparative fire tests on dual-fuel marine engines using diesel oil (DO) and methanol, carried out amid growing interest in methanol as an alternative marine fuel.

"Our tests confirm that traditional water mist fire suppression mechanisms do not perform as expected on methanol pool fires and methanol spray fires. A completely different approach is required if these ships are to remain safe," says Michal Sadzynski, product manager, water mist systems, Survitec.

Methanol is a methyl alcohol (CH_3OH) that burns in a completely different way than hydrocarbon fuels and has a much lower flashpoint of 12°C. However, while there are established fire safety regulations and testing standards for diesel fuels, clear test protocols for alcohol-based fuels such as methanol and ethanol have yet to be developed.

"We believe this is a high-risk situation that needs immediate action," stresses Sadzynski. "Methanol fires are far more aggressive than fires involving traditional hydrocarbon fuels. Methanol fires have different physicochemical properties and so they cannot be extinguished as easily or with the same approach."

The Survitec tests found that while water mist systems are highly effective in absorbing heat and displacing oxygen on diesel fires, they do not produce the same results on methanol fires.

"We had to completely rethink nozzle placement, spacing and other factors to make water mist suppression effective on methanol. For instance, the range for nozzle installation height is much lower than that needed to put out a diesel fire," he says.

This finding indicates that if existing vessels are retrofitted to run on methanol, they would need to overhaul and redesign their fixed fire-fighting arrangement completely.

For bilge areas, statutory rules formulated in IMO MSC.1/Circ.1621 establish a requirement for an approved alcohol-resistant foam system for ships running on methanol. For the first time, a fixed, low expansion foam system is mandatory under the rules when it comes to protecting machinery space bilges.

"Our tests demonstrate that standard discharge devices do not properly extinguish methanol pool fires in the confined bilge space. It is crucial to deliver properly expanded foam on the methanol pool fire and this is not an easy task within such a narrow space where throw length is limited," says Maciej Niescioruk, product manager, foam systems, Survitec.

"MSC.1/Circ.1621 provides us with a starting guideline but it is very general and therefore open to interpretation. Moreover, methanol compliance for local application firefighting systems is not yet covered. As an industry, we need to come together and develop comprehensive and robust fire test standards and safety rules tailored to methanol's unique properties."

The stark conclusion of the investigation arrives at a time of increasing orders for methanol-fuelled ships. The greener fuel is seen as a panacea to meeting the industry's emissions abatement targets, and forecasts predict accelerated adoption rates.

Orders for methanol-fuelled newbuilds increased by 9% in the last 12 months, 2% more than those for liquefied natural gas-fuelled ships. Analysts suggest the methanol-fuelled fleet will account for 20mgt by 2028.

"We are seeing a significant uptake in orders for methanol-fuelled vessels, with 2023 being the breakout year for this alternative marine fuel. With more methanol-powered ships being built every year, the industry must act now to prevent dangerous gaps in fire safety," says Niescioruk.

"We encourage all stakeholders to come together to address methanol's unique fire risks and create clear standards, new testing protocols and updated safety rules for methanol."

NM HEILIG: PROVIDING EFFICIENT AND FLEXIBLE SOLUTIONS

COMPANY NEWS

Amsterdam is the largest storage and transshipment port for cocoa in the world, with an effective storage capacity of 35,000m². NM Heilig delivered two ship and truck loading systems with a capacity of 250t/hour / 500m³/hour of bulk material to one of the major players in the cocoa handling market, Katoen Natie.

Amsterdam is the fourth largest port in Western Europe. The Amsterdam port region has an annual cargo throughput of more than 100m tonnes. Its central location in Europe makes the port easily accessible by water, rail and road. Plus, this region also specialises in cargo processing.

All facilities, from transshipment to manufacturing, are available in the region. Big players in the cocoa industry, such as Cargill, OLAM and Dutch Cocoa, are established in the area, as well as the companies that handle and store cocoa or cocoa products: CWT Commodities, Katoen Natie, Vollers, Steinweg-Handelsveem, HD Cotterell, ACS and DSV.

Furthermore, the port of Amsterdam has excellent inland connections (water, rail, road and air) for cocoa transportation. The port of Amsterdam region also has outstanding inland shipping facilities. Many cocoa terminals are directly connected to frequent barge shuttles into Europe.

NM HEILIG DELIVERED TWO SHIP AND TRUCK LOADING SYSTEMS TO KATOEN NATIE, IN AMSTERDAM

FLEXIBLE LOADING SYSTEM

Katoen Natie needed a reliable and flexible loading system to distribute cacao to the processing facilities. NM Heilig BV delivered two systems with a load capacity of 250t/hour / 500m³/hour of bulk material for each line.

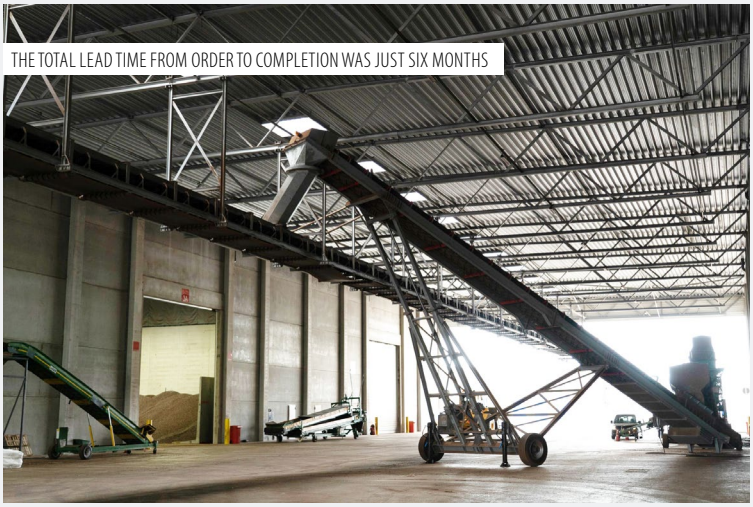
To be flexible, as there's always a lot of activity in a bulk terminal, NM Heilig BV delivered two conveyor belts with a length of 140m, hanging in a corridor leaving headroom of approximately 6.5m.

At the head section of the line, the conveyor belt is extendable to load (inland) ships up to a width of approximately 11m in its extended condition. Additionally, in its retracted position, trucks can be loaded. This gives Katoen Natie optimal and flexible use of the installation, now and in the future.

Each storage hall needed to be accessible without any additions to the conveyor belt. Therefore, each individual line has the possibility to be filled in over the entire length of the conveyor belt. NM Heilig BV delivered two of these mobile conveyor belts to enable the loading conveyor to be fed from each place. In addition, each system is hydraulically adjustable so that the mobile conveyor can be lowered in case it needs to be moved.

SMOOTH DELIVERY PROCESS

NM Heilig BV provides innovative solutions to projects that require creativity and ability to adapt to the circumstances. During the second phase of this particular project, the bulk terminal started its operations, so it was essential to be flexible, efficient and effective right from the start. The total lead time from order to completion was just six months.



THE TOTAL LEAD TIME FROM ORDER TO COMPLETION WAS JUST SIX MONTHS

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

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POWER LIFTING

Investments in cranes and other lifting equipment continue as port operators seek to improve their ability to process cargo as quickly and efficiently as possible in expanding areas such as offshore wind use

SEAONICS ECMC 3D CRANE

Following the delivery *of Seaonics' first electric gangway system to Norwind Hurricane earlier this year, Norwind Offshore has placed an order for a stand-alone ECMC 7t-3D crane for newbuild 952 - Norwind Helm.*

The crane is to be installed in connection with the delivery of the newbuild from Vard Brattvaag at the end of November 2024 and *Norwind Helm* will be the first Commissioning Service Operation vessel with two 3D cranes installed.

This delivery is in addition to the ECMC gangway with integrated 3D crane that Seonics is already delivering to the same vessel. The ECMC crane will be delivered and commissioned during the summer.

Petter Nesset, sales manager at Seonics, says: "We are pleased to extend our collaboration with Norwind Offshore and the sale of our flagship ECMC 3D crane. We are pleased that we have together found a solution to upgrade the vessel with the standalone crane, in addition to the Seaonics gangway system with integrated 3D crane".

"We are happy to have local suppliers who develop and deliver the very best technology that our vessels need to

serve our customers. We look forward to receiving an additional 3D crane alongside the already ordered ECMC gangway system, both of which will be installed on our next newbuild to be delivered by Vard Brattvaag at the end of this year," says Roy Ove Standal, COO at Norwind Offshore.

The Seonics ECMC crane is fully electric driven, allowing for efficient handling operations for a sustainable future. The control technology for the active motion compensation is developed by Seonics and well proven in offshore wind operations.

The boom control, slew control and telescope control are all electric driven and dynamically used to perform the 3D compensation of the crane tip.

MULTIPURPOSE LOADERS

Hiab, part of Cargotec, has received an order of €5m for loader cranes to be used in offshore wind turbines. The order will be delivered during this year.

The crane model ordered is the HIAB SWP, custom-designed for the service operations of offshore wind turbines. Installed in the nacelle, the enclosure that houses all of the generating components, the cranes can perform a multitude of lifting tasks, including hoisting equipment from sea-level platforms or managing deliveries to the helicopter pad at the top of the turbine.

Offshore wind power is a growing industry as there is a surging demand for renewable energy sources. In 2022, the global offshore wind capacity grew by 8.8GW to a total capacity of 64.3GW according to the Global Wind Energy Council (GWEC). Worldwide, the GWEC expects 26GW to be added annually on average until 2027.

KONECRANES INVESTMENT

Konecranes has acquired the business of German crane and service supplier Kocks Kranbau, giving it access to new European and global customers.

Kocks Kranbau was established early 2023 following the insolvency of parent company Kocks Ardelt Kranbau, a well-established port and shipyard crane manufacturer. Kocks Kranbau's main operations are based in Bremen, Hamburg and Oberhausen.

In recent years, the annual net sales of the acquired business have totalled around €10-12m and the business has been profitable. The acquisition will bring close to 60 employees to Konecranes and give it access to the large installed base of Kocks Ardelt Kranbau in Germany, Europe and globally.

"I am confident Kocks Kranbau's expertise and customer proximity, when combined with Konecranes Port Services' widespread presence, industry knowledge and technology, will strengthen our position and offering as global services provider in the port sector," says Paolo Dazi, senior vice president port services, Konecranes.

SPY CRANES?

There has been much talk in recent weeks about whether or not cranes are being used for surveillance purposes, more specifically targeting the use of Chinese-made cranes in US ports.

Reports that have been widely circulated in the media suggest that some cranes in use at US ports are fitted with communications equipment which does not appear to have an obvious purpose. Investigations have been underway by the House Committee on Homeland Security in the US. The reports have been denied.

In a statement on its website, crane manufacturer ZPMC said it "has always been committed to providing high-quality products and services to clients around the world. ZPMC always strictly complies with the laws and regulations of applicable countries."

HEAVY HAUL EXPANSION

US-based Bennett On-Site Services, trading as Boss Crane & Rigging and its wholly owned subsidiary–BOSS Heavy Haul, has announced plans to expand its heavy haul fleet, expertise, and capabilities under Boss Heavy Haul with the acquisition of additional over-the-road super heavy haul transport equipment, along with experienced drivers and operational managers, from Cowboy's Services, division CSI Heavy Haul.

Boss Heavy Haul and Boss Crane and Rigging provide transport and lifting services operating nationwide, with more than 50 employees in two locations in Houston, Texas.

CSI Heavy Haul, formerly operating out of Channelview, Texas, is an expert in specialised super heavy haul, heavy haul and trucking services since its establishment in 1983.

The strategic acquisition not only strengthens Boss Heavy Haul's industry position but also drives Boss Heavy Haul to further enhance customer benefits.

Boss aims to provide comprehensive turnkey solutions, encompassing not only trucking and heavy haul services but also leading the market in the crane and rigging industry through Boss Crane & Rigging. Boss Crane & Rigging was established in 2015.

NEMAG: MORE THAN 20% PRODUCTIVITY INCREASE

COMPANY NEWS

VLI is one of Brazil's largest logistics companies. VLI's interconnecting railways, terminals and ports provide the best conditions to efficiently serve Brazil's main regions that produce steel, agricultural and mineral products. Through innovation, VLI always seeks to serve its customers best.

The customised logistics solution at the VLI Portos PECEM site connects the primary steel-producing states,from the harbour to the factory. Paulo Sérgio Ribeiro has been working for VLI for 20 years and currently holds the position of specialized port operations technician at the Pecem site. He specialises in bulk material handling. He is responsible for team training, maintenance and operations.

Years ago, the Pecem harbour operated two continuous ship unloaders – one for each pier. When VLI took over the logistics from the steel mill nearby, it realised it would not be able to meet the productivity needed to serve the customer best. Therefore, it decided to work with mobile harbour cranes and grabs in combination with hoppers.

Ribeiro Conceição says: "We changed the whole concept of the harbour. And because we weren't just looking for a product but a complete solution, we did a lot of market research. We understood that to achieve the highest productivity, we needed to look for a high-quality grab solution that enabled us to use the cranes at their full capacity. With a poorly performing grab, the crane's potential is lost".

In VLI's research for the best references in the local and European markets, Nemag was one of the suppliers that came out well.

THE CHALLENGE

Looking for that perfect combination – optimal productivity, reduced costs and safety – can be something of a challenge.

The first purchase was not a Nemag grab, but a grab made by a competitor. After realising that this grab did not meet VLI's requirements, it purchased the Nemag Clamshell. The Clamshell exceeded the other grab's productivity by 15%.

Nonetheless, the cranes still did not reach their full unloading potential. In addition, maintenance costs were high and changeover times were long. Changing from ore to coal could take up to two hours – not to mention the additional workforce and lifting platforms needed to adhere to safety regulations.

After two years, VLI decided to optimise its unloading process further and look for a different grab solution.

Ribeiro Conceição explains: "Because we had already seen a massive increase in productivity with the Nemag Clamshell and had also experienced Nemag's expert support first-hand, we were confident that it would be able to help us further along."

THE SOLUTION

VLI had three main requirements for the new grab:

1. Productivity should increase more than 15% compared with the competitor's grab.
2. Changing the grab should be faster and easier.
3. The grab should provide safer working conditions.

VLI decided on the highly innovative NemaX grab based on these three conditions.

Says Ribeiro Conceição: "Choosing the NemaX was a no-brainer. References from contacts in the European and Asian markets showed that the NemaX's productivity is higher than any conventional grab.

"Second, changing the NemaX grab is made 100% easier and faster as the grab opens up completely and lays flat on the ground.

"Consequently, changing and maintaining the grab is low-risk as there is no need for workers to be working up high on lifting platforms. So at first glance, the NemaX checked all our boxes."

The results saw a more than 20% productivity increase, massive cost savings and safer working conditions

PRODUCTIVITY AND COST SAVINGS

Compared to the first grab, the NemaX delivers a 20% increase in productivity. When handling iron pellets, the NemaX exceeds the 20% productivity increase. Without the NemaX, VLI could move 800 tonnes per hour on average. With the NemaX, it can move 1,000 tonnes per hour on average.

"We are already pleased with these results," says Ribeiro Conceição. "The thing is, though, we are still in a learning cycle. For example, we still sometimes need to adjust the configuration of the ropes. And the operators need some more time to get used to the grab. I strongly believe we can reach an even better performance after unloading our 20th ship with the NemaX. I'm looking to an average of 1,100 tonnes per hour."

Greater capacity

The NemaX can reach a staggering 1,400 tonnes per hour during free digging. This is 300 tonnes p/h more compared with the competitor's grab and 200 tonnes p/h more than the Nemag clamshell grab during the free digging stage.

Says Ribeiro Conceição: "In addition, it used to take up to five days to unload a ship. With the Nemag Clamshell and the NemaX side by side, we manage to unload the ships within four days. The savings in demurrage costs are considerable, to say the least."

Saving time cleaning the hatch

Because the NemaX has a far greater reach than conventional grabs, cleaning out the ship's hatch becomes less hassle. "Regarding cleaning out the hatch, the operators will tell me that when the situation is the worst, that's when the NemaX works the best," says Ribeiro Conceição.

Saving maintenance costs

The NemaX ensures clean'work: the grab closes entirely and only starts opening –with zero rocking – when perfectly above the hopper. The relubrication time is reduced by 50%. And any consumable costs such as steel cables have been reduced by 30%.

Safety

"Especially in Brazil, safety regulations are stringent – and with reason of course," says Ribeiro Conceição. "No doubt, the NemaX also brings a massive safety advantage. Because the grab can be placed open and flat on the ground, maintenance can easily be done at ground level.

"Because maintenance of the NemaX is very low-risk, we no longer have to deploy extra resources (staffing, lifting platform and so on), which is a (cost) advantage in itself."

The NemaX also clearly affects Ribeiro's team. "I think it's important to mention that working with the NemaX has brought the team a lot of joy," he says.

"They're happy that they can work under safe conditions, their job is made easier and, of course, the massive increase in productivity positively impacts us all."

FUTURE PLANS

The first grab purchased by VLI at the Pecem site is expected to last another two years. By then, this grab will be replaced by a new NemaX grab.

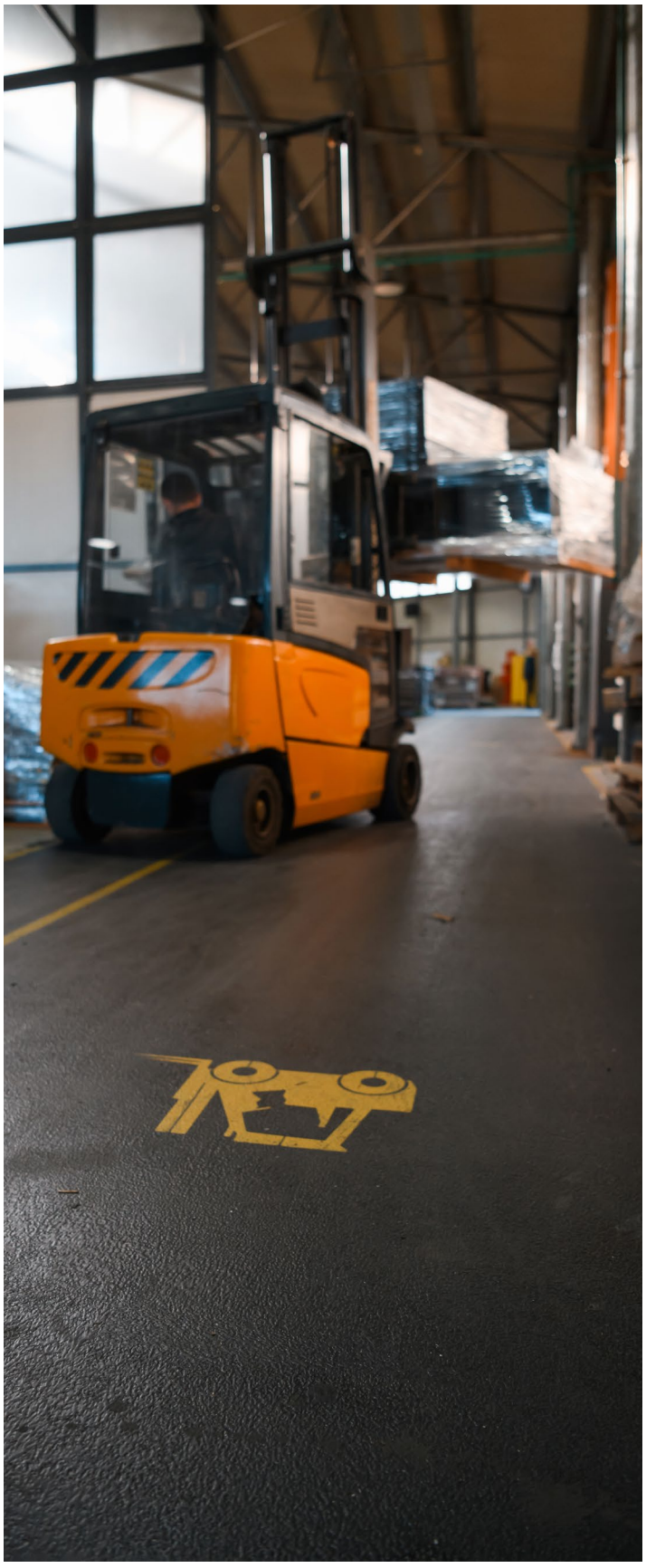
"Given the outstanding results, it's the most logical step," says Ribeiro Conceição. "With both cranes operating a NemaX grab, we expect to fully clear a ship in as little as three-and-a-half days. This will reduce costs immensely.

"Furthermore, we will be able to service our customers even more efficiently. At the moment, we can unload 50 ships per year on average. With both cranes operating with a NemaX grab, we can significantly increase the number of ships."

Collaboration, first-class equipment and reliable support – VLI Pecem is looking forward to prolonging its partnership with Nemag.

nemag®

For more information, contact: nemag.com



MAKING A MOVE

A slew of updates and innovations are improving the efficiency of materials processing, an essential component of port operations

Martin Engineering, a pioneer in belt conveyor accessories, has launched the next generation of tracking technology for a global marketplace. The company designed the Martin Tracker HD (heavy-duty) belt conveyor alignment system with widely available plate steel to increase availability and affordability across all six continents it serves.

A mistracking belt produces excessive spillage, which increases labour costs for cleanup and may cause contact with the mainframe. This seriously damages both the belt and the structure and increases the potential for a friction fire. The Martin Tracker HD upper and lower units provide immediate, continuous, and precise adjustment of the mistracking belt. The result is greater productivity with less unscheduled downtime from both equipment replacement and spillage cleanup for a lower cost of operation.

"Since most OEM mistracking devices are only designed to prevent contact with the stringer and don't actually realign the belt, operators can spend a lot of time monitoring the system and adjusting idlers to achieve consistent alignment," explains Dave Mueller, product manager for Martin Engineering.

"With enough manual adjusting, operators find that idlers must be re-centered if there's a change in cargo characteristics or to install a new belt. The Tracker HD automates the alignment process, eliminating the need for constant monitoring and manual adjustments, reducing the labor and downtime for maintenance."

The Martin Tracker HD's precision comes from sensing rollers that ride either side of the belt edge

and are attached to the end of an arm assembly. As the rollers detect slight variations in the belt path, the force of the wandering belt causes the arms to automatically position a pivoting idler in the opposite direction of the misalignment. The lever action requires less force to initiate the correction and only slight adjustments mean the consistent contact between the belt and idlers reduces the energy needed to bring the belt back into alignment.

"Certain countries can't buy the square tubing, so we're now manufacturing the equipment from readily available plate steel without any changes to the performance or life of the unit," Mueller points out. "This allows the Tracker HD to be produced and supplied across all global business units."

Easy to install and designed to withstand the stress associated with wider, thicker belts moving at higher speeds and carrying heavier loads, the Martin Tracker HD is suitable for a belt thickness up to 28.5mm and speeds up to 4 m/s. Both the upper and lower units accommodate belt widths of 915-1,828mm) with an effective tracking distance of 45.72m.

Available in 20-, 35-, and 45-degree trough angles, there are options for the addition of a Martin Trac-Mount Idler, which allows the entire troughed idler unit to be slid away from the mainframe and safely serviced from outside of the system by a single worker. This important safety element can considerably reduce the amount of labour and maintenance time for the replacement of broken or frozen idlers.

Also available are rubber-lagged rollers on the lower tracker and a grease kit for both the upper and lower assemblies. The unit is not suitable for reversing conveyors, belts with substantial rollback, or paddle or chevron belts.

Proper placement is key to the efficiency running of the system and It is recommended operators install Martin Tracker HDs after the load zone on belts wider than 610 mm with additional units placed down the system to keep the belt centred and tracking. By placing an upper unit before the discharge, operators ensure the belt is centred on the head pulley allowing for optimal belt cleaning with maximum cargo discharge.

The lower tracker has been redesigned to include an extra safety feature. Regardless of the conveyor, return rollers have been known to detach and drop, creating a serious safety issue, so the Martin Tracker HD has been equipped with safety guarding on the steering roll to prevent the roller from coming off or putting workers in harm's way.

On the return, it is recommended to place a tracker after the discharge zone or take-up pulley, as well as periodically down the system depending on length. To ensure centred loading, the belt must enter the loading zone aligned, so installing a lower unit approximately five times the belt's width in distance from the tail pulley will support an efficient loading process.

TELESTACKER UPDATE

Superior Industries, a US-based manufacturer and global supplier of bulk material processing and handling systems, has launched version 14.0 of its TeleStacker Conveyor PilePro Automation programme.

Among the notable changes in the new system is the introduction of an updated touch screen with a higher resolution to enhance visibility in outdoor settings. Additionally, the screen's protective housing has been fortified to withstand fluctuations in temperature more effectively, ensuring great performance in various conditions.

Also new, each screen is now loaded with an on-demand view of the owner's manual. A PDF viewer provides screen-specific instructions from the owner's manual for each step in the automation user experience.

The upgraded technology applies to all new TeleStacker Conveyors from 1 March, 2024.

TRANSPORTING COMPONENTS

Transporting bulky components requires specialist bulk cargo ships. Last year, AAL's scheduled monthly Asia to Australia West Coast Liner Service (AUWC) provided a solution for global project logistics provider NMT and its client, industrial engineering giant Thyssenkrupp Industrial Solutions.

The operation involved the transport of 20,000 freight tonnes of fabricated break-bulk reclaimer components from Henderson to Port Hedland in Western Australia – infrastructure that will uplift the port capacity of an iron ore mining facility in Nelson Point. The lift, stowage and transport of these units – the largest of which was the bucketwheel boom at just under 65m long – was undertaken by the crew of the *AAL Nanjin*g, working in close co-operation with AAL's transport engineers who had been planning the operation since the start of the year.

AAL's head of transport engineering, Nicola Pacifico, explains: "Due to the large and unconventional size of the reclaimer components, which covered a total area on the vessel of more than 1,800m sq, the lifting and stowage challenges were significant. The seven-month design and planning period for the operation involved AAL working alongside NMT and Thyssenkrupp Industrial Solutions' project management team, engaged in weekly online meetings from early February.

"The collaboration proved successful, and the cargo was safely discharged in Port Hedland on schedule for onward transport to Nelson Point, where it will be used in the handling of iron ore."

Jayme Bailey, senior project manager at NMT Global Project Logistics, says: "Our collaborative, team-orientated and hands-on approach proved a winning recipe for all stakeholders on this important project. Buy-in from our trusted service providers and a shared willingness to go the extra mile ensured the project was executed without issue, on-time and more importantly, on budget.'"

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SCAN ME

VIGAN

DISRUPTING THE FLOW

BY BASIL M KARATZAS

Grains are critical commodities as human sustenance depends upon their reliable availability. But the risks to their production and shipment remain ever present

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Unlike other commodities that can be stored with relative ease, grains require special handling for storage and shipment, which effectively limits the options for shipment, if the intermediary and receiving facilities are not existent or held in sub-par conditions.

Likewise, the production of grains is seasonal and dependent on many variables, including weather conditions. A bad harvest season in a region presumes that demand will be satisfied from other parts of the world. Global warming and other weather effects, such as El Niño and La Niña, can also affect production, in ways that go beyond seasonal variance.

Production of grains recently has also been affected by geopolitical factors, too, with the war on Ukraine being a prime example. Almost a quarter of the world's global grain supply is exported from the Black Sea and production has been affected by the war. Furthermore, it's not unknown for certain grain export countries to indirectly affect global trade via their fiscal policy, such as by imposing export tariffs on grain in order to re-direct some of their intended exports to the domestic market and alleviate inflation pressures.

In short, the supply of grains globally is much more conditional than production of other commodities, such as iron ore, that generally can be produced at will, stored inexpensively and easily, and shipped on dry bulk vessels. Production of grains is seasonal, weather dependent and its shipment requires much more attention in order preserve quality.

Taking a look at the global shipping markets, one can see overshadowing risks to the shipment of grains, both at a domestic and also at a global level.

In the US, usually low water levels on the mighty Mississippi River have been imposing limitations to the load and size of barge tows that can be shipped each time. The Lower Mississippi River in Louisiana is a deep and wide enough river and can accommodate as big vessels as suezmax tankers (around 150,000 deadweight tons), but just further up in states of Tennessee and Missouri, navigation by barges becomes critical especially in late summer and early autumn. In the past two years, barge navigation was limited and this season is expected to be challenging, given the already low water levels. Grains barged to New Orleans and the lower state of Louisiana are destined for exporting, and low water levels can have an impact of export levels, among other variables.

Low water levels in Argentina and Brazil have been known to affect the efficiency of barging grains to the main exporting ports there, too, via the Paraná River and the La Plata region. News in the past two years has shown dry bulk vessels departing Rosario without being loaded to marks, given the low draft levels in the river.

Likewise for the Amazon in Brazil, low water levels last year have forced exporters to re-route grains to the southern parts of the country and exporting via the port of Santos, in the state of Mato Grosso, which cannot accommodate as many big dry bulk vessels as the port of San Paulo. So far, in 2024, precipitation has not improved, and this year there is a good likelihood that even the port of Santos will be affected by low water levels.

Low water levels are not just local problems. As exporting is affected, global grain trade and availability are affected. And when there are low water levels in a region, one can safely assume that the harvest season likely to be weak as well, as a drought can affect harvest, too, and not just river water levels.

And once production of grains and exporting are secured, it's not smooth sailing afterwards to the destination ports. Low water levels have been affecting the Panama Canal, which have forced the canal authority to severely limit the canal transit permits in 2023 and 2024. The truth is that not many dry bulk vessels transit the Panama Canal, but canal restrictions add one of the many global navigational choke points in the grain trade.

Most recently, the Red Sea and the Bab el-Mandeb Strait have been an additional choke point for the grains trade (but a much greater concern for tanker and other types of vessels). The Red Sea is critical to the grain trade as Middle Eastern countries are among the world's largest importers of grain. Grains, especially from the Black Sea and also from the Atlantic (North American exports), heading to Asia are likely to be passing through the Suez Canal and thus have been affected by the current events. To a certain extent, and probably due to lower risk of pollution with the dry bulk market, dry bulk vessel managers have been much more defiant sailing through the Red Sea (while tanker, car carrier and containership vessels are much more likely to divert around the Cape of Good Hope).

And, when talking about navigational choke points, one cannot avoid the Black Sea. Ever since the war on Ukraine, exports of grains via the Black Sea have been materially impacted, with the north part of the Black Sea having been mined, and with no assurances of freedom of navigation in the area.

Ukrainian grain exports have reduced to a trickle, and mostly via the port of Constanta at the Ukrainian border with Romania. The point is that the port is just too small and located upriver, and exports are taking place on dry bulk vessels no larger than 10,000 deadweight tons. Most of the Ukrainian and Black Sea grain exports traditionally have been taken place with supramax and panamax dry bulk vessels, which are five-fold or larger in cargo capacity.

Global supply of grains may get problematic over time. Changing weather patterns are affecting production, but supply constraints (shipping) cannot be ignored. And given that grain is a critical commodity for human existence, any extended disruptions may have a social and humanitarian dimension as well.

Basil M Karatzas is the founder and CEO of Karatzas Marine Advisors and Co in New York. For more information, please visit karatzas.auction

VIGAN ENGINEERING: LIFTING THE LOAD

COMPANY NEWS

Headquartered in Nivelles, Belgium, VIGAN Engineering SA has emerged as a formidable force in the bulk handling industry, boasting more than five decades of trailblazing expertise. With an unwavering focus on delivering cutting-edge solutions for dry bulk products, particularly agricultural commodities such as cereals, VIGAN has cemented its status as a premier equipment provider on the global stage.

Beyond its stronghold in Belgium, VIGAN's impact reverberates across the globe, with its equipment installed in ports spanning continents. With an impressive 99% of its business exported, VIGAN has established an extensive global presence, delivering innovative handling solutions to ports worldwide. Vigan's track record is impressive, with 1,500 machines all over the world. From the bustling ports of Europe to the remote shores of Asia and Africa, VIGAN's footprint underscores its commitment to meeting the diverse needs of the international maritime community.

DIVERSE PORTFOLIO

VIGAN's diverse product portfolio encompasses an array of handling solutions tailored to meet the unique requirements of different ports worldwide. From grain pumps to pneumatic ship unloaders and complete turnkey solutions for port terminals, VIGAN offers versatility and reliability unparalleled in the industry.

Grain pumps: VIGAN's grain pumps, characterised by their compact and mobile design, are engineered for quick deployment at various locations. Continuously evolving, these machines have become remarkably efficient, reaching impressive peak outputs of up to 250 tonnes per hour. They offer a smart solution that facilitates swift implementation without requiring substantial investments in heavy mechanical equipment.

Pneumatic and mechanichal ship unloaders: VIGAN's pneumatic ship unloaders are the cornerstone of its portfolio. These gantries are versatile, coming in both stationary and mobile configurations (rails or tyres) These highly efficient machines are designed to rapidly and with minimal environmental impact offload dry bulk products from ships. They can handle substantial loads, with capacities reaching up to an astonishing 800 tonnes per hour, while the mechanical unloaders push the limits even further by achieving throughputs of up to 1,500 tonnes per hour. VIGAN's unloading systems utilise pneumatic suction technology to minimise dust emissions, meeting stringent environmental standards.

Loaders: VIGAN's loaders present a versatile solution suitable for a wide range of bulk products, whether handling large or small barges and vessels. VIGAN loaders are meticulously customised to accommodate diverse needs. The loading process is mechanised, with cargo efficiently conveyed into the loading boom through an integrated belt or chain conveyor. Subsequently, it is discharged into the ship's hold via a telescopic loading chute.

VIGAN prioritises the design of loaders with high-volume capabilities to minimise the

necessity for equipment and component replacements caused by wear and tear. These shiploaders are engineered to achieve impressive capacities of up to 2,000 tons per hour for various types of products. VIGAN proposes multiple layout options, including fixed, tyre-mounted, and rail-mounted gantries, with flexible height and width configurations, customised boom lengths, a variety of loading spout types, dust control systems, control cabins, and the option for static or rotating throwers.

Terminals: VIGAN's expertise extends to complete port terminal solutions. It provides turnkey projects, including the design and implementation of entire bulk handling systems within port facilities. These terminals are designed for maximum efficiency, reliability, and environmental compliance.

ENVIRONMENTAL DUTY

In an age where environmental consciousness reigns supreme, VIGAN leads the charge in sustainability within the bulk handling sector. Through the integration of cutting-edge technologies such as multi-stage turbo blowers and inverter technology, VIGAN significantly reduces power consumption in its pneumatic unloaders. This enables automatic power regulation based on demand, fostering more efficient energy usage while minimising its ecological footprint. Moreover, VIGAN's dedication to mitigating noise pollution and minimising dust emissions underscores its commitment to environmental stewardship, setting the standard for environmentally conscious bulk handling solutions.

UNMATCHED QUALITY

VIGAN's commitment to excellence extends beyond innovation to encompass meticulous craftsmanship and quality control. Unlike competitors reliant on subcontractors, VIGAN's vertical integration approach ensures complete control over every aspect of operations, from design and calculation to shipping :

- Complete design and calculation of the machine
- Manufacturing and assembly of the mechanical structure and the equipment
- Preparation, coating and protection
- Instrumentation and control development and installation
- Electrical drawing and enclosures manufacturing

By pre-assembling and rigorously testing each machine in their factory, VIGAN upholds the highest standards of reliability and performance, earning the trust of clients worldwide.

TECHNOLOGY AND DURABILITY

While embracing technological advancements, VIGAN exercises caution to prioritise durability and availability. It's no mere coincidence that we have some machines operating continuously for more than 40 years in challenging environments, consistently exceeding customer expectations.

With a steadfast focus on durability and operational availability, VIGAN prioritises ensuring uninterrupted performance when its machines are most needed. The company exercises vigilance, adopting new technologies only after rigorous testing for durability and user-friendliness.

A prime example of this dedication is evident in VIGAN's establishment of a specialised department dedicated solely to the design and production of electronic and electrical components. From fundamental electrical panels to intricate wiring systems, VIGAN distinguishes itself as the industry's singular player with such a dedicated department. Since its inception, this department has witnessed continuous expansion, underscoring VIGAN's unwavering commitment to advancement. Seamlessly integrated within the company, this department exemplifies expertise in crafting premium electrical and electronic components, directly contributing to the reliability and exceptional performance of VIGAN Engineering's equipment.

As VIGAN unveils a new generation of continuous ship unloaders boasting increased capacity, the company underscores the paramount importance of preserving durability and availability. Scaling up machine size necessitates addressing various factors, such as turbine dimensions, piping diameters, and air-lock capacities. VIGAN has adeptly navigated these challenges in recent times, showcasing its agility in responding to evolving industry demands.

SHAPING THE FUTURE

Looking ahead, VIGAN's vision encompasses a future characterised by innovation, sustainability, and global collaboration. By staying true to its core values of reliability, excellence, and customer satisfaction, VIGAN aims to continue pushing the boundaries of bulk handling technology while fostering a more sustainable and interconnected maritime ecosystem. With a legacy of pioneering achievements and a steadfast commitment to progress, VIGAN stands poised to shape the future of the bulk handling industry for generations to come.

For more information, visit: vigan.com

AUTOMATIC RESPONSE

Automation is addressing many of the challenges of effective storage of products and the associated safety of personnel

Automated machinery has an important role to place in ensuring effective product placement. It has also proved to be beneficial in cutting down costs while ensuring greater safety.

Kivnon, a producer of autonomous mobile robots (AMRs) and automated guided vehicles (AGVs), recently announced that it had integrated intelligent mapping navigation into its K05 Twister.

This enables users to obtain enhanced flexibility and higher-density storage and retrieval capabilities, surpassing the limitations of traditional magnetic floor strips.

According to Kivnon, with mapping navigation, businesses can achieve higher storage density while eliminating the need for a physical guidance infrastructure, making workflow adjustments a breeze in response to changing business needs.

"In today's dynamic business environment, manufacturers face increased volatility, intricate product requirements, and rising floor-space costs," says Xavier Munells, director of product management at Kivnon. "To address these challenges, we've introduced laser-guided mapping navigation to our popular K05 mobile system, empowering businesses to implement high-density storage strategies and adapt them almost instantly. It not only streamlines operations and reduces costs but also accelerates product delivery.

"Furthermore, it enhances the aesthetics of the workspace, providing a more visually appealing environment,

The K05 mapping relies on its location and navigation based on elements present in the environment. It is equipped with laser sensors that collect essential data about the physical environment, such as walls and landmarks, to generate a virtual map where paths and tasks for the unit are established.

The ability to set routes and tasks on a virtual map eliminates the need for physical elements such as radio frequency identification tags, allowing for increased density of actions in a physical area and greatly facilitating modifications to the circuit of the units.

The addition of mapping to the K05 Twister AGV complements its existing features, designed to optimise the transport of medium loads in specific processes and small spaces. Its compact chassis measures 800mm x 800mm x 280mm, can carry up to 450kg onboard, and tow up to 1,000kg on a wheeled trolley, reaching speeds of up to 1m/s along cyclical or conditional circuits.

The AGV is capable of precise stops and seamless interaction with other AGVs/AMRs, machines, systems, and fleet management systems, including those based on VDA 5050 standards. The new model could come with a lifting table or retractable PINs options and boasts a 360º rotation on its axis. With rechargeable lithium batteries, added with laser scanners and safety PLCs, the vehicle offers high safety standards.

KEEPING DUST DOWN

In response to input from customers across the demolition and bulk material handling sectors, a leader in atomised mist technology has introduced a powerful new mobile mid-sized dust control cannon. The DustBoss DB-45 Surge is the latest in the series featuring a pressurised centre nozzle paired with a fan and misting ring system to suppress both surface dust and airborne particulates.

With three remote-controlled stages and precision oscillation for optimum command over water volume and coverage area, the DB-45 Surge delivers the dependability of atomised mist along with J2P (jet-to-plume) nozzle technology that surges for more than 60m, even in windy conditions. The result is an easily manoeuvrable, autonomous and versatile dust control solution for outdoor operations in all weather conditions.

"Our first iteration of this technology was larger for operations with high-reach cranes and enormous coverage areas," explains BossTek dust control specialist Mike Lewis. "Managers of medium and smaller operations were impressed with the existing technology, but wanted a lighter and more compact option that offered the same excellent field-tested versatility and results. With a 60m throw range, I'd say that most of our customers will be well-served by the new model."

Demolition contractors with high-reach cranes, port operators that host tall cargo ships and bulk handlers with tall stockpiles of raw material commonly experience windy conditions high above the ground. In turbulent situations, dust is lifted into the atmosphere and carried beyond the site line over long distances, which can lead to permit violations. Operators often mitigate particulate emissions using sprinklers or hoses to saturate a material's surface. The stronger the wind, the more water

pressure is required to break through the wind shear, resulting in greater amounts of water filling the surrounding work area.

The DB-45 Surge combines the power of a 25-horsepower industrial fan, misting ring and heavy-duty barrel with the reach of a central high-pressure spray nozzle. The misting ring introduces millions of tiny dust capturing droplets into an area for proven dust suppression. The pressurised spray resists wind shear and uses the force of the wind to further fragment droplets, enhancing its dust suppression capabilities. The cannon also features a variable frequency drive, which allows the unit to operate more efficiently at lower water pressure.

The three stages are easily input by the touch screen system, protected by a sealed NEMA 4 cabinet or controlled by a heavy-duty hand-held remote control with a 305m range. Stage one is highly effective on moderate days and uses the powerful 30,000 CFM (849.5 CMM) fan and misting ring for wide area coverage. For windy days, stage two features a pressurized stream delivered by the J2P nozzle to pinpoint the source of the dust. On high wind days, operators can choose stage three which utilizes the fan, misting ring and centre nozzle for maximum coverage.

This allows the DB-45 Surge to be 'set it and forget it' autonomous equipment, unlike hoses and industrial sprinklers, which typically require constant manual labour to monitor and operate.

While striving to stay compliant with dust regulations, operators can now better match the water requirements to the specific application. Fed by a standard 38mm hose with a cam-and-groove quick disconnect coupling, the powerful booster pump delivers as much as 500 PSI (27.5 BAR) of water pressure to the center nozzle.

The coverage area is extended with the customisable 260º horizontal oscillation range and 0º-50º vertical throw angle.

Mounted on a heavy-duty roadworthy trailer for towing at highway speeds with a standard ball hitch, it can be placed by a pickup truck, skid steer or lift truck wherever dust suppression is needed. As supplied, the DB-45 Surge can run potable or non-potable water, as it is equipped with two in-line 30 mesh, 595 micron filters to avoid clogging. One filter is located at the water entry point to the booster pump and another is located prior to the pipe feeding the central nozzle.

Other options are already available, including tower mounting for permanent locations. The cannon is also available as part of the company's popular 'Fusion' lineup, pairing the DB-45 Surge with a trailer-mounted generator to alleviate the need for a nearby power source.

With a 15HP booster pump, the unit only requires a 45kW generator, which most demo contractors already have in their equipment arsenal.

"The DustBoss product line is known for its rugged quality and long service life, often described as one of the most reliable and low-maintenance pieces of equipment on any job site," Lewis concludes. "Our three-year or 3000-hour warranty is evidence of our confidence in the products. The DB-45 Surge is designed with that same philosophy: it's built to last."

LIVERPOOL SUPER SHED

As part of a long-term plan to support increased demand for cementitious products across the UK construction market, Aggregate Industries (AIUK) has recently announced a significant investment into a new 'super shed' at the Port of Liverpool.

Owned by the UK's second largest port operator Peel Ports Group, the substantial new import facility – one of the largest of its kind in Europe – will facilitate the storage of more than 40,000 tonnes of cementitious products at any one time.

AIUK has made a long-term commitment to the Port with the signing of a 25-year lease agreement. This represents the third major deal made by the manufacturer in the last six months, as part of a strategic investment programme into deep sea terminals.

The latest investment will help the business maintain a continuous supply of lower carbon cementitious solutions throughout the North of England and Wales, with the addition of two surrounding berths and a two-chamber flat store at the Portside. This will help accommodate larger vessels and improve overall transport efficiencies.

With each import investment strategically chosen to support the firm's regional logistics infrastructure, this growth in distribution capability will help aggregate industries to offer best-in-class service to local customers – with minimal lorry miles from terminals to sites – for the ultimate in sustainable, agile, secure supply.

Head of supply chain at AIUK's Cement Division, Matt Owen, says: "Our commitment at Liverpool is one of a series of planned developments to respond to increasing market demand across the surrounding regions.

"By investing in deep sea facilities, we're looking to streamline operations as well as reduce the embodied carbon in our imported products, saving up to 25% of CO_2 per tonne of material thanks to increased vessel capacities.

"Our investment in the Port is indicative of the key role freight is playing in helping us to build resilience and surety of supply for customers, so we can always respond in an agile way to customer demand."

Tom Harrison, group strategic accounts director at Peel Ports Group, said: "This significant investment highlights AIUK's long-term commitment in driving growth and opportunities across the Port of Liverpool and we're proud to be involved in seeing it come to fruition.

"At Peel Ports, we believe we're more than just a port, but central to enabling a more agile, efficient, and sustainable supply chain for the UK's industries by offering port-centric solutions such as this to help our customers thrive

"Providing these facilities, which enables AIUK to better serve the industry across North of England and Wales with its cementitious solutions is a prime example of this."

SMOOTH SAILING

Digital solutions are making fleet management much simpler and enable full compliance with the raft of new regulations that the industry needs to be aware of

Autonomous navigation and automated guided vehicle fleet management leader BlueBotics – whose ANT navigation technology drives more than 5,000 automated guided vehicles (AGVs) and autonomous mobile robots (AMRs) around the world – has expanded the scope of its popular autonomous navigation technology (ANT) server mission and fleet management software by adding compatibility with the German AGV interoperability standard VDA 5050.

As a result, ANT server can now manage not only the 100+ 'ANT driven' customer AGVs and AMRs currently on the market, but also VDA 5050-compliant AGVs and AMRs from non-ANT driven brands.

"With this evolution, the widest choice of interoperable AGVs and AMRs on the market just got even wider," says BlueBotics CEO Nicola Tomatis.

This product update further enhances the options of organisations that are looking to deploy or expand fleets of mobile robots.

By migrating to ANT server, organisations that already operate fleets of VDA 5050-compliant vehicles can now choose from an even wider choice of automated vehicles when growing their fleets.

Those already operating fleets of ANT-driven vehicles gain the option of adding VDA 5050 vehicles in future.

The interoperability of AGVs and AMRs is expected to play a crucial role in the long-term adoption of these technologies. BlueBotics and its vehicle maker partners are ideally positioned to facilitate this growth, since more than 100 'ANT driven' models are already natively interoperable today when managed by ANT server.

Several vehicle interoperability standards are under development today. The German VDA 5050 AGV communication interface is currently the most advanced, ahead of equivalents such as MASS in the US and another in China.

"We are happy to bring this compatibility to ANT server," Tomatis adds. "Even if the functionality that VDA 5050 offers today remains below that of ANT server and its ecosystem of natively interoperable 'ANT driven' vehicles, this evolution represents a valuable and necessary step in the direction of industry-wide multi-brand AGV operations."

DIGITAL SERVICE

KR has released two digital platforms, KR-DAON (digital application online network) and Nexawave, alongside the launch of its enhanced fleet management system, KR e-Fleet V3.

The KR e-Fleet V3, an upgraded version of the existing fleet management system, focuses on enhancing operational efficiency through increased speed and simplification. It features an integrated vessel status display with survey and audit information, a new thickness measurement (TM) menu for tracking hull corrosion, and PSC Guidance with VR technology (KR-Real360) to assist in customer responses. Available for download on KR's website, Google Play and the App Store, this new system promises to significantly streamline fleet management processes.

In parallel, KR is launching KR-DAON and Nexawave, two digital platforms set to transform customer experience in the maritime sector. KR-DAON serves as a one-stop hub for all of KR's digital services, offering easy access to a suite of tools including the KR e-Fleet (KR's fleet management system), KR-CON (KR's comprehensive digital database of International Maritime Organization documents), KE-GEARs (KR's greenhouse gas data management system), and e-MESIS systems (KR's equipment inspection and approval system).

This platform allows users to customise their digital space for maximum convenience and explore a curated selection of apps from KR's partner companies.

Nexawave, a data exchange platform, ensures seamless integration of KR's data with customer systems, focusing on survey, audit, and greenhouse gas verification information. Both KR-DAON and Nexawave underscore KR's dedication to providing comprehensive digital solutions for the maritime industry.

SITUATIONAL AWARENESS

Groke Technologies, the Finnish technology company behind the Groke Pro Situational Awareness System, has introduced a new solution designed to give ship managers shoreside an unparalleled view of the surrounding area of all the vessels in their fleet.

Groke Fleet gives ship management teams more detailed information on which to better evaluate, enhance and control the navigational safety and efficiency of their vessels.

Unlike traditional fleet awareness solutions, which tend to be based only on periodically updated AIS data, Groke Fleet captures positional data from onboard cameras, sensors and navigational systems to provide a continuous clear image of each vessels' operational status, day or night.

Using machine vision and Cloud technology, Groke Fleet provides an accurate overview of the ships, generating invaluable insights and historical route information combined with high resolution imagery from the ships' Groke Pro cameras and sensors.

While fleet managers can use Groke Fleet to follow the safety and efficiency of their vessels in congested or difficult seaways, the system really comes into its own in the event of a collision or similar incident, says Juha Rokka, CEO, Groke Technologies.

"We truly believe that Groke Pro and Groke Fleet allow shipmanagers to significantly raise maritime safety to a higher level, reducing the number of navigational incidents globally," he says.

"We see a future where situational awareness data will play a central role in ship and fleet management, but our technology also provides irrefutable evidence for accident investigators and insurers. It delivers greater transparency."

If there's an incident or a near miss, the system automatically captures an image

of the situation and creates a report, so reporting is no longer dependent on those onboard. Fleet managers can playback the route leading up to the event to see what actually happened. "This is invaluable when there are several parties involved," says Rokka.

Groke Pro's unique blending feature combines images from day and thermal imaging cameras to provide a clear view of the vessel surroundings even during night-time operations or other low-visibility situations such as fog, heavy rain or highly reflective situations.

Mikko Mäkelä-Vaitilo, Groke fleet product manager, says this makes such big difference to fleet management. "It's no longer just an AIS-type map view, but you can overlay high-resolution camera imagery. It picks up all the objects detected by the computer vision system, including non-AIS vessels."

The Turku-based company has also incorporated risk analysis functionality, which provides an intuitive risk compass, closest point of approach alarms and relative velocity tracking. Whenever, the system triggers an event, Groke Pro captures it, and relays the information shoreside to Groke Fleet users. This ensures shipmanagers shoreside can see the incident unfold in almost real-time.

"Where there is a requirement for visual evidence, there is no room for second guessing," says Mäkelä-Vaitilo. "When a watchkeeper is looking outside and looking at our Groke Pro user interface, the same information is now available shoreside, via an easy-to-read visual display. Fleet operators now have access to detailed situational analytics, including positioning, environmental conditions an operational status, surpassing the granularity of information provided by conventional the AIS system."

BALLAST WATER INNOVATION

The innovative *Grain de Sail II* cargo sail ship has set sail across the Atlantic with a state-of-the-art ballast water treatment system supplied by BIO-UV Group.

The vessel, based in St Malo, France, transports French products to New York by sail before heading south to the Caribbean and loading locally grown organic products, such as cocoa and coffee beans.

The 52m wind-powered *Grain de Sail II*, christened in January this year, and built by French-headquartered shipbuilder Piriou Group, features a UV-based skid-mounted BIO-SEA L unit, installed with a Filtrex filter system. The system is designed to treat ballast water flow rates of 30m3/h.

"The successful delivery of *Grain De Sail II*, an aluminum-hulled schooner, marks a decisive step in the development of sustainable navigation. BIO-UV Group is committed to working with shipowners and shipyards that are pushing the boundaries of innovation and design to build a new generation of ships that respect the marine ecosystem," says BIO-UV Group CEO Laurent-Emmanuel Migeon.

Wind-powered cargo ships particularly suit the ultra-compact, easy-to-use BIO-SEA L series due to their low flow rate ballasting requirements, ranging from 13 to 120m3/h. System components are delivered all-inclusive and can be supplied in various configurations, such as modular, split skid or full skid versions, allowing maximum adaptability for onboard system integration.

Loïc Briand, managing director of Morlaix-based Grain de Sail Shipping, owner of the eponymous vessel, said: "The successful build and delivery of this hugely innovative sustainable ship shows we are at the forefront of innovation in the rise of sustainable shipping across the maritime industry. By shipping goods across the Atlantic by cargo sailboat we have one of the lowest carbon footprints possible."

Maxime Dedeurwaerder, BIO-SEA maritime business unit director, adds: "Newbuild projects such as these are a great opportunity for BIO-UV Group to help reduce the environmental impact even further by preventing the migration of invasive species in the most effective way possible."

BIO-SEA low flow rate ballast water treatment systems combine mechanical filtration and ultraviolet (UV) disinfection without any chemical treatment whatsoever.

The 'L' range of BIO-SEA ballast water treatment systems (BWTS) is specially designed to meet the ballasting needs of vessels with small pump capacities. All components, including the power supply, are integrated into the system, removing the need for a separate power cabinet, saving even more space.

In October last year, BIO-UV Group unveiled its smallest low-flow BIO-SEA BWTS yet. The new BIO-SEA L Mini is designed for ballast water processing capacities below 30m^3/h.

SIMPLIFYING SHIPS

In a climate of increasing complexity, with new regulations, environmental concerns and commercial considerations, how can owners and operators control their fleets, and futures, from dry land? NAVTOR founder and CEO Tor Håkon Svanes believes the answer lies in innovation and integration – developing solutions that evolve in line with the needs of a dynamic global industry.

Svanes and his team have developed one such solution. NavFleet, originally launched in 2017, is billed as a "complete ship operations platform". It works by integrating multiple streams of data – from vessels, shore-based facilities, and business-critical sources – into a single solution, empowering management teams to monitor, refine and improve ship- and fleet-wide performance.

It not only provides situational awareness and control, unlocking smarter decision making, but also automates and simplifies tasks – seamlessly gathering data across NAVTOR's joined-up digital ecosystem.

Released in November last year, NavFleet 1.8 introduced an advanced Emissions Simulator to help customers navigate Carbon Intensity Indicator (CII). This draws on data ranging from vessel noon reports to e-navigation and performance data – all of which is computer- and human-validated – to gauge vessel and fleet historical

emissions and model them for future predictions.

Parameters can be easily changed, and vessels compared, to give in-depth insights into how assets will perform and what CII ratings they can expect. All without the need to juggle an ocean of different documents and service providers.

The just-released NavFleet 1.9 adds to this with a range of updates, including an EU Emissions Trading System dashboard, statement and voyage estimator tailored to address this year's new regulatory reality. This creates estimates of allowances, EU Allowance statements and the necessary reports in an instant – empowering both compliance and the ability to transparently share both data and costs with charterers and freight owners.

January's 1.9 update also saw the introduction of online ENCs for shore-based teams, while a new earthquake and tsunami warning is on the cusp of being integrated now. The next major release this spring will add a range of notifications to improve monitoring and situational awareness, in addition to further improvements on the Emission and CII Module.

Digital logbook integration should follow later in the year, while a late summer update will add a service helping users understand and plan for the FuelEU Maritime regulation, coming into force in January 2025.

"This is a further requirement targeting greenhouse gas emission intensity for ships trading in the EU, with added shore power requirements for container and passenger vessels," he notes. "We're refining the NavFleet module now to give our customers the ability to stay ahead of the regulatory game here, paving a way for simplified compliance as and when its needed.

Smart shipping

NAVTOR has recently set sail with a three-year project christened GASS (Green AI for Sustainable Shipping), working as lead partner with Grieg Star, Maritime CleanTech, Scandinavian Reach Technologies, Simula Research Laboratory, SinOceanic Shipping, and Sustainable Energy/SIVA, with support from the Norwegian Research Council, Innovation Norway, and SIVA.

This aims to enable 'data driven decarbonisation' by creating AI-empowered digital twins of vessels based on precise operational and environmental data. These will then be used to demonstrate a benchmark of real-time optimal fuel consumption. If the actual vessel – and that's any vessel, anywhere, sailing in any conditions – falls short of that standard the data can be instantly analysed to find out why, leading to corrective, on the spot decision making.

"The eventual aim is to create a module that can then be integrated into our portfolio that will allow for dynamic voyage optimisation," NAVTOR founder and CEO Tor Håkon Svanes states. "That means both crews and onshore teams can address issues and deviations from plans as they actually happen. Our models show that can make a major impact on vessel energy consumption, with energy savings, and therefore reduced emissions, of around 20%."

If the more than 30% of vessels in the world fleet have their emissions slashed by 20% that means a cut of over 5% in the overall emissions of the entire shipping industry.

"This embodies what NAVTOR does," says Svanes. "It embodies what smart shipping can achieve, and embodies how, through the integration of solutions and utilisation of data, we can help the industry sail towards a more sustainable future."

TOR SVANES, FOUNDER AND CEO, NAVTOR

TWIN BENEFITS - NAVTOR AND THE GASS PARTNERSHIP DEVELOPING MARITIME'S AI POTENTIAL

LEADING THE WAY - NAVTOR SOLUTIONS EMPOWERING SMARTER, GREENER, MORE PROFITABLE OPERATIONS

JOINT EFFORTS

Sustainability and reliability are just two elements to be considered when handling breakbulk or bagging operations and companies have been joining forces to operate more efficiently in this area, while expanding in overseas markets

After three years in a successful joint venture, Dutch maritime heavy lift transport and engineering contractor Jumbo Shipping and German breakbulk and project ecargo specialist SAL Heavy Lift have incorporated multipurpose and liner operator Intermarine, in the group. From March this year, the JSI Alliance was ready for operations with a new combined fleet of 50 vessels.

The Jumbo, SAL and Intermarine venture creates a group combining their fleets and all commercial activities for breakbulk and project cargo. The group will provide a unified commercial entry point for sales and marketing for the joint network of offices and agents in 23 countries worldwide.

The fleet of around 50 vessels ranges from effective multipurpose vessels to the most advanced heavy lift ships in the world, with a lifting capacity of up to 3,000 t SWL. This essentially creates a real one-stop shop for customers seeking all kinds of maritime breakbulk or project transport solutions.

Intermarine president Richard Seeg explains: "This is a great step for Intermarine and a significant milestone for us in our more than 35 years of business. We're a sister company to SAL, which means we've had some cooperation up to this point. But forming a real commercial joint venture and alliance marks the beginning of a new and greater adventure.

"I've truly admired what Jumbo and SAL have managed to achieve over the past three years, and I'm excited to bring the Intermarine product to the venture. This will add more services and an expanded reach to the portfolio. With our strength, especially in the Americas, I'm sure our alliance is off to a great start."

Services will range from effective transport solutions for small parcels and single cargo items to the most complex industrial cargo units.

Laurens Govers, director chartering and projects at Jumbo Shipping, adds: "When we launched our commercial alliance with SAL three years ago, we weren't sure how the market and our customers would receive this new take on a commercial cooperation in the heavy lift sector. Today, we look back at the success it's been. Through our growing relationship with Intermarine as well, I'm confident that our new setup and wider service scope as JSI Alliance will be a valuable addition to our platform.

"Every customer, from EPCs and industrial equipment manufacturers to project freight forwarders, will find transport services that can benefit their business and projects in our new constellation."

> "Today, we look back at the success it's been. Through our growing relationship with Intermarine as well, I'm confident that our new setup and wider service scope as JSI Alliance will be a valuable addition to our platform

The Jumbo and SAL services and fleets are highly complementary, but the Intermarine products are somewhat different and expand the scope. The Intermarine fleet is based on standardised, effective multipurpose vessels typically geared up to max 500t SWL, essentially where the Jumbo and SAL vessel portfolio begins.

Furthermore, Intermarine is highly experienced in operating a mix of owned and time-chartered vessels, both on a short- or long-term basis. While the owned fleet typically takes on complex cargo operations, volume cargo and vessel positions may require a different approach.

The focus on flexible commercial solutions that Intermarine brings to the table really helps JSI Alliance achieve their goal of being a true one-stop shop for customers.

Intermarine COO Lars Rasmussen says: "We have a setup where we can combine many different vessels and service scopes. With JSI Alliance, you can find simple, straightforward transport solutions as well as the capacity to handle the most complex heavy lift projects. We can combine standard multipurpose ships, with mighty heavy lifters, deck carriers and even in some case bulk vessels – all under our operation and management.

"I've been in bulk, breakbulk and project shipping for over three decades now, and I've never seen a commercial solution as comprehensive as this."

CONCETTI ON THE MOVE

Bagging expert Concetti has recently set up an operation covering Australia and New Zealand to bring its expertise in the field of automatic weighing, bagging and palletising systems

The headquarters and spare parts warehouse are strategically located in Sydney and a local technical support centre has been set up in Newcastle.

"At Concetti Australia and New Zealand, we are committed to ensuring a superior level of service in all phases of the life cycle of our machinery, from initial consultation to supply, installation, and after-sales support," says director of Concetti Australia and New Zealand, Riccardo Concetti. "We are proud to collaborate with companies of all sizes and sectors, providing cutting-edge packaging technologies that enable them to excel in the global market".

BRUNSWICK PORT EXPANSION

Wallenius Wilhelmsen has significantly increased its strategic terminal and processing network, signing a 20-year lease agreement with the Georgia Ports Authority (GPA), with options up to 30 years. Upgraded and enlarged Brunswick facilities will further expand the scope and scale of the company's US Southeast operations.

"Our expansion and new long-term commitment in Brunswick strengthen our position as the preferred supply chain partner to North American automotive, equipment and breakbulk customers providing our complete package of market-leading end-to-end logistics services." says Lasse Kristoffersen, CEO, Wallenius Wilhelmsen.

"We are thankful for our longtime partnership with Wallenius Wilhelmsen and are excited to begin this new chapter of service," said GPA board chairman Kent Fountain. "With the efficiencies of their Brunswick operation, GPA and Wallenius Wilhelmsen will continue to deliver world-class reliability for our mutual customers."

The company hopes the Brunswick expansion will further cement its position as a partner for North American customers, joining an established network of terminals, on-port and in-plant processing centres that handle vehicles, construction, mining, and agricultural equipment across the region.

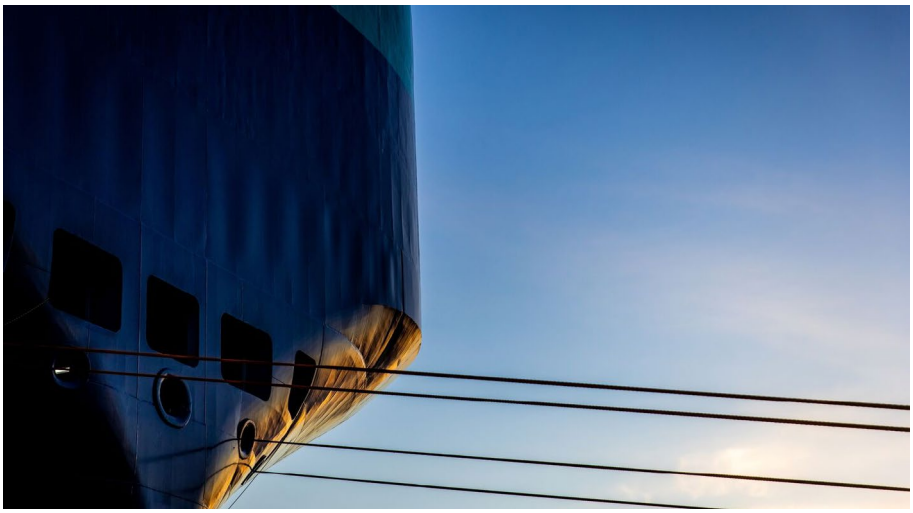
Wallenius Wilhelmsen's Brunswick footprint includes expansions and enhancements to its existing terminal and auto vehicle processing centre. An important addition is the new equipment processing centre that can store, customise, assemble, exercise and distribute machinery.

"These state-of-the-art facilities allow us to work on our customers' products in factory-like conditions that stand above any on-port setting," says Mike Hynekamp, chief operating officer, Logistics Services, Wallenius Wilhelmsen.

"The upgraded facilities are purpose built to allow for the safe and efficient completion, storage, inspection and distribution of our customers' products without the need to dray to an off-site location," adds Hynekamp.

"We're excited to welcome the additional business to Colonel's Island Terminal from Wallenius Wilhelmsen, where we are developing the nation's premier gateway for all carriers handling autos and heavy machinery," says GPA president and CEO Griff Lynch.

Wallenius Wilhelmsen recently signed another significant multi-year contract. The new agreement, with a leading global player in the premium car segment, is valued at more than US$1bn over three years, covering both shipping and logistics services, as well as the use of biofuel. The multi-year contract has a duration of three years, plus a mutual two-year extension option. The contract started between January and April 2024 with rates in line with current market levels.



"We see manufacturers shifting priorities and increasingly looking for solutions that provide predictability in their supply chains. In this case, it means longer-term contracts encompassing both logistics and shipping services. This goes hand in hand with Wallenius Wilhelmsen's goal of being a total solution provider in finished vehicle logistics. This multi-year contract allows for better long-term planning and extended predictability both for the customer and us," says Kristoffersen.

This contract includes the use of biofuel. "Environmentally conscious customers recognise the urgency when it comes to decarbonising global supply chains. Using biofuel is a strategic decision for this customer," says Pia Synnerman, chief customer officer at Wallenius Wilhelmsen.

"We see manufacturers shifting priorities and increasingly looking for solutions that provide predictability in their supply chains. In this case, it means longer-term contracts encompassing both logistics and shipping services

FLEXICON MOBILE BULK BAG DISCHARGER WITH FLEXIBLE SCREW CONVEYOR ALLOWS RAPID, DUST-FREE TRANSFER OF ABRASIVE AND HIGH-DENSITY BULK SOLID MATERIALS TO PROCESS EQUIPMENT AND STORAGE VESSELS

BULK BAG BUSINESS

A new mobile frame-mounted bulk bag discharger with flexible screw conveyor from Flexicon allows rapid, dust-free discharging and conveying of bulk solid materials at multiple plant locations.

The Bulk-Out BFF Series discharger allows forklift-loading of bulk bags from 915mm to 2,130mm tall. A removable bag-lifting cradle with Z-clip strap holders permits bulk bags to be attached securely at floor level from an ergonomic standing height, and then forklifted into cradle cups atop the discharger's upright posts.

The bag spout is pulled through a 30cm diameter iris valve, which is then closed around the spout, preventing material flow. The spout can then be untied, the snap-action access door closed, and the valve released slowly, allowing controlled flow into the enclosed hopper through the bulk bag interface chute.

Complete discharge is aided by Flow-Flexor bag activators that press against opposite bottom sides of the bag at timed intervals to form a steep 'V' shape, and top-mounted

Pop-Top extension devices that raise the uprights as the bulk bag empties, promoting the flow of material from the corners of the bag through the bag spout.

The hopper is vented to a Bag-Vac dust collector that creates negative pressure within the sealed system to contain displaced air and dust, and vacuum any particles trapped in bag creases during disconnect. Reverse pulse air jets on a timed cycle dislodge material accumulated on the filters, returning it to the material stream.

The enclosed 5.5 cubic foot (156 L) hopper measures 762 mm square by 1,067mm high and is equipped with proximity level sensors, and a pneumatic vibrator assembly to promote flow of material to the conveyor.

The outlet of the hopper charges the inlet of a Bev-Con Flexible Screw Conveyor that propels free- and non-free-flowing bulk materials at a 45° incline in user-specified distances for discharging directly into processing equipment or storage vessels through 254mm diameter downspouting.

Specialised geometry of the internal screw allows handling of materials that pack, cake, smear, seize or fluidise, with no separation of blends. The screw is the only moving part contacting material, and is driven beyond the point of discharge, preventing material contact with seals or bearings, and allowing rapid cleaning.

Mounted on a mobile base with support mast, the self-contained unit can be rolled to feed various locations or to a cleaning station.

A lower clean-out cap on the conveyor tube can be removed to flush the smooth interior surfaces with steam, water or cleaning solutions, or to fully remove the flexible screw for cleaning and inspection.

The system is available in carbon steel with durable industrial coating, with stainless steel material contact surfaces, or in all-stainless steel finished to industrial, food, dairy or pharmaceutical standards. Its NEMA 4 control panel with PLC allows manual and automatic start/stop and speed adjustment.

> "A removable bag-lifting cradle with Z-clip strap holders permits bulk bags to be attached securely at floor level from an ergonomic standing height, and then forklifted into cradle cups atop the discharger's upright posts

FROM BOTTLES TO BAGS

Spanish FIBC manufacturer Climesa is one of the pioneers in producing big bags made of rPET. They are not only a sustainable bulk packaging made of 100% recycled PET bottles, they also feature a range of special characteristics that make them the ideal long-term packaging for many dry bulk goods.

"We asked ourselves how we can reduce our carbon footprint when producing flexible intermediate bulk containers", says Joan Climent, managing director of Climesa.

"FIBC fabric produced with Starlinger technology from recycled polyester turned out to be the perfect solution. Our rPETSAC is made of rPET fabric from beverage bottle flakes and is available in four colours. Besides being a highly sustainable packaging, rPET big bags are exceptionally strong, withstand solar radiation and have excellent form stability, which makes them ideal for long-term storage. And after being used, the rPET big bag can be recycled and reused to produce new big bags."

"rPET FIBCs are the perfect closed-loop packaging for dry bulk goods", added Reinhard Lechner, product manager for rPET tape fabric at Starlinger. "PET can be recycled and refined so that its properties are the same like those of virgin material. By means of solid-state polycondensation it is possible to restore the molecular weight of recycled PET to its original level, thereby yielding material that is literally 'as good as new', even after having been recycled many times. This means that PET big bags can be produced from 100 % recycled material without compromising the special properties needed for this kind of heavy-duty packaging."

Usually, big bags are made of polypropylene tapes which have a low creep module and lose their shape when under stress over longer periods time. rPET big bags, in turn, feature high creep resistance and stiffness which prevent bulging, especially with regard to long-term storage and when filling materials with high flow properties.

Their resistance to abrasion and high temperatures make rPET big bags a very durable, high-strength packaging for dry bulk goods. The food-grade quality of rPET produced with the FDA- and EFSA-approved Starlinger PET recycling and decontamination process also opens up multiple possibilities for food-contact packaging, enabling big bag manufacturers to broaden their customer base.

Climesa currently sources the rPET fabric for its FIBCs from Indonesian producer PT Langgeng Jaya Plastindo. "We are working towards the target of offering our entire range of big bags not only in PP, but also in rPET fabric. Our aim is to make flexible intermediate bulk containers more sustainable – we believe that by changing the big bag material we are helping to increase environmental awareness in the bulk packaging sector", says Climent.

Climesa supplies big bags for the agricultural, food and construction sectors as well as conductive Type C big bags that can be used in flammable atmospheres, or big bags for specialised applications such as vacuum packaging for optimal content preservation.

CONFRONTING THE CHALLENGES

Geopolitical events and complying with new regulations have created a difficult environment for the shipping industry as a whole to navigate, but Germany is maintaining its position as a world-leading maritime nation

The German Shipowners' Association (VDR) recently published new data on the situation of the German shipping industry. President Gaby Bornheim and CEO Martin Kröger were able to report positive developments despite a difficult geopolitical environment.

Overall, Germany continues to have the seventh largest merchant fleet in the world and remains world leader in container shipping. Recently, significantly more young people have also opted for a career in the shipping industry

Shipping is increasingly confronted with challenges caused by wars and conflicts. The Red Sea has become unsafe for navigation owing to attacks on merchant vessels by Houthi rebels, a situation stemming from the ongoing conflict in the Middle East. Large parts of the Black Sea remain a war zone and high-risk area for shipping due to Russia's attack on Ukraine. Additionally, the strain between China and Taiwan, along with tensions in the South China Sea, are continuously intensifying.

"The current geopolitical developments are worrying," explains VDR president Gaby Bornheim. "Even though the shipping industry is in principle crisis-tested and can react flexibly to new geopolitical conditions, stability and security are essential in the long term. If maritime supply chains continue to be constantly disrupted, at some point our sea-based supply will be at risk. Germany conducts approximately 60% of its import and export activities via shipping routes, facilitating the entry of essential goods such as energy, food, clothing, technology, furniture and medicines into the country."

"Maintaining a robust merchant fleet within the country is, and continues to be, of paramount importance for Germany. The encouraging current figures highlight the stability of the German merchant fleet," says Martin Kröger, CEO of the VDR.

At the end of 2023, the German merchant fleet consisted of a total of 1,800 ships (previous year: 1,839 ships) with a gross tonnage (GT) of 47 million (previous year: 44.8 million GT). This means that Germany remains the seventh largest shipping nation in the world. Greece, China and Japan occupy the first three places in this order. Germany remains the leader in container shipping (29 million GT), ahead of China (28.1 million GT).

"The data underscores Germany's status as one of the leading maritime nations in the world, owning and operating a significant fleet, while also affirming its position as a competitive hub for shipping. To preserve this standing in the future, it is crucial to maintain attractive and stable conditions for shipping companies operating within Germany", emphasises Kröger.

The majority of German shipping companies are small and medium-sized enterprises. 80% of the companies have fewer than 10 ships. 881 ships in the German merchant fleet fly the flag of an EU country at the stern, among them 259 the German flag, 386 the flag of Portugal, 135 the flag of Cyprus, 41 ships the flag of Malta, and 60 the flag of another country of the EU. Therefore, every second German ship sails under the flag of an EU country.

Attracting and competing for young talent is of critical importance to the shipping industry. Thus, it is heartening to observe that the number of new training contracts in the shipping industry for the 2023 training year has increased by approximately 11% compared with the previous year. Last year, 418 young people started training at sea (previous year 377) and 214 on land (previous year 192).

"The future of our shipping sector hinges on the skills and enthusiasm of well-trained young individuals," says Bornheim. "Their contribution is essential for advancing and future-proofing shipping in Germany. It is encouraging to see a growing interest among the youth in pursuing careers in the shipping industry.

"We remain committed to drawing young talent to maritime professions, reinforcing the notion that shipping is an attractive and promising field of work," .

One of the biggest challenges facing shipping is the transition to climate-neutral operations by 2050. The industry is undertaking significant efforts and investments to realise this goal. In a landmark decision, the EU has resolved to incorporate maritime shipping into the EU Emissions Trading System starting in 2024. Consequently, shipping companies will be required to compensate for their CO2 emissions within the EU and acquire emission rights.

"We endorse the principle of emissions pricing, recognising it as a potentially effective tool for enhancing climate protection," says Kröger. "Nevertheless, it is imperative for the German government to now promptly specify the modalities of integrating shipping into the emissions trading scheme, as a legislative proposal to transpose the european regulation into national law has yet to be presented.

"For us, the cornerstone of our operations is not only planning certainty but also the assurance of uniform competitive conditions on an international scale. While we support emissions pricing as a policy measure, it must be implemented consistently across the globe. The fragmented approach of regional specificities is untenable for global shipping and undermines effective climate protection. Furthermore, we seek to avoid the redundancy of compensating for the same emissions more than once."

EMISSIONS LIABILITIES

Persistent missile attacks by Houthi rebels on ships plying the Red Sea route have led to soaring emissions liabilities for shipping companies under the EU Emissions Trading System (EU ETS) as lengthy voyage diversions for Europe-bound vessels have multiplied fuel consumption, according to Hamburg-based maritime technology firm OceanScore.

An increasing number of commercial ships have been taking the alternative

route to Europe via the Cape of Good Hope - adding around 9000 nautical miles, or 80%, to the distance sailed - to avoid the Houthi threat as more than 50 vessels passing through the Bab-el-Mandeb strait have so far been targeted by the Iran-backed militant group despite protective measures by a broad multi-national coalition.

The latest figures from Clarksons Research show that container ship transits via the Gulf of Aden to the Mediterranean have dropped 91% from the first half of December as around 620 vessels have been diverted, while bunker and crude tanker transits are down 37% and 31%, respectively. Conversely, Cape of Good Hope tonnage arrivals have risen 81% since December.

The consequent disruption to critical trade routes has resulted in spot freight rates increasing by two to three times versus pre-disruption levels while charter rates are up 28% from December, according to Clarksons.

Furthermore, OceanScore has calculated the widescale diversion of marine traffic is fuelling the costs of shipping companies due to significantly higher exposure to the EU ETS, which imposes liability for 50% of emissions for voyages to and from the EU and 100% for port calls and transits within the bloc.

OceanScore has estimated the route via the Cape has tripled bunker consumption due to the longer distance and an approximate 25% increase in sailing speed from 16 to 20 knots, based on its AIS tracking of mainly container vessels.

"We have observed increased speeds to compensate for at least some of the longer distance – to keep sailing times and the need for additional tonnage to be deployed at acceptable levels – and this has an inevitable impact on fuel consumption and emissions," OceanScore's co-managing director Albrecht Grell says.

Modelling analysis conducted by the firm, based on the case of a 14,000-TEU container ship, has shown the number of EU Allowances (EUA), or carbon credits, necessary to cover emissions would rise from 1,800 per voyage to 5,200 per voyage with the current 40% liability requirement under the three-year phase-in of the EU ETS from 1 January 2024, rising to 70% next year and 100% in 2026.

This would translate into a near-threefold increase in EUA costs from €98,000 to €285,000 per voyage this year, based on the current carbon price of around €55 per tonne of CO_2, or a hike of €18 per 20-foot equivalent unit (TEU), according to OceanScore, which is supporting companies with its web-based ETS Manager application for tracking, accounting and allocation of EUAs.

Grell points out that, if the volatile carbon price returns to the level of around €100 that it reached a year ago, these costs would nearly double. "With complete phase in of the EU ETS to 100% of emissions, we would see another 250% increase that would bring the cost mark-up per box to around €80," he says.

"It goes without saying that changes in sailing speeds, different vessel sizes, utilisations and the overall energy efficiency of the vessel used will all have a significant impact on the above analysis – but the general trend will be the same," Grell adds.

While €80 per box "sounds like a lot of money", he underlines that EUA liabilities are still not the major cost driver for current high freight rates that reflect increased bunker expenses and tonne-miles sailed with the Cape route.

"The threat level to Red Sea shipping remains high and it is uncertain how long this situation will persist for ocean freight given the Houthi attacks continue unabated. Shipping companies must therefore prepare and take account of higher emissions liabilities for the

foreseeable future," Grell says.

"Ultimately, however, the issue of EUA and other costs is secondary to ensuring the safety of crews and ships, which of course is the primary consideration and must remain paramount."

GEMINI CO-OPERATION

The Gemini cooperation agreement between Maersk and Hapag-Lloyd will rely heavily on a small number of transhipment hubs to support its new network. The operational performance of several of the terminals is assessed to be world-class in terms of intensity of asset use, but Drewry highlights that strong performance will be essential if the hub-and-spoke strategy is to succeed.

Since the announcement by MSC and Maersk in January 2023 that the 2M alliance would end in early 2025, the industry has been watching and wondering how each partner will 'go it alone' on the major trade lanes covered by the agreement.

As it turns out, Maersk will not be setting out solo, having announced in January 2024 that it will instead enter into a new co-operation agreement – Gemini – with leading German carrier Hapag-Lloyd, which will take effect in February 2025, immediately after the end of the 2M alliance.

The Gemini cooperation agreement covers seven trades – Asia/USWC, Asia/USEC, Asia–/Middle East, Asia/Mediterranean, Asia/North Europe, Middle East-India/Europe and Transatlantic. The network comprises 26 mainline services supported by 32 dedicated shuttle routes.

The planned network streamlines the number of port calls in each region with the aim of reducing disruption. As a result, the loops are focused heavily on 'hub & spoke' transshipment hubs supported by high-capacity dedicated shuttle loops that link the regional hubs with other gateway ports. In total, the mainline services will call at only 56 ports, with a further 29 ports served by dedicated shuttles.

The services operated under the Gemini cooperation agreement will make extensive use of 15 hub ports . APMT operates terminals in eight of the selected ports, with Hapag-Lloyd having operational terminals in two of the ports while investing in a third. The high level of ownership across the hub port network provides the partners with a greater degree of control over operational management and investment plans – both of which will be key to the success of the hub-and-spoke strategy the partnership will employ.

Several of the selected hub ports are already world leaders in terms of operational performance – APMT's facilities in Tanger Med are both handling more than 2,000 TEU per metre of quay and more than 200,000 TEU per crane, as is APMT Salalah. Tanjung Pelepas, Singapore, East Port Said and Algeciras – all of which handle high levels of transshipment – also rank highly in Drewry's annual survey of terminal performance.

Capacity expansion projects across the network are also well advanced at the hub ports where utilisation levels are high. The pipeline of investments is spread across physical expansion of terminal assets (for example, Rotterdam, East Port Said, Tangier MedPort), upgrade of capability to handle ULCVs (for example, Bremerhaven, Salalah) and automation /digitalisation initiatives (for example, Wilhelmshaven, Shanghai).

While the use of high-capacity dedicated shuttle services will facilitate efficient use of yard space at the hub ports, any repeat of the supply chain disruption seen in 2021-22 will put the Gemini network strategy under extreme pressure. The hub ports will need to provide sufficient buffer storage to make up for any mainline or feeder vessel delays.

KNOCK-ON EFFECTS

The collapse of the Francis Scott Key Bridge in Baltimore has caused supply chain disruption on the US East Coast but, so far, it has not seen an increase in ocean freight container shipping rates, according to market analyst Xeneta

Data released recently by Xeneta, the ocean freight rate benchmarking and intelligence platform, reveals average spot rates from the Far East into the US North East Coast (including Baltimore) have fallen slightly (-1%) since the bridge collapse on 26 March to stand at US$5,421 per FEU (40ft shipping container).

When including other US East Coast ports such as New York / New Jersey, rates from the Far East have decreased by 3% in the same period.

Average spot rates from North Europe to the US North East Coast have fallen by a larger 8% in the same period to stand at $2,357 per FEU. When including other US East Coast ports, rates have decreased by 4%.

Peter Sand, Xeneta Chief Analyst, says: "Spot rates have not reacted, but that doesn't mean shippers with cargo heading to Baltimore are not affected – on the contrary, they are seeing containers arriving at ports they were not expecting.

"The majority of containers will now be handled at New York / New Jersey because many of the ships originally bound for Baltimore would have been stopping there anyway, which is perhaps why we haven't seen an upwards impact on rates.

"Ocean freight container shipping rates may not have increased following the bridge collapse, but this incident is yet another problem for shippers to handle on top of all the other disruptions impacting supply chains at the moment, including the ongoing diversions in the Red Sea region and drought in the Panama Canal."

On 5 April, the Port of Baltimore issued an update stating it expects to open a 280-feet wide and 35-feet deep federal navigation channel by the end of April, followed by a reopening of the permanent 213m wide and 15m deep channel by the end of May, restoring port access to normal capacity.

While shippers will welcome a timeline for the reopening of maritime lanes into Baltimore, Sand believes importers into the US East Coast could be set for further disruptions in 2024 due to labour negotiations.

The International Longshoremen's Association's six-year contract with the United States Maritime Alliance, which represents port terminal operators and ocean carriers on the East Coast, expires on 31 September – and no new agreement has yet been reached.

Sand says: "The threat of labour strikes on the East Coast has the potential to cause far more disruption to ocean freight shipping than the collapse of the Francis Scott Key Bridge.

"The clock is ticking and if no agreement is reached then the implications will be significant and widespread disruption at US East Coast ports. This would almost certainly see rates increase for ocean freight container services and could see some shippers choosing to head back to the US West Coats or Mexico for imports."

"

The threat of labour strikes on the East Coast has the potential to cause far more disruption to ocean freight shipping than the collapse of the Francis Scott Key Bridge

XENETA CHIEF ANALYST PETER SAND

EFFICIENCY BOOST

Port Everglades have been celebrating three new super post-panamax gantry cranes going into service, which are expected to help the South Florida port reach record efficiency levels.

Currently, the port ranks in the top 25% of ports worldwide for operational efficiency, according to the World Bank's latest Container Port Performance Index.

"With the commissioning of the new cranes, our historic $471m project for the Southport Turning Notch Extension is nearly complete," says Glenn Wiltshire, Acting Director of Port Everglades.

"We applaud the investment that our Board of County Commissioners made throughout the years to build up the port's infrastructure, which benefits the men and women who work these docks and the regional economy."

Port Everglades handles an average of more than one million TEUs annually and serves as a gateway to Latin America, the Caribbean, Europe and Asia.

THE COST OF COMPLIANCE

Ports and operators in Asia face a number of challenges relating to their activities within the EU as a result of the introduction of the Emissions Trading System and other emissions-related initiatives

Asian shipowners with vessels sailing to and from Europe are likely to face estimated emissions liabilities of more than €1bn once the EU Emissions Trading System (EU ETS) is fully implemented, with companies registered in China and Singapore bearing the highest burden, according to OceanScore.

The Hamburg-based maritime technology firm has calculated that Asia-based Document of Compliance (DoC) holders will ultimately have to surrender a total of between 15-16 million EU Allowances (EUAs), or carbon credits, for voyages to and from the EU that are liable for 50% of emissions, while port calls and transits within the EU are liable for 100% of their emissions.

OceanScore estimates EU ETS costs for Asian owners of around €500m this year when they will be liable for 40% of their emissions, which will rise to 70% in 2025 and to 100% in 2026 under the three-year phase-in of the regulation.

The EU ETS, implemented from 1 January 2024, will affect around 4000 Asian-flagged vessels, or about one-third of the total 12,500 cargo and passenger ships above 5000gt that are currently subject to the EU ETS, according to the company.

These are owned or operated by 400 DoC holders, including major players such as China's COSCO, Hong Kong-based Anglo Eastern Ship Management and South Korean HMM, with around half of affected vessels operated by non-EU DoC holders.

The total €1bn cost estimate for Asian shipping, based on the expected volume of EUAs set to be surrendered by regional DoC holders from 2026, is contingent on the volatile carbon price that is currently at a relatively low level of around €55 per tonne of CO_2 after fluctuating between €80-100 last year.

The carbon price is dictated by supply and demand for EUAs, with the volume of allowances available for trading set to be gradually reduced over time under the cap-and-trade system to incentivise investments in measures to cut ship emissions.

OceanScore's co-managing director Albrecht Grell says a total of nearly 80 million EUAs will have to be surrendered by the shipping industry once the EU ETS is fully phased in, of which 40% will come from non-EU companies, also including the UK, Norway and Turkey.

OceanScore forecasts that, at full phase-in, around 5.5 million EUAs will have to be surrendered by Chinese and Hong Kong-based entities and 5.4 million by Singaporean players, with the remainder coming from Japan (1.6 million), South Korea (1.2 million) and India (1.1 million).

When other Asian countries such as Thailand and Malaysia are included, the total number of EUAs required rises to 20 million.

In a breakdown of costs exposure for individual companies, OceanScore has calculated that a company with 15 vessels would be required to surrender just over 300,000 EUAs, which would equate to a cost of €16.5m based on the current carbon price.

Voyages into and out of Europe account for around 59% of emissions covered by the EU ETS, versus 41% for voyages and port calls within Europe, but will still have a lower cost burden than domestic European traffic due to the 50% liability factor.

Long-haul voyages into the EU can be broken up by stopping at trans-shipment ports to reduce emissions exposure, but Grell says: "We don't see many people seriously discussing this" due to the negative impact on fuel costs, waiting times, additional sailing distance and other inefficiencies.

Asian players represent around 25% of the overall 1,700 DoC holders that now must relate to the regulation, which is in particular focusing the minds of European owners with an EU-centric deployment pattern for their vessels.

"Consequently, we see that European owners generally have started to prepare earlier for compliance with the EU ETS as it is closer to home and is therefore perceived as having a more tangible financial impact on their operations," Grell says.

"It is also typically easier for companies domiciled in the EU to set up Union Registry accounts required for handling EUAs, as well as gain access to trading platforms, which is more difficult for those based in non-EU countries given sometimes quite complex Know Your Customer processes."

As well as these administrative obstacles, he claims non-EU players have been put at a disadvantage by having to play catch up with the late finalisation of Implementation Acts by the EU to avoid being wrong-footed when having to collect and later surrender EUAs.

Among these measures, the shipowner has been assigned responsibility for reporting emissions and surrendering EUAs, although it can be transferred to the technical manager if an agreement along these lines is in place.

DEMAND SPARKS SUSPICION

Growth in demand for container shipping imports from China into Mexico in January 2024 increased by 60% compared to 12 months ago, further fuelling suspicions it has become a 'back door' into the US'.

This is now one of the strongest trade lanes in the world, according to analysts at ocean freight rate benchmarking and intelligence platform Xeneta, with 117,000 TEU shipped in January of this year, compared with 73,000 TEU in January 2023.

Annual growth in container shipping between China and Mexico had already increased by 34.8% in 2023 compared to just 3.5% in 2022.

Peter Sand, Xeneta chief analyst, believes the latest data may be further evidence of businesses attempting to circumvent tariffs on goods imported from China into the US, which have ramped up during the ongoing trade war between the nations.

He says: "The strength in trade between China and Mexico was building during 2023 but the latest data for January 2024 reveals a massive increase. It is probably the fastest growing trade on planet Earth right now.

"A sizeable proportion of the goods arriving in Mexico by ocean will likely be trucked into the US, which gives rise to the suspicion that the increase in trade we are witnessing is due to importers trying to circumvent US tariffs.

"In a purely hypothetical scenario, if this growth rate continues, by the year 2031 there will be more containers imported from China into Mexico than the US West Coast. That demonstrates just how rapid the increasing rate of demand for ocean freight shipping has been.

"Only last year Mexico City opened a new cargo-only airport, which is another sign that imports are scaling up. I doubt this is happening due to increased demand in Mexico only, but more likely because it is a back door into the US."

Importing into Mexico West Coast ports from China is seen as a viable alternative to goods arriving directly into the US West Coast, but importers will face a potentially volatile ocean freight shipping market as volumes continue to increase.

In April 2023, Xeneta data shows long term rates for ocean freight shipping from China to Mexico West Coast dropped below rates into the US West Coast at US$2,110 per FEU and $2,190 per FEU respectively.

Since that point, long-term rates have swapped over five times in terms of which trade is the more expensive before finally converging to almost the same level on 14 March this year at $1,1887 per FEU into Mexico West Coast and $1,892 per FEU into the US West Coast.

Sand says: "A maturing trade is also a potentially volatile trade in terms of both the cost of ocean freight shipping rates and service reliability.

"If importers are choosing to switch ocean supply chains to the Mexico West Coast there are risks associated with it. This is a prime example of how the 'best option' for shippers is likely to change over time as the market develops."

CCS AGREEMENT

Kawasaki Kisen Kaisha (K Line) has reached an agreement with Tokyo Gas regarding a joint study of liquefied carbon dioxide (CO_2) marine transportation with a view towards achieving carbon dioxide capture and storage (CCS).

The Japanese government believes CCS to be a significant method for achieving carbon neutrality and aims to enable the storage of 120 to 240 million tons of CO2 per year in 2050.

The final report of the study group for a long-term CCS roadmap suggests that the use of the promising storage potential overseas is one particularly strong option. This requires the liquefaction of CO_2 and marine transportation of the liquefied CO_2 to a place suitable for CO_2 storage.

The two companies will carry out a simulation of marine transportation of liquefied CO_2 to storage sites in Japan and in the Asian-Pacific region for CO_2 emitted in the Tokyo metropolitan area, as well as studying its economic efficiency and operations relating to the transportation of liquefied CO2 by ship.

Based on the findings of this study, both companies aim to help achieve carbon neutrality in the Tokyo region with various types of carbon management solutions including CCS.

Bulker contract

K Line and Nihon Shipyard have entered into a contract for the construction of three post-Panamax bulkers which NSY had newly developed and designed as next-generation, environmentally friendly ships.

The new ship is a next-generation 92-type (92,000 deadweight tons) known as K Line's Corona-series, which are wide-beam, shallow-draft coal carriers optimally designed for transportation of coal to coal-fired power plants in Japan.

Phase 3 of the Energy Efficiency Design Index (EEDI) will require bunkers (no less than 20,000 deadweight tons), for which construction contracts will be concluded in 2025 or thereafter, to be 30% more efficient in CO_2 emissions compared to the EEDI standards.

In pursuit of a further reduction in the environmental burden through greater fuel economy, the new ship is expected to achieve a 40% improvement in CO_2 emissions efficiency based on NSY's optimal ship development, including the newest main engine and the adoption of energy-saving accessories.

Moreover, a methanol-ready ship concept which assumes a shift toward methanol, a marine fuel with a low environmental footprint, will be adopted.

Ammonia advance

K Line announced recently that, together with ITOCHU Corporation, Nihon Shipyard , MAN Energy Solutions (MAN), Mitsui E&S, and NS United Kaiun Kaisha have signed a memorandum of understanding (MOU) regarding joint development efforts for the commercialisation of ammonia-fuelled ships.

Ammonia is advancing as a key zero-emission marine fuel solution and if it becomes possible to commonly use ammonia as a marine fuel, this will greatly contribute to the reduction of greenhouse gas emissions. The development and commercialisation of ammonia dual-fuelled engines using ammonia as their primary fuel is essential for widespread use of ammonia-fuelled ships.

Ensuring safe handling of toxic ammonia and the confirming of stable operations at sea are important milestones on the road.

The MOU is based on the premise that 200,000dwt class bulk carriers to be built by Nihon Shipyard will be equipped with ammonia-fuelled engines being developed by MAN as a pilot project prior to commercialisation, and that the necessary operational data will be collected after the delivery of the ships for the commercialisation of ammonia-fuelled engines and ships in cooperation with other parties involved.

COATINGS ADVANTAGE

Marine coatings leader Nippon Paint Marine's antifouling products A-LF-Sea and Fastar have delivered up to 8% fuel and emissions savings for Taiwanese shipping company Wan Hai Lines.

Reducing fuel consumption and emissions is a key priority for Wan

NIPPON PAINT MARINE'S ANTIFOULING PRODUCTS HAVE DELIVERED FUEL AND EMISSIONS SAVINGS FOR WAN HAI LINES

Hai and the wider container shipping sector, as it looks to drive increased operational efficiencies to comply with more stringent industry regulations, including carbon intensity indicator, Energy Efficiency Existing Ship Index and mitigate shipping's price on carbon following its inclusion in the EU ETS, as well as reaching future targets for global GHG emissions reduction.

Wan Hai has worked with Nippon Paint Marine for seven years, beginning with the application of the high-end antifouling coating A-LF-Sea to 20 vessels within its fleet. Performance analysis conducted in 2019 showed that the product delivered up to 8% fuel and emissions reduction compared with conventional coatings.

A-LF-Sea is a super low-friction coating system that uses Nippon Paint Marine's patented Hydrogel water-trapping technology, resulting in a smoother hull which reduces a vessel's hydrodynamic drag. This results in lower fuel consumption – as less power is needed to maintain the same speed – reducing the cost of operating the vessel, as well as emissions.

Nippon Paint Marine has applied products using its Hydrogel low-friction antifouling coatings to more than 4,000 vessels to date, reducing fuel costs and emissions by up to 8% compared to other makers' top-of-the-range silyl-acrylate SPC systems without Hydrogel.

ELECTRIC FERRY FIRST

Indian Register of Shipping has announced the successful launch of *Dheu*, a new generation electric ferry at M/s Garden Reach Shipbuilders & Engineers (GRSE) Kolkata. Being constructed under IRS class, the battery-powered electric ferry has an aluminium hull and a FRP superstructure. The vessel is a catamaran ferry with full electric propulsion and a potential complement of 150.

Designed to serve the government of West Bengal, Dheu is a 24m long twin-hulled vessel equipped with a 246 kW capacity liquid-cooled battery system which can be charged from a shore-based source or through deck-mounted solar panels that generate 18kW per hour. In addition, the vessel incorporates an efficient energy management system, which maximises the use of solar power to achieve speeds of up to 10 knots through two 50kW electric propulsion motors.

Built to IRS guidelines for battery powered vessels, *Dheu* marks the advent of green energy in maritime transportation, eliminating carbon emissions associated with diesel engines. For added safety, the ship is equipped with a 50 kW Emergency DG set, ensuring lighting and power during emergencies.

DESIGN SOLUTION

SSI, the leader in software, services, and expertise for shipbuilding, will supply its ShipConstructor design and modelling solution to Baku Shipyard (BSY Engineering) in Azerbaijan.

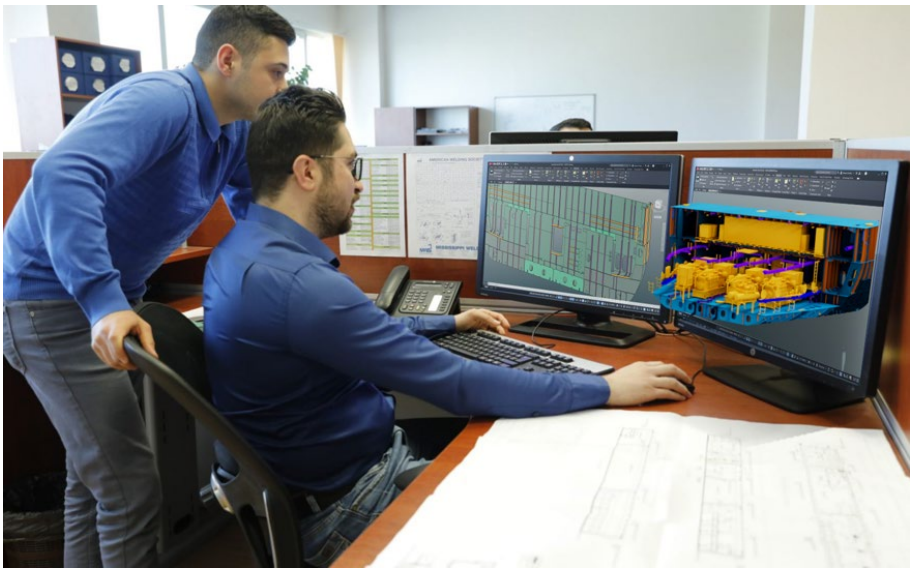
The agreement, with support from SSI's local partner NDAR, marks a shift in the Azerbaijani shipyard's approach to ship design and construction, embracing the latest digital workflow technology to enhance efficiency and precision in its shipbuilding projects.

With the implementation of ShipConstructor, Baku Shipyard can optimise its current design and production processes, reducing the cost of vessel design and construction. This updated approach will play a critical role in streamlining operations and enhancing the shipyard's overall efficiency.

The importance of 3-D product modelling is essential to Baku Shipyard's digital journey, preventing workflow conflicts between design and construction functions and improving project efficiency. The adoption of ShipConstructor is a strategic move towards integrating advanced digital solutions across the shipyard's future projects.

The first benefits from ShipConstructor are expected to emerge in the engineering department and will add value across many other departments. This evolution will redefine the shipyard's approach to shipbuilding and allow it to keep pace with the latest industry techniques.

Currently, the shipyard is engaged in four major new construction projects: an oil tanker, chemical tanker, a roll-on/roll-off passenger vessel and a dredger. These diverse projects underscore the shipyard's capabilities and commitment to delivering high-quality assets to a



THE IMPORTANCE OF 3-D PRODUCT MODELLING IS ESSENTIAL TO BAKU SHIPYARD'S DIGITAL JOURNEY, PREVENTING WORKFLOW CONFLICTS BETWEEN DESIGN AND CONSTRUCTION FUNCTIONS

broad range of vessel operators.

SSI and NDAR have been instrumental in supporting Baku Shipyard's transition to the SSI solution. Providing comprehensive training and support, they have laid the groundwork for a smooth transition, facilitating the shipyard's adoption of the new system.

"Transitioning to an in-house technical office, after a decade using a different system, is a challenging yet crucial step," says Samir Muradov, engineering manager at Baku Shipyard. "Our adoption of SSI ShipConstructor is fundamental to our shipyard's future success, ensuring greater control and flexibility in the shipbuilding process."

"NDAR is pleased to partner with Baku Shipyard in this significant transition towards advanced shipbuilding technologies," says Nick Danese, founder and general manager at NDAR. "ShipConstructor software represents the cutting edge in shipbuilding technology and we are confident that it will support Baku Shipyard in achieving its goals."

"SSI is delighted to support Baku Shipyard on its journey towards digital transformation," says David Males, director of business development at SSI. "The adoption of ShipConstructor showcases Baku Shipyard's dedication to embracing modern technology for enhanced design and production capabilities."

PERFORMANCE MONITORING

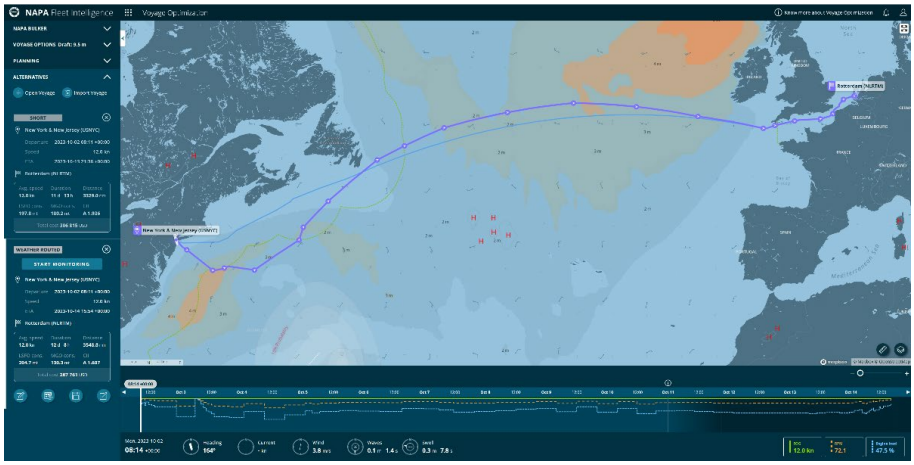
Ta-Ho Maritime Corporation, one of the leading bulk shipping companies in Taiwan, strengthens its commitment to digitalising operations by installing NAPA's performance monitoring, voyage optimisation and navigational risk monitoring on eight vessels. With enhanced fleet monitoring and management, NAPA is supporting Ta-Ho in minimising fuel consumption and emissions.

Under the deal, NAPA, a global provider of maritime software and data services, is delivering its next-generation NAPA Fleet Intelligence software, providing Ta-Ho with a full-picture understanding of its operations, including fleet-wide intel on vessels' locations, past voyages, performance, speed, voyage duration, and fuel consumption. The software has been certified by ClassNK's Innovation Endorsement framework for its function of accurately assessing and optimising performance.

An initial pilot using NAPA Voyage Optimization over two months has already demonstrated a total fuel saving potential of 4.0%. In addition to this, trials showed that a further 2.9% fuel saving was possible by improving vessels' operational profile using recommendations from the platform. At the same time, using navigational risk monitoring allows teams to gain an overview of high-risk areas and map out voyages in line with this to minimise risk and maximise safety.

Furthermore, enhanced data collection and integration allows Ta-Ho's teams to take a proactive approach to fleet management where, for example, insights on a vessel can help optimise maintenance schedules and manage aging. This operational optimisation contributes to enhanced energy efficiency and safety.

Greater intelligence on fleet performance will support decision-making in line with tightening environmental regulations, like the International Maritime Organization's Carbon Intensity Indicator (CII) and the European Union's Emissions Trading System (EU ETS), allowing teams to make better-informed and strategic decisions



SCREENSHOT OF A POTENTIAL ROUTE ON NAPA VOYAGE OPTIMIZATION FOR A BULKER

to minimise their carbon footprint.

Ni Bo, director of sales at NAPA, says: "Digital solutions are empowering the industry to proactively comply with environmental regulations while also meeting operational and commercial goals. With NAPA Fleet Intelligence, teams benefit from seamless data integration across systems to act on multiple fronts, from emissions reductions to stability and emergency response, with greater speed and accuracy."

FENDER TESTING

Trelleborg Marine and Infrastructure has added a state-of-the-art marine fender test facility to its Qingdao manufacturing site in China, specifically built and equipped to verify and test fenders in line with the forthcoming PIANC WG 211 guidelines. Trelleborg has been integral to the development of the new guidelines.

Richard Hepworth, business unit president of Trelleborg Marine and Infrastructure, says: "Until the development of the new guidelines, the marine industry lacked unified standards for marine fender manufacturing, design, testing, and certification. As fender systems play a critical role in port operations, the absence of standards for their manufacturing and design could potentially have far-reaching implications.

"Port operators not only face operational risks, but also sustainability concerns when the replacement of fenders is more frequent than expected. Instead of lasting for 20 years or more, poor quality leads to replacement two or three times within that period. To address this issue, we have been collaborating with PIANC for the past 10 years to reassess design guidelines for fender systems. It is a shared responsibility to ensure the safety and longevity of ports."

Due to be published soon, the PIANC WG 211 guidelines represent best practices that aim to enhance safety and efficiency in port operations by providing comprehensive recommendations for fender design, manufacturing, and testing. They have been drawn up by industry leaders, including Trelleborg, and the update will include stringent requirements for designing fenders with a specific focus on fender testing.

The newly established fender testing facility in Qingdao, which is now in operation, comprises state-of-the-art test presses, enabling Trelleborg to cover all comprehensive and specialized test requirements for marine fenders of varying sizes, evaluating their performance under various load conditions, and simulating real-world scenarios including shear, fatigue, high speed, and shear-compression. In alignment with the upcoming PIANC WG211 guidelines, the entire area, testing, and conditioning will be climate-controlled.

Hepworth concludes: "With the opening of this new testing facility, our overarching aim is to set a new benchmark when it comes to fender quality in the industry, and work together with our customers to design solutions that meet their challenges for today and tomorrow."

The expansion of Trelleborg's manufacturing site in Qingdao, China, highlights the region's importance as a key market for Trelleborg's marine and infrastructure products. It further solidifies the company's commitment to serving the evolving needs of the Chinese market, emphasising the region's significance in Trelleborg's global growth strategy.

TRELLEBORG ADDS FENDER TEST FACILITY TO ITS QINGDAO SITE

FAST CREW BOAT

Singapore-based Truth Maritime Services (TMS) continues to bolster its fleet with the delivery of the latest Generation 4 Fast Crew Boat (FCB) from Strategic Marine, making this the second vessel this year.

This delivery marks a significant milestone in TMS's fleet expansion efforts and underscores the company's commitment to providing cutting-edge maritime solutions and decarbonisation solutions to the Thai market.

This will be the first FCB to offer gyro stabilisation in Thailand which follows from *TMS Ranod*, which was the first crew boat in Thailand to offer hybrid solutions.

This vessel showcases advanced features such as a gyro-stabiliser to enhance her sea-keeping during personnel transit and transfers onto offshore installations in adverse weather conditions. It is also equipped with a hybrid power (+) energy storage system to reduce carbon emissions, features business class comfort, and can efficiently transfer up to 70 offshore workers in business-class comfort, setting new standards in offshore transportation.

EDUCATION PROGRAMME

Korean Register (KR) HD Korea Shipbuilding and Offshore Engineering (HD KSOE), HD Hyundai Heavy Industries (HD HHI) and HD Hyundai Marine Solution have signed a Memorandum of Understanding to develop a ship education and training programme based on extended reality at HD HHI's Digital Convergence Center in Ulsan, South Korea.

The companies have agreed to establish a virtual reality representation of ships based on 360° footage of actual vessels and 3D CAD models. They will also develop ship trial content to enhance crew education and training services utilising this technology.

HD KSOE plans to develop advanced maritime training content in collaboration with HD HHI by integrating its own digital twin solution, HiDTS, with KR's ship familiarisation education and training platform, KR-Real 360.

Kwon Byounghun, executive vice president and head of digital research lab at HD KSOE, says: "Through the realistic ship education and training system developed in this collaborative effort, customers will be able to respond quickly to changes in onboard operating systems, such as digitalisation and decarbonisation."

KIM Daeheon, executive vice president of KR's R&D division comments: "It is meaningful for us to develop a solution applicable to shipyards and shipping companies, leveraging KR's capabilities in XR technology and HD Hyundai's expertise in ship designing and verification. We will further enhance our technical support for customers, enabling the proactive utilisation of the latest digital technologies."

(L-R)HD KWON BYOUNGHUN (EXECUTIVE VICE PRESIDENT AND HEAD OF DIGITAL RESEARCH LAB AT HD KSOE), LIM DAEJUN (EXECUTIVE VICE PRESIDENT OF SHIPBUILDING & OFFSHORE BUSINESS UNIT AT HD HHI, YUN BYEUNGLAG (CHIEF OPERATION OFFICER & EXECUTIVE VICE PRESIDENT OF AFTER MARKET SOLUTION DIVISION AT HD HMS), KIM DAEHEON (EXECUTIVE VICE PRESIDENT OF KR'S R&D DIVISION)

VIVID REALISATION OF A SHIP'S BRIDGE IN KR-REAL360

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GREEN THINKING

There have been a number of investments in UK ports recently, aimed at ensuring that they meet the requirements of the energy transition

The UK's Shadow Chancellor, Rachel Reeves, recently visited the Associated British Ports (ABP) port of Lowestoft where major infrastructure upgrades are underway.

Henrik Pedersen, ABP chief executive, says: "ABP has a proven track record of investment in its ports – around £750m in the past five years. We have before us a very significant and highly ambitious pipeline of major projects. Infrastructure for the green energy transition is a big part of this pipeline, making ABP a key enabler of the UK's net-zero transformation.

"This includes plans in South Wales to invest more than £500m to repurpose the port of Port Talbot to host manufacturing, installation and supply chain activity for the floating offshore wind (FLOW) sector and the Immingham Green Energy Terminal, which should unlock billions of pounds of investment in green hydrogen, ammonia and carbon capture and storage infrastructure."

"We are pleased to have been able to showcase one such investment at Lowestoft to the Shadow Chancellor. The Lowestoft Eastern Energy Facility (LEEF) – which involves the construction of state-of-the-art port infrastructure suitable for operation and maintenance (O&M) activities to support the offshore energy sector and will continue to see Lowestoft grow as a vital offshore energy hub for the region."

A further 500 technical O&M and construction jobs will be created by the construction of LEEF, on top of the jobs that have already been supported through the established O&M bases of ScottishPower Renewables (base for East Anglia ONE windfarm) and SSE Renewables (base for Greater Gabbard windfarm).

During the tour, delegates including Jess Asato, Labour candidate for Lowestoft, visited LEEF, which is due to complete in the second half of 2024, and experienced a tour of ScottishPower Renewables' O&M facility, which is based at the port.

Rachel Reeves said: "It's fantastic to see the investment going into the area that is providing clean energy and good jobs for the future. ABP is a leading business that sits right at the heart of the green energy transition, and I look forward to working further with them and the wider ports sector to ensure we play our part in supporting their work that will deliver benefits for the whole of the UK."

ABP recently welcomed the decision by the Department of Energy Security and Net Zero to advance the Future Port Talbot project to the Primary List phase of the Floating Offshore Wind Manufacturing Investment Scheme (FLOWMIS).

Pedersen said at the time: "ABP is pleased that the UK government is supporting the ambitious plan to transform the port of Port Talbot into a major hub for floating offshore wind and green energy development. The FLOWMIS award, alongside significant ABP investment of more than £500m, will begin to unlock a projected £1bn of investment in Port Talbot and the surrounding area. This will develop a green economic hub supporting and creating nearly 10,000 jobs in South Wales and across the wider UK supply chain."

"Today's decision comes at a crucial time for Port Talbot and South Wales more broadly. The funding announced will help secure the region's future as a hub of next-generation UK industry, providing thousands of jobs in the green economy right across the supply chain."

ABP's Future Port Talbot project would see the port transformed into a major hub for the manufacturing, assembly, and integration of FLOW components for projects in the Celtic Sea. This represents a major growth opportunity for the UK, with the prospect of creating a world-class manufacturing and supply chain hub in Port Talbot as well as providing opportunities for broader green energy and industrial activity, which will serve as a catalyst for wider economic regeneration in the South Wales industrial cluster.

Port Talbot has the scale and technical capabilities to fully unlock the opportunity of FLOW in the Celtic Sea. It will also be able to act as a 'hub' for a wider network of ports across South Wales and the South West.

The Port Talbot investment is part of ABP's sustainability strategy, 'Ready for Tomorrow', launched in 2023. The strategy sets out plans for ABP to invest £2bn into decarbonising its own operations by 2040 as well as supporting large-scale green energy infrastructure and industrial decarbonisation projects. These other projects include major green ammonia / hydrogen and CCS projects in the Humber and offshore wind projects in the Humber and East Anglia amongst others.

MPA BUILDS UK LINKS

A delegation from the Maritime and Port Authority of Singapore (MPA), led by MPA Chief Executive Teo Eng Dih, visited the Port of Southampton recently.

During the meeting, the Port Authorities opened discussions on various areas of potential co-operation regarding sustainable maritime transport in the context of the UK-Singapore Green Economy Framework (UKSGEF). Both sides agreed that co-operation between key like-minded stakeholders across the maritime and port ecosystems of the UK and Singapore would be important to support the decarbonisation, digitalisation and growth of the maritime industry. Further discussions on green and digital shipping co-operation are planned.

Alastair Welch, ABP's regional director for Southampton, says: "It was great to welcome chief executive Teo Eng Dih and his colleagues to the Port of Southampton, the UK's number ne port for deep sea trade. We're committed to driving progress in sustainability, as evidenced by our leading position as the UK's first significant shore-power provider. Partnership between ports and with governments will be key in driving real change and today's discussions between ourselves and MPA set a great foundation for sustainable maritime trade between our two ports."

Eng Dih says: "MPA thanks ABP for its hospitality. There is a strong base of collaboration between the UK and Singapore in maritime. Today's discussion between the Port of Southampton, UK stakeholders and MPA was a good opportunity for us to address common challenges, learn from each other and exchange views on maritime decarbonisation and digitalisation. I look forward to a strong partnership in developing cost-effective solutions for the international shipping community."

BIFA APPOINTMENT

Sam Warren, sustainability manager at Woodland Group, has become the first chairman of the British International Freight Association (BIFA)'s Sustainable Logistics Policy Group.

The trade association that represents UK freight forwarding and logistics companies established this policy group in 2023 to help identify and report on environmental-related issues which are already impacting members' business operations, as well as those that may do so in the future.

Warren was elected at the policy group's meeting held in March, which discussed wider sustainable goals with a strong emphasis on developing pragmatic policies to benefit members.

At the meeting, consideration was given to two EU measures, the Carbon Border Adjustment Mechanism (CBAM) and Emissions Trading Scheme (ETS), which are both having an impact on the UK – the former indirectly, as members are being requested to provide carbon emissions data for moving goods into the EU. The ETS, which is in its infancy, is having an impact on shipping lines, which are incurring additional taxes for emissions generated for maritime movements into the EU from outside the bloc.

Warren says: "Environmental and sustainability issues are not new. Over time, the environmental agenda within freight and logistics has developed. While the focus is often about carbon emissions, there are other wide-ranging generic issues. I am delighted to have been elected as the first chair of what will certainly be a very important policy group."

SAM WARREN (RIGHT) AND MIKE JONES, BIFA'S POLICY ADVISOR - SUSTAINABILITY AND ENVIRONMENT

BIFA education programme

BIFA has established a new collaboration programme with South Hampshire College Group (SHCG) to help develop and deliver courses that make students attractive candidates for roles within the logistics sector.

This is an extension of a campaign the trade association that represents the UK freight forwarding sector started in 2021 to encourage its members to work with schools and colleges to promote careers in logistics, forwarding and supply chain management.

The collaboration will see BIFA and SHCG work together through continuous and structured interaction to engage with the extensive community of BIFA members in the Solent region.

A key objective will be to inform and update BIFA members about the skills courses that SHCG runs that are relevant to the logistics sector; while enabling them to provide input into those courses to ensure students have the essential foundation knowledge they need for a successful career within the industry.

PORT SCOOPS AWARD

A multi-million-pound project to make swathes of land at Port of Sunderland ready for development has scooped a major award.

The completion of enabling works at the port's Trinity – Rail, Road and Sea Enterprise Zone was named 'Medium Project of the Year' at the Institution of Civil Engineers (ICE) North East's annual Robert Stephenson Awards.

The Trinity Enterprise Zone Enabling Works project, also known as Hendon Sidings, was a collaboration between Port of Sunderland, Esh Construction and Mott MacDonald, and was commended by the judges for its innovation, efficiency and community impact.

Completed in April last year, the project represented the final phase of a number of substantive works packages to improve port infrastructure and help attract inward investment to the North Sea hub.

Environmental efficiencies and carbon reduction measures were also considered throughout the project, with

Esh setting up an on-site processing system which saw more than 34,000m^3 of excavated material, segregated, crushed, screened and re-used on site. More than 57 tonnes of hard-to-recycle waste has been diverted from landfill and instead recycled into biomass fuel.

DISRUPTIVE DRAUGHTS

A maritime technology company based in Aberdeen has been awarded funding from Scottish Enterprise to support the development of an app-based version of its breakthrough draught survey technology.

Already a major innovation for the maritime sector, Tymor Marine's DRFT MRKS software uses artificial intelligence with deep learning applied to video capture to provide an accurate measurement of the weight and load of a vessel.

Accurate draught readings are essential for ensuring a vessel's stability – determining how much cargo it is carrying and what depths it can safely navigate.

The grant funding from Scottish Enterprise will allow Tymor's team to build on the operational capabilities of the DRFT MRKS software, refining the technology into a highly portable and commercially viable mobile phone app without the need for cloud-based processing.

Since the time of Archimedes, mariners have conducted draught surveys – a means of determining the weight of a vessel and its cargo – by eye, but environmental variables and human error make it an inexact science.

A misreading of the draught by just a centimetre could result in legal claims for apparent – but illusory – shortages of cargo.

Reading draught marks also comes with inherent health and safety risks for the mariners who conduct the survey. It requires getting close to the hull of a vessel or the underside of a floating structure, usually in a small boat.

Tymor Marine originally developed DRFT MRKS to help its in-house naval services team overcome the inherent challenges of conducting draught surveys. The firm was later supported by Scotland's innovation centre CENSIS and the University of Edinburgh to optimise the deep learning functionality of the software.

Using cutting edge AI capability, the breakthrough DRFT MRKS tech helps to mitigate human error and challenging factors such as faded or rusted markings, poor lighting, marine growth, bad weather and the swell of the waves. The video capture can be collected at a safer distance from the vessel, either by a mariner using a handheld device on a boat, or by drone.

Now the firm says that an app version of their software would have enormous industry potential. Managing director at Tymor Marine, Kevin Moran, says: "In the next two decades the digitalisation of operations will drive more changes in the maritime sector than we have seen in the last century. Disruptive product-led innovations like DRFT MRKS will transform the mariner experience, contributing to a safer, more efficient experience at sea.

"The funding from Scottish Enterprise is fantastic because it will allow our developers to refine our software, reducing its processing requirements so that it can be used within a smartphone app. The funding will help us to accelerate time to market with a new technology that is scalable, secure, reliable, and portable."

NEWPORT DEVELOPMENTS

Ambitious plans are afoot for the Port of Newport, to support a new era of green growth for the port and the city of Newport.

Plans for the port include a focus on harnessing wind and solar sources, linked to hydrogen electrolysis and e-fuels manufacturing plants. It is hoped that these facilities, along with carbon capture and heat networks, will underpin next-generation manufacturing and logistics, attracting a new cluster of businesses looking to future-proof their operations.

Development at the Port will also be connected to the rail network and marine logistics, with the ambition of hundreds of highly productive jobs created at the resulting Newport clean growth hub. This will create benefits right across the city and beyond.

While the plan includes innovations to support businesses to future-proof and meet net-zero targets, the classic port role will remain. ABP will also be investing in reconfigured access, new cargo-handling equipment, high-efficiency warehousing and ready-to-go development sites, and all with cutting-edge IT.

Ashley Curnow, divisional port manager, ABP, comments: "This masterplan is a bold step towards a sustainable future. The masterplan foresees a decade-long investment boom, which will help provide superb service to customers, as well as delivering ABP's commitment, as set out in our sustainability strategy – *Ready for Tomorrow* – to get our own operations to net zero by 2040."

The masterplan outlines three main objectives to create:

1. A thriving, decarbonised industrial logistics port
2. A clean growth hub
3. Well-being for current and future generations.

PLYMOUTH PROGRAMME

The commencement of the first phase of works at Millbay Docks is underway, within the Port of Plymouth, which signifies the first works funded by the UK sovernment as part of the Plymouth and South Devon Freeport seed capital programme.

This work signals the latest phase in a series of strategic infrastructure developments ABP is making at Millbay, which will help secure the long-term future of the ferry terminal, strengthen the port's freight capability, increase the ports green credentials, and grow the offering to the cruise market.

Specifically, the works that have now started are related to the reconstruction of the West Wharf, which is a critical element in the broader infrastructure enhancement initiative.

Work started earlier this year when Teignmouth Maritime Services (TMS)

received the delivery of piles to reinforce the West Wharf and increase the existing load capacity. This will help to increase the port's ability to handle general cargo and containers over the berth, as well as to support a state-of-the-art passenger boarding bridge for the ferry and cruise market.

The result of the former will improve connectivity for businesses operating within the freeport in the future who will need easy access to the sea for importing raw materials and components and exporting finished products. The latter will help to improve the ferry and cruise servicing facilities and passenger experience.

Council leader Tudor Evans says: "Millbay Docks is a crucial port gateway for the Freeport and it's a real milestone to be seeing the first wave of Freeport funding on one of the city's most important assets start to become a reality.

"This work, which is supported by seed funding, will support the city's ambition to increase global trade. It is a massive boost to the local economy and will help kick-start improvements we have all wanted to see for a long time."

Jacob Young MP, Minister for Levelling Up, Housing and Communities, says: "The start of this development, made possible by government funding for Plymouth and South Devon Freeport, marks a significant milestone in our efforts to level up and create opportunities for people living in port areas.

"This project will enhance connectivity for businesses importing and exporting within the Freeport, and boost trade and long-term economic prosperity for Plymouth and its surrounding areas.

"The fact local contractors are undertaking the work also shows our commitment to creating more local jobs - exactly what the freeports programme strives to achieve."

ECO ENGINEERING MILESTONE

Dublin Port Company (DPC), in collaboration with University College Dublin (UCD), has announced a groundbreaking initiative aimed at enhancing biodiversity along the Great South Wall. This project marks a significant milestone in the realm of eco-engineering, setting a new standard for sustainability and environmental stewardship.

Artificial structures such as seawalls and rock armour have long served as crucial protective measures for ports, harbours, and marinas worldwide. However, conventional man-made structures often lack the biodiversity found in natural rocky shores, presenting challenges for marine ecosystems. Recognising this gap, UCD researchers partnered with Dublin Port Company to pioneer a solution that merges ecological principles with engineering expertise.

At the heart of this initiative lies the deployment of large habitat units along the Great South Wall, a strategic location chosen for its potential to foster marine life. The utilisation of a natural topography design sourced from a shoreline in Ringaskiddy, Co Cork on habitat units of this size distinguishes these as a world-first in eco-engineering.

The design of these habitat units draws from a comprehensive study conducted as part of the Ecostructure project, in which Dublin Port played a pivotal role on the stakeholder steering committee. The study encompassed 32 natural rocky shores and 32 artificial shoreline sites across Ireland and Wales, evaluating both biological diversity and physical topography. Leveraging advanced techniques such as photogrammetry, the project team crafted 3D models to inform the development of engineering-standard habitat units and wall panels.

Crucially, these habitat units integrate natural topography into eco-friendly concrete, reducing carbon footprint while maximising biodiversity potential. Collaborating with industry partners CubEX and MODULAR Cubed, the project exemplifies a synergy between academic research and practical application.

Over the next two years, UCD researchers will conduct comprehensive monitoring to assess the efficacy of these habitat units in enhancing marine biodiversity. By studying a diverse array of species, including invertebrates and fish, the project aims to unlock valuable insights into the benefits of large-scale eco-engineering approaches.

At nearly 5km long, the Great South Wall was the longest seawall in the world when it was completed in 1795 after construction began in the 1720s. Although that title has since been taken by a seawall in South Korea, the Great South Wall remains one of the longest in Europe.

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