BULK TERMINALS *international*

AUTUMN 2023

THE OFFICIAL MAGAZINE OF THE ASSOCIATION OF BULK TERMINAL OPERATORS

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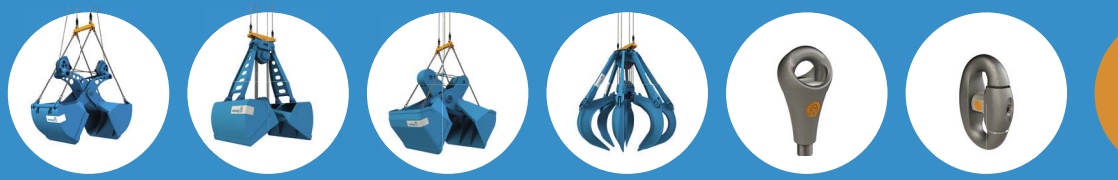

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CHALLENGES AND CHANGES

BY SANDRA SPEARES

From environmental to safety, the industry faces unprecedented concerns, which will come under the spotlight at the forthcoming Bulk Terminals Lisbon conference

It is perhaps not surprising that in this post covid-19 period – setting aside re-emergence of the virus in new strains – that ports are feeling the effect of the changes in performance following the bottlenecks and restrictions of the past few years.

There are plenty of statistics out there to support the view that while sorting out supply problems and dealing with crewing shortages have become less of an issue, growth in deadweight demand is not expanding that quickly.

As has proved the case in other economic storms in the past, the industry will have to take care not to overreact by ordering massive amounts of new tonnage just because it can. Some analysts suggest that while growth in trade is positive for the year, this does not mean that demand is soaring as well. Other analysts point to good spot market rates on certain trades, while owners are hanging back because they fear demand will slacken, leaving them in an invidious position.

Those in the industry face new regulations – like ballast water rules, the next phase of which come in next year – but also the need to meet environmental targets going forward. It remains to be seen whether the maritime industries will plunge into the fray in the usual way, without stopping to consider the consequences.

It is evident from some ports' approach to ordering new equipment, that they are aware that coming up with eco-friendly solutions to existing issues must be part of the mix. Not only must the new equipment be required to perform faster and more efficiently – to save money – but also in a cleaner way to ensure that ports and their suppliers do not become the central blot on the landscape as far as the environmental lobby is concerned.

> The industry will have to take care not to overreact by ordering massive amounts of new tonnage just because it can

Aside from new challenges, therefore, the industry continues to face old ones – or ones that any amount of effort seems to fail to resolve. One such challenge is that of enclosed space dangers – which has long been a source of concern to anyone who has faced those risks, or who knows somebody who has. Transport of certain kinds of cargo also continues to be of concern, not only because of potential dangers, but also because of worries over the environmental impact of getting it wrong.

There have been a number of new studies on bulk handling in ports in recent months and a number of warnings of the challenges that ports face.

There were certainly plenty of issues for discussion at the Bulk Terminals Lisbon conference this month, where a number of companies were giving details of how they are tackling emissions and safety. We look forward to sharing some of the insights with you going forward.

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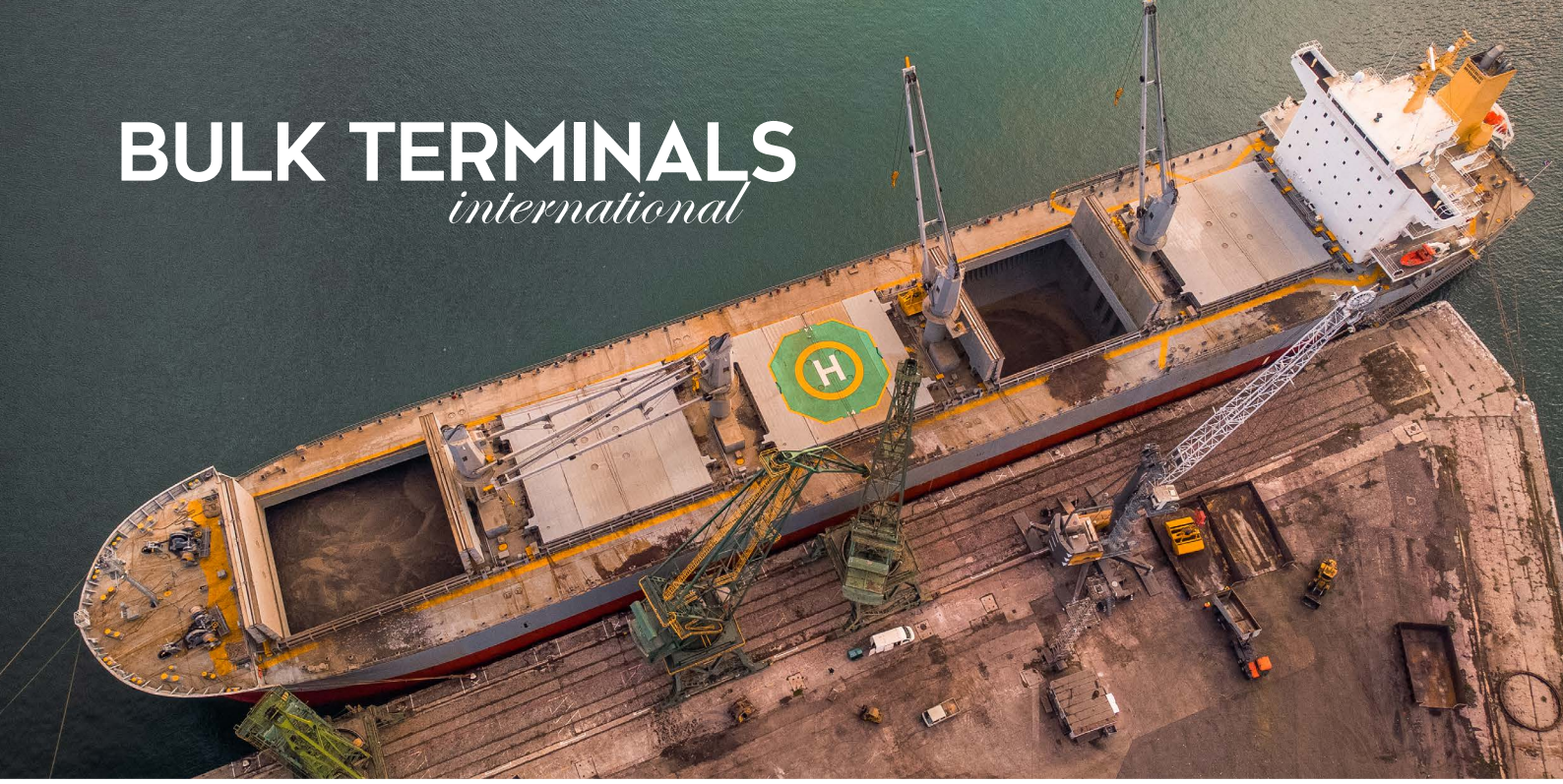

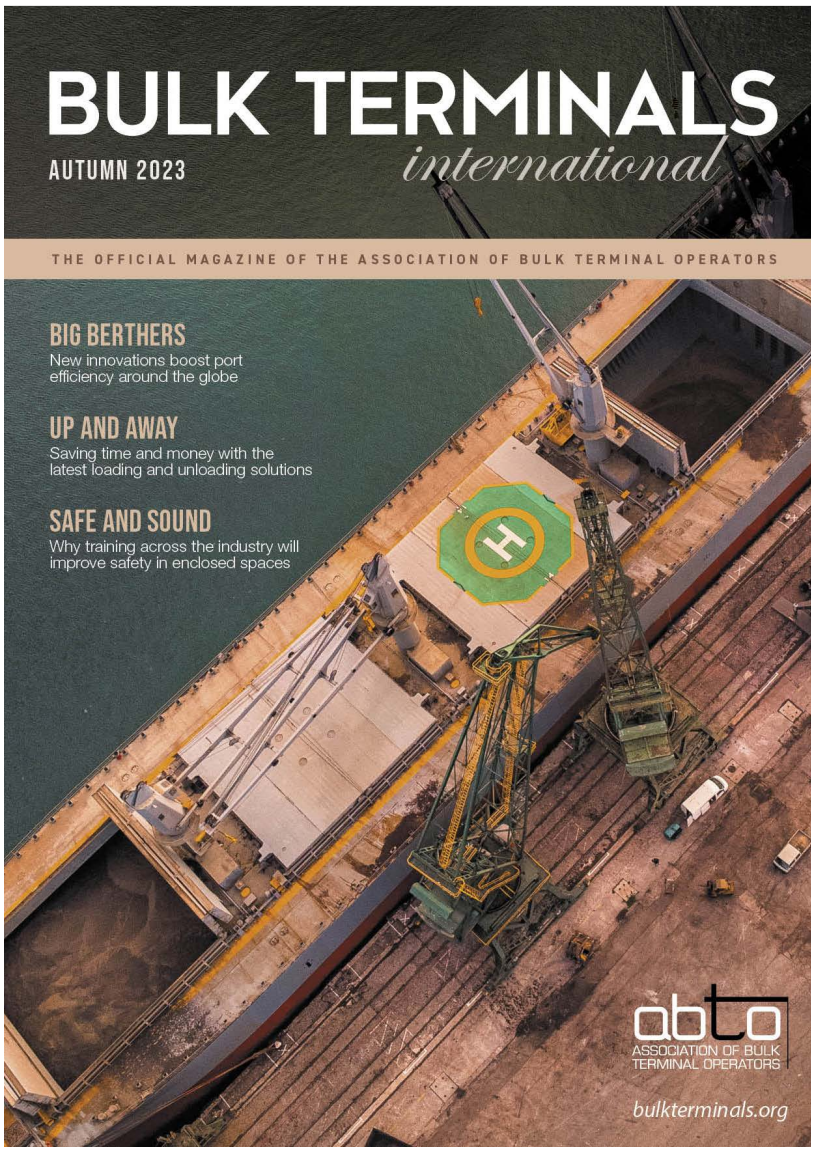

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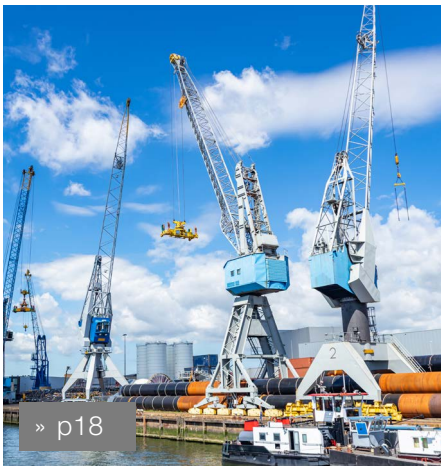
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SIGNS OF THE TIMES

BY SIMON GUTTERIDGE

In a constantly changing industry, the Bulk Terminals Lisbon conference, included some well timed sessions on some extremely topical subjects

The Bulk Terminals Lisbon conference, included sessions on markets, operations – including digitalisation and cyber threats – environment matters and safety and risk. The conference theme of "The Changing Patterns of International Trade" certainly ran through the opening markets session of the conference, given the likely impact on grain markets of developments in the naval war in the Black Sea.

At the time of going to press for the summer edition of *Bulk Terminals International*, the Black Sea Grain Initiative deal brokered by the UN and the Turkish government had expired. Certainly, in the short term, it was not going to be renewed. Putin halted the grain deal after Russia's bridge to Crimea was struck – although denying this was the reason for suspending it, citing a failure to meet demands for a parallel agreement on its food and fertiliser exports. The question was whether in the medium term it would be renewed. That has proved to be a false hope.

Most observers, including myself in the summer edition of *Bulk Terminals International*, predicted that a failure to strike a new deal would lead to global food shortages, causing catastrophic consequences for countries already on the edge of famine.

After all, within days of Russia's invasion, wheat prices shot up, all but doubling due to Russia's blockade of Ukraine's Black Sea ports. Similarly, maize prices reached the highest point in 10 years. Markets also expected that war and particularly the predicted Western sanctions on Russia would stop – or at least reduce – Russian grain exports.

It is pleasant sometimes – and certainly in this case – to be proved wrong.

Wheat prices are actually less now than when the war began. They in fact fell back to pre-invasion levels in the summer of 2022. In retrospect, the Turkish and UN brokered grain deal had less to do with this than two other factors. The first of these was the bumper crops Russia, India and Brazil enjoyed. The second was that to protect food supplies and countries at risk of famine, Western sanctions against Russia did not apply to agricultural exports – and Russia harvested a record breaking 100m tonnes of wheat in 2022.

The picture this year looks pretty much the same as it did last year. Ukraine may be harvesting less than before the war, but it cannot export as much as it could do on account of Russia's refusal to renew the grain deal. However, the other grain exporting countries (including Russia) are enjoying good growing conditions and big harvests.

Of course, that is good news for everyone except Ukraine.

In the summer edition of *Bulk Terminals International*, I reported on the other alternatives Ukraine had to the Black Sea ports: overland, by rail and via the Danube ports. None of these provide a complete solution to the loss of the grain deal.

Now Ukraine is banking on a new sea corridor in and out of Odesa, which it announced in August to provide a new

lifeline for its beleaguered economy, including grain exports.

This new route hugs the Ukrainian coastline running to the west of Snake Island until it reaches Romanian waters. Once it reaches the Romanian border, it is assumed Russia would be reluctant to attack ships inside the territorial waters of a NATO member.

Ukraine is also banking on Russia being unwilling to attack ships sailing under neutral flags, with the threat of retaliation if she does. Despite Russian threats, at the time of going to press at least 10 grain ships have transited this route.

How credible is this threat of retaliation against Russian ships if the civilian ships using the coastal passage are attacked? In truth the indicators that the threat of retaliation against Russian civilian shipping might be credible, have actually been there from quite early on in the war

Ukraine has always had the strategic objective of trying to deny Russia command of the Black Sea and so regain control of vital shipping routes. With the attention of the world on the land battle, the naval war (even if it has not been exactly ignored) has not enjoyed quite the same focus. Ukrainian successes have of course been reported, but maybe their implications not fully appreciated.

As early as April 2022, a Ukrainian home-made Neptune cruise missile sank the *Moskva*, flagship of Russia's Black Sea Fleet. To date, they have now successfully hit 19 Russian ships, sinking many. The sinking of the *Moskva* and the other successes – remarkable for a country without a single warship – together with the attacks on Sevastopol (where Russian ships were based) with naval drones, missiles and artillery has denied Russia command of the Black Sea. At the beginning of the war, Russian warships were able to operate close to Odesa. Now they largely stay away from the North West of the Black Sea and warships have been relocated from Sevastopol in the Crimea to Novorossiysk in the North East to keep them safe (or at least safer) from Ukrainian attack.

Despite Ukrainian successes in the naval war, shipping transiting the coastal route is still vulnerable to missile attack, or mines (although the water is quite shallow, which limits the effectiveness of mines as a threat). Insurance premiums are already rising as a result of missile strikes on Ukrainian ports.

Despite threats, Russia may be put off upping the ante and attacking civilian shipping on the coastal route by the demonstrated capability of the Ukrainians to hit their navy. Civilian ships present a much easier target.

Russia would have much to lose by such an escalation. Ukraine would not have to sink all civilian vessels sailing to and from Russian ports to send insurance premiums through the roof. Russia might offset this to some extent by offering cover. But even with cover in place, would owners and crews still be willing to take the risk?

Up until now, the 80% of Russian grain that is shipped through her Black Sea ports has been largely unaffected by the war. Similarly, the 20% of Russian oil exports. Crude oil (but not refined products) could be divested through pipelines to Baltic ports. But Russian military forces in Syria depend on fuel (and other supplies) shipped from Black Sea ports. These shipments would doubtless be targeted by Ukraine if Russia attacks her civilian shipping.

It hardly needs to be said that an escalation that brought civilian shipping from both sides into the firing line would send grain prices soaring – as was discussed at Bulk Terminals Lisbon, which heard a presentation "Grain markets 20 months on from the conflict in Ukraine", delivered by João Roda, country lead for agribusiness company Bunge Iberica Portugal.

The other unknown at the time of our last edition was the findings of the UK Marine Accident Investigation Branch (MAIB) report into the fatalities of three stevedores on the Isle-of-Man-registered *Berge Mawson* bulk carrier while loading coal at Bunyu anchorage in Indonesia. The MIAB report was due to be published in June. An interim report was published in August (see tinyurl.com/BTI-MIABReport). At the time of going to press we are still waiting for the full version. The "Factual Information" heading consisted of a bare 479-word report of the incident. The interim report states under the heading of "Ongoing Action" that "The MAIB investigation is complete and a draft of the report is being prepared and will be distributed to stakeholders for a 30-day consultation period in due course." A 30-day consultation period strikes me as inadequate, to say the least.

Earlier this year, a number of interested parties were told at a meeting held at the MIAB offices that after publication of the report, industry would be canvassed to determine what safeguards can be brought in to prevent such a tragedy from re-occurring. Garry O'Malley, operations director, Teesworks and chairman of the ABTO Technical Committee, and Richard Steele, head of the International Cargo Handling Coordination Association (ICHCA), were present at the meeting (in 2019 ABTO and ICHCA International signed a Memorandum of Understanding to co-operate on safety, among other things).

To involve industry in finding practical solutions that would actually work struck them as a highly positive development. I would be surprised if that did not also reflect the views of the representatives of other organisations that were present, including Intercargo.

So, to expect a group of senior industry experts to come together, whether online or in person, and hammer out working proposals in 30 days is probably for the birds.

Be that as it may be, we kick started this process at Bulk Terminals Lisbon. Garry O'Malley moderated a panel including Richard Steele; Professor Mike Bradley, director of the Wolfson Centre; Dorota Jilli, senior underwriter at the TT Club, Captain Kuba Szymanski, secretary general of InterManager and Yücel Yildiz, an assistant director at RightShip. I hope you enjoy the autumn edition of *Bulk Terminals International* and it was a pleasure to see many old friends and new in Lisbon.

Simon Gutteridge
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WORLD NEWS ROUND-UP

There have been a number of new studies on bulk handling in ports over recent months – and a number of warnings about the challenges that they face

The unwinding of supply chain inefficiencies and rising vessel orders are set to dampen positive deadweight demand in the dry bulk market, according to Maritime Strategies International (MSI).

Covid-19-related supply chain inefficiencies and associated port congestion have almost fully unwound and while the MSI outlook on the prospects for trade volumes this year is considered positive, growth in actual dwt demand is limited to only 0.25% year on year.

PLAMEN NATZKOFF: REMOVAL OF TECHNICAL SUPPORTS TO FLEET PRODUCTIVITY COMES AS A RISE IN NEWBUILD CONTRACTING POSES AN INCREASED THREAT TO POSITIVE MARKET BALANCES

MSI's Q3 Dry Bulk market report notes that while this quarter's demand forecasts for 2023 is higher by 1m dwt, its fleet supply estimates climb by 2.2m dwt, leading to slight downward revisions in utilisation rates and earnings.

In line with MSI's forecast for the relative strength in trade volumes to continue into next year, it expects vessel demand to increase by 14m dwt in 2024. This represents an increase of 7.3m dwt in required tonnage from the previous MSI Base Case forecast and reflects the higher trade volumes anticipated as an expected eventual recovery in both China's and Europe's industrial activity comes to fruition.

However, the impact on the market will be muted as MSI raises its forecast for available fleet supply by 14m dwt year-on-year on the back of increased contracting and lower-than-expected scrapping activity.

The improved outlook expected over the medium term in MSI's Base Case is also underpinned by a low orderbook and relatively low contracting activity, both of which are now coming under threat.

Contracting for new vessels picked up in Q2 2023 as owners continued to upgrade their fleets with modern tonnage in anticipation of increasingly stringent environmental regulations ahead. Newbuilding orders totalled 6.5m dwt in Q2 2023, bringing total contracting in the first half of 2023 to an aggregate 14.1m dwt.

"Given the positive direction of trade volumes in 2023, owners could be excused for feeling disappointed in the evolution of the freight market, where vessel earnings have languished," says Plamen Natzkoff, associate director, dry bulk commodities, MSI. "With trade volumes forecast to expand, the fact that freight rates have not responded accordingly is highly instructive to the state of underlying market balances."

TURBULENT SEAS

Opening September's International Union of Marine Insurance (IUMI) annual conference in Edinburgh, Scotland, President Frédéric Denèfle expanded and explained the conference common theme of "strength and stability in turbulent seas".

Discussing current turbulence, he began by setting out what is essentially "business as usual" for marine underwriters. He said: "As marine underwriters, we are used to managing an array of casualties and losses onboard

a variety of vessels and in ports and other shoreside facilities. Dealing with the fall-out from natural catastrophes such as earthquakes and weather events are also workaday issues. Similarly, operating among geopolitical chaos is an ongoing problem we face but this has been exacerbated recently with the war in Ukraine."

"Marine insurers actively supported the creation of the original grain corridor to ensure that Ukrainian exports could still continue. Now that agreement has broken down, marine insurers are in discussions with the Ukrainian government to provide cover for the vessels moving Ukrainian cargoes."

Continuing the theme of turbulence, Denèfle explained how fragmentation was also causing headaches. From a trade perspective, covid-19 had highlighted a range of strategic dependencies, it had led to a general reduction in global demand and had encouraged a relocation of activity closer to the consumer.

On the legal side, shipping and insurance was being targeted with increased sanctions, as well as local green regulations where, for example, some jurisdictions will not register vessels above a certain age. As the unified spokesperson for marine insurers, IUMI has liaised with various authorities and regulators to support both the industry and underwriters.

A consequence of inflation, caused by covid-19 and the war in Ukraine was already manifesting itself in the increased cost of claims, the requirement to take on more risk as asset values increase, and a related need for more capacity in the market. Added to this, a general technology shift in terms of clean energy, clean propulsion and autonomous vessels was creating more "turbulence". However, all new technologies and climate change reduction measures are welcomed by IUMI, which stands ready to act as an enabler to their introduction.

Although the marine insurance market was in a state of flux, Denèfle was confident in its ability to cope. "As the world's oldest insurance business, our sector has demonstrated its ability to flex to new needs and conditions, both market and macro-economic. I foresee a return to dedicated, experienced teams; a heightened reliance on intelligence and data systems to anticipate the consequences of geopolitical uncertainty; the emergence of local teams underwriting local business in their own areas to challenge fragmentation; an adjustment of market capacities and pricing to fight inflation pressures; and the creation of specialist teams to fully understand the implications of new technologies. Of course, much of this is already happening."

BULK CARRIER DANGERS

Cargo liquefaction still remains the greatest contributor to loss of life associated with bulk carrier losses, while grounding remains the main cause of ship losses, according to the recently published *Bulk Carrier Casualty Report 2013-2022* from Intercargo.

The report provides 10-year information on bulk carrier casualty statistics, looking at trends in casualties in terms of

both loss of life and loss of ships, drilling down into the size and age of vessels as well as Flag State performance.

While the report shows a clear trend of improved safety and declining ship losses at a time of fleet growth, it also shows that major incidents involving loss of life are still occurring and the industry must examine why they are still happening – there is no room for complacency.

Operations manager Xianyong Zhou, says: "As the voice of global dry bulk shipping, Intercargo is determined to help lead the response to these events. While the report highlights that improvements are being made in safety, there is still clearly more to do to make shipping safer. We must continue to learn how we can best protect the lives of seafarers as well as the vessels and their cargo from damage and loss."

The report highlights that between 2013 and 2022, 26 bulk carriers of more than 10,000dwt were reported lost, with the tragic loss of 104 seafarers' lives.

Statistics for 2022 alone show the loss of two bulk carriers, one due to a collision and the other from losing power and sinking in rough seas, with a loss of 12 seafarers from these incidents.

The rolling report also highlights that four of the five bulk carrier casualties, which led to the loss of 70 lives, occurred as a result of cargo liquefaction; four were loaded with nickel ore and one with bauxite.

In terms of ship losses, grounding was the most common reported cause between 2013 and 2022, accounting for 12 bulk carriers lost (46.2%), with various other causes including problems with machinery and equipment.

Learning lessons from incidents and casualties and the sharing of experience have proven to be effective in raising safety awareness and, in addition to the submission of the Intercargo *Bulk Carrier Casualty Report* to the International Maritime Organization (IMO) every year since 1996, the association has made its voice heard on a number of safety issues at IMO through papers and interventions.

Download the report for free at: tinyurl.com/BTICasualtyReport

TT WARNS ON SPACES

International freight transport insurer TT Club is seeking to draw attention to the life-threatening hazards caused by enclosed and confined spaces prevalent throughout the global supply chain. Toxic gases produced by some cargoes as well as leakages, residual fumigants and other causes of a reduced oxygen environment are the chief problems, with 60% of fatalities suffered by would-be rescuers.

Confined or enclosed spaces are common in the supply chain industry. Such spaces exist across all freight modalities; from tank containers to cargo hold stairwells and holds, to road tankers and sealed cargo units. A lack of understanding of the danger present may have fatal consequences.

Without sufficient oxygen, the human body starts to shut down very quickly. Any rescue operations are therefore time critical. The primary cause of reduced oxygen levels is the increased presence of other gases, such as carbon dioxide. This may arise from rusting of the ship's structure or metal cargoes, oxidation of cargoes such as coal or the decomposition of biodegradable cargoes, for example fish meal, logs, bark, or wood pellets. All these lead to carbon dioxide – and potentially other gases – being released, simultaneously depleting the oxygen.

Other associated hazards include flammable or toxic vapours from leaking cargoes or leaking pipes or hoses.

Peregrine Storrs-Fox, risk management director at TT explains that a lack of awareness of these, often hidden dangers is surprisingly high. "The key risk is that workers may not readily recognise spaces that could present danger," he states. "The cargo hold of a ship is a leading example, but containers and other cargo transport units pose similar risks; there may be a lack of knowledge of the cargo packed or whether fumigants have been used. Similarly, tanks units, whether a road barrel or tank container, certainly qualify as enclosed spaces."

The speed with which the effects of oxygen depletion can become debilitating require thorough and regular communication to ensure that operatives understand the risks. When entering a lethal space there are no obvious red flags. In terms of symptoms there are no warning signs such as coughing or feeling breathless or nauseous. An individual can pass out without having the opportunity to raise an alarm or escape.

The quick onset and catastrophic nature of these symptoms often leads to others rushing to the aid of the casualty, unaware of the reason for their collapse. Statistically, more than 60% of fatalities connected to confined and enclosed spaces are suffered by would-be rescuers.

"The silent and invisible nature of this killer emphasises the importance of raising awareness of the risk," stresses Storrs-Fox.

"Developing and undertaking drills to practice rescues are crucial steps in mitigating the risks, as are a number of other strategies including risk assessments of working in potentially hazardous spaces, discouraging short cuts in work practices and testing, monitoring and venting air in confined areas."

RAIL ARRIVAL RECORD

The arrival of 36 rail wagons packed with alloy metals marked a 306-year record for Port of Sunderland in September.

Arriving on to the Port's multimodal site on 15 September, the 585m long DB Cargo UK freight train became the longest to transit the port in its three-century history.

Carrying just under 2,000 tonnes of metal, the delivery was the latest in an established cargo flow transporting goods to the port on behalf of a client in the North East.

Since the 2014 restitution by Network Rail of its operational infrastructure connecting the Port to the national rail network, rail freight volumes have slowly re-established themselves thanks to increased partnership working between the port, Network Rail and the freight operating company, DB Cargo UK.

This collaboration has provided a major boost to the port's multimodal credentials, allowing it to maximise

the advantage of longer and heavy rail consignments.

Matthew Hunt, director at Port of Sunderland, says: "Seeing rail freight flows utilising our multimodal facility for regular, scheduled flows is most welcome.

"Since the return of rail cargo to the port, we have worked tirelessly to promote our multi-modal capabilities and demonstrate the sustainable efficiencies in supply chains that working with the port can provide and this is a marvellous example of this.

"It really is industry collaborative working at its best, helping to sustain the supply of a vital feeds stock commodity to one of the port's valued customers, creating a real positive economic impact and we're proud to be playing a part in helping enable that. Long may it continue."

ALL CHANGE

Dry bulk ports and terminals are in a state of constant change, explains Lukas Paul, head of ports and terminals at Beumer Group.

The materials they handle change and so, too, do the quantities. Operators are constantly having to adapt to new requirements. They want to automate their activities as much as possible while also remaining flexible. They need more space for future expansions, and they are constantly facing the challenge of adapting their facilities to the increasing throughput, while at the same time paying ever more attention to avoiding dust emissions and improving their CO_2 footprint.

"Ports are faced with the challenge of increasing their performance," explains Lukas Paul, head of ports and terminals at Beumer Group. To remain competitive, operators must constantly expand their terminals. "That is just one of the challenges. It is necessary to ensure economically viable and environmentally responsible operation and, first and foremost, cost efficiency."

The ability to load ships quickly is a decisive productivity factor. It is important to adapt the technology implemented in ports to the local space constraints and the size of the vessels – as well as to take account of the characteristics of the transported material.

When it comes to dry bulk handling equipment, Beumer Group supports operators – starting with every aspect of conveyor technology and through to the loading of the ships.

METHANE PROJECT

Major maritime industry players have come together in a collaborative effort to implement Daphne Technology's groundbreaking SlipPure methane abatement solution on to the Angelicoussis Group's liquefied natural gas (LNG) carrier *Maran Gas Chios*.

With Daphne Technology as the technology provider, the project involves the integration of their innovative SlipPure system on to an LNG carrier, signifying a significant pilot initiative.

Key players within the maritime industry, including Lloyd's Register (LR) as the independent auditor, Maran Gas Maritime as the ship operator, Wärtsilä as the engine provider, Shell International Trading and Shipping Company in the role of charterer of the vessel and project co-ordinator, and DNV providing the relevant class approvals for the retrofit, have embarked on this joint endeavour to reduce methane emissions.

Daphne Technology's SlipPure solution, which was last year awarded approval in principle from LR and DNV, is an after-treatment system that reduces methane emissions of LNG-fuelled engines, so-called methane slip. Methane slip results in increased greenhouse gas (GHG) emissions and ground-level ozone.

Methane slip has been significantly reduced in modern engines thanks to continuous development of combustion technologies, but remains a challenge in LNG-powered vessels using older engine technologies. Daphne's SlipPure technology allows for the further abatement of methane in exhaust gas to negligible levels and is complementary to Wärtsilä technologies and developments.

This trial, which will see Daphne Technology's system retrofitted to one of the Wärtsilä 34DF auxiliary engines on board the LNG carrier *Maran Gas Chios*, will facilitate the technical assessment and system feasibility analysis on SlipPure technology, supporting maritime stakeholders involved in the gas sector to de-risk their assets. For the SlipPure solution, HAZID and HAZOP workshops have been completed by LR as part of LR's Risk-Based Certification process.

Daphne Technology's PureMetrics solution will also be installed onboard the *Maran Gas Chios* throughout the trial period, and LR will handle the dissemination of the data as an independent third-party verifier.

PureMetrics is an advanced system that directly measures and reports real-time GHG emissions, eliminating the reliance on fuel consumption estimates and ensuring compliance with European Union Monitoring, Reporting and Verification (EU MRV) and International Maritime Organisation Data Collection System (IMO DCS) regulations. PureMetricswas awarded approval in principle from LR in June 2023 at Nor-Shipping.

EXPLORING OPPORTUNITIES

Maritime clean technology company Silverstream Technologies and Chinese shipyard group COSCO Shipping Heavy Industry (CHI) have signed a high-level memorandum of understanding (MoU), which will explore opportunities to install the Silverstream System in CHI shipyards.

The MoU will foster a deeper level of collaboration between the two organisations and will enable Silverstream to assess how its technology could be licensed to fit within CHI's technology portfolio. The agreement will also enable Silverstream to investigate additional options for the fabrication and supply of components of the Silverstream System in China and the Asia-Pacific region, and it directly supports the company's strategy of direct engagement with Chinese shipyards.

CHI is headquartered in Shanghai and operates nine shipyards – four for newbuilds and five for ship repairs. It ranks second in China for newbuild market share volumes and equal first in the repair/retrofits market. CHI operates yards for shipowners based around the world, including for its several sister COSCO Shipping companies.

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.

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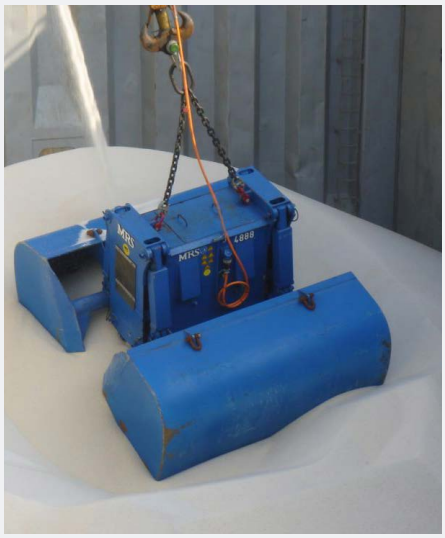


CARGO TANK COLLABORATION

KR (Korean Register) has granted an Approval In Principle (AIP) for a liquefied carbon dioxide (LCO_2) cargo tank design, developed by Hyundai Mipo Dockyard (HMD) and HD Korea Shipbuilding and Offshore Engineering (HD KSOE)i.

This AIP is the outcome of a successful collaborative joint project involving KR, HMD and HD KSOE. HMD designed the cargo tank, HD KSOE conducted an engineering critical assessment (ECA), and KR ensured the design's suitability by reviewing classification rules and international regulations.

The development of the LCO_2 cargo tank underscores the commitment of these three companies to reduce carbon emissions, aligning with the global push for carbon neutrality and a sustainable future. Notably, the demand for LCO_2 carriers is projected to rise, as carbon capture, utilisation and storage (CCUS) technologies are poised to play a pivotal role in reducing global carbon dioxide emissions.

To liquefy carbon dioxide for efficient mass transportation, it is essential to maintain low temperatures and high pressures. Achieving economical transportation hinges on considering the triple point of carbon dioxide, where the temperature and pressure allow the three phases of gas, liquid, and solid to coexist in equilibrium.

Special attention must be devoted to preventing carbon dioxide from undergoing phase changes during operation. Consequently, designing cargo tanks necessitates advanced technology and expertise.

The newly developed LCO_2 cargo tank design incorporates an independent IMO Type-C tank to maintain the triple point of carbon dioxide. The structural safety of the cargo tank was further verified by applying the ECA evaluation technique. Moreover, its design enables the loading of a larger cargo capacity compared to existing vessels of similar size, promising even more cost-effective operations.

KIM Yeontae, executive vice president of KR's Technical Devision, comments: "Through this AIP, we have laid an important foundation for commercialising the ECA evaluation method and the construction technology for LCO_2 cargo tanks. KR will work to support the development of CCUS-related technology as well as other decarbonisation response technologies."

Representatives of HMD and HD KSOE say: "The newly developed LCO_2 cargo tank is proof of our efforts to reduce carbon emissions at this time of transition towards decarbonisation, and the essence of our eco-friendly technology and expertise."

CHINA TRADE TURNS TIDE

After a year of plunging ocean freight rates, carriers appear to have turned the tide on the key China to US West Coast trade, driving up spot rates by 73% since the end of June.

In a blow to shippers, many of whom have been reluctant to sign new contracts in an atmosphere of uncertain US consumer demand, long-term rates appear to be following suit.

The latest market data from Oslo's Xeneta shows that contracted rates on the corridor are also on a firm upward trajectory, having climbed 25% since the lows of June.

Xeneta's data, crowd sourced from leading shippers worldwide, has painted a bleak picture for carriers over the course of the past year, with nosediving spot rates and long-term contracted prices slumping by over 60% since last summer.

However, as Peter Sand, chief analyst at Xeneta, explains, a group effort by carriers to regain a sense of control appears to be paying dividends.

"Capacity management is king when it comes to controlling rates and, faced with weak demand and a surplus of vessels, it was clear to carriers that something had to be done," he says.

"What we've seen in response to that are some very bold, united moves from the industry that, it seems, are succeeding in turning the tables. In the second quarter of 2023, carriers collectively reduced offered capacity from Asia to the North America West Coast by 7% year-on-year, hoping to deliver a rates 'shot in the arm'.

"However, General Rate Increases (GRIs) implemented in mid-April and early-June failed to stick. Undaunted, they doubled down on this tactic, moving to slash capacity by 14% year-on-year in July and August. Did that work? The data provides a clear answer."

Sand reveals that spot rates on the trade currently sit at an 11-month high, having climbed to US$2,200 per FEU. Furthermore, long-term contracts are also on the way up, with agreements entering validity in August now exceeding the US$2,000 per FEU mark.

In a sense, Sand comments, the carriers "have outsmarted the shippers here".

He notes: "This may come as a nasty surprise to some shippers, who have become accustomed to falling rates and, in the face of uncertain consumer demand, have held back from signing new long-term contracts. Now they're in the difficult position of seeing strong rates growth before they've put pen to paper on a new agreement. This, and any further delays, could prove to be very costly."

According to Xeneta, with the collective effort from carriers – and the fact that nervous shippers may now have to lock-in volumes – rates are likely to continue their upward trend during September. Furthermore, added upward pressure could be exerted by the arrival of China's Golden Week holiday in the first week of October, as Sand points out: "In normal years we see a boost in offered capacity before the shut down and then a reduction afterwards, but, as we know, 2023 has not been a normal year.

"Carriers are now laser-focused on managing capacity diligently to retain rates control, so they're actually already announcing blanked sailings for week 39, the week before the holiday, and week 41, when it concludes.

"Further announcements are expected in the weeks to come, so we can see there's a clear, collective effort to get the supply/demand balance right and maintain rates at the levels they want.

"Shippers need to be aware of this.

Savvy management from the carriers demands an equally proactive approach from shippers, with a clear picture of rates development to get the value their businesses need.

"There's no room for complacency in the world of ocean freight rates negotiations and, in such a dynamic situation, that's never been truer than it is now."

TANKERS AT THE TOP

Hamburg-based ship finance platform, Oceanis calls the top of the tanker financing market in its Q3 *State of Ship Finance* report.

The outlook for shipping finance remains positive, with a great number of lenders from banks to funds and leasing houses engaging in ever-greater competition to deploy capital. In the offshore markets, the changes are especially clear, with new and returning lenders regularly joining.

Tanker financing appears to have reached its peak, with covenants starting to tighten. In dry bulk, low earnings make many financings difficult, while container vessel transactions have returned to normal levels after falling in Q1.

Erlend Sommerfelt Hauge, managing partner at Oceanis, says: "Average margins are continuing to fall when adjusting for leverage as banks continue to compete in maintaining their portfolio levels.

"The increased spread earned by retail banks on their deposits, as overnight earnings have grown much faster than savings account rates, has given these banks the ability to move more aggressively which will greatly benefit shipowners especially should base rates decrease."

He adds: "Should any shipowners aim to diversify their financing counterparts or explore options for an acquisition or refinancing, now remains a good time to do so."

Perhaps the first quarter was not the bottom of the dry bulk market after all, the report reveals. Declining earnings across segments, while asset values have remained surprisingly constant, make investment in dry bulk vessels today more an exercise in faith than trust in the markets.

Unfortunately for owners seeking to acquire or refinance, banks and funds are almost exclusively held to today's market projections which has limited financing volumes considerably. Exceeding 50% LTV with an older spot-trading vessel is very difficult indeed without resorting to higher-cost debt funds, as banks have retreated to the 40% level.

Younger vessels enjoy more respite due to the potential for lengthened repayment profiles with break-evens set just below historic median earnings, but these repayments may prove difficult to maintain should current market projections be realised.

More positively, loan margins are continuing to be compressed by high competition as lenders struggle to maintain their portfolio volumes in the face of high repayments from container and tanker owners.

For shipowners with a high level of conviction that better earnings will return, some high-cost options are available which can provide up to 75% leverage, even for older vessels. However, it should be noted that the repayments required exceed not only current market projections but even historic median earnings.

The interest cost for this high-risk capital is also high, with margins in the region of 8%. In short, to avoid default there must be a clear view that earnings will be strong and that those strong earnings will come soon, the report says.

This quarter could be well described as a "pause for breath" among financiers who, after spending the first half of the year taking opportunities to rebalance portfolios back into the sector, decided to reconsider these moves.

Loan amounts and margins, both much improved over the nine months to June, have seen no great change since then.

Indeed, some lenders are now becoming more cautious and adding additional liquidity covenants or dividend restrictions as their confidence declines slightly.

In many ways, this gives the same feeling as container markets in early 2022; the party is still going strong, but some are thinking to book a taxi home. From experience in obtaining finance for container vessels in late 2022, we would highly recommend entering the market while the music is still playing, the report says.

Banks, funds and leasing houses remain exceptionally keen to fund for the time being. Loan amounts on offer remain high, though as asset values have increased more quickly over the past six months the LTVs available have contracted slightly.

Margins continue to fall, with banks partially offsetting base rate rises and reacting to more intense competition for new loans.

For a full copy of the report, visit: tinyurl.com/BTIOceanisReport

CARBON CAPTURE STUDY

Technology group Wärtsilä is now offering carbon capture and storage (CCS) feasibility studies to shipowners and operators, in another milestone on its journey to research, develop and bring to market maritime CCS technologies. The studies have already been conducted on a range of vessel types, including RoRo and RoPax vessels, a drill ship, a container vessel and a gas carrier.

SIGURD JENSSEN, DIRECTOR, WÄRTSILÄ EXHAUST TREATMENT

The process takes four to six months of study and design work. Wärtsilä Exhaust Treatment's experts are involved in ship design at an early stage to conduct engineering work to understand how CCS can be smoothly integrated once the technology is launched to market.

Wärtsilä is conducting the feasibility studies across both newbuild and existing vessels. Retrofit CCS installations will be significantly smoothed by the presence of a scrubber onboard. Wärtsilä Exhaust Treatment is already offering CCS-Ready scrubbers to the market, which are integrated onboard in a way that enables a CCS system to be added easily in the future once the technology is commercialised.

Once completed, the CCS feasibility study work enables Wärtsilä to provide customers with a fully rounded commercial offer that can be shared with shipyards to get an exact quote for installation.

During the feasibility studies, Wärtsilä's experts closely examine the existing naval architecture of the ship and work to understand how the power, space and exhaust demands of CCS can be accommodated onboard. Owners will receive a qualified analysis of the costs of CCS integration, and a clear list of considerations on how a potential retrofit would be conducted in the least intrusive way.

Conducting the studies today enables Wärtsilä to bring forward the early stages of CCS integration and, in doing so, lower the barrier to entry once the technology is commercialised in the near future, the company says.

The studies also serve to educate customers on the upsides and particular considerations associated with installing CCS onboard their vessels.

Finally, as the studies will run in parallel with the implementation of new environmental regulations for shipping, owners who conduct them today will be "ahead of the curve" versus their peers.

DEMURRAGE RISKS

Voyager, the operations and demurrage management platform for bulk commodity shipping, is urging shipping companies to take a proactive stance and adopt a number of Best Practices in order to reduce the costs and risks of demurrage.

A dramatic surge in port congestion and associated supply chain disruptions have led to longer waiting times and higher demurrage costs, says Voyager co-founder and CEO Matthew Costello. "This issue is particularly severe in the bulk shipping sector, where demurrage costs can exceed 20% of the total freight cost for a voyage."

"However, demurrage doesn't have to be a substantial burden on a company's resources. By implementing three key best practices, companies can significantly reduce the cost of demurrage and streamline their operations."

Voyager says companies should estimate and analyse demurrage in real-time; automate their Statement of Fact (SoF) data processing; and logically analyse their charter parties.

"These changes will give your company the necessary tools to stay ahead, making informed, data-driven decisions that result in savings and greater efficiency," Costello says.

According to Voyager, many businesses make the mistake of calculating laytime and estimating demurrage claims only after they receive a claim from the shipowner – leaving no room for adjustment.

Instead, companies should take a proactive stance; by estimating and analysing demurrage immediately after the first load port, they can gain a real-time assessment of their demurrage risk at every stage.

By taking into account historical factors such as waiting times, congestion and lineups, operators can gain a realistic estimate of the demurrage risk for the entire voyage; these costs can be allocated to profit- and loss-statements accurately and any claim can be anticipated in advance.

This also offers dynamic opportunities for risk mitigation by coordinating with terminals and other vessels to expedite discharge and avoid unnecessary delays.

Second, Voyager recommends that companies digitise all their SoF events data, to provide granular insight throughout the loading and discharging process – invaluable in assessing the efficiency of the terminal, the berth and the discharge itself. By automating the processing of this data, companies can streamline their demurrage calculations and gain real-time insights, informing decisions related to seasonality, congestion and efficiency.

Finally, Voyage urges companies to connect charter party agreements to demurrage logic. This involves more than just transferring data fields into a database – logic should be assigned contracts and fields, so that it can be understood how specific clauses in a contract are having an impact on demurrage claims.

For example, there may be particular clauses that incur more cost at a certain berth or port. Analysis of the charter party enables dynamic optimisation of contracts across the company, which can highlight areas of potential savings based on data-driven decisions.

Voyager Portal views demurrage as an opportunity for businesses to alleviate the impact of port congestion, improve tighten up contract weaknesses and drive overall business improvement, says Voyager co-founder and COO Bret Smart.

"Demurrage costs due to inefficiencies eventually get passed on to the customers, creating a situation where no one wins. Proactive management and intelligent data utilisation are the keys to unlocking significant business improvement," he says.

"Ultimately, automating document processing and laytime calculations can free up valuable time for demurrage teams, with up to 50% of time savings. The time freed up can be used by analysts to go back to contracts and review clauses to identify other savings opportunities."

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 change-over 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

RAISING THE BAR

Next generation cranes and grabs are being snapped up across the globe, as a number of exciting new orders reveal

Kalmar has signed an agreement with Rotterdam Short Sea Terminals (RST) to supply six Kalmar hybrid straddle carriers. The large order was booked in Cargotec's third quarter 2023 order intake. The machines are scheduled to be delivered during next year.

RST is the largest short sea shipping hub in Europe, employing approximately 350 people and handling more than 50 vessels every week. The terminal has undergone significant expansion in recent years in line with increasing demand, and Kalmar has been a key partner in this growth.

The new hybrid straddle carriers are part of a fleet renewal programme aimed at improving the terminal's environmental performance. The order also includes Kalmar Insight coverage for all six machines – a performance management tool that turns data into actionable, impactful insights.

Arno Storm, CEO, RST, says: "As a long-term partner and eco-efficiency leader, Kalmar was the natural choice to support us with this fleet renewal. We are constantly striving to improve our environmental performance, and hybrid machines are a concrete step forward in line with our corporate social responsibility goals. We are looking forward to welcoming the new machines to our fleet next year."

Ron Robinson, sales director, horizontal transportation, Kalmar, says: "Kalmar and RST have built a highly successful relationship over many years of collaboration. We are delighted to support them with their transition to more eco-efficient cargo-handling operations with our hybrid straddle carrier solution, which can cut fuel consumption by up to 40% compared to equivalent diesel-powered machines."

Kalmar becomes first ports and terminals industry solution provider to receive cyber security certification for its automation system for all terminal equipment.

Kalmar, part of Cargotec, has been awarded IEC 62443-4-1 certification for its Kalmar One automation system. The system is developed by the Kalmar Technology and Competence Centre in Tampere, Finland.

IEC 62443-4-1 is part of a series of standards that specify the process requirements for the secure development of products used in industrial automation and control systems (IACS).

It defines secure development life-cycle (SDL) requirements related to cyber security for products intended for use in IACS environments and provides guidance on how to meet the requirements described for each element.

The SDL process of the Kalmar One automation system was independently

audited by Exida, a leading product certification company.

Timo Alho, director, product management, automation, Kalmar, says: "We are proud to be the first solution provider in our industry to achieve this certification, which demonstrates Kalmar's commitment to ensuring the highest level of security for its products and solutions.

"The certification provides additional peace of mind for Kalmar One customers by ensuring they have access to the latest patches and updates to ensure the security of their systems. It demonstrates that the system has been developed in line with industry best practices."

Kalmar will also supply a total of 10 new Kalmar Hybrid Straddle Carriers to Patrick Terminals in Melbourne. The significant order was booked in Cargotec's 2023 third quarter order intake, with delivery of the machines scheduled to be completed next year.

Patrick Terminals operates some of Australia's most technologically advanced terminals at four strategically located ports: Brisbane AutoStrad Terminal, Sydney AutoStrad Terminal, Melbourne Terminal, and Fremantle Terminal in Western Australia.

Michael Jovicic, CEO, Patrick Terminals: "We are proud to be the first container terminal operator in Australia to invest in the Kalmar hybrid straddles and set new benchmarks for more environmentally friendly container handling.

"As a leader in the industry, we understand the importance of reducing our carbon footprint and promoting environmentally responsible practices. Together with our trusted partner, Kalmar, we have a shared dedication to building a more sustainable industry. By investing in these hybrid straddles, we are making a strong commitment towards our decarbonisation journey."

Allan Baker, sales director APAC horizontal transportation, Kalmar, says: "We are delighted with the order of the first 10 hybrid straddle carriers for Patrick Terminals, Melbourne. The hybrid straddles, which can cut fuel consumption by up to 40% compared with equivalent diesel-powered machines, will play a huge role in Patrick Terminals' decarbonisation strategy."

CRANES HEAD FOR GAS CARRIER

Wison (Nantong) Heavy Industry, provider of power engineering services, has acquired five new Liebherr Ram Luffing Cranes to be used on a liquefied natural gas carrier to develop subsea gas fields

The ordered cranes have a lifting capacity up to 50 tonnes and an outreach of maximum 40m and are primarily used for maintenance, supply work and assisting in the general process of the floating liquefied natural gas (FLNG) carrier. The delivery of the fully ex rated cranes is planned for the period 2024-2025.

This investment is part of a natural gas liquefaction plant (FLNG) that has been under construction since early 2023. It is the largest FLNG plant to be built by the company to date and was commissioned by Italian energy company Eni. The 380m long and 60m wide vessel will be anchored at a depth of 40m off the coast of the Republic of Congo.

The RL series stands out for its weight-optimised and compact design and can be used on floating offshore installations, especially in the wind power industry and in the oil and gas sector for maintenance and supply work.

The oil and gas sector is undergoing a transformation. The development of gas resources from subsea gas fields is helping to meet the growing global demand for natural gas. With the construction of floating facilities for the extraction, liquefaction and storage of natural gas, the demand for compact cranes is also increasing.

Since its establishment in 2012, Wison has become the leading company in China in the field of floating natural gas applications.

All cranes of the series in the portfolio will support the FLNG unit in maintenance and supply work. "The fact that we convince Wison with the entire RL series is both a success and an incentive for Liebherr to continue to align the offshore portfolio with the needs of the market and its customers," says Stefan Schneider, global application manager for general purpose offshore cranes.

"The co-operation with our contract and service partners from Liebherr China Co (LMS China) was a particularly important factor in finalising the contract. They will support the process during the construction of the FLNG. After commissioning, a field office responsible for the Republic of Congo will take over," Schneider adds.

The compact and weight-optimised crane construction of the Liebherr RL series offers the possibility of being used even when space is limited, due to the

WISON HAS STARTED THE CONSTRUCTION OF A FLOATING LIQUEFIED NATURAL GAS (FLNG) UNIT ORDERED BY ITALIAN OIL AND GAS COMPANY ENI. LIEBHERR WILL SUPPLY FIVE RL SERIES CRANES AND WILL SUPPORT IN THE GENERAL PROCESS OF THE FLNG

design. This is illustrated by an optimised overall height, a small tail radius and the absence of a machinery house.

The cranes also offer advantages for their operators. The redesigned 7m^3 large cabin is ergonomic and ensures low-fatigue working. Its modern equipment with an excellent surrounded visibility, the new driver's seat in combination with the new operating concept including new controls and revised air conditioning ensures safe crane operation.

"Equipping the FLNG with the RL series creates a holistic value," comments Zhang Shouyue, deputy general manager of Wison's project management office. "The highest safety standards and state-of-the-art working conditions enable increased working capacity. For us, working with Liebherr means having a global crane manufacturer at our side whose expertise sets global standards about the co-operation."

The new floating plant can store over 180,000 m^3 of liquefied natural gas and 45,000m^3 of liquefied petroleum gas. The cranes installed on the platform are part of an integrated service structure. The worldwide Liebherr network of experienced engineers makes it possible to supply spare parts and to offer the best possible service within the shortest possible time, so that productivity of the plant can be ensured.

"The modular design concept of the main components of the Liebherr RL series is an exciting aspect and the increased interchangeability of the components once again comes to the fore," says Yang Dong, Liebherr China Co.

MACGREGOR ORDER

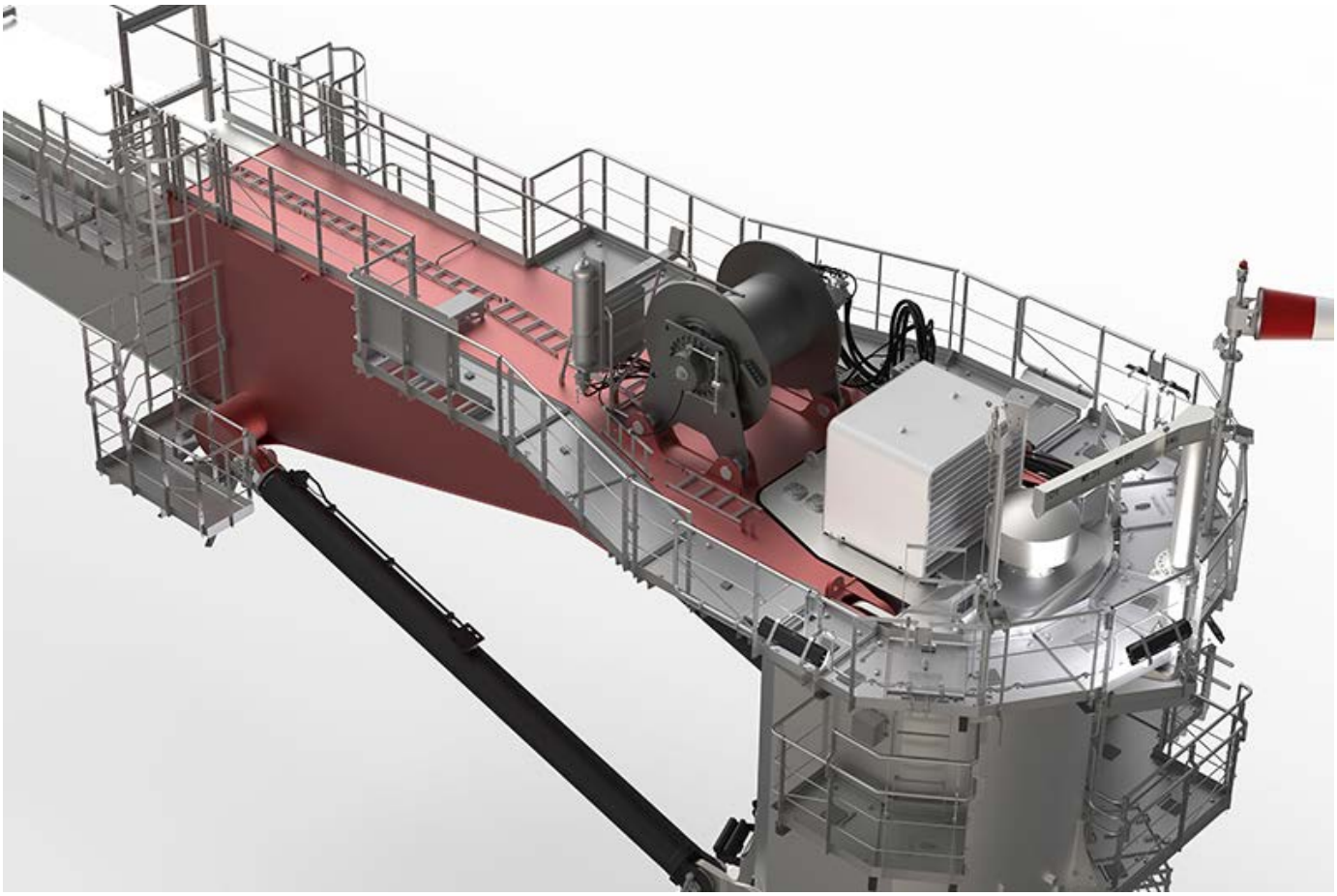
MacGregor, part of Cargotec, has received a more than €25m order for general cargo cranes for 10 84,500dwt multipurpose vessels built in Asia.

The order was booked into Cargotec's 2023 third quarter orders received. The cranes are scheduled to be delivered between the fourth quarter of 2024 and the first quarter of 2026.

The order includes a total of 40 cranes with a lifting capacity of 75 tons. All cranes are connected to the latest worldwide service support and equipped with an active safety system for the highest possible secure operation.

MacGregor was selected as the supplier of these general cargo cranes thanks to its well-known design capabilities and long-term good cooperation with the customer.

"I'm very proud of the confidence that the shipyard has shown in choosing us to supply cranes for this important project. We look forward to providing our customer with our high-class equipment and services," says Magnus Sjöberg, senior vice president, merchant solutions, MacGregor.

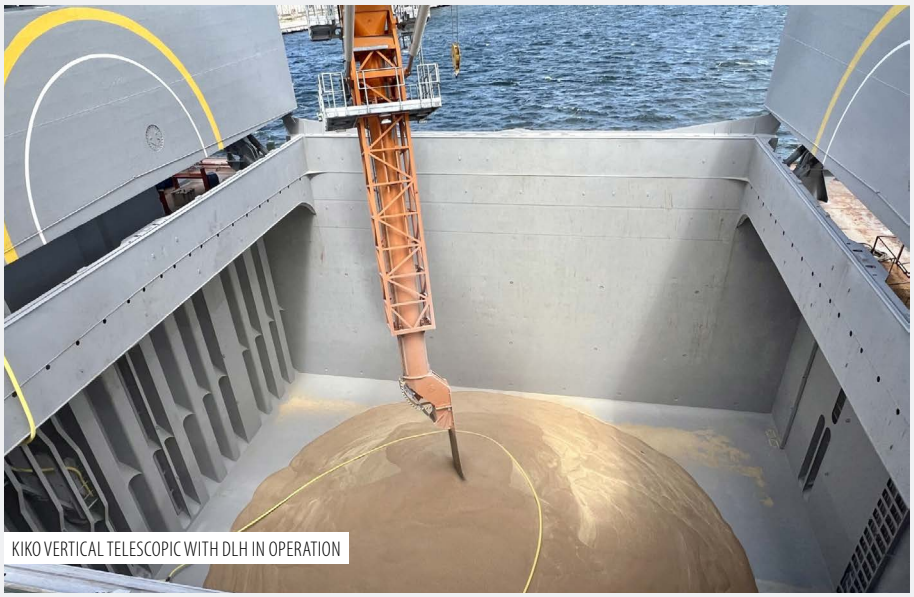


LIEBHERR'S RL SERIES STANDS OUT FOR ITS WEIGHT-OPTIMISED AND COMPACT DESIGN AND CAN BE USED ON FLOATING OFFSHORE INSTALLATIONS, ESPECIALLY IN THE WIND POWER INDUSTRY AND IN THE OIL AND GAS SECTOR FOR MAINTENANCE AND SUPPLY WORK

NEUERO: A REVOLUTIONARY PORT PROJECT IN UKRAINE

COMPANY NEWS

Risoil, a leading Ukrainian company in oil and grain transshipment, has recently completed the construction and successful testing of a double-sided pier in the port of Chornomorsk. This groundbreaking project, which was temporarily halted due to the war in Ukraine, showcases Risoil's commitment to the country's development and economic growth. Equipped with state-of-the-art shiploader towers, conveyors, and loading booms, the pier offers enhanced efficiency, flexibility and, importantly, environmental friendliness. Let's explore the unique features and benefits of Risoil's new pier in more detail.



KIKO VERTICAL TELESCOPIC WITH DLH IN OPERATION

CONCEPT AND CONSTRUCTION

The idea for the two-way pier was conceived more than a decade ago by Risoil's shareholders, aiming to facilitate the loading of ships with larger drafts. After overcoming bureaucratic hurdles and receiving all necessary approvals, construction began in April 2021 and lasted for approximately one year.

The project, with an estimated cost exceeding UAH1bn (£21.1m), represents a remarkable collaboration between Risoil and the state enterprise Ukrainian Sea Ports Administration (USPA). The double-sided pier is a first-of-its-kind hydraulic structure in Ukraine, incorporating advanced design principles, functional versatility and innovative equipment to maximise production efficiency and minimise environmental impact.

UNIQUE FEATURES

Risoil's double-sided pier offers simultaneous handling of two vessels with a draft of up to 15m, revolutionising port operations in Ukraine. The pier's

shiploader towers consist of two intake belt conveyors, each capable of loading 1,500 tons per hour, and a single unloading belt conveyor with a capacity of 600 tons per hour.

Additionally, the pier features six loading booms, equipped with boom conveyors, KIKO pendular movement and DLH dustless loading heads, enabling efficient loading of 1,500 tons per hour. The loading system can accommodate two ships simultaneously or prepare the second ship while loading the first.

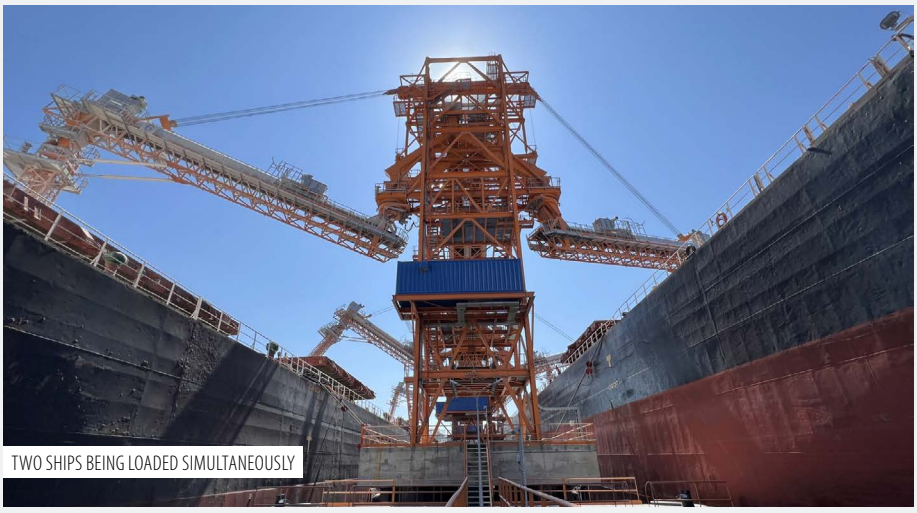
Furthermore, a pneumatic unloader with a capacity of 600 tons per hour ensures flexibility in unloading operations.

ENVIRONMENTAL EFFICIENCY

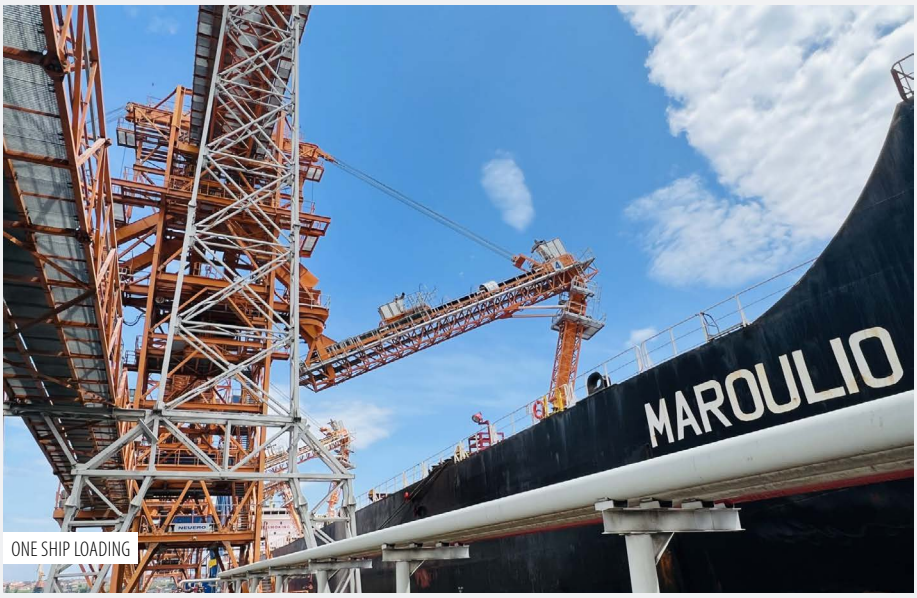
Risoil's commitment to environmental protection is evident in its design and equipment choices. The loading booms are equipped with industry-leading dust suppression heads, ensuring the isolation and aspiration of grain transfer points to meet modern environmental standards.

To achieve these goals, Risoil partnered with Neuero, a supplier of shiploading and unloading equipment that is well known for its environmental standards. Neuero supplied the shiploading system with six booms, capable of operating at a capacity of up to 1,500 tons per hour, along with a pneumatic ship unloader with a nominal capacity of 600 tons per hour.

> "To achieve its goals, Risoil partnered with Neuero, a supplier of shiploading and unloading equipment that is well known for its environmental standards



TWO SHIPS BEING LOADED SIMULTANEOUSLY



ONE SHIP LOADING

CONCLUSION

Risoil's double-sided pier in the port of Chornomorsk represents a significant milestone in Ukrainian port infrastructure development. Through the implementation of advanced technology and innovative design, Risoil has created a versatile and efficient platform for oil and grain transshipment operations.

The pier's ability to handle vessels with larger drafts, simultaneous loading of different cargo types, and flexibility in unloading operations enhance the port's capacity, attract new cargo flows, and create job opportunities.

This project serves as a testament to Risoil's dedication to Ukraine's economic growth and highlights the successful collaboration between private investors and the Ukrainian Sea Ports Administration.

With the launch of the double-sided pier, Risoil continues to set new standards in the industry and contributes to the future development of Ukrainian ports.

For more information, visit: neuero.de/en

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MATERIAL CONCERNS

There are a number of challenges that ship owners and operators face when transporting, unloading and loading and storing grain

Despite the many and varied categories of cargo damage faced by shipowners transporting grain cargoes, when it comes to claims, it's actually cargo shortage that they need to be prepared for, says The Swedish Club, in its new publication, **Bulker Focus: Carriage of grains and soya beans.**

In the past five years, the Club's statistics show that shortage was the most common type of claim for bulkers carrying grains, contributing to 63% of all claims. About 70% of these shortage claims occur due to discrepancies between the vessel's figures and shore figures, with most claims arising in North Africa over the five-year period as a whole.

The Swedish Club's director for claims, Johan Kahlmeter, explains: "In Argentina and many North African countries it is not unusual for there to be discrepancies between the shipper's figures based on shore scales, and draft surveys. Each country has its own rationale for this, but the bottom line is that the operator can find themselves seriously out of pocket through no fault of their own.

"Indeed, in some North African countries, draft surveys are not recognised at all. Although each shortage claim averages to about only US$35,000, there are so many of them that they make up nearly half (44%) of the Club's claims costs for bulkers carrying grain."

In the publication, the Club provides a checklist of advice to help operators to protect themselves from these claims, including the use of surveyors, taking care with record keeping, and getting the Club involved when asked by third parties to sign statements.

Claims have also increased significantly over the period, in part due to covid-19. While an average of 5.6% of all bulk carriers insured have made a grain claim over the past five years, there has been a steady increase in the frequency of claims. Only 3.7% of vessels made a claim in 2018 compared with 8.9% in 2022. In this five-year period, there were few claims in China until 2021, but since then the Club has seen a steady increase in the region, related to disruption and delays in Chinese ports due to the pandemic.

Authored by Joakim Enström, senior loss prevention officer at the Club, the report has been written in conjunction with cargo specialists CWA and focuses on the loading, carriage and discharge of bulk grain, oilseed and soya bean cargoes.

These present numerous challenges with a range of considerations for the crew to consider prior to and during carriage of the cargo.

The publication explores the most common causes of cargo damage, and how to prevent them, and also looks at fumigation and ventilation in detail. It aims to provide ship operators with understanding of the common issues experienced during carriage of these cargoes in addition to ways to avoid them.

BLACK SEA GRAIN INITIATIVE

P&I Club Gard has recently issued advice on the effects on contractual obligations of the cessation of the Black Sea Grain Initiative (BSGI).

The Black Sea Grain Initiative that allowed grain products to be shipped from Ukrainian Black Sea ports has now ended. The article focuses on what that means for owners' and charterers' contractual obligations.

"There have been many developments since we last updated our article on the impact on contractual obligations of the war in Ukraine," the Club says. Key developments include:

» The Black Sea Grain Initiative (BSGI) as a result of which nearly 33m tonnes of food products had been exported from Ukraine expired on 17 July 2023 with Russia announcing its intention not to renew.

- Russia and Ukraine have warned that they may strike commercial vessels heading to the other countries Black Sea ports.
- Access to the northern part of the Black Sea, west of Crimea, is prohibited by the Russian Navy.
- The Sea of Azov is closed to commercial vessels except those that operate with Russian approval.
- The security level has increased at Ukrainian and Romanian Danube ports because of strikes against port infrastructure on the Ukrainian side. The Ukrainian Danube ports were not part of the BSGI.
- Strikes have been made against port infrastructure in Odessa putting into question whether the port could be used even if the BSGI were revived.
- The threat to shipping from mines has increased in the Western part of the Black Sea area.
- Ukrainian forces struck the Olenegorsky Gornyak from Russia's Northern Fleet (used to transport troops and equipment) in the port of Novorossiysk and also struck the Sig tanker, a sanctioned vessel used to transport fuel for Russian forces in the Black Sea near Crimea.

The article looks at some of the pressing issues that arise out of this new reality. It should be borne in mind that comments are based on the factual circumstances as at the date of publication. In a war situation, things change quickly and much depends on the contractual wording so advice should be sought from an FD&D advisor where necessary.

CLEAN HANDLING

US company Martin Engineering designs products around safety to promote an efficient and clean working environment and part of that is manufacturing properly sealed conveyor chutes for bulk handling.

Dave Mueller, product manager at Martin Engineering, explains that the latest innovations the company has devised are the ApronSeal™ Double Skirting for extra sealing in high dust environments and a self-adjusting skirting system with limited maintenance.

Here, he explains some of the issues older designs experience, how a sealed environment improves workplace safety and how skirting can reduce labour costs for cleanup, in turn, lowering the cost of operation.

APRONSEAL™ DOUBLE SKIRTING OFFERS A DUAL SEAL AND CAN BE FLIPPED FOR EXTENDED EQUIPMENT LIFE

When tons of transferred bulk material hits a moving belt, three things happen: fines scatter, cargo shifts as it settles and dust becomes airborne.

The impact can create turbulent air that seeks the easiest escape from any gap it can find, carrying dust and fines with it. These gaps generally appear on the sides of the enclosure between the chute wall and the belt.

Skirting systems address the challenge of containing fugitive dust and spillage.

What is a skirtboard sealing system?

Usually made from natural or SBR rubber (or specialty formulations for specific applications such as underground mining, food, and so on), the skirting extends down the entire length of the transition enclosure and is generally tapered at the bottom to match the trough angle of the belt.

It is intended to maintain a seal on the enclosure and help trap any fine particles and dust that is not contained by the wear liners and chute wall.

Skirting issues

As the skirt edge loses its seal, gaps are created, which allow material to become entrapped in a "pinch point". This causes abrasion that gouges or chafes the surface of the belt down its entire length.

Some of the major issues from entrapment include scalloping, when wedged material causes excessive wear, and grooves, when debris collects under the skirt causing friction damage. Regardless of the belt tension, belt sag will create a space for fugitive dust to escape or for material to become entrapped [Fig.1].

This is avoided by retrofitting a skirt sealing system with impact cradles or edge support rather than rollers in the loading zone.

Proper enclosure configuration

Wear liners are typically welded to the inside of the chute wall with the skirtboard attached on the outside using an adjustable clamp system. The internal design [Fig.2] can allow some material buildup in the gap between the wear liner and the skirtboard, depending on the size of the aggregate.

External wear liner and skirting configurations place both pieces of equipment outside the chute wall. [Fig.3] Placing the skirt seal and wear liner outside of the chute makes it easier for workers to perform adjustments safely. The result is a better seal on the belt and less material entrapment.

Self-adjusting skirting maintains a seal automatically as belt path fluctuates due to its design, without the need for adjustment and only periodic inspection. A low-profile skirting assembly should need only 152 mm of clearance for installation and maintenance in small spaces.

Skirting best practices

Since skirts are wear parts, it is important that they are easily installed, adjusted, maintained and replaced to avoid dust and spillage, mitigate downtime, improve workplace safety and reduce the cost of operation.

Managers contemplating a capital investment in a skirting and wear liner system should consider:

- Hiring an outside engineer to design the best system for the application.
- Installing equipment that features external maintenance.
- Utilizing a skirting strip that extends the entire length of the chute to avoid seams.
- Choosing skirting material that is free of fabrics, with a lower abrasion resistance than the belt.
- Installing a self-adjusting system.
- Choosing the option with the least worker exposure to equipment hazards.

Case study: grain terminal in Brazil

The Port of Santos in São Paulo is the busiest in Latin America. Operating at Terminal 26, T-Grão manages the import and export of 3.6m mt/y) of malt, wheat, soy and maize. Transfer points at T-Grão range between 10-15m in height. The fugitive emissions affected air quality and visibility in the immediate work areas, forcing personnel to wear protective masks when working around any part of the conveyor system.

The dust often travelled beyond the site line, sparking complaints. Before the chute upgrade, a cleaning crew of 45 workers spent 24 hours per month on dust and spillage cleanup.

Martin Engineering technicians constructed a longer sealed enclosure with the ability to control airflow and give dust extra space to settle. They added several other critical components including external dual seal skirtboard and wear liner system. Impact cradles and slider cradles replaced the idlers to seal gaps in the chute.

Operators immediately observed significant results. As material moved through the system, particulates remained within the enclosure and either collected in the dust bags or settled back into the cargo flow.

After a lengthy observation period, operators report that there has been less downtime for cleanup and maintenance, as well as improved workplace safety.

By installing modern skirtboards that prevent fugitive material from leaving the loading chute, operators can reduce worker exposure to hazards, minimise labour for maintenance and cleanup, improve equipment and belt life and achieve better compliance.

The savings on labour and operating costs alone provide a sound return on investment, but the improvement to workplace safety should be the only motivation needed.

VIGAN ENGINEERING: COMMITMENT TO EXCELLENCE

COMPANY NEWS

Bulk equipment plays a pivotal role in the efficient operation of ports worldwide, enabling the seamless loading and unloading of various goods, especially dry bulk products like cereals.

Vigan Engineering SA, founded and headquartered in Nivelles, Belgium, has been at the forefront of this industry for more than 55 years, revolutionising bulk handling in ports. With a strong global presence and a commitment to innovation, Vigan has become a leading provider of handling equipment for dry bulk products.

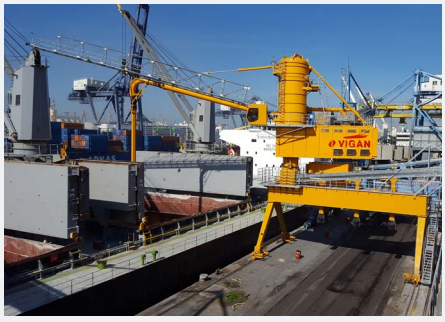
Over the years, the company has evolved into a global leader in the design, manufacture and on-site assembly of handling equipment for dry bulk products, primarily cereals. Vigan's track record is impressive, with 1,500 machines all over the world.

What sets Vigan apart is its commitment to vertical integration. From initial machine design, manufacturing to commissioning, the company controls every aspect of its equipment's development, ensuring both quality and timely delivery.

VIGAN'S PORTFOLIO FOR BULK LOADING AND UNLOADING

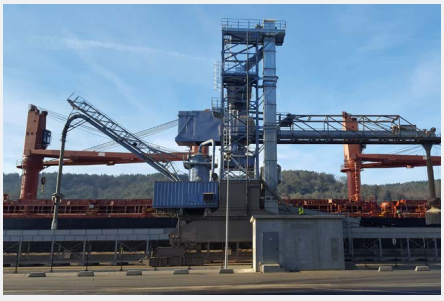
Vigan offers a diverse range of equipment tailored to meet the unique needs of each port and its specific handling requirements:

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 their portfolio. These gantries are versatile, coming in both stationary and mobile configurations (rails or tires) 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 utilize 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 you are 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 andthe option for static or rotating throwers.

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.

STRENGTHS

The exceptional achievements of Vigan are grounded in a distinctive set of strengths that unequivocally distinguish the company:

Vertical integration: Unlike many competitors that rely on subcontractors, Vigan controls every aspect of its equipment's design, manufacturing, assembly, and testing. This ensures the highest quality and adherence to strict European standards.

Robust technology: Vigan's use of proven and reliable technology guarantees uninterrupted operation, even in challenging conditions. The company prioritises high-quality, wear-resistant materials and simple, effective design choices.

Engineering and development: Vigan continually innovates to provide top-performing equipment, often being ahead of the curve in industry developments. The company's focus on energy consumption and technology advancements demonstrates its commitment to efficiency. A decade and a half ago, the company led the way in creating inline multi-stage turbo-blowers, powered by high-frequency drives with substantial power. Despite numerous efforts to replicate, there is still no authentic multi-stage turboblower design available in the ship unloading market today.

One of Vigan's most significant innovations is its expertise in noise protection systems for turbo sets, machine rooms and suction pipes. This development is particularly crucial when equipment is situated in urban or environmentally sensitive areas with stringent noise standards. Through calculations, studies and on-site measurements, Vigan has established itself as a leader in designing noise-reducing solutions, further demonstrating its commitment to environmental and community considerations.

Customer services: Vigan's after-sales service is closely integrated with its spare parts sales department, providing customers with flexible solutions, long-lasting components, and comprehensive preventive maintenance programs.

KEY FEATURES

Customers prioritise several key features when selecting equipment for their port operations:

Performance: Vigan's equipment is known for its high performance even under extreme conditions. It offers robust and reliable machines that consistently deliver outstanding results.

Energy efficiency: With a focus on reducing energy consumption, Vigan has been a pioneer in incorporating variable speed drive technology in its suction units, setting new standards for efficiency.

Low noise levels: As more homes are built near industrial areas, noise reduction has become crucial. Vigan addresses this concern by employing acoustic insulation measures, ensuring that noise levels remain within acceptable limits, typically 60 to 65 decibels.

Ease of maintenance: Vigan designs its machines with longevity in mind. It provides detailed maintenance instructions and offers preventive maintenance programmes to maximise machine uptime. It sells spare parts for equipment 30 to 40 years old.

Dust emission reduction: Vigan uses pneumatic suction technology that minimises dust emissions. The closed-circuit systems with overpressure filters keep dust contained, reducing emissions to around 3mg/m^3.

Vigan Engineering SA has played a pivotal role in shaping the global bulk goods industry. With its rich history, commitment to innovation and customer-centric approach, it continues to provide cutting-edge solutions that meet the evolving needs of the industry while addressing environmental and noise concerns.

As ports expand and modernise, Vigan remains a trusted partner in revolutionising bulk handling operations. Whether it's ship unloaders, loaders, or complete terminal solutions, its commitment to excellence is evident in every aspect of its operations.

Fore more information, visit: vigan.com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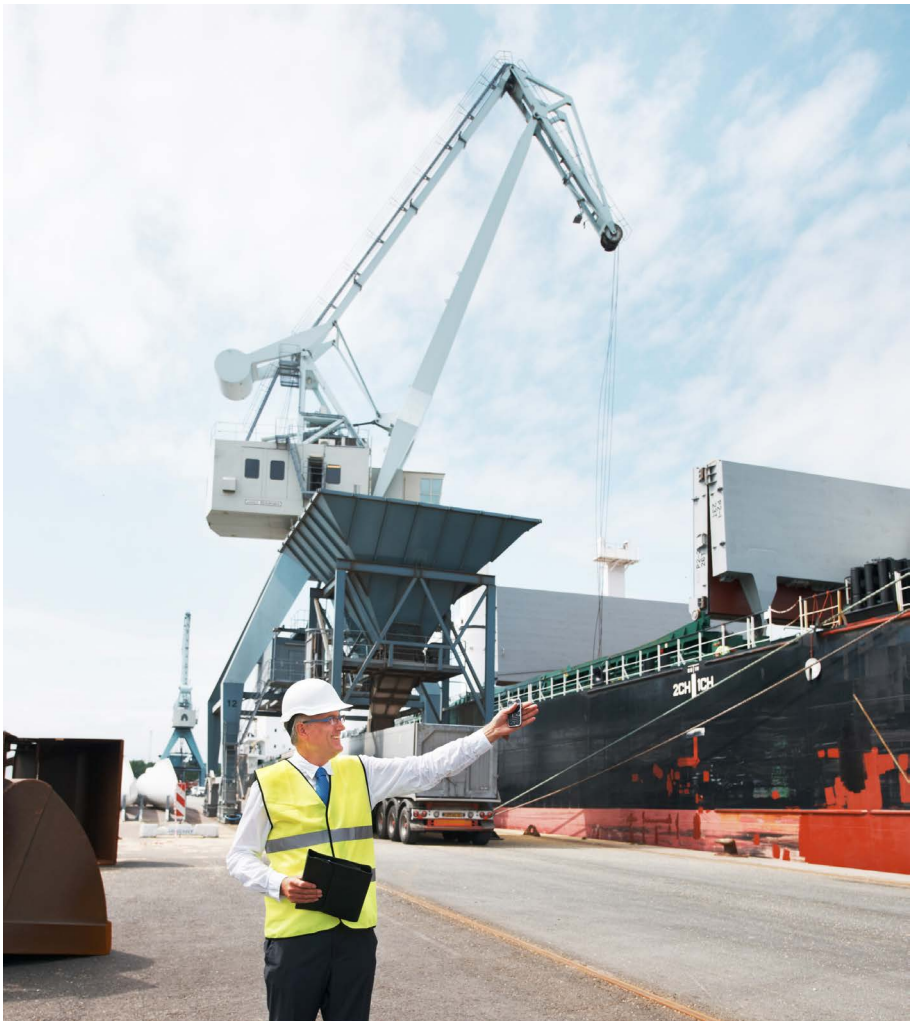
SWIFT SOLUTIONS

Coming up with loading and unloading solutions for the shipping industry is becoming increasingly important as a means of saving time and money



Conveyors are among the most dynamic and potentially dangerous equipment in bulk handling, according to Martin Engineering.

The operational basics of belt conveyor systems regarding the hardware installed and the performance required from the components are too often a mystery to many employees. This knowledge gap also creates a safety gap. Since personnel are the single most important resource of any industrial operation, to meet workplace safety standards, the consensus among safety professionals is to design the hazard out of the component or system, which historically yields more cost-effective and durable results.

Designs should be forward-thinking. This means exceeding compliance standards and enhancing operators' ability to incorporate future upgrades cost-effectively by taking a modular approach. This method alleviates several workplace hazards, minimises cleanup and maintenance, reduces unscheduled downtime and extends the life of the belt and the system. Before the drafting phase, designers should:

» establish the goals of reducing injuries and exposure to hazards (dust,

spillage, etc.)
» increase conveyor uptime and productivity
» seek more effective approaches to ongoing operating and maintenance challenges.

To meet the demands for greater safety and improved production, some manufacturers have introduced equipment designs that are not only engineered for safer operation and servicing, but also reduced maintenance time.

An example is the Martin® QC1™ Cleaner HD/XHD STS (Safe-to-Service) primary cleaner and the Martin SQC2S™ STS secondary cleaner, designed so the blade cartridge can be pulled away from the belt for safe access and replacement by a single worker.

The same slide-out technology has been applied to impact cradle designs. Systems like the Martin Slider Cradle are engineered so operators can work on the equipment safely, without breaking the plane of motion. External servicing reduces confined space entry and eliminates reach-in maintenance while facilitating faster replacement. The result is greater safety and efficiency, with less downtime.

An example of a safer belt cleaner is the CleanScrape®, which received the Australian Bulk Handling Award in the "Innovative Technology" category for its design and potential benefits. The revolutionary patented design reduces the need for bulky urethane blades altogether. It delivers extended service life, low belt wear and significantly reduced maintenance, which improves safety and lowers the cost of ownership.

Unlike conventional belt cleaners that are mounted at an angle to the belt, the CleanScrape is installed diagonally across the discharge pulley, forming a three-dimensional curve beneath the discharge area that conforms to the pulley's shape.

The novel approach has been so effective that in many operations, previously crucial secondary belt cleaners have become unnecessary, saving further on belt cleaning costs and service time.

Although the policy is generally not explicitly stated by companies, the "low-bid process" is usually an implied rule that is baked into a company's

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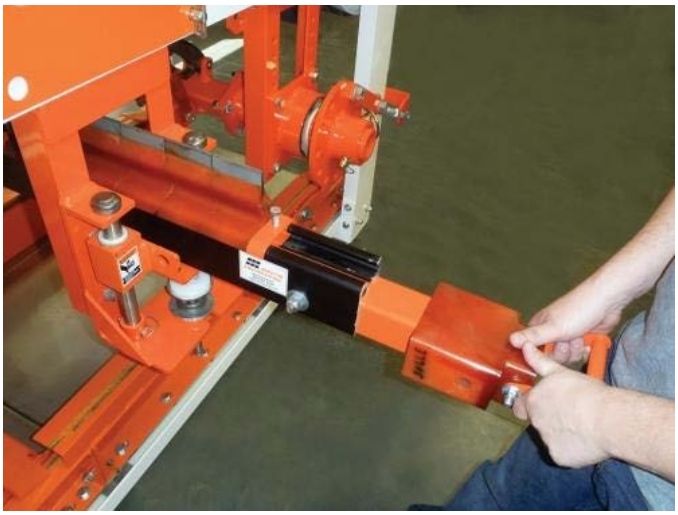

THIS MARTIN SQC2S STS SECONDARY CLEANER ALLOWS FOR SAFE EXTERNAL MAINTENANCE BY A SINGLE WORKER


THE CLEANSCRAPE® FORMS A 3-D CURVE BENEATH THE DISCHARGE THAT CONFORMS TO THE PULLEY'S SHAPE

culture. It encourages bidders to follow a belt conveyor design methodology that gets the maximum load on the conveyor belt with the minimum compliance to regulations using the lowest price materials, components and manufacturing processes available.

When companies buy on price, the benefits are often short-lived, and costs increase over time, eventually resulting in losses. In contrast, when purchases are made based on the lowest long-term cost (life-cycle cost), benefits usually continue to accrue and costs are lower, resulting in a net savings over time.

Engineering safer conveyors is a long-term strategy. Although design absorbs less than 10 percent of the total budget of a project, engineering / procurement / construction management (EPCM) services can be as much a 15% of the installed cost of a major project, additional upfront engineering and applying a life cycle-cost methodology to the selection and purchase of conveyor components proves beneficial.

Safety-minded design at the planning stage reduces injuries by engineering hazards out of the system. The system will likely meet or exceed the demands of modern production and safety regulations, with a longer operational life, fewer stoppages and a lower cost of operation.

AUGMENTED REALITY

Bruks Siwertell has introduced the use of augmented reality (AR) into its planned service agreements for Siwertell road-mobile ship unloaders.

The AR glasses allow operators to remotely connect with expert service support, enabling surveyors to have a direct visual link to equipment. This ensures that technical issues can be addressed even more quickly, along with streamlining communications.

"This latest advance is part of Bruks Siwertell's ongoing commitment to improving customer service, and minimising environmental impact through the use of digital technology," says Jörgen Ojeda, sales director mobile unloaders at Bruks Siwertell.

"Planned service is always better than reactive," continues Ojeda. "Siwertell Care agreements (STC) offer significant customer benefits, including maintaining peak operational performance, substantial cost savings and budgeting advantages. The addition of AR only adds to these advantages.

"If both parties can see exactly the same in real-time, issues can be resolved much faster and equipment downtime minimised. The number and cost of engineer call-outs can also be reduced," adds Ojeda. "This delivers an additional environmental benefit from minimising travel and ensures that parts are not replaced unnecessarily."

Specialist service agreements provide regular mechanical, hydraulic and electrical inspections; ongoing operator and maintenance training, based on in-house, expert knowledge; fixed-cost agreement for the required number of planned visits; and a spare parts discount.

In addition to these benefits, when customers opt for an STC-AR agreement, AR glasses can be used to remotely supervise any work being carried out, which can speed up tasks and ensure that they are correctly performed. The use of AR glasses can also mean that more complex maintenance tasks can be undertaken in-house and the operational performance of equipment can be evaluated and discussed in real-time.

STC-AR agreements are currently available for Siwertell road-mobile ship unloaders.

DEMURRAGE RISKS

Voyager, the operations and demurrage management platform for bulk commodity shipping, is urging shipping companies to take a proactive stance and adopt a number of Best Practices in order to reduce the costs and risks of demurrage.

A dramatic surge in port congestion and associated supply chain disruptions have led to longer waiting times and higher demurrage costs, says Voyager co-founder and CEO Matthew Costello. "This issue is particularly severe in the bulk shipping sector, where demurrage costs can exceed 20% of the total freight cost for a voyage," he says.

"However, demurrage doesn't have to be a substantial burden on a company's resources. By implementing three key Best Practices, companies can significantly reduce the cost of demurrage and streamline their operations."

Voyager says companies should estimate and analyse demurrage in real-time, automate their Statement of Fact (SoF) data processing and logically analyse their charter parties.

"These changes will give your company the necessary tools to stay ahead, making informed, data-driven decisions that result in savings and greater efficiency," says Costello.

According to Voyager, many businesses make the mistake of calculating laytime and estimating demurrage claims only after they receive a claim from the shipowner – leaving no room for adjustment.

Instead, companies should take a proactive stance: by estimating and analysing demurrage immediately after the first load port, they can gain a real-time assessment of their demurrage risk at every stage.

By taking into account historical factors such as waiting times, congestion and line-ups, operators can gain a realistic estimate of the demurrage risk for the entire voyage; these costs can be allocated to profit-and loss-statements accurately and any claim can be anticipated in advance.

This also offers dynamic opportunities for risk mitigation by coordinating with terminals and other vessels to expedite discharge and avoid unnecessary delays.

Second, Voyager recommends that companies digitise all their SoF events data, to provide granular insight throughout the loading and discharging process – invaluable in assessing the efficiency of the terminal, the berth and the discharge itself.

By automating the processing of this data, companies can streamline their demurrage calculations and gain real-time insights, informing decisions related to seasonality, congestion and efficiency.

Finally, Voyage urges companies to

connect charter party agreements to demurrage logic. This involves more than just transferring data fields into a database – logic should be assigned contracts and fields, so that it can be understood how specific clauses in a contract are impacting demurrage claims. For example, there may be particular clauses that incur more cost at a certain berth or port.

Analysis of the charterparty enables dynamic optimisation of contracts across the company, which can highlight areas of potential savings based on data-driven decisions.

Voyager Portal views demurrage as an opportunity for businesses to alleviate the impact of port congestion, improve and tighten up contract weaknesses and drive overall business improvement, says Voyager co-founder and COO Bret Smart. "Demurrage costs due to inefficiencies eventually get passed on to the customers, creating a situation where no one wins. Proactive management and intelligent data utilisation are the keys to unlocking significant business improvement," he says.

"Ultimately, automating document processing and laytime calculations can free up valuable time for demurrage teams, with up to 50% of time savings. The time freed up can be used by analysts to go back to contracts and review clauses to identify other savings opportunities."

AUTONOMOUS LOADING

Another loading innovation is Combilift's autonomous sideloader which also has the option to be operated manually.

The Combi-AGT is a 4-wheel electric stand-on sideloader, which harnesses the very latest smart technology to meet customer demands for driverless sideloader capability with a capacity of 5,000kg/11,000lbs.

This enhanced adaptive safety system enables the size of the obstacle detection fields to increase or decrease as per the steer angle and speed of the truck.

The natural feature navigation system is superior to traditional methods of truck navigation based on wire guidance or artificial landmarks such as reflectors. Instead, it uses the naturally occurring features in a warehouse – walls, racking and columns, for example – avoiding the need to add to or change the warehouse infrastructure.

The patent pending load dimension detection system operates by performing a laser scan of the load to check that its length matches the task sent to the machine.

Similarly, when unloading, it checks that the rack in front has sufficient free space to accept the load.

BIG BAGS

Big bags, also called FIBCs, are omnipresent in logistics as a lightweight and economical type of packaging for free-flowing bulk goods. Made predominantly from polypropylene (PP), they show a CO_2 balance per 1,000 litres of transported goods that is far below that of rigid containers such as drums or octabins.

Turkish big bag producer Prof Sentetik is making them even more sustainable by adding post-industrial and post-consumer PP waste in the production of various types of big bags.

The company has recently installed Starlinger equipment for woven PP bag and big bag production, including a Starlinger PP tape production line equipped with the new eqoCLEAN filter system for processing recycled granulate.

With this new tape extrusion line, Prof Sentetik produces PP tapes for FIBC fabric with recycled polypropylene (rPP) that meet all the specifications required for heavy-duty packaging applications.

"Plastic waste is a valuable resource, and instead of depositing it in landfills or incinerating it, it should be used in the best possible way", says Fahri Şengül, general manager of Prof Sentetik.

"For us, Starlinger's holistic approach to packaging production is very helpful. Being a supplier of both production machinery for woven plastic packaging and plastics recycling equipment, they understand the product cycle of plastic packaging from the beginning right to the end.

"They know how to produce high-quality recycled plastics, and their woven packaging production equipment is designed for processing virgin as well as recycled input materials, even if they stem from post-consumer plastic waste."

"Companies like Prof Sentetik are real pioneers on the packaging market", says Harald Neumüller, sales director at Starlinger. "With their technical competence and future-orientated mindset, they drive the market toward a sustainable circular economy.

"A closed packaging loop for big bags works well if the big bags are made for recycling – meaning that they are designed and produced with recycling in mind and thus can be recycled easily at the end of their use phase. The better the recyclate quality, the higher can be the recycled content in the newly produced big bag", explains Neumüller.

To be able to use a high share of recycled content in big bags, it is important to follow the rules for Design for Recycling (DfR), which are summarised in a guideline established by the European Flexible Intermediate Bulk Container Association.

The guideline focuses mainly on the mono-material principle by reducing foreign materials in sewing yarns, belts, additives, inks, and so on used for big bag production.

Prof Sentetik currently processes in-house production waste and additionally buys recycled PP granulate, produced also from post-consumer plastic packaging waste.

"As big bags have to meet special safety standards, the quality of the recycled material plays an important role in tape production", confirms Şengül.

"The Starlinger tape extrusion line with the eqoCLEAN filter module ensures that the tapes we produce meet the specifications regarding tensile strength and elongation required for big bags in heavy-duty applications."

The extrusion of heavy-duty PP tapes with recycled content, especially from recycled post-consumer plastic waste (PCR waste), requires adequate melt filtration. The share of rPP materials which can be processed depends on various factors, for example from which waste stream the post-consumer waste comes from, or how the waste was handled during collection and storage.

Fine filtration already before tape extrusion, that is during the recycling process, is crucial. Solid contaminants which can occur in PCR materials, as well as foreign polymer particles in the melt – e.g. from polyester sewing yarn – compromise tape quality and cause problems in the tape production process.

The eqoCLEAN filter module developed by Starlinger takes into account all the requirements for producing high-quality PP tapes with post-consumer recycled PP. It consists of a SPB single-piston power-backflush filter, a melt pump, and a second filter unit, called HS 2.0 filter.

The SPB filter has one piston and four cavities for filter screens and can be used for processing polyolefins such as PP or PE. During the hydraulic power-backflush procedure the line operates at full production speed without interruption of the production process.

The regular automatic high-pressure backflushing procedure cleans the filter screens throroughly, increasing their lifetime and reducing machine downtime significantly. The melt pump in combination with the additional HS 2.0 filter, which is positioned directly before the extrusion die, ensure stable production and high operational reliability of the line. It also enables the processing of high shares of $CaCO_3$ and post-consumer recycled PP of 50% and more.

Following the tape production process, the tapes are wound on to bobbins and turned into big bag fabric on Starlinger's heavy-duty circular looms. Finally, the woven fabric is converted to bags. Properties such as tensile strength, weight and safety of Prof Sentetik's big bags with PP content meet all required safety standards and are continuously tested using standard testing procedures and certified equipment.

"We are very satisfied with how things are going," says Şengül. "We even aim to increase the recycled content in our big bags to 50% and more. We have to think about our environment and take care of nature. We all – consumers, manufacturers and equipment suppliers – must work together to stop the destruction of the environment."

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.

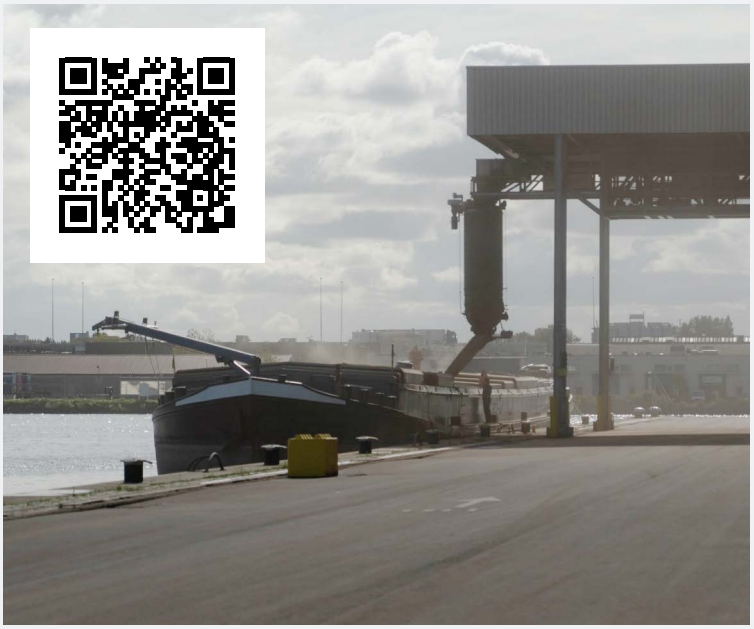
To be flexible, as there's always a lot of activity in a bulk terminal, NM Heilig BV delivered two conveyor belts with a length of 140m, hanging in a corridor leaving headroom of approximately 6.5m.

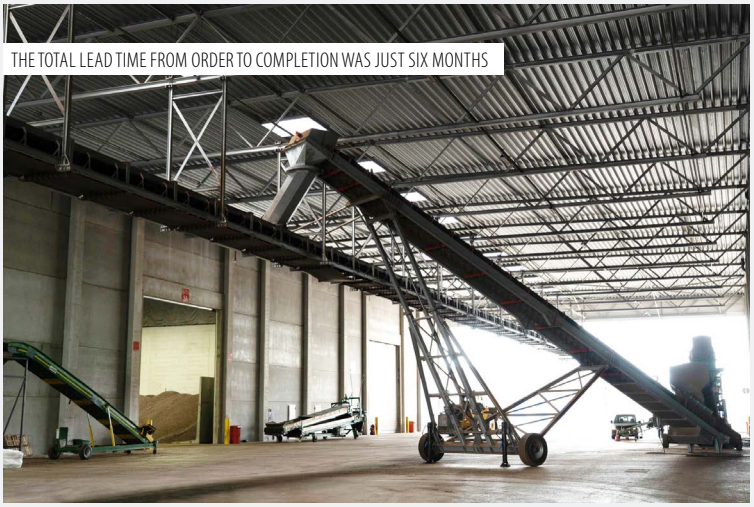
At the head section of the line, the conveyor belt is extendable to load (inland) ships up to a width of approximately 11m in its extended condition. Additionally, in its retracted position, trucks can be loaded. This gives Katoen Natie optimal and flexible use of the installation, now and in the future.

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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Email: info@heiligbv.com
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BRUKS SIWERTELL: ALWAYS TAILORED TO YOUR NEEDS

COMPANY NEWS

Bruks Siwertell is a market-leading supplier of dry bulk handling and wood processing systems. With thousands of installations worldwide, our machines handle your raw materials from forests, fields, quarries and mines, maintaining critical supply lines for manufacturers, mills, power plants and ports.

We design, produce and deliver systems for loading, unloading, conveying, storing, stacking and reclaiming dry bulk materials, alongside equipment for chipping, screening, milling and processing wood for the biofuel, board, saw mill, pulp and paper industries. We are global and local. You will find our main offices in the US, Sweden, Germany, China, Philippines and Taiwan, supported by a dedicated network of hundreds of representatives and dealers worldwide.

> We offer planned, on-demand and emergency service solutions, all designed to ensure the maximum availability of your bulk handling equipment throughout its lifetime

OUTSTANDING PERFORMANCE WITH CONSISTENTLY HIGH THROUGH-SHIP CAPACITY

Our ship unloaders are designed to transfer dry bulk cargo from ship to shore in the most efficient manner possible. Equipped with totally-enclosed screw-type technology, Siwertell ship unloaders deliver high rated capacities, excellent through-ship performance and low environmental impact.

Our ship unloaders can be installed as a fixed unit, rail-mounted for travelling along the quayside, or on rubber-tyre wheelbases.

SHIPLOADERS THAT MEET EXTRAORDINARY NEEDS

Bruks Siwertell's market-leading ship loaders are based on screw, aeroslide or belt conveying technologies and are delivered as stand-alone equipment or as part of terminal systems.

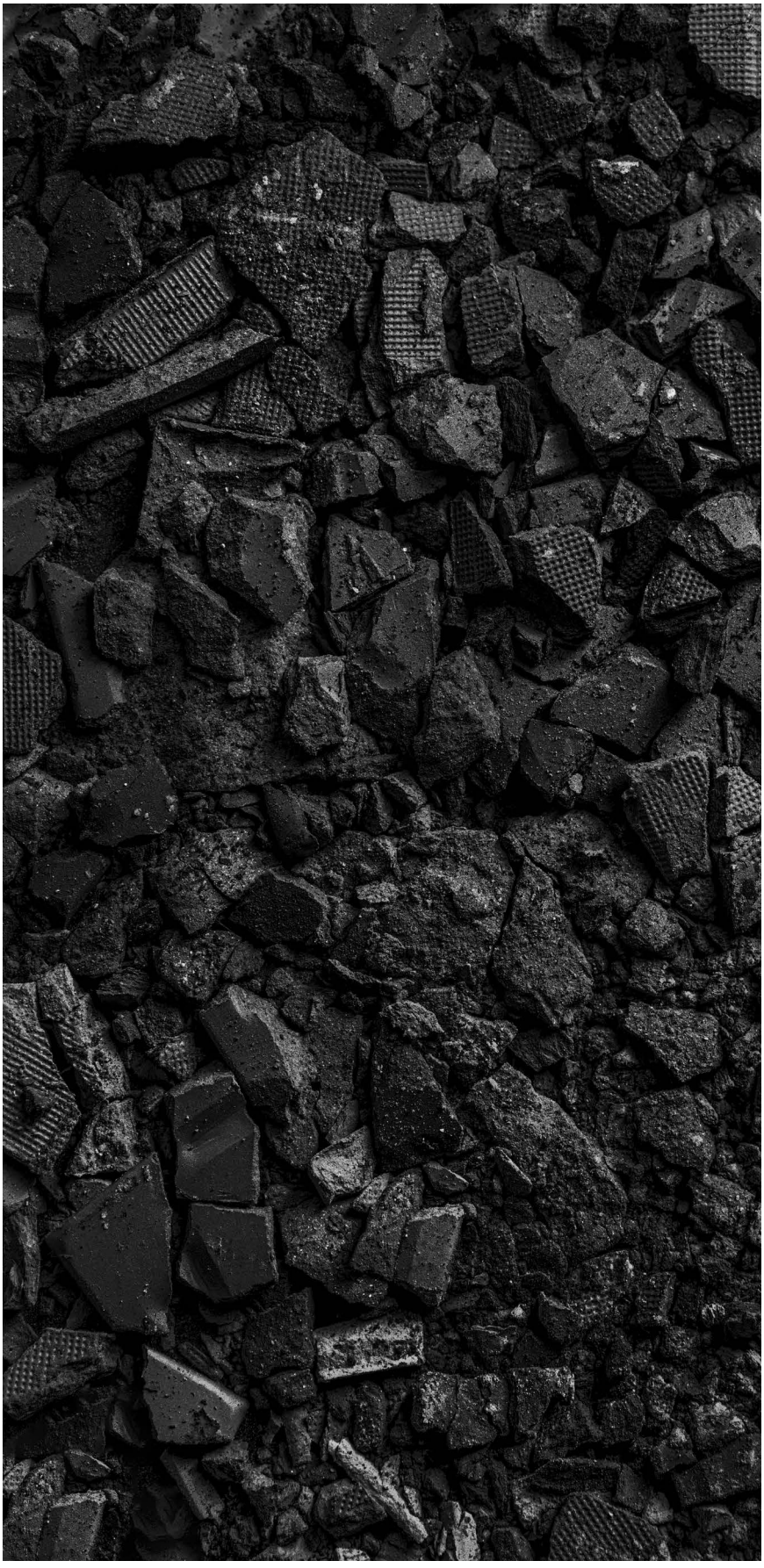
ROAD-MOBILE UNLOADERS: A TERMINAL ON A TRAILER

Our Siwertell road-mobile unloaders provide the ideal solution for customers using jetties with minimal infrastructure, especially when they have operations at more than one location. They handle a wide range of free-flowing dry bulk materials at capacities of up to 500t/h, and have a totally enclosed conveying line, offering flexible, environmentally friendly, economical bulk handling operations.

SERVICE SOLUTIONS FOR BULK HANDLING EQUIPMENT

Bruks Siwertell's market-leading bulk handling deliveries are backed-up by a comprehensive global support network. We offer planned, on-demand and emergency service solutions, all designed to ensure the maximum availability of your bulk handling equipment throughout its lifetime. Preventative maintenance packages are delivered through service agreements.

For more information, visit: bruks-siwertell.com



THE TRUE COST OF COAL

Global coal consumption climbed to a new all-time high in 2022 and will stay near that record level this year as strong growth in Asia for both power generation and industrial applications outpaces declines in the US and Europe, according to the IEA's latest market update

Coal consumption in 2022 rose by 3.3% to 8.3bn tonnes, setting a new record, according to the International Energy Agency's (IEA) mid-year Coal Market Update, which was published recently. In 2023 and 2024, small declines in coal-fired power generation are likely to be offset by rises in industrial use of coal, the report predicts, although there are wide variations between geographic regions.

China, India and South-east Asian countries together are expected to account for three out of every four tonnes of coal consumed worldwide in 2023. In the European Union, growth in coal demand was minimal in 2022 as a temporary spike in coal-fired power generation was almost offset by lower use in industry. European coal use is expected to fall sharply this year as renewables expand, and as nuclear and hydropower partially recover from their recent slumps.

In the US, the move away from coal is also being accentuated by lower natural gas prices.

After three turbulent years marked by the covid-19 shock in 2020, the strong post-pandemic rebound in 2021 and the turmoil caused by Russia's invasion of Ukraine in 2022, coal markets have so far returned to more predictable and stable patterns in 2023.

Global coal demand is estimated to have grown by about 1.5% in the first half of 2023 to a total of about 4.7bn tonnes, lifted by an increase of 1% in power generation and 2% in non-power industrial uses.

By region, coal demand fell faster than previously expected in the first half of this year in the US and the EU – by 24% and 16%, respectively. However, demand from the two largest consumers, China and India, grew by more than 5% during the first half, more than offsetting declines elsewhere.

"Coal is the largest single source of carbon emissions from the energy sector, and in Europe and the US, the growth of clean energy has put coal use into structural decline," says IEA director of energy markets and security Keisuke Sadamori.

"But demand remains stubbornly high in Asia, even as many of those economies have significantly ramped up renewable energy sources. We need greater policy efforts and investments – backed by stronger international cooperation – to drive a massive surge in clean energy and energy efficiency to reduce coal demand in economies where energy needs are growing fast."

The shift of coal demand to Asia continues. In 2021, China and India already accounted for two-thirds of global consumption, meaning together they used twice as much coal as the rest of the world combined. In 2023, their share will be close to 70%.

By contrast, the US and the EU – which together accounted for 40% three decades ago and more than 35% at the beginning of this century – represent less than 10% today.

The same split is observed on the production side. The three largest coal producers – China, India and Indonesia – all produced record amounts in 2022.

In March 2023, both China and India set new monthly records, with China surpassing 400m tonnes for the second time ever and India surpassing 100m tonnes for the first time.

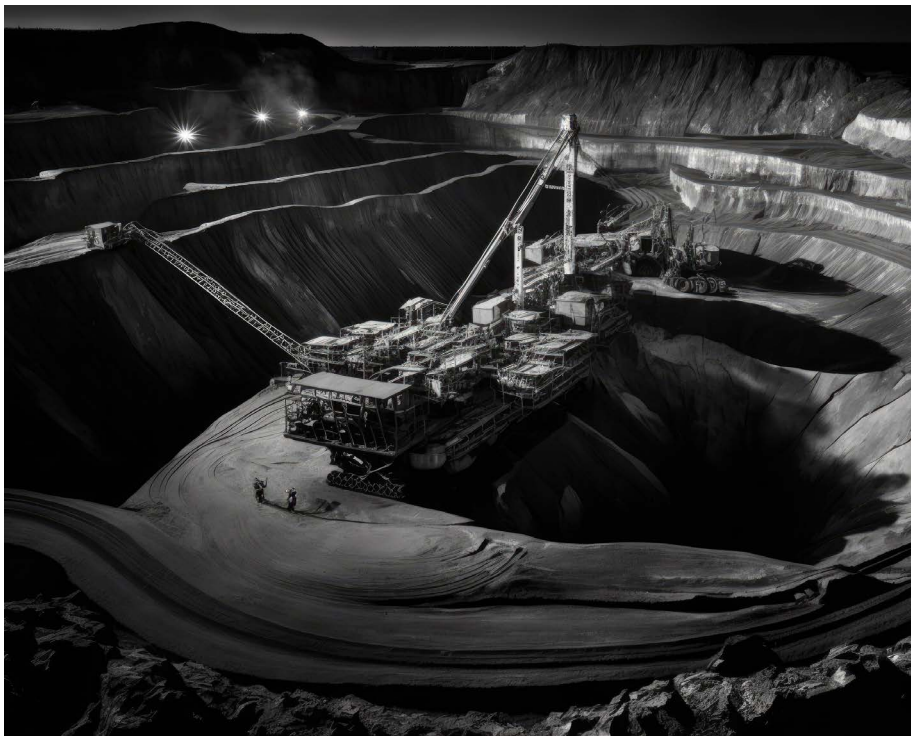
Also in March, Indonesia exported almost 50m tonnes, a volume never shipped by any country before. By contrast, the US, once the world's largest coal producer, has more than halved production since its peak in 2008.

After the extreme volatility and high prices of last year, coal prices fell in the first half of 2023 to the same levels as those seen in summer 2021, driven by ample supply and lower natural gas prices.

Thermal coal returned to being priced below coking coal, and the big premium for Australian coal narrowed following the easing of disruptive La Niña weather that had hampered production. Russian coal has found new outlets after being barred in Europe, but often at considerable discounts.

Cheaper coal has made imports more attractive for some price-sensitive buyers. Chinese imports have almost doubled in the first half of this year, and global coal trade in 2023 is set to grow by more than 7%, outpacing overall demand growth, to approach the record levels seen in 2019.

Seaborne coal trade in 2023 may well surpass the record of 1.3bn tonnes set in 2019, the report says.



REDUCING RISKS

Ensuring safe operations requires considerable efforts on the part of ports and the operators and individuals who make use of the facilities. Training to avoid mistakes is key to safe operations

The UK P&I Club and TT Club have signed up for Safetytech Accelerator's Cargo Fire & Loss Innovation Initiative (CFLII). The initiative, launched in February 2023, is a multi-year collaborative technology acceleration programme focused on reducing cargo fires and loss in maritime and its impact.

It is already supported by Anchor Partners, COSCO Shipping Lines, Evergreen Line, HMM, Lloyd's Register, Maersk, the Offen Group, ONE and Seaspan, which represent around 50% of the total liner shipping market.

The programme will help expedite the uptake of technology and best practice by identifying specific opportunities where technology can make a difference, shaping joint requirements, identifying technology solutions, undertaking trials and developing best practices and recommendations. It has already started working on a solution for early fire detection in cargo holds.

Stuart Edmonston, loss prevention director at UK P&I Club, says: "We are really excited to join this initiative, to roll our sleeves up and get involved with the other partners. Fires on board container ships keep happening, with depressing regularity, often resulting in tragic loss of life and catastrophic damage to ship and cargo. A large proportion of these fires are completely preventable, and we find that losses could have been mitigated by better practices.

"This is an industry-wide problem that requires collaboration. The only way to improve safety is to work together, share ideas,and identify and utilise modern technological solutions."

Mike Yarwood, managing director of loss prevention at TT Club, comments: "As an insurer of many elements of the container supply chain, we have long campaigned for improved certainty for classification, declaration and packing of cargo in containers. We look forward to engaging with fellow partners to improve safety and certainty of outcome in the supply chain."

The initiative has a broad technology scope, encompassing three significant topics of concern. The first relates to onboard cargo control, including whether cargo has been properly loaded, secured and monitored during transit.

The second area covers onboard fires, the ability to rapidly detect fires and prevent propagation through effective onboard response, particularly on cargo vessels such as container ships and car-carriers.

The third topic of concern relates to the challenges created by the increasing scale of vessels.

ELECTRIC VEHICLE SAFETY

There are growing concerns within the shipping community, including marine underwriters, about fires breaking out on car carriers and RoRos with the assertion that many of these fires are attributable to electric vehicles. In response, the International Union of Marine Insurance (IUMI) has researched these claims and published recommendations on the safe carriage of electric vehicles (EVs).

Lars Lange, IUMI secretary general, explains: "Our paper draws on a body of scientific research that demonstrates that fires in battery EVs are not more dangerous than fires in conventional vehicles, nor are they more frequent. Although statistics continue to be gathered, they currently estimate that, in general, there are fewer fires from EVs compared with fires from conventional vehicles when driven over the same distance."

Research also proves that there is only a minor difference between total energy released during an EV fire and one that is related to an internal combustion engine vehicle (ICEV). Once established, vehicle fires are largely (approximately 80%) fuelled by the car body and interior parts rather than the propulsion system.

However, the potential for thermal runaway (when the battery suffers an unstable chemical reaction) exists for EVs whereas it is not a consideration for ICEVs. Thermal runaway makes fires hard to extinguish, hence mitigation measures such as boundary cooling must be employed rapidly. Moreover, the risk of re-ignition is higher for an extended period of time.

In the paper, IUMI makes important distinctions between RoRos and pure car and truck carriers (PCTCs) noting that many RoRos will stow cars on open decks where air flow makes fire-fighting more challenging. Ropax vessels (where passengers are also carried) present additional issues, such as passengers wanting to charge onboard and the possibility of cars being loaded that are older and potentially less safe.

Conversely, PCTCs tend to carry vehicles tightly packed leaving little room for emergency access and facilitating the rapid spread of a fire.

In light of this, IUMI concludes:

- Early fire detection and verification/confirmation is critically important to reduce the time between detection and firefighting response to a minimum. Options, in addition to the conventional systems, could include thermal imaging cameras and AI-powered systems.
- Drencher systems are effective for fire-fighting onboard RoRo and ropax vessels both for EV and ICEV fires and should be installed alongside video monitoring systems.
- CO_2 extinguishing systems, if applied quickly, are successful in fighting PCTC fires and their capacity should be doubled. High-expansion foam fire extinguishing systems have also proved to be effective to prevent heat transfer from one vehicle to another.
- Early detection, confirmation and a short response time are crucial to fight a fire successfully. On board PCTCs, fixed systems should always be applied before manual fire-fighting is employed.
- A clear policy is required on which cargo is accepted or rejected. Vehicles should be screened with used vehicles being checked carefully for hidden damage.
- Charging onboard ropax vessels should be permitted subject to relevant risk assessments and control measures. Safety mechanisms built into EVs are usually activated during charging.

The International Maritime Organization's Sub-Committee on Ship Systems and Equipment will start work on the "Evaluation of adequacy of fire protection, detection and extinction arrangements in vehicle, special category and RoRo spaces in order to reduce the fire risk of ships carrying new energy vehicles" beginning in March 2024.

Lange concludes: "The regulatory process will be an opportunity to improve safety requirements making them fit for the new reality of large numbers of alternative fuel vehicles being carried on board vessels. IUMI will continue to contribute to this debate."

SAMPLING LIQUID CARGOES

Proper sampling of liquid cargoes is vital to protect shipowners' interests when allegations of cargo contamination arise and P&I club Gard has produced an overview of the process.

Disputes relating to "off-spec" or contaminated liquid cargoes are a recurring problem, the club says. Gard is often involved in cases where the shipowner has no independent evidence as to the cause of an alleged cargo contamination.

The source of the problem could be in the shore tank at the load port, in the shore pipeline during loading or on board the vessel itself. The cargo could even have been manufactured out of specification prior to delivery to the terminal for shipment. However, if the cargo is found to be "off-spec" when the vessel arrives at the discharge port, and there is no evidence of contamination from the load port, the vessel could be faced with a potentially large claim even if the vessel is not at fault.

PILOTAGE IN SPOTLIGHT

Britannia P&I Club has recently highlighted the issue of pilotage in its online information. Pilots are familiar with local waters and can help to ensure the safe passage of ships. However, pilotage can also be a high-risk activity and the Club continues to see incidents involving ships under pilotage.

These incidents have highlighted the importance of effective bridge resource management (BRM) during pilotage. BRM is a systematic approach to managing the resources available on the bridge, including the master, pilot and other bridge team members. It involves establishing clear roles and responsibilities, communicating effectively and regularly training crew members.

Effective BRM can help to prevent incidents during pilotage by ensuring that everyone on the bridge is working together to guarantee the safe passage of the ship.

In its article extending its previous guidance covering Ship Pilotage and Intervention, the Club highlights a case study in which it was apparent that an effective master-pilot exchange (MPX) had not been conducted. Carrying out an MPX under time pressure may lead to insufficient information exchange and, in extreme cases, situations where various sections of the pilot card and the MPX checklist are not discussed and merely ticked to show compliance.

A timely challenge from the master should assist in discussing the plan in sufficient detail and provide the opportunity to consider the risks and contingencies.

In the case study, given the pilot's consideration that the tugs were underpowered for the turn, more effective planning should have taken place. A slower approach speed should have been used, especially because of the narrow and short approaching distance to the berth.

The master also failed to challenge the pilot's plan. The most common reason why individuals refrain from a safety intervention is related to personal concerns that the intervention may result in a defensive or angry reaction.

Intervention may be a difficult skill to learn and personnel may require mentoring in this respect. It is recommended that masters and other bridge team members receive such mentoring and the practice of challenging colleagues is embedded through training and navigational assessments."

The Club adds that decisions taken without considering all available alternatives or operational limitations may turn out to be sub-optimal. This risk could be mitigated by an effective risk assessment and contingency plan. These would also support effective decision making while on passage and the outcome should be integrated into the MPX.

In the case study, the underpowered tugs meant that there was little room for error when conducting the turn. Contingency planning is vital where decisions are being made under excessive time pressure and without adequate consideration."

The Club adds that enhanced situational awareness can often be the difference between an incident

occurring or not. Appropriate communication and rehearsed escalation practices should assist in detecting and addressing inadequate situational awareness.

The master of a ship has the right and duty to intervene if they believe that the actions of a pilot could endanger the safety of the ship. However, there are a number of difficulties that can make intervention challenging, such as the pilot being the most experienced person on the bridge and the master not feeling confident enough to intervene.

Despite these difficulties, it is important for masters to be prepared to intervene, or challenge the pilot in a timely manner. This can be done by training masters and bridge team members on the importance of intervention and when to intervene, providing sufficient company support and through embedding an effective safety culture."

The Club has created a poster to be used on board ships to help share the guidance.

SAFETY LIGHT

Marine safety equipment manufacturer, Daniamant has launched its latest lifejacket light innovation, designed specifically for Arctic waters – Dan W3 POLAR.

The newly developed lifejacket light provides reliable efficiency and optimal performance, whilst ensuring enhanced safety for passengers and crew members undertaking Arctic voyages.

The life-saving lifejacket light features enhanced cold weather performance, specifically engineered to allow storage in freezing temperatures as low as -52°C, and ensuring illumination and high visibility in the most extreme of Arctic conditions when in operation.

Developed in line with Safety of Life at Sea (SOLAS) standards, Dan W3 POLAR not only meets, but exceeds all of the requirements outlined by the International Maritime Organization's SOLAS regulations, providing full compliance and adherence to international safety standards, the company says.

MAIB REPORTS ON FIRE

The UK's Marine Accident Investigation Branch has published its accident investigation report into the fatal engine room fire on board *Moritz Schulte* on 4 August 2020. A newly promoted third engineer was recovered after repeated searches of the engine room, but was declared dead nine days later due to the effects of smoke inhalation.
The report contains details of what happened, subsequent actions taken and annexes.

LANGUAGE DIFFICULTIES

A recent report by the Confidential Human Factors Incident Reporting Programme (CHIRP) has highlighted the ongoing problem of communications.

A pilot encountered major communication problems when speaking to the master, who had a poor knowledge of maritime English. Other than simple orders such as "starboard 10" or "dead slow ahead", the pilot struggled to communicate with the master. The pilot also found it difficult to integrate with the bridge team, who all spoke in their language and not maritime English.

Proficiency in maritime English is an essential safety enabler, CHIRP says. It is the official language within the shipping industry and is the foundation of effective communication.

Recruitment Placement and Service Licences play a critical role in ensuring that officers and crew members have adequate language skills in maritime English, which is essential to meet the requirements of the International Safety Management code. This includes emergency preparedness and response, which requires quick and efficient communication to prevent dangerous situations.

Once certificated, all seafarers should be provided with ongoing training and development in maritime English to ensure their communication skills remain current and effective. This can be achieved through various means, including language courses, on-board training programs, and continuous language proficiency assessments.

Like any skill, competency in maritime English will quickly fade if it is not constantly practised, significantly increasing the likelihood of miscommunication or misunderstanding. Companies should invest in ongoing language training throughout a seafarer's career.

Port State Control could remove the master if they consider that their inadequate proficiency in maritime English does not meet the requirements for safely operating the vessel with third parties/contractors and emergency responders.

SUBMARINE RESCUE SYSTEM

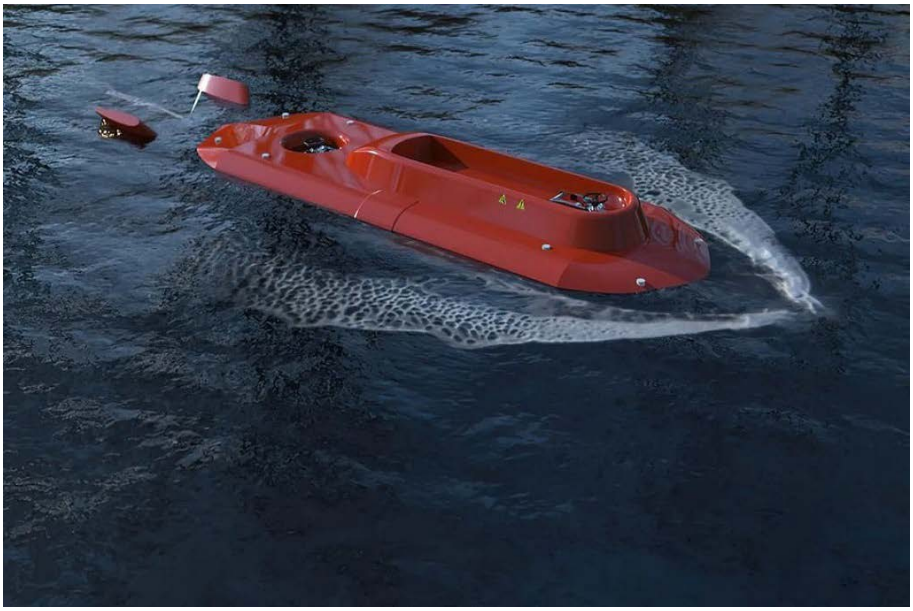
Submarine Manufacturing and Products (SMP), a leading UK-based manufacturer and supplier of diving and subsea rescue equipment, will provide its new Submarine Rescue System (SRS) to the Indonesian Navy. The SRS will be hosted on a mothership designed by independent design and engineering consultancy Houlder and delivered by its Indonesian strategic partner, BTI Defence.

The three-year build contract will include the UK design and manufacture of the SRS, centred around SMP's new market-leading SRV-F Mk3 rescue submersible. The custom build of the mothership will take place in region, along with the associated expert training for the Indonesian Navy, which will operate the system when it is in service.

The SMP SRV-F Mk3 has been developed by the new SMP management team, consisting of seven of the world's foremost submarine rescue experts. As a hybrid system that is capable of deployment both by air and on its mothership, the SRV-F Mk3 can react to a wide range of emergency scenarios, covering larger operating areas and minimising Time To First Rescue (TTFR).

When deployed by air, the rescue submersible can be towed to and from the distressed submarine's location without needing to be recovered to deck. This key attribute reduces the time, risk and complexity of a rescue mobilisation and also greatly increases the likelihood of a suitable support ship being available on location.

This hybrid approach saves critical time for stranded crews facing diminishing life support supplies, and



SMP'S NEW MARKET-LEADING SRV-F MK3 RESCUE SUBMERSIBLE CARGO SAFETY STANDARDS

avoids the integration challenges and dependencies associated with flyaway-only or mothership-only rescue systems.

The SRV-F Mk3 can dive to depths of 500m and is unparalleled in its ability to carry up to 50 rescuees at a time. The adoption of a "One Out, All Out" philosophy facilitates the rapid rescue of an entire crew from a conventional submarine in a single mission, in contrast with other rescue systems which require repeated trips to the distressed submarine.

CO-OPERATION COMMITMENT

Two international associations closely involved in the port and terminal industry are committing to co-operate in improving safety and sustainability across the global industry.

The Port Equipment Manufacturers Association (PEMA) and International Cargo Handling Coordination Association (ICHCA) have announced their joint signing of a Memorandum of Understanding (MoU) to effect their mutual aims.

The collaboration will enable each organisation to better achieve their objectives through a programme of cooperation, which will include agreed actions and initiatives, meetings, sharing and exchange of information and ad hoc task forces to enhance their respective impact on issues and topics where both organisations have a common interest.

The MoU provides a framework to pursue cooperative projects. Although not a commitment of funds, the future co-operation that is agreed will enable each group to benefit from the common activities in their respective strategies, furthering a wider understanding where areas of joint interest have been identified.

PEMA's president Achim Dries comments: "At PEMA we are thrilled to announce the signing of this MoU with ICHCA. It is a momentous step towards fostering greater collaboration and innovation within the maritime industry. This partnership holds immense significance for PEMA as it underscores our commitment to advancing the global port and terminal sector."

"Together with ICHCA, we are poised to harness collective expertise, drive sustainable practices and elevate safety standards, all for the benefit of our industry stakeholders. This MoU signifies not only a union of two influential organisations, but also a shared vision to shape the future of safer port equipment and operations. We look forward to strengthening this partnership and achieving remarkable milestones together."

In welcoming the initiative represented by the joint signing, Richard Steele, CEO of ICHCA added: "At ICHCA we remain committed to our efforts to improve safety, security and sustainability in the global logistics supply chain, especially at the ship/port interface. I believe our agreement with PEMA will significantly enhance our ability to deliver on that commitment. The mutual co-operation between our two organisations will be aimed at the universal understanding and application of measures for the safe handling.

"I am particularly pleased that ICHCA is now teaming up with such a highly respected organisation as PEMA; one that has a global reputation for passionate commitment and practical action to drive safety measures."

A crucial element of the MoU will be an exchange of information and the collaboration of staff and association members, who can offer an unequalled wealth of professional expertise, which can become a fountainhead of knowledge in best practice and improved standards throughout the industry worldwide.

LITHIUM-ION BATTERIES

TT Club, the specialist international freight insurance provider, is seeking greater emphasis on the critical dangers of toxic gas emissions associated with lithium-ion battery fires. The failure of such batteries has the potential to occur with no prior warning, or with such speed that there is typically no time to react to any warning signs.

Devastating consequences of rapidly spreading, and often challenging to extinguish fires involving the batteries particularly in electric vehicles (EV) on board ships, and other parts of the supply chain have been well-documented in recent months. There is, however, less awareness of the highly toxic combustion products that are released and their respective impact to the health and wellbeing of those exposed to the gases.

Based on the evidence of past fires, the time between the initiation of a failed battery igniting to a discharge of toxic vapour can be measured in seconds rather than minutes. This is due to a process known as thermal runaway.

The rapid sequence of events typically occurs where an internal electrical short within one of the battery cells generates heat; this breaks down the internal structure of the battery, increasing the rate of the reaction in an ever-increasing cycle. There is often a dramatic release of energy in the form of heat and a significant emission of toxic gases.

Neil Dalus of TT endeavours to paint a picture of the dangers. "During a lithium battery thermal runaway event, research has shown that significant amounts of vapour can be produced per kWh. In many common supply chain scenarios, including ships' holds and warehouses, the reality is that such vapour clouds are likely to accumulate. Even when the clouds are able to disperse, the potential toxic effects may occur at lower concentrations."

Drivers, stevedores, ships' crews and first responders attempting to control the blazes encounter what might appear to be smoke, but is in fact a mix of toxic gases, generated quickly and in large volumes. These gases once in the atmosphere behave differently to smoke, often pooling at floor level due to their density.

"Traditionally where fires and smoke are concerned, one would stay low to avoid inhalation.Doing so where lithium battery fires are concerned is likely to prove problematic," observes Dalus.

The toxicity of gases given off from any given lithium-ion battery differ from that of a typical fire and can themselves vary, but all remain either poisonous or combustible, or both.

> "Given the hazardous nature of this vapour, if any of these measures are not in place then the best course of action is to evacuate the area and leave the incident response to the emergency services, ensuring that the known risks are appropriately communicated

They can feature high percentages of hydrogen and compounds of hydrogen, including hydrogen fluoride, hydrogen chloride and hydrogen cyanide, as well as carbon monoxide, sulphur dioxide and methane among other dangerous chemicals.

In terms of hazards to the wellbeing of those in the vicinity of such an incident, one particularly problematic component is hydrogen fluoride (HF). Although HF is lighter than air and would disperse when released, a cloud of vapour and aerosol that is heavier than air may be formed (EPA 1993).

On exposure to skin or by inhaling, HF can result in skin burns and lung damage that can take time (hours to weeks) to develop following exposure.

HF will be quickly absorbed by the body via skin and lungs, depleting vital calcium and magnesium levels in tissues, which can result in severe and possibly fatal systemic effects.

The hydrogen content of the released gases can give rise to vapour cloud explosion risks which have the potential to cause significant damage.

TT advocates a range of measures to mitigate the risks. A prudent starting point would be to perform a fire risk assessment, considering the specific hazards presented by lithium-ion batteries. Risk mitigation considerations thereafter could include providing operatives with certified full-face self-contained breathing apparatus, chemical-resistant boots among other protective equipment, as well as drench showers for post-response decontamination.

Strategic positioning of fire-fighting equipment should also be a key consideration.

Early detection of such an incident can also be pivotal in managing the response, camera and thermal imaging could enable an expedient response. Such equipment might have already become commonplace for some modes. However, conducting a thorough risk assessment, for example when cargo is stored in warehouses, would be prudent.

As Dalus comments: "Given the hazardous nature of this vapour, if any of these measures are not in place then the best course of action is to evacuate the area and leave the incident response to the emergency services, ensuring that the known risks are appropriately communicated."

Consideration should also be given to the location of any incident that might include clean up and entry. The gases produced potentially leave toxic deposits on all surfaces and in the atmosphere. Therefore, once the incident is under control, potential hazards remain.

OPEN SEASON

A new report reveals bunker discrepancies in the maritime industry and calls for greater transparency, while a range of new initiatives aim to improve safety, security and efficiency in ports

FuelTrust has released a new report examining bunker discrepancies in the maritime industry, which includes examples of unethical practices and fraudulent activities related to bunkering.

FuelTrust's analysis found that between 2021 and 2022, more than 39% of global bunkers exhibited a fuel content delta of 2% or more compared to the amounts stated in their delivery paperwork. The primary issue identified was the introduction of water into the fuels during the journey from onshore storage tanks to the ship's bunker tank. This problem typically involved an increase from 0.1% to above 0.25% water content, which, although below the regulated threshold, still resulted in average losses of $14,910 per affected delivery.

The maritime fuel market has a long history of not being transparent. Bunker fuels account for more than 50% of a vessel's operational expenses, meaning fraudulent practices and supply chain mismanagement can significantly affect the profitability of vessel owners, charterers and fuel suppliers.

Just this month, 11 ships lost propulsion, and more than 100 ships were affected in a single incident of fuel contamination in Houston.

Even fuel considered "on-spec" (meeting specified quality standards) experiences volume or content issues, leading to financial losses or engine problems. In the past year, over 600 vessels were disabled through fuel problems, despite the fuel being 'on-spec', resulting in estimated global supply chain losses exceeding $5bn. Both fuel suppliers and shipowners incurred financial losses, which are difficult to detect and claim against.

FuelTrust's AI-based approach to creating a trusted fuel ecosystem through transparency and traceability addresses the challenges in the fuel supply chain, particularly in the maritime sector. By providing visibility into the final outcomes of fuel products, fuel suppliers can better understand and validate their offerings, while fuel buyers can combat fraud, minimise losses, and mitigate environmental risks.

Jonathan Arneault, CEO and co-founder of FuelTrust comments: "This new research across the global bunkering market emphasises the need for better transparency. By providing visibility, traceability and security in the fuel supply chain, FuelTrust is improving operational efficiency, helping reduce environmental impact, and fostering trust among all stakeholders.

"As the latest contamination case demonstrates, it's essential that ship owners, bunker suppliers and charterers can gain better insight into their fuel supply chains. Better information on the fuel we use is also a foundational block of any serious GHG reduction strategy."

MARINE RISK

In a recently published study from Chalmers University of Technology, Sweden, the researchers used four different types of port environments to investigate the levels of contaminants emitted from five different sources.

The researchers found that the combined emissions of metals and environmentally hazardous substances is putting the marine environment at risk.

Ninety per cent of the harmful emissions came from ships fitted with scrubbers, whose purpose is to clean their exhaust gases.

"The results speak for themselves. Stricter regulation of discharge water from scrubbers is crucial to reduce the deterioration of the marine environment," says Anna Lunde Hermansson, a doctoral student at the Department of Mechanics and Maritime Sciences at Chalmers.

Actual data from Copenhagen in Denmark and Gdynia in Poland were used for two of the ports covered. They were selected due to high volumes of shipping traffic, and a substantial proportion of these ships having scrubbers.

The results showed that the cumulative risk levels in the ports were, respectively, five and 13 times higher than the limit that defines acceptable risk.

RULING REVOKED

The British Ports Association has welcomed the news that the legislation on port services provision will be revoked in the UK by the end of the year. It suggests the move will help maintain the competitiveness of British ports and help keep a flexible and open system for port users.

Despite many of the customs and borders challenges the UK ports sector has faced since the UK's departure from the EU, this is one development that can be viewed as a genuine Brexit dividend, according to the Association.

The legislation was introduced at the tail end of the UK's membership of the European Union and the Department for Transport has today confirmed will be revoked under the recently passed Retained UK Law Act. This will enable UK ports to continue to use British rules on governance and maintain their existing flexible regimes and arrangements with service providers.

Richard Ballantyne, CEO of the British Ports Association, which represents ports that collectively facilitate 86% seaborne trade, including most of the operators covered by the rules, says: "This is excellent news for the UK maritime industry as the legislation created an inflexible system with additional costs for ports and shippers.

"The announcement means our industry can continue to operate without the unsuitable rules that could have delayed and frustrated valued port users and service providers. Unlike other ports communities our industry is underpinned by financial, strategic and regulatory independence as well as a strong element of competition and customer service.

"These rules were originally devised to suit other European port sectors where there was an absence of similar rules, but with more state involvement. We have therefore long since maintained that they are not suitable in the UK.

"Indeed we already have clear and well understood existing rules and arrangements in place, which results in port users in Britain being served by a modern and dynamic customer facing ports sector."

IHMA INITIATIVE

The International Harbour Masters Association (IHMA) has joined in an industry initiative to promulgate a vision for the improved safety and security of global trade by taking advantage of unified information and data sources to bring greater awareness and understanding of concerning issue.

The IHMA has signed a Memorandum of Understanding as a result of collaboration with the Cargo Incident Notification System (CINS); Confidential Human Factors Incident Reporting Programme (CHIRP); Container Owners Association (COA); International Cargo Handling Coordination Association (ICHCA) and Ship Message Design Group (SMDG), which inaugurated the MOU in March this year.

Concentrating on improved safety during the global transport and handling of goods that have the potential to cause injury to the workforce and/or damage to the environment, all the signatories have a commonality of purpose. The chief aim is to create a framework for co-operation that enables each signatory to benefit from any of the other's activities in respect of their areas of joint interest.

The five, now six, leading industry bodies will be able to coordinate data, research and best practices across global cargo supply chains to further develop awareness throughout the freight industry, among operators, regulators and policy makers as to practical and effective measures to improve safety.

Captain Paul O'Regan, president, IHMA, says: "As the professional body for those with responsibility for the safe, secure, efficient and environmentally sound conduct of marine operations in port waters, IHMA recognises that accidents and incidents happen in port as well as at sea.

"This collaboration with the MOU partners and the other organisations will help us to enhance safety throughout the ports sector and create a platform for mutually beneficial work on safety initiatives in the maritime environment."

In welcoming IHMA, CEO of ICHCA Richard Steele says: "it is a first-class addition to have the IHMA on-side because harbour masters play a crucial role in both maritime safety and the ship shore interface.

"Their leadership on navigational safety along with an essential contribution to wider operational safety, security and environmental protection puts them at the crossroads of the activities that the MOU partners are seeking to continuously improve."

EMISSIONS SOLUTION

PortXchange's software solution, EmissionInsider, has been effectively utilised in the Port of Rotterdam, Europe's largest seaport. This tool simplifies and automates transport-related emission data collection and establishes a customised baseline emissions inventory for each port.

Through EmissionInsider, Rotterdam has established a comprehensive emissions profile and made significant strides towards achieving its decarbonisation targets.

EmissionInsider provides port authorities with data to make strategic decisions on targeted decarbonisation strategies. Such decisions can include adopting mechanisms and incentives that encourage and promote sustainable shipping practices, such as speed optimisation, which can significantly reduce emissions.

The shipping industry's path towards decarbonisation is increasingly reliant on digitalisation. As demonstrated by PortXchange, collaborative, technology-driven solutions can help the industry surpass the International Maritime Organization's emission reduction goals.

The rapid uptake and implementation of such solutions will be crucial in driving the industry's transition towards a sustainable future.

While the post-MEPC80 landscape brings with it a large share of challenges, it also opens doors for greater collaboration and innovation, but only if they recognise the part that ports must play in meeting their targets.

By harnessing the power of technology and committing to robust decarbonisation strategies, the shipping industry can effectively navigate these uncharted waters.

OPPORTUNITY KNOCKS

There has been plenty of activity in Australian ports over recent months, reflecting market conditions and changes in business activity

Pilbara Ports Authority delivered a total monthly throughput of 62.8m tonnes (Mt) for August 2023, consistent with the August 2022 throughput.

The Port of Port Hedland achieved a monthly throughput of 48.6Mt, of which 47.8Mt was iron ore exports. This was a 4% increase in total throughput compared to August 2022.

Imports through the Port of Port Hedland totalled 172,000 tonnes, a decrease of 17% compared with August 2022, due to longer than anticipated biosecurity clearance processes, the port said.

The Port of Dampier delivered a total throughput of 13.4Mt, an 11% decrease from August 2022.

Several factors influence the fluctuation of throughput, including changes in market conditions, port maintenance operations and proponent needs.

Imports through the Port of Dampier totalled 77,000 tonnes, an increase of 5% from August 2022.

Total throughput across all ports since 1 July 2023 is 122.5Mt.

DIVERSIFICATION OPPORTUNITIES

The Australian government is continuing to drive economic diversification opportunities in the Pilbara, with the new multi-user facility and logistics hub at Port Hedland's Lumsden Point.

The Lumsden Point project, backed by a $129.1m state government investment, includes construction of sea walls, a causeway to connect the wharf to the proposed logistics hub, dredging of the inner harbour and construction of the roads and intersections in support of the Pilbara Hydrogen Hub.

The Pilbara Ports Authority has awarded MGN Civil the contract for the west seawall construction.

The plan for the Lumsden Point development will deliver new multi-user facilities and berths, diversifying trade in the Pilbara and supporting growth of renewable industries in Australia and overseas.

It will increase export capacity for battery metals such as lithium and copper concentrates, facilitate the import of renewable energy infrastructure including wind turbines and blades, and support the rapid growth of direct shipping services to the Pilbara.

The Commonwealth government is investing $565m to support common user port upgrades in the Pilbara, part of which will enable the development of Lumsden Point.

Premier Roger Cook says:"We know there are enormous opportunities in the Pilbara for job-creating new green industries, but we need the infrastructure in place to facilitate this growth.

"The Lumsden Point development will open up new opportunities in battery metals and renewable energy – ensuring the Pilbara remains the nation's economic engine room long into the future. It's also great to see Pilbara businesses benefiting from this major investment, as part of our commitment to local content in government contracts."

Ports minister David Michael says: "It is fantastic to see the progress being made at Lumsden Point, with this critical piece of infrastructure essential to facilitating growth and trade diversification in the Pilbara. It will also ensure WA is prepared for the future as we transition to net-zero emissions.

"The west seawall contract will provide a boost to the local economy and is an important step to enable future work at Lumsden Point to progress.

"The ultimate development of Lumsden Point is expected to boost Australia's gross domestic product by $2.1bn per annum. It is expected to save 3.6m tonnes of emissions by 2055 by supporting direct shipping to the Pilbara and providing a pathway for renewable energy infrastructure."

> "The Lumsden Point development will open up new opportunities in battery metals and renewable energy

MARINA PROJECT

The Spoilbank Marina project in Port Hedland has been continuing with the largest package to date, which includes the construction of the marina roads, car and trailer parking, retaining walls, footpaths, landscaping, public amenities, shade structures, barbecue areas and the installation of utilities and services. Western Australian business Ertech has been awarded the works contract.

The $187.5m Spoilbank Marina project is a key election commitment from the Western Australia Labour Government, and is funded by the State Government, Town of Port Hedland, and BHP.

CARBON CAPTURE CHAIN

Sumitomo Corporation , Toho Gas Co, Kawasaki Kisen Kaisha, (K Line) and Woodside Energy have signed a non-binding memorandum of understanding (MOU) to jointly conduct a feasibility study to establish a carbon capture and storage (CCS) value chain between Australia and Japan.

This study is to investigate the feasibility of establishing an entire CCS value chain among the four companies, whereby CO_2 emissions from various industries and companies in the Chubu region in Japan. These will be captured/accumulated, and liquefied by using technology being developed by Toho Gas and transported to Australia by a low-temperature, low-pressure liquefied CO_2 carrier for injection/storage at Australian storage site.

The Japanese government has set a goal of reducing overall greenhouse gas (GHG) emissions to net zero by 2050 and implemented a policy to develop a business environment to initiate CCS projects by 2030 . CCS is expected to play a very important role in achieving GHG emission reduction targets as one of the primary decarbonisation solutions.

Sumitomo Corporation, Toho Gas, K LINE, and Woodside plan to exchange information, knowledge, and experiences through the progression of this CCS initiative.

LARGEST SHIP UNDERWAY

Australian shipbuilder Incat Tasmania has under construction the largest lightweight battery electric ship (130m in length) so far constructed in the world for delivery to its South American customer, Buquebus.

This ship, the world's largest battery-electric Ro-Pax ferry, will be 100% battery electric. The energy storage system (ESS) battery storage at over 40MWh will be four times larger than any battery installation that has been constructed and installed anywhere in the world for the marine transport environment.

The batteries power a series of E-motors which drive the water jet propulsion system. The electrical system

THE 130M BATTERY-ELECTRIC VESSEL IS THE WORLD'S LARGEST

integration is by Wärtsilä and ESS by Corvus Energy.

The interest in these battery electric ships is very positive and Incat is now working toward the construction of its second but smaller battery-electric vehicle/passenger ferry.

Incat Founder Robert Clifford says: "We are proud to be building in Tasmania this first-in-class ship for Buquebus, which, like us, shares a vision to be at the leading edge of low emission shipping in the world. Incat has always been an innovator and once again we are leading the world and the world is taking notice.

"This worldwide interest in Incat's capabilities to deliver electric ships is a great opportunity for Tasmania and we expect this interest to magnify.

"We are already increasing our workforce and have just finalised plans for the recruitment of at least another 200 employees over the next 12 months, with the expectation that our workforce will more than double in coming years".

Incat managing director Craig Clifford says: "The build of the Buquebus ship is leading the world in this type of ship construction and will have leading edge technology in terms of zero emissions propulsion and storage systems. Once in operation the shore-side charging systems will have 50% more capacity than any current installation world-wide."

The world first Incat Hull 096 will have a capacity for 2,100 passengers and crew, 225 cars and will also include a Duty Free shop of more than 2,000m^2 on one level."

Clifford continues: "The feedback from overseas has been extraordinarily positive. I expect that we are going to see many more battery electric ships built here at Incat in Tasmania.

"The Australian Federal Government has a clear plan for decarbonising the economy and with 100% renewable energy and already net zero emissions having been achieved here in Tasmania we are ideally placed to build zero emission ships for the world right here.

"In fact due to Tasmania already having achieved overall net-zero emissions, we are the only location on the planet that is able to construct zero-emission, battery electric ships in an already net-zero emissions environment for our customers."

Corvus Energy, the world's leading provider of zero-emission solutions for the maritime industry has been selected by technology group Wärtsilä to supply the battery systems for the ferry.

"This groundbreaking project marks a turning point in the maritime industry's effort to transition towards greener means of transportation. Combining cutting-edge technology, environmental consciousness, and innovative design, it redefines the future of ferry operations worldwide and paves the way for other large, zero-emission vessels," says Halvard Hauso, commercial director Europe, Corvus Energy.

"We are very grateful that Wärtsilä once again chose Corvus Energy as their partner for such an important and advanced project."

This project is made possible by Corvus' latest technological breakthrough – the lightweight battery, Dolphin NextGen. The design is based on the architecture of the four-year, multi-million development programme for the Corvus Blue Whale ESS.

The Blue Whale development included a ground-up redesign that reevaluated and improved every aspect of battery design, including battery chemistry, mechanical and electrical design, and software building blocks. The Dolphin NextGen energy storage system is a game changer for marine battery projects due to its low weight and volumetric density, robustness, and unsurpassed flexibility.

The battery systems are scheduled for delivery at the end of 2024 and the vessel will enter operation in 2025.

AMSA BAN

The Australian Maritime Safety Authority (AMSA) has banned the Liberian-flagged bulk carrier *MSXT Emily* from Australian waters for one year, after finding apparent serious issues of wage theft and seafarer mistreatment onboard.

AMSA inspected the ship at the Port of Hay Point, in Queensland, and found evidence of several violations of the Maritime Labour Convention, 2006. The vessel had been chartered by K-Line to load a cargo of coal for discharge in Japan.

Seafarers onboard the vessel had not been paid in accordance with their Seafarer Employment Agreements: four contained apparently-forged signatures from employees, and five seafarers appeared to have been coerced into signing new employment agreements that had lower salaries.

In one case, a seafarer had signed a new contract while they still held a contract valid for a further four months, for 50 per cent less pay. Inspectors found evidence that more than US$77,000 in unpaid wages had been owed to seafarers working onboard the *MSXT Emily*.

For a full list of ships AMSA has banned – Refusal of access list and letters of warning list – visit: amsa.gov.au

CODE GREEN

Ports in the Netherlands have been expanding their sustainability efforts with a range of innovative, world-leading initiatives

The Port of Rotterdam Authority and Yokogawa Electric Corporation have started a feasibility study into increasing cross-industry integration for the efficient use of energy and utilities in the Rotterdam industrial cluster to contribute to ambitious regional decarbonisation goals. A first scan showed that optimising the use of electricity and utilities across companies could yield cost savings as high as 5%.

As the port of Rotterdam explains, individual companies in the petrochemical industry have generally highly optimised their own operations. However there are concerns about exposing confidential information which often hamper them from looking "beyond the fence" to work with other companies in an industrial cluster, even though this can yield further energy and resource savings.

The Port of Rotterdam and Yokogawa aim to break through this barrier by facilitating confidential sharing of data and deeper integration within the cluster to unlock the large potential efficiency gains of optimising production across entire industrial clusters.

Through integration of multiple utilities such as heat, electricity, and hydrogen, industrial flexibility can be increased, which leads to new efficiencies. For example, with regards to electricity, consumption "behind-the-meter" may be optimised between adjacent companies to manage peak demand, which could also help prevent or reduce electrical grid congestion in the port area.

The same approach can be extended by orchestrating the use of other utilities. Companies that produce steam as a by-product, for example, could choose to ramp up production right at the time when a neighbouring company needs more steam, preventing heat from being wasted. Overall, this multi-utility approach could make a relevant contribution to energy savings and emissions reduction.

As Europe's largest port and home to more than 200 industrial companies, the Port of Rotterdam is uniquely positioned to facilitate and implement this project in support of the energy transition. Yokogawa is able to leverage its simulation technology that supports optimal production planning, solutions for regional energy management, and consulting capabilities to uncover opportunities for efficiencies across multiple industrial systems.

The two companies have already completed a pre-feasibility study using computer simulations and comparisons with operations in the Rotterdam port industrial cluster to identify potential savings of a range of utilities. This was combined with deep-dive workshops and roundtable discussions with various companies active in the area.

The pre-feasibility study showed up to 5% improvements in efficiencies from better alignment of the use of electricity, heat, steam, and feedstocks such as water and industrial gases, resulting in lower costs and a reduced carbon footprint. In the long run, deeper integration and optimisation within the industrial cluster could yield savings as high as 10%. In this way, the Rotterdam area could develop towards an "industrial sharing economy" in which intensive sharing of resources and infrastructure leads to highly efficient operations for all companies in the region.

Following these promising initial evaluations, the Port of Rotterdam and Yokogawa have now started a feasibility study with several petrochemical and energy companies in the cluster to define concrete use cases based on existing operations. The first results of the feasibility study are expected by the end of 2023. If sufficiently positive, the next step will be to develop plans for carrying out field trials with cooperating companies in the port from 2024.

LINKING UP WITH SINGAPORE

The ports of Rotterdam and Singapore, alongside some 20 partners in the Green & Digital Shipping Corridor are working to reduce 20% to 30% of emissions from international shipping by 2030, following a recent agreement between the three parties.

The Green and Digital Shipping Corridor was established in August 2022 to bring together partners across the supply chain to realise zero and near-zero emissions shipping on the Rotterdam-Singapore route, with the ultimate aim to reach net-zero emissions in 2050. Over the past year, the corridor has attracted strong support from global value-chain partners, including shipping lines, port authorities and operators, fuel suppliers, fuel coalitions and associations, banks, leading institutes of higher learning and knowledge partners.

The project partners are working towards reducing greenhouse gas emissions from this international shipping corridor by 20%, striving for 30%, by 2030, compared with 2022. The corridor will continue to deepen efforts towards achieving the strengthened ambition of the International Maritime Organization (IMO) under the 2023 IMO Strategy on Reduction of Greenhouse Gas Emissions from Ships. This is to be achieved through the development and uptake of zero and near-zero emission fuels in large containers vessels (of at least 8,000 TEU) deployed on the 15,000 km route, supported by a combination of operational and digital efficiencies.

A modelling study led by the Mærsk Mc-Kinney Møller Center for Zero-Carbon Shipping, one of the corridor partners for the project, and supported by the ports, explored multiple alternative fuels across a variety of zero and near-zero emission pathways, including synthetic and bio-variants of methanol, ammonia and liquefied natural gas. Beyond the study, hydrogen is one other alternative fuel pathway to be looked at. Efforts are underway to aggregate demand and supply to reduce cost gap towards adoption of sustainable fuels.

Working groups have been established to look into the deployment of all of these fuels on the trade lane, spanning across demand and supply of fuel, standards, safety procedures, financing and regulations. The corridor partners gathered in Rotterdam this week to identify action steps for the various fuel pathways.

Low-carbon fuels are likely to be

more expensive than existing fuels. Therefore, a separate working group has been formed with the support of the Global Maritime Forum, the Centre for Maritime Studies of the National University of Singapore, University of Oxford, and Citi, to address gaps in regulation and financing. The study includes modelling price-gap differences to incentivise the uptake of alternative fuels.

In addition, Singapore and Rotterdam have jointly assessed the readiness of both ports and steps ahead such as adopting similar bunkering standards and safety frameworks to accelerate the adoption of zero and near-zero emission fuels on this major trade route. This was put into action in Q3 2023 with the conduct of ship-to-ship green methanol bunkering on the world's first methanol-fuelled container ship at both Port of Singapore and Rotterdam.

Rotterdam and Singapore are the first ports adopting and sharing port and vessel information such as arrival and departure timings in accordance with global standards, namely the IMO & International Hydrographic Organization standards to enable systems interoperability. Both ports are also promoting the use of electronic bills of lading and digital solutions such as just-in-time planning.

HYDROGEN STUDY

Inland port Duisport and the port of Rotterdam recently announced further future plans to develop European hydrogen chains with a new feasibility study.

The study shows the combined role the two ports have to play in supporting the growing demand from the industry for hydrogen and its derivatives, and acting as a conduit between the governments, industry, and future players in the hydrogen market.

OCI Global, the Dutch listed global leader in ammonia, methanol and hydrogen, is partnering with the ports to demonstrate that the planned hydrogen corridor between Rotterdam and Duisport is already in place and in a strong position to meet the high demand for low carbon and renewable hydrogen from the industrial cluster in the Ruhr region.

OCI Global and the Port of Rotterdam Authority already have a long-standing partnership, working together on a number of decarbonisation initiatives. OCI Global operates the port of Rotterdam's only ammonia import terminal, which it is in the process of expanding to triple its throughput capacity, in anticipation of growing demand for ammonia as cleaner fuel for hard-to-abate sectors.

OCI also operates a methanol import terminal and earlier this year, the company announced two new green methanol partnerships in the port of Rotterdam: with Unibarge to develop the world's first dual-fuelled bunker barge powered by OCI HyFuels green methanol; and with X-Press Feeder Lines to supply green methanol for their new-build methanol dual-fueled common feeder ships. Both projects will be deployed next year.

OCI recently completed Europe's first bunkering of green methanol onto the world's first green methanol powered containership, owned by AP Moller - Maersk, in the port of Rotterdam.

The feasibility study highlights that in North Rhine-Westphalia, a significant increase in the demand for low carbon hydrogen of more than three million tonnes per year is expected until 2045. The demand for methanol is also expected to increase significantly, to more than 2.5 million tonnes per year. However, more clarity is needed on supply and demand, and Duisport and the Port of Rotterdam Authority are mediating between the political and business worlds to match supply and demand and provide the necessary clarity to help speed up the decision-making on investments and subsidies.

The ports are supported by the

hydrogen initiative 'Hy.Region.Rhein.Ruhr e.V.', co-founded by Duisport, which the port of Rotterdam has now also joined.

To meet expected demand, it will be crucial to scale up relevant infrastructure and provide suitable areas. The study shows that the first hydrogen pipeline between the two ports should be completed by 2027 to meet the growing demand for green hydrogen in North Rhine-Westphalia in the medium term. Hydrogen derivatives pipelines and pipelines for the export of CO_2 should follow.

Inland shipping and rail transport will also remain essential elements in getting the hydrogen chains up and running, and facilitating the first imports. According to the study, several hydrogen pipelines will ultimately be needed to meet the demand in North Rhine-Westphalia and beyond.

Rotterdam and Duisport extended their collaboration last year when they signed a MoU on digitalisation and energy transition, to jointly explore the possibilities for green hydrogen, methanol and ammonia.

Both ports are already taking action to develop the necessary infrastructure to support the hydrogen economy including the expansion of tank storage capacities for hydrogen derivatives in Duisburg. Duisport recently announced its intention to build a storage facility for tank containers with green energy sources and a tank farm for liquid renewable fuels and raw materials such as ammonia in the port of Duisburg. The construction of a first hydrogen plant is planned for mid-2025.

In the port of Rotterdam, several projects have been announced for hydrogen import terminals and local hydrogen production, including the expansion of OCI Global's ammonia terminal, and the building of a 200MW electrolyser by Shell. Space has been reserved for several electrolysers that will produce green hydrogen from North Sea wind energy. Gasunie recently made the decision to invest in the national hydrogen network, the construction of which will start in Rotterdam.

Rotterdam's deputy mayor Robert Simons comments: "The relationship between the largest inland port Duisport and the largest seaport Rotterdam demonstrates the importance of co-operation in the energy transition for industry in Northwest Europe."

Martin Murrack, Duisburg's city director and the department head responsible for the port, adds: "With its participation in this further hydrogen project, the port of Duisburg is once again impressively demonstrating its innovative strength and charisma. Nowhere is the structural change from a heavy industry dominated by coal and steel to a green technology more noticeable and urgent than here in the Ruhr region.

"That is why it is particularly important for Duisburg that appropriate impulses from this key technology emanate from here to support the path to decarbonisation of the economy and industry."

FLOW BATTERIES CONTRACT

The Port of Rotterdam Authority and inland shipping operator PortLiner signed a contract in September for the construction of a charging and storage pontoon for flow batteries in the Hartelkanaal.

From this bunkering station, PortLiner will supply electrically powered inland vessels with flow batteries. Construction is set to begin in the fourth quarter of this year, with completion of the Netherlands' first electrolyte bunkering station expected in Q1 of 2024.

Due to growing demand for electrically powered inland vessels, PortLiner is expanding operations by constructing the electrolyte bunkering station. The Hartelkanaal was chosen as the site in the port of Rotterdam. The pontoon is to be supplied with green power (wind energy) from Greenchoice's adjacent wind farm.

Together with partners Vattenfall and Greenchoice, PortLiner has developed the concept for zero-emission shipping based on flow batteries. In flow batteries, electricity is charged in a liquid (electrolyte). On board a ship, the electricity is then extracted from the liquid and used to propel the ship. The discharged electrolyte is then exchanged for charged electrolyte and the discharged electrolyte is recharged.

COAL FREE GOAL

Coal terminal Rietlanden, owned by the Japanese JERA Global Markets, has been sold to Rhenus Group, a major logistics player in both transport and storage the companies announced recently.

The Port of Amsterdam has stipulated in this sale that no more coal will be transhipped from 2030. The new owner will transform Rietlanden into a terminal where non-fossil cargo will be handled. Rhenus and Port of Amsterdam will discuss this further.

In 2017, Port of Amsterdam indicated that it would be a coal-free port by 2030. Despite the growth in coal over the past two years, due to geopolitical developments, the port is continuing to hold with this plan. The transfer of Rietlanden to the German Rhenus takes place in two phases. The first phase this year, and another phase in 2027.

Koen Overtoom, CEO of the Port of Amsterdam comments: "Since the announcement of our ambition to be a coal-free port by 2030, major steps have been taken by the coal terminals in our port. We say goodbye to the cargo and not to the customers. Together with them, we are working on a future-proof, climate-neutral port.

"We are therefore pleased with this large logistics player, which is able to further expand the ambitions of all of us and transform Rietlanden into a terminal with great potential for the future."

HYDROGEN GRANT

Electriq Global has been awarded a €1.1m grant from the Netherlands Enterprise Agency (RVO) for a hydrogen powder manufacturing plant, to be built on Zenith Energy Terminals' grounds and powered by Zenith's renewable energy. The facility is scheduled to begin operations in 2026.

The project is part of moves to transform the port into a central hub for hydrogen carriers, with a target of handling one million tons of hydrogen by 2030.

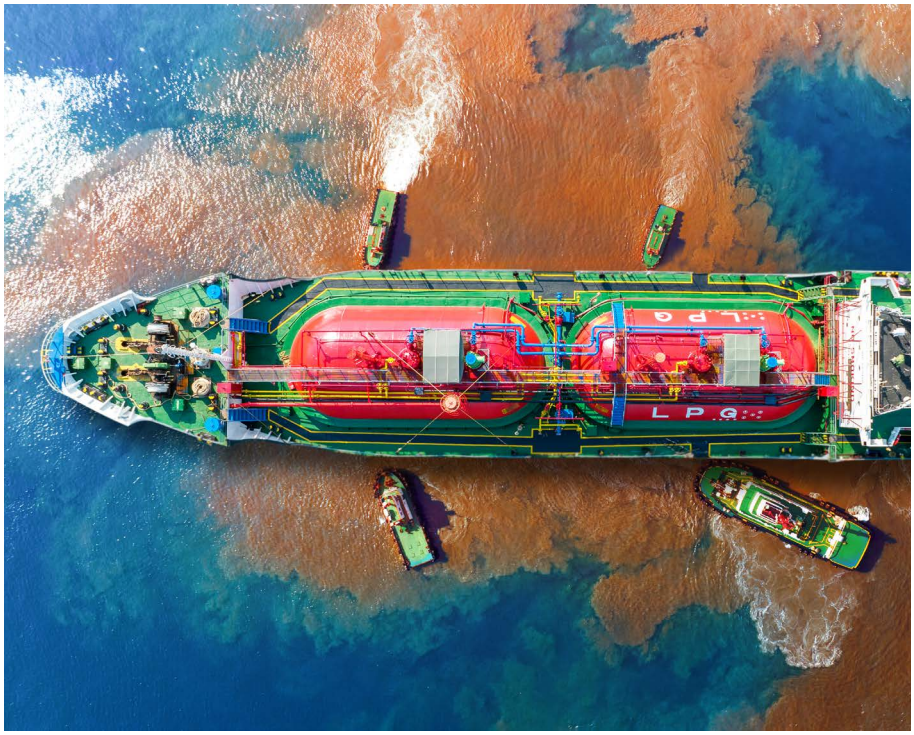
"This grant will enable us to continue the design and engineering of the first-of-its-kind Electriq Powder plant. Our breakthrough technology promises to significantly reduce production costs and drastically lower carbon footprint," says Dmitry Lisitsin, head of powder solutions at Electriq Global.

Jeff Armstrong, CEO of Zenith Energy Terminals, says: "We are very pleased to see Electriq's Powder plant receive RVO support. Our partnership with Electriq embodies our shared vision for sustainable energy solutions and Zenith's transition to storing zero-emission fuels on our Amsterdam terminal".

Dorine Bosman, Chief Investment Officer at the Port of Amsterdam adds: "Port of Amsterdam strongly supports the Electriq Powder plant, as it aligns perfectly with H2A's mission. The support granted by RVO is a great example of the close and essential collaboration between the public and private sectors, as we jointly strive for realisation of the hydrogen economy. This initiative is a testimony to our collective commitment to foster a more sustainable energy landscape in the Dutch and European markets."

SUSTAINABILITY EFFORTS

Rotterdam operator Broekman Logistics is working hard to fulfil its ambitious sustainability goals. "Energy is the essential backbone of our operational activities. It should be used as efficiently as possible," explains sustainability manager Johan de Jong. Therefore, the steps being taken are not limited to 'basic steps', such as replacing old lighting with LED lighting. We are certainly looking further than this.



"By 2025, we want all sites to be equipped with LED lights. This should result in a 10% saving in energy consumption," De Jong continues. "However, we see that in some locations, where LED lighting has already been installed, the lights can sometimes be on continuously. By using sensors, we can further reduce energy consumption there."

In addition to energy consumption, energy supply is being studied. That must be 100% sustainable within two years. In spring 2023, one of the service provider's Rotterdam breakbulk terminals was fitted with no less than 2,700 solar panels for this purpose.

"The energy we generate with this is equivalent to the energy consumption of 560 households and accounts for a third of the energy consumed at this site," says Rob van Dijk, director of terminal operations at Broekman Logistics.

However, solar panels are not always the most obvious option, De Jong points out. "Technically, it is feasible to install panels on our hazardous goods warehouses as well. However, from a safety perspective, we prefer to look into buying truly green energy for those locations," explains the sustainability manager.

Broekman Logistics is also investigating options to further reduce diesel consumption, for example by switching to electric mobile cranes and reach stackers.

The organisation has already taken steps by switching to electric and LPG forklifts, as well as eco reach stackers that consume less fuel. Diesel consumption must be reduced by 10% by 2025. "That sounds easier than it is in practice, because you depend on other parties for that electrification," notes Van Dijk. "After all, charging facilities must be created at the terminal."

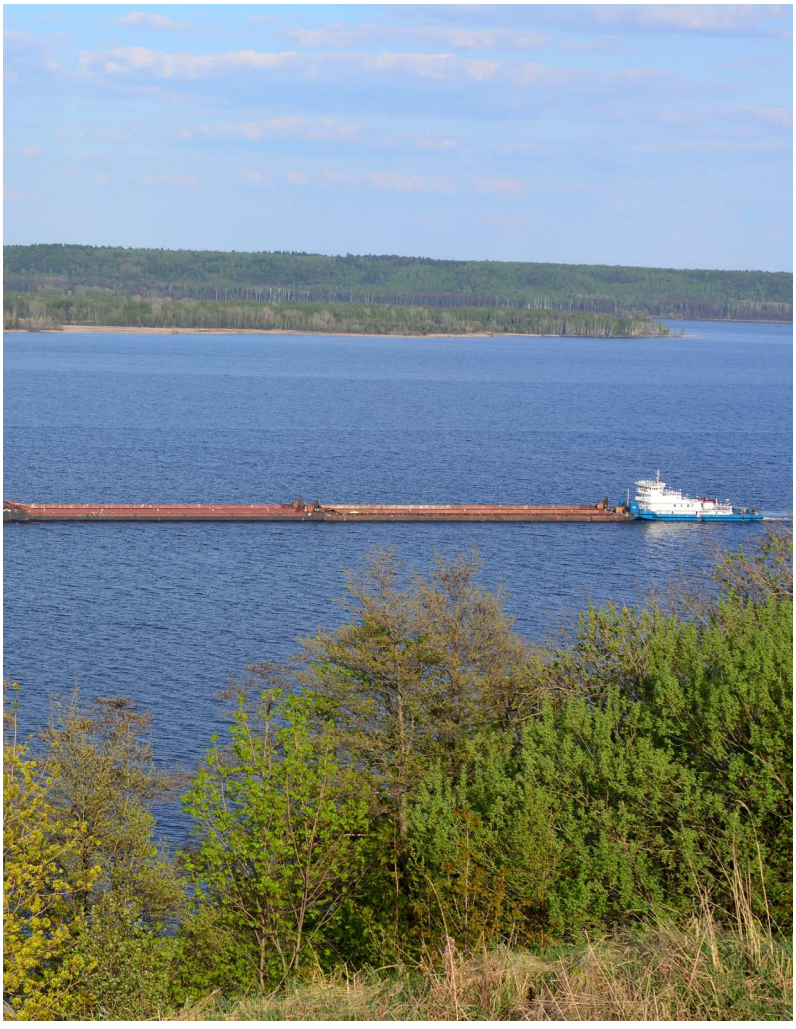
De Jong calls the sustainability efforts at own sites and for own processes the visible part of the iceberg. "Most of the emissions are elsewhere in the chain," he argues. "We therefore also enter into dialogues with clients, suppliers and other stakeholders to see how we can make that chain more sustainable together."

Among other things, Broekman Logistics participates in the Joint Corridors Off-Road programme, which encourages shippers and carriers to make more use of inland shipping, rail and short sea.

The programme has now saved 1.5m truck trips; amounting to a reduction in CO_2 emissions in the chain of almost 900,000 tonnes.

GOING FOR GROWTH

Great Lakes Seaway shipping has a substantial role to play in the economy of the region, according to a recent survey. Meanwhile, bulk trades have been rising



St Lawrence Seaway maritime organisations have released a new economic impact study of maritime shipping on the Great Lakes and St Lawrence River. The research is intended to provide transportation planners, policymakers and the general public nuanced information about the benefits of Great Lakes – Seaway shipping to the regional, national and local economies.

The report, *Economic Impacts of Maritime Shipping in the Great Lakes*, highlights the crucial role maritime shipping plays in the economic success of the nation. The industry drives $36bn in annual economic activity and generates more than $6bn in tax revenue. 147,350 US jobs are tied to the maritime industry in the region and more than $17.8bn in family sustaining wages are paid every year.

"The Great Lakes Navigation System is vital to our national economic security," says James Weakley, president of the Lake Carriers' Association. "We as a nation must continue to invest in the system to ensure it remains sustainable and resilient. The new large navigational lock in Sault Ste Marie, Michigan, reliable Coast Guard ice breaking, and dollars for dredging and navigational structure maintenance are all examples of an investment in our security."

US transportation secretary Pete Buttigieg highlights the Great Lakes region is the third largest economy in the world behind the US and China.

IRON ORE TRADE

Iron ore shipments on the Great Lakes in August increased by 8.6% compared with 2022, to a total of 5.5m tons. Shipments were also above the month's five-year average by 3.5%.

For the year-to-date, the iron ore trade totalled 31.2m tons, an increase of 28.9%, compared with the same point last year. Through August, iron shipments were 6.5% above their five-year average for eight months of the year.

Since 1880, Lake Carriers has represented the US flag Great Lakes fleet, which today can move more than 90m tons of cargos annually, including iron ore, stone, coal, cement, and other dry bulk materials such as grain, salt, and sand.

CLIMATE ACTION PLAN

The Port of Cleveland has made a commitment to a Climate Action Plan, with the goal of achieving net-zero greenhouse gas emissions by 2050. The port is the first in the Great Lakes to adopt such a plan.

The port's board has reviewed its needs and potential, and undertook a rigorous self-examination to consider how the economic potential of being a port community could be maximised.

"A thriving port serves as the lifeblood of a community," says Will Friedman, Port president and CEO. "To fulfil our role as an economic powerhouse, we must continually adapt and evolve to meet the ever-changing needs of our community and the global economy.

"This plan will help serve as a progressive blueprint to sharpen focus, enhance efficiency and strengthen international competitiveness, unlocking the vast potential inherent in being a port community."

Friedman says the port is evolving with changing technologies, trade dynamics and environmental sustainability goals.

Cleveland mayor Justin Bibb says: "The strategic plan is admirably aggressive in its objectives. It promises focused leadership and allocates resources that will build resiliency to climate change impacts such as increased storm intensity and heavy rainfalls, while also decarbonising the port."

The 2024-2028 plan will seek to:

» Create new opportunities for business expansion and job growth. The plan identified new opportunities for exporting Ohio-grown products and manufactured merchandise to Europe. The port is positioned to grow its container business with additional agricultural exports, wood products, lumber and polymers. Liquid bulk materials, namely palm oil, represent a significant revenue growth opportunity.
» Project cargo and cruise business also was identified as having great potential for growth and jobs impact.
» The port is also planning to expand the reach of its development financing programs to serve more communities and organisations.

The port will also continue strategic community investments via its Community Impact Fund that uses a portion of development finance fees to make grants targeted at workforce development programmes. Through this fund, the Port sponsors the Argonaut partnership for CMSD's Davis Aviation and Maritime High School with paid internships to work to clear debris from the harbour and river. The fund has awarded $662,000 in grants since its inception in 2018.

"We are deeply committed to advancing diversity, equity and inclusion in all facets of our operations," Friedman says. "Our aim is to foster a business environment where everyone, regardless of background, has an equal opportunity to contribute to and benefit from the growth and success of the port."

The port has already taken on sustainability practices including sediment processing/management, storm water filtration, and planning for electrification of port equipment, docks and terminals. In addition, the port has announced it is incorporating "green" in all port business practices, including being one of the first climate action plans among Great Lakes ports.

The goal is to achieve net-zero emissions by 2050, in alignment with the Biden administration's greenhouse gas reduction targets and goals of the City of Cleveland, Cuyahoga County and the Northeast Ohio Area-wide Coordinating Agency

"The Port of Cleveland has long been at the forefront of environmental sustainability, thoughtfully balancing economic vitality with our responsibility to ensure a healthy, clean waterfront for our neighbours and workers," Friedman says.

"We are embarking on our most ambitious environmental initiative yet – a Climate Action Plan that charts the path toward net-zero greenhouse gas emissions by 2050. "While we acknowledge that reaching this ambitious goal demands close collaboration with our industry, community and government partners, the port has a proven track record of rising to challenges.

"We wholeheartedly embrace this opportunity to lead the way toward a cleaner, greener future for our region."

The port began tracking its air quality impacts in 2016, calculating the pollution emitted from equipment and vehicles associated with port activity, including cargo handling equipment, vessels, harbour craft and trucks.

Vessel emissions now are higher than they were in 2016 due to the addition of cruise ships coming through Cleveland and increased activity at the Bulk Terminal. Other emissions sectors are generally lower because equipment is now more efficient.

The economic impact of the port assessed by a leading national transportation economist concluded that, annually, it creates: 22,368 jobs; $4.7bn in economic activity and $240m in local and state tax revenue.

The 2022 review showed that growth since the last economic impact study in 2016 was $100m more in state and local income and 2,000+ more jobs.

The port's development finance capabilities were also assessed – coming in at $5.3bn secured for 164 projects dating back to 1993. The majority of those projects were within the City of Cleveland.

WAREHOUSE EXPANSION

A newly constructed 56,000 sq ft warehouse has opened at the Clure Public Marine Terminal in Duluth, featuring five truck bays and an enclosed railcar dock.

The new structure expands an existing 88,000 sq ft East Warehouse Annex, which opened in 2002, and brings total warehousing capacity for Duluth Cargo Connect to more than 500,000 sq ft. The new construction is part of a multifaceted $20.3m project at the Clure Terminal that also includes 850 linear feet of dock wall reconstruction for two of the facility's ship berths. Dock wall reconstruction is scheduled to begin in the spring of 2024.

"The Clure Terminal serves as our region's multimodal logistics hub and general cargo terminal, so it plays a critical role in supporting our port and regional industry," says Deb DeLuca, executive director of the Duluth Seaway Port Authority. "Warehousing is an important component of what we provide at the terminal, allowing cargo to flow in and out efficiently to suit customers' supply chain needs.

"Opening this new warehouse is a win for the port and for the region as a whole, and we're very grateful to the federal and state officials and legislators who championed funding for this project."

Investment came from a combination of sources, including the US Maritime Administration's Port Infrastructure Development Program, the Minnesota Port Development Assistance Program and the Duluth Seaway Port Authority. Adolfson & Peterson Construction served as the warehouse project construction manager.

"Warehousing capacity is in very high demand nationwide, and that's certainly true here in Duluth-Superior as well," says Jonathan Lamb, president of Duluth Cargo Connect. "This warehouse expansion allows us to meet more of that demand and create more flexible supply chain solutions for our customers."

Approximately 800 vessels and 35m short tons of cargo move through the Port of Duluth-Superior each year, making it the Great Lakes' largest tonnage port and one of the nation's top 20. The port supports more than 7,000 jobs and contributes $1.3 billion in business revenue to the regional economy.

AGRICULTURAL OPENING

Port Milwaukee recently celebrated the grand opening of the $40m Agricultural Maritime Export Facility on Jones Island. Representatives from the port, DeLong and the City of Milwaukee were joined by Wisconsin Governor Tony Evers, Mayor Cavalier Johnson, and federal, state, and local officials to celebrate the completion of this major investment that will create jobs, support Wisconsin's agriculture industry, and grow the regional economy

"Milwaukee is the economic engine for our state and region. This addition to the Port's operations will expand a strong partnership that includes The DeLong Co, the City of Milwaukee, our state and federal partners, Wisconsin agriculture, and world markets," said Mayor Johnson at the opening. "Thank you to our many partners for advancing this continued growth at Port Milwaukee."

The facility, located on the west side of Jones Island, will be one of the first on the Great Lakes - St. Lawrence Seaway system to handle various agricultural commodities via truck, rail and international vessel, including Dried Distillers Grains with Solubles – an animal feed supplement derived as a by-product of ethanol high in nutrients.

This facility will open Wisconsin's maritime and agricultural economies to new international markets for this and other products. Future service at the facility may also include the export of Wisconsin-grown soybeans, corn and grain.

The Wisconsin Department of Transportation has estimated the DeLong terminal will generate $63m in new state-wide economic impact annually, increasing exports through Port Milwaukee by as much as 400,000 tonnes per year.

"This new facility will have a tremendous impact here in the local Milwaukee community and around the state and will help ensure more of our farmers' best-in-class, Wisconsin-made goods will be shared with folks all over the world," said Governor Evers. "Port Milwaukee is a vital point of connection in our state and nation's supply chain, and this project paints a clear picture as to why we must continue to invest in the success of our transportation systems and cornerstone Wisconsin industries, especially in Milwaukee."

"The facility is among the first on the Great Lakes-St. Lawrence Seaway system that can handle a variety of agricultural commodities via truck, rail and international vessels," said Wisconsin transportation secretary Craig Thompson. "It's impact will be felt state-wide."

This development is the largest one-time investment in Port Milwaukee since the 1950s.

REPRESENTATIVES FROM PORT MILWAUKEE, DELONG AND THE CITY OF MILWAUKEE WERE JOINED BY WISCONSIN GOVERNOR TONY EVERS, MAYOR CAVALIER JOHNSON, AND FEDERAL, STATE, AND LOCAL OFFICIALS TO CELEBRATE THE THE GRAND OPENING OF THE AGRICULTURAL MARITIME EXPORT FACILITY ON JONES ISLAND

THE POWER OF PARTNERSHIPS

An ever-increasing number of collaborations are transforming the ports' landscape in the Middle East

Trelleborg Marine and Infrastructure has linked up with South Korea-based Daewoo Engineering and Construction (E&C) to deliver a comprehensive range of customised sealing systems for the Khor Al Zubair Immersed Tunnel project – a major undertaking that stands as the largest immersed tunnel currently being constructed in the Middle East.

The collaboration with Daewoo E&C represents a significant milestone for Trelleborg, enabling the company to play a vital role in the advancement of Iraq's transportation infrastructure. Trelleborg's portfolio of sealing systems for this project includes the field-proven Gina gasket and Omega seals, including the new W29U-I Waterstop series with a new double flexible injection system.

Upon its completion, this immersed tunnel at Khor Al-Zubair Port in Basra will be 2.5km long and feature six lanes, as well as a dedicated emergency lane. The tunnel is an integral part of the larger Al Faw Grand Port project in Southern Iraq, a project that includes the construction of one of the world's largest container terminals. Overall, the project is anticipated to facilitate seamless transportation and bolster economic growth in the region.

CONSTRUCTION UNDERWAY ON THE KHOR AL ZUBAIR IMMERSED TUNNEL PROJECT

Under the agreement, 10 Gina gaskets and 10 Omega seals will be supplied for the permanent immersion joints that connect the tunnel elements. Trelleborg's Gina gaskets and Omega seals will play a crucial role in connecting 10 concrete elements, each with a length of approximately 126m. The component supply began in 2022 and is currently underway with final deliveries scheduled for end of 2023.

The Gina gasket and Omega seal effectively prevent water ingress caused by external water pressure. These components provide a completely watertight solution, ensuring that the tunnel stays intact and is well protected against potential water leakage. They handle the intense transfer of hydrostatic loads and movements between tunnel ends caused by environmental pressures such as seismic activity, soil settlement, and temperature effects.

Richard Hepworth, president of Trelleborg Marine and Infrastructure, says: "We are extremely excited about

our partnership with Daewoo E&C for this ground-breaking project in Iraq. There is no doubt that this monumental project holds immense promise and will lay the groundwork for the nation's continued growth. Throughout Trelleborg's history, we have actively contributed to infrastructure projects that have not only spurred sustainable economies, but also brought about positive change. We are proud to remain committed to this path, as we understand the profound impact such initiatives can have on society and the environment."

Commenting on the partnership, Jinwoo Kim, project manager, Daewoo E&C says: "Given Trelleborg's extensive expertise in delivering sealing systems for critical projects across the globe, this partnership was a natural fit. Its team of highly skilled specialists has added immense value to our project, ensuring that it is executed smoothly."

LOW-CARBON CONCRETE

Cemex will provide more than 200,000m^2 of Vertua lower carbon concrete for the development of the topside infrastructure for the expansion of the Khalifa Port in the United Arab Emirates, part of AD Ports Group, and one of the largest port infrastructure projects in the world.

Strategically situated midway between Abu Dhabi and Dubai and serving 25 major shipping lines with direct links to more than 70 international destinations, Khalifa Port is an 18.5m deep-water multipurpose port with a total of 10.6km of quay wall that includes two container terminals, a large general cargo and dry bulk facility, a logistics port, a liquid bulk terminal and a roll-on roll-off terminal.

"Cemex is proud to contribute to the reduction of the carbon footprint of major projects around the world," sayd Sergio Menéndez, president of Cemex Europe, Middle East, Africa and Asia. "Vertua is a family of sustainable products that meet our customer's needs with the highest quality standards, leveraging the latest technology and innovation."

Since its inauguration in 2012, Khalifa Port's top-tier technology and infrastructure has ensured its position as of one the world's fastest-growing ports on one of the most important global trade routes. Khalifa Port's sustainability agenda facilitated the choice of Vertua due to its capability of achieving up to 70% reduction in CO_2 emissions without sacrificing performance.

Vertua is a part of Cemex's Future in Action programme, which focuses on achieving sustainable excellence through climate action, circularity and natural resource management with the primary objective of becoming a net-zero CO_2 company by 2050.

INVESTING IN AQABA

Aqaba Development Corporation (ADC) recently hosted the first business and investment workshop during an event held in Aqaba and attended by 70 local and regional investors and industry leaders. The event is the first of a series of public/private business and investment consultation workshops titled "Scale Up Aqaba", which aim to drive investments and engage the private sector in the decision-making process.

Scale Up Aqaba is an initiative of ADC and represents a significant milestone in its effort to attract investments and promote economic growth in Aqaba through sector specific workshops that focus on understanding the needs of businesses and strategically adopt the private sector's needs into its growth strategy for the city.

Nayef Al Fayez, chief commissioner of the Aqaba Special Economic Zone Authority (ASEZA), inaugurated the workshop. He said: "This event is a valuable opportunity to ensure that we are on the right track. The development of Aqaba in realisation of the royal vision to transform Aqaba into a world-class business hub and a global leisure destination requires all stakeholders to be working closely.

"ADC is a key player in driving growth, attracting investment and establishing partnerships that aim towards economic prosperity in Aqaba and Jordan at large."

The event featured presentations, discussions and networking opportunities for the attendees to learn about the advantages and incentives of investing in Aqaba. It also served as a podium for ADC to unveil new investment opportunities in the region.

Hussein Safadi, CEO of the ADC, highlighted the importance of fostering investor relations to unlock the potential of the ASEZ. "Engaging with investors is not just a priority, it's a strategic imperative. At ADC, we recognise that by working closely with our partners, we can harness the immense potential ASEZ holds and in turn, contribute significantly to the realisation of the royal vision and Jordan's economic priorities."

Safadi further explained the role that ADC plays in attracting new investments to the region. "ADC stands as a beacon for international investors seeking promising opportunities in Jordan. We are dedicated to facilitating an environment conducive to growth, innovation and sustainability. Our commitment to transparency and efficiency in our processes is paramount in attracting new investments that align with our long-term goals.

"The outcomes of the Scale Up Aqaba Series will help us tailor our strategy to align with investors' plans and create investment opportunities that are in line with sectors' future needs."

SAFETY IN PORT OPERATIONS

AD Ports Group and Saab UAE, a defence and security company based in Abu Dhabi's Tawazun Industrial Park, have entered into a Memorandum of Understanding (MoU) to establish a strategic co-operative relationship, which will see both entities collaborate on the development of maritime surveillance solutions and sensors.

Under the agreement, AD Ports Group will provide access to relevant testing sites, offering necessary infrastructure and operational feedback to optimise the development process. Saab UAE will bring new industry standards and next generation maritime surveillance technology to market.

Othman Al Khouri, executive director corporate authority, AD Ports Group, says: "We are committed to adopting cutting-edge technologies that enhance

AD PORTS GROUP AND SAAB UAE HAVE SIGNED A MEMORANDUM OF UNDERSTANDING

our operations. Collaborating with Saab will allow us to explore innovative surveillance solutions and contribute to the overall safety of our ports.

"We also see significant potential for improving port and maritime security systems, effectively enhancing the safety and security performance of trade, logistics, and ports in Abu Dhabi and beyond."

Anna-Karin Rosén, managing director of Saab in the UAE, says: "This MoU marks a significant step forward in our commitment to provide our customers with world-class security and surveillance solutions. This partnership has the potential to revolutionise vessel traffic management and port operations."

AD Ports links with Premier Marine

AD Ports has also recently announced the formation of a new joint venture, SAFEEN Drydocks, with Premier Marine Engineering Services, a UAE-based shipyard, recently announced the formation of a new joint venture, SAFEEN Drydocks. The joint venture is structured as a 51% ownership by AD Ports Group and 49% by Premier Marine.

The new enterprise will offer a broad range of vital services including drydocking, afloat repairs, ship building and refurbishment. The hub of SAFEEN Drydocks' operations will be located at Khalifa Port and encompass a 45,000m^2 shipyard and repair facility, 350m quay wall for vessel afloat repair, and a floating dry dock for vessel maintenance and refurbishment.

The floating dry dock is expected to commence operations in July of 2023, while the shipyard has already begun work with construction of two barges for a UAE-based client. Once fully up and running, the hub will be operated by SAFEEN Drydocks and be fully equipped to accommodate a range of vessel types including tankers, bulk vessels, container ships, offshore vessels and jack-ups.

CONNECTIVITY RULES

Veson Nautical, a global market leader of maritime freight management solutions, has announced a collaboration with GeoServe, a company dedicated to simplifying voyage operations and streamlining post fixture activities.

GeoServe will join Veson's growing Platform Partner Network, which establishes native integrations with strategic systems to enable data-driven connectivity, reduce manual processes, unlock powerful insights, and achieve true continuity.

The integration will connect the Veson IMOS Platform (VIP) and GeoConnect, GeoServe's port disbursement accounting platform, to help streamline, optimise and seamlessly manage port disbursement workflows and synchronise port cost data.

GeoConnect aims to revolutionise the perception of port disbursement handling by transforming this value-added service into an active contributor in reducing the bottom line. Annually managing more than 6,500 port calls and processing more than $300m dollars in port payments, GeoConnect harnesses the power of experienced maritime professionals, time-tested processes and service innovation to help ship owners and operators achieve their port objectives with ease.

For mutual clients who opt in, this integration provides the ability to seamlessly leverage GeoConnect's proprietary application capabilities to make data driven decisions that both improve vessel turnaround time at port and manage port cost data. Users can also send port DA requests from VIP to GeoConnect as well as nominate agents directly from VIP.

By incorporating port and disbursement information into broader operational workflows, the VIP – GeoConnect integration allows mutual clients to streamline engagements with local port agencies, driving time and cost savings.

Graham Piasecki, director of commercial strategy, comments: "A crucial factor in the efficiency and profitability of a maritime organisation's voyage operations is the quality of their disbursement accounting processes. However, traditional paper-based disbursement accounting involves complex communications chains and requires a heavy amount of administrative work, leaving considerable room for error.

"Creating a smooth experience at port starts with streamlined access to vital port and disbursement information, which is where the VIP – GeoConnect integration can help."

Sanjay Kapoor, CEO at GeoServe says: "Building an ecosystem of digital solutions in a dynamic maritime landscape is only possible through collaboration. GeoServe's proprietary application capabilities, coupled with Veson's industry-leading solutions, will empower mutual clients to digitalise their workflows, and make data-driven decisions for increased operational efficiency.

"This partnership is testament to our shared vision. Together, we are helping our clients navigate port operations, leveraging the power of technology and experienced maritime professionals to achieve their port objectives with ease."

CLEAR THINKING

Jason Berman, CCO at S5 Agency World, takes a look into the importance of cost transparency in port agencies, exploring how it fosters sustainable practices, enhances trust and streamlines operations in the maritime sector

The global shipping industry currently faces a transformative shift, driven by environmental concerns and stakeholder demands for the industry to adopt sustainable practices across all operations.

Port agencies can play a pivotal role in ensuring smooth operations for shipping companies. When tendering, transparency of cost estimation can drive sustainable practices while opening doors to commercial opportunities.

The imperative for change within the shipping industry stems from its environmental impact and the growing need for accountability.

Shipping industry stakeholders, particularly cargo owners, have called for the industry to reform to not only reduce greenhouse gas emissions, but also create commercial opportunities that go hand-in-hand with sustainability.

Digital technology simplifies how port agencies perform their essential role in the shipping industry, by fostering better collaboration and communication between carriers, terminals, and service providers.

Operators rely on port agents, with their knowledge in the local market and relationships with local suppliers, to deliver seamless port calls.

Transparent cost structures, outlining the price of the goods or services supplied, provide clarity on other elements of the quote essential part of the port agent's own service and can specify the quality, availability and delivery times of products or services.

Such clarity helps each party understand financial aspects without hidden surprises or unexpected expenses, and can empower ship operators to make informed decisions, reducing delays and costs.

Transparent cost quoting, along with responsiveness to client inquiries, fosters trust and helps to strengthen long-term relationships that can deliver more sustainable results for cargo carriers and terminal operators.

Although time and cost savings during a single port call may seem marginal, when accumulated across a fleet over a year, they result in substantial savings, including reduced fuel consumption and emissions, and promoting a more sustainable business.

> Transparent cost quoting fosters trust and helps to strengthen long-term relationships that can deliver more sustainable results

Transparent costing involves accurate and unambiguous quotes, providing a clear breakdown of expenses related to port agency services. As mentioned above, such transparency builds trust, leading to long-term relationships.

These long-term partnerships facilitate better understanding and enhance collaborative efforts to deliver sustainable practices.

Transparent cost structures make it easier for cargo carriers to compare quotes and manage budgets. Simplified negotiations over clear costs lead to more sustainable and responsible operations.

Digitalisation is as a catalyst for transparent practices in port agencies facilitating seamless communication ensuring information is accessible to all the relevant parties and enabling more sustainable just-in-time delivery of port services.

By creating resilience, digital systems reduce the likelihood of disruptions during port calls and enable identification of missing information to prevent cost surprises.

Port agents can help bulk carriers and terminal ecospheres operate more sustainably by facilitating smoother port calls. Price transparency is a key part that builds trust between partners and create efficient, sustainable operations and commercial opportunities.

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

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