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WINTER 2023/24

THE OFFICIAL MAGAZINE OF THE ASSOCIATION OF BULK TERMINAL OPERATORS

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A SAFE PATH TO DECARBONISATION

BY SANDRA SPEARES

A recent meeting of the International Association of Classification Societies put the safe management of digitilisation and decarbonisation measures firmly in the spotlight

Ports continue to face a number of challenges at the moment, not least to ensure that they comply with several new rounds of regulation. These include compliance with rules surrounding issues such as demurrage, to the demands of dealing with different cargoes in stringent environmental conditions.

Putting these challenges firmly in the spotlight, the International Association of Classification Societies (IACS) met recently to discuss a wide range of topics, all of which will affect port users.

Measures mentioned at the meeting included the safe decarbonisation of the industry. Alongside IACS submissions to the International Maritime Organization, the IACS is working closely with flags and industry in the shared drive to decarbonise, most recently through the signing of a Letter of Intent with Singapore and the establishment of a joint industry working group on safe decarbonisation.

Also under discussion was the work towards Unified Requirements (UR) in support of battery power, hydrogen and carbon capture, which is well advanced while a UR on ammonia as a fuel will be published imminently.

As the scale and pace of digitalisation within shipping continues to accelerate, the IACS Council emphasised that implementing the many and varied benefits of digital solutions can also introduce new safety risks to ships. To support industry in managing these changes safely and recognising the multi-decadal nature of the challenge, the meeting agreed to establish a new Safe Digital Transformation Panel.

Bringing all IACS' current digitalisation activities within a single forum allows for issues such as maritime autonomous surface ships, cyber safety, data management and exchange and digital assurance, as well as their associated regulatory structures, to be taken forward in a holistic manner.

Safety continues to be a major concern for ports and in this edition we explore not only changes in rules that will enhance safety regimes, but also some of the mistakes that can occur in ports when operating equipment such as cranes. As we have said in the past, despite the large amount of advice on issues such as enclosed spaces that is available, mistakes – which can prove fatal and yet can be wholly avoidable – continue to occur.

We have also considered the outlook for those working in the industry, the impact that covid-19 has had on mental health and initiatives by maritime charities and other industry players to improve conditions for seafarers and those working in ports. Technology, in some cases, can make a major impact on working conditions, for example the use of drones for deployment in dangerous areas of operation, including enclosed spaces.

We also look at market conditions as a whole, including the use of coal going forward, bearing in mind its resurgence in popularity recently when other forms of energy have been more difficult to obtain due to political conditions. Conditions in the Red Sea and surrounding areas show how the movement of cargoes can be affected by political events beyond the control of those in the shipping industry.

We hope you enjoy reading this edition of *Bulk Terminals International*, giving details of some of the initiatives currently underway.

POWERING AHEAD

Posidonia 2024

3-7 June, Athens Greece

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EDITOR: SANDRA SPEARES
SPEARES1@AOL.COM

DESIGNER: JUSTIN IVES
JUSTINDESIGN@LIVE.CO.UK

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

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

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

PUBLISHER: BILL ROBINSON
PRODUCTION@BULKTERMINALS.ORG

ABTO
35 BEACON DRIVE
NEWTON ABBOT
DEVON
TQ12 1GG

CHIEF EXECUTIVE: SIMON GUTTERIDGE
CE@BULKTERMINALS.ORG

TECHNICAL ADVISER: IAN ADAMS
TECH@BULKTERMINALS.ORG

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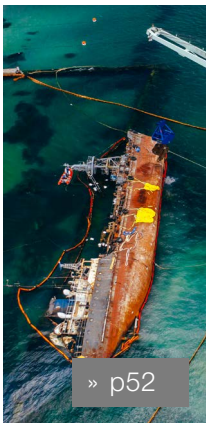
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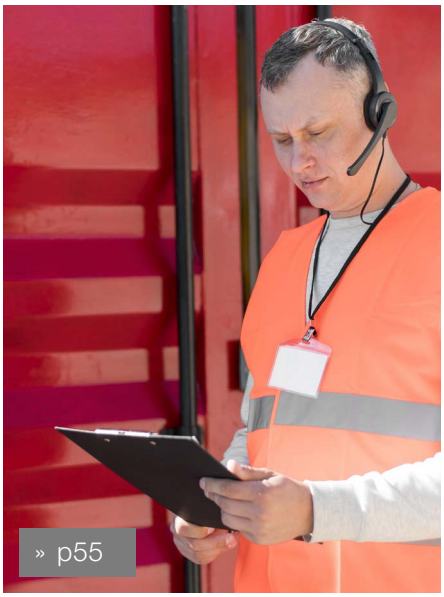
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STORMY SEAS AHEAD

BY SIMON GUTTERIDGE

As we look forward to 2024, missile strikes on shipping in the Red Sea from Yemen-based Houthi rebels, backed by Iran in response to Israeli actions in Gaza, add further disruption to the effects of the war in Ukraine and ongoing problems with the Panama Canal

I have covered the background to the effect of the Russian invasion of Ukraine on grain supplies, as well as the UN Black Sea Grain Initiative brokered in Turkey and its non-renewal, in previous editions of Bulk Terminals International – particularly the 2023 Summer and Autumn editions.

There is good news to report now in respect of Ukrainian exports. After the cancellation of the Black Sea Grain Initiative by Russia last July, in August Ukraine announced a new sea corridor in and out of Odesa 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. There were initial concerns that the Russians would treat all vessels as military targets carrying weapons, as they had threatened to do. Shipowners were naturally cautious about using the route.

However, despite the threats the number of ships transiting the route grew. To put things in perspective, before the Russian invasion Ukraine exported approximately 6m tonnes of grain and food stuffs each month through the Black Sea. Since setting up the corridor in August, Ukraine has exported 10m tonnes of grain and foodstuffs, in addition to 5m tonnes of non-agricultural products.

Steadily growing month on month, last December Ukraine exported 4.8m tonnes, a volume that not only exceeded the maximum monthly amount that was exported under the Black Sea Grain Initiative, but not far short of pre-invasion volumes.

This has been possible thanks to the success Ukraine has had removing Russian forces from the western end of the Black Sea and the efforts of the Ukrainian navy in keeping the route open.

At the time of going to press, the situation with bulk carrier routes is fluid, impacting the supply of grains and raw materials. In late December, shipbroking network Ifchor Galbraiths reported: "The shift to Suez Canal from Panama, coupled with escalating Middle East violence, is rapidly reshaping bulk carrier routes to the Far-East, impacting fleet utilisation in the North Atlantic... critically low water-level in Panama had resulted in drastic reductions of the canal's transportation capacity and transit prices incompatible with shipping economics of dry-bulk cargoes, the flow of bulk carriers heading to the Far-East was re-routed to the Suez Canal after the summer."

The report goes on to say that ships are now transiting to the Far East via the Cape of Good Hope.

And more recently PortWatch, which is a collaborative project between the International Monetary Fund and the Environmental Change Institute at the University of Oxford, reports that in mid-January transits were down by 30% from the monthly average of a year ago. The Middle East Monitor similarly gives this figure for the period 1-11 January compared with the same period last year. Later reports from *The Economist* magazine put the figure at 40%.

The decline in the number of bulk vessels as a percentage of the total across other sectors is higher. The figure

was down 53% on 10 January from the beginning of this year. While 45 dry cargo ships were sailing in the region on 1-6 January, this number decreased to 21 as of 10 January.

Matthew Wright, Senior Analyst at ship tracking service Kpler, predicts that bulk vessels as a percentage of the (albeit decreased) total number of ships transiting the Canal will further increase, as most container traffic is already avoiding the Red Sea.

While the focus of the popular media has been on the impact of the Houthi missiles on container ships (which according to Suez Canal Authority figures by a factor of roughly three traditionally exceeded the tonnage of bulk shipping transiting the Suez Canal, although not the number of vessels, which was approximately the same), bulk shipping has of course, also been hit.

In mid-January the 63,576 dwt Marshall-flagged ultramax dry bulk ship *M/V Gibraltar Eagle* (reported in some place as a container ship) was attacked.

Shortly afterwards the *Zografia*, a Greek-owned Malta-flagged bulk carrier was struck by a missile while sailing from Vietnam to Israel.

A short while later, the Marshall Islands-flagged *M/V Genco Picardy*, a supramax bulk carrier owned by US-based Genco Shipping was hit by a drone.

So clearly some ships are continuing to transit the Suez Canal, balancing the risk of sailing through the Red Sea against whether it is cheaper to pay the increased insurance costs – Clarksons Securities report that "War risk insurance premiums for ships have skyrocketed" – on top of the Canal transit fee or incurring higher bunkering costs (notwithstanding a drop in the cost of oil) around the Cape of Good Hope.

Whether the US and British air strikes will degrade the Houthi missile capability sufficiently to remove the danger of shipping being attacked in the Red Sea remains to be seen. I have my doubts and agree with Farea Al-Muslimi, Research Fellow, Middle East and North Africa Programme at The Royal Institute of International Affairs (Chatham House) that "The air strikes are highly unlikely to have a significant impact on Houthi military capabilities, especially their maritime operations. The Houthis are far more savvy, prepared, and well-equipped than many Western commentators realise."

Indeed, Prime Minister Rishi Sunak told Parliament on 15 January that the first US and British air strikes on 12 January 12 were only intended as a shot across the bows in the "...hope that the Houthis will now step back...". That, as subsequent attacks have shown, was wishful thinking.

American officials privately agree with the Chartham House analysis and that the subsequent air strikes are unlikely to deter further attacks, having destroyed only a fraction of the Houthis stock of missiles and drones. While the Houthis remain in control in large parts of Yemen and continue to receive missile parts from Iran, it would be foolish to predict the attacks on shipping will stop anytime soon. This despite American efforts to interdict the supply – such as the seizure on 11 January of Iranian-made ballistic and cruise missiles components on their way to Yemen, which resulted in the loss of two US Navy Seals overboard during the boarding of a dhow off the coast of Somalia. Sadly, after a10-day search the US Central Command confirmed their status as deceased after they could not be found.

So, watch this space. I suspect more even more shipping will decide to take the longer route via the Cape of Good Hope.

While this will increase freight rates for shippers (as much as because longer passage times require more vessels as well as using more bunkers), but the effect on terminal operations should only be temporary once the supply chain adapts to how long the cargoes will take to reach their destination.

Closer to home, the first of our events this year is the popular and well-received *Port and Terminal Operations for Bulk Cargoes* short course, offered in partnership with The Wolfson Centre for Bulk Solids Handling Technology at The University of Greenwich.

This course is for anyone who needs to understand the issues surrounding the safe handling and storage of bulk materials in port terminals and at sea.

Delivered online over four days, from 19-22 March, *Port and Terminal Operations for Bulk Cargoes* includes a mixture of practical and theoretical elements. Case studies are used to illustrate the presentations where applicable. The course is interactive so delegates can discuss real-life issues and determine best practice, including substantial discussion periods to permit the analysis of specific problems experienced by the attendees.

The *Port and Terminal Operations for Bulk Cargoes* course will cover: ship unloading technologies; conveying technologies; storage and discharge technologies; loading and unloading control; rail and road out-loading equipment and control; explosion and fire risks and management; mobile plant and safety; developments in automation and autonomous vehicles; dust control and environmental protection; controlling cargo damage; wear protection and maintenance; cargo characterisation for handleability and other issues.

For full details of the course and how to register visit **www.bulkterminals.org/index.php/events/courses-and-training**. Any questions please feel free to call +33 (0)3 21 47 72 19 or email **events@bulkterminals.org**.

Together with the course leader, Professor Mike Bradley, Director of The Wolfson Centre, I look forward to welcoming you to Port and Terminal Operations in March.

Meanwhile, I hope you enjoy this edition of *Bulk Terminals International*.

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

WORLD NEWS ROUND-UP

Seafarer safety is firmly in the spotlight across the globe, particularly in light of the volatile Red Sea situation

IMO SECRETARY-GENERAL ARSENIO DOMINGUEZ ADDRESSES SHIPPING INDUSTRY REPRESENTATIVES

Seafarer safety is paramount in the context of the Red Sea and attacks on international shipping. During a meeting with shipping industry representatives on 18 January, International Maritime Organization (IMO) secretary-general Arsenio Dominguez reiterated the message.

"Freedom of navigation must be upheld, to guarantee global trade and the flow of goods by sea. Further, there must be caution and restraint to avoid further escalation of the situation in the Red Sea and broader area, Mr. Dominguez said, referencing the UN Security Council Resolution 2722 (2024) on the Red Sea.

Shipping industry representatives emphasised that the safety of crew is a priority. The meeting provided the opportunity to exchange views and look ahead to the steps that the IMO can take, including sharing information and potential future discussions during the next scheduled Maritime Safety Committee (MSC 108, 15-24 May 2024).

The meeting was attended by representatives of International Chamber of Shipping, BIMCO, Oil Companies International Marine Forum, Association of Independent Tanker Owners, International Association of Dry Cargo Shipowners, Cruise Lines International Association and World Shipping Council).

Earlier in the week, Dominguez had a productive meeting with representatives of the member states of the Djibouti Code of Conduct to discuss the situation in the Red Sea, focusing on the need to enhance the maritime security capabilities of the countries in the region. The key areas of safety of seafarers, freedom of navigation and de-escalation were reiterated by countries in the region.

COP28 CONVERSATIONS

Amid the discussions at COP28 in Dubai last year, the pressing need to decarbonise the shipping sector took centre stage. In this context, the 2030 Shipping Pact for People and Nature (SPPaN) emerged to address the interconnected challenges of pollution, biodiversity loss, and the climate crisis and the potential co-benefits of shipping decarbonisation for people and nature.

There has been increasing focus on the need – and opportunities – to decarbonise international shipping. However, a sustainable, resilient maritime industry needs to consider not only how to decarbonise, but also other environmental, social, and socio-economic impacts. In order to address the triple planetary threat of pollution, biodiversity loss, and the climate crisis we must ensure that the growing momentum to decarbonise is aligned with efforts to improve shipping's overall impact on the ocean.

A new report, *Navigating the Future: Bridging Shipping, Biodiversity, and Decarbonization*, is the foundation of the 2030 SPPaN initiative. The report takes a close look at shipping's short and long-term impact on ocean health, productivity, and biodiversity, highlighting the importance of a coordinated approach and links between actions to decarbonise and protect ocean health anchored in shipping practices.

"Understanding, within the shipping sector, the intersections of climate and biodiversity is the primary purpose of the report," says Andrew Dumbrille, co-founder of Equal Routes and report co-author. "While outlining the urgency of tackling multiple planetary threats, the report creates a pathway for resilient solutions that benefit people and contribute to reversing biodiversity loss and addressing the climate emergency together."

With the revision of the underwater radiated noise (URN) guidelines and the International Maritime Organization's greenhouse gas reduction targets this year, it's a key time for the maritime sector to seize on the opportunity to feed two birds with one hand, so to speak. Building URN reduction targets into climate plans and strategies makes for an even stronger case to start implementing speed reduction and efficiency measures now."

A central recommendation from the report is the framing of a new 2030 Shipping Pact For People and Nature (SPPaN), which outlines concrete measures to guide the maritime sector in assessing, reducing, and avoiding its negative impacts on marine biodiversity and climate. If quickly and comprehensively implemented, the Pact measures could contribute to reversing biodiversity loss and address the climate crisis.

"Recognising that climate and biodiversity are interconnected is not only crucial to understanding how shipping operations currently impact the environment around them, but also essential to developing solutions for decarbonisation that also consider other ocean impacts and co-benefits," says Andrew Stephens, executive director of the Sustainable Shipping Initiative.

WELLNESS AT SEA

A new-look Wellness at Sea Awareness Campaign for seafarers, their families and shore staff that "the seafaring community has been crying out for," is being launched by international maritime welfare charity Sailors' Society.

This free resource is available to shipping companies looking to give crews and the wider maritime family that support them vital tools to help look after their own wellbeing and that of those around them.

Stuart Rivers, CEO of MNWB, which is the umbrella charity for the UK Merchant Navy serving 45 constituent members including Sailors' Society, says: "A campaign of this nature is something the seafaring community has been crying out for. And while there are many resources available for seafarers, this project goes further by offering a plethora of support to their families and those at shore through the cost-of-living crisis.

"Mental health and wellbeing are the biggest challenges seafarers face and, as an industry, we need to keep working with new initiatives like this to help break

down the barriers, so seafarers are able to talk.

"We are delighted for the launch of this project and look forward to seeing it thrive."

The Awareness Campaign has been taken up by more than 70 organisations over the past two years, but has been refreshed and expanded with new material, podcasts and videos, thanks to funding support from the MNWB.

Nine modules cover everything from physical and mental wellness to financial concerns and everyday fears such as piracy. Each module has easy-to-digest information and tips in comic strips, posters and new 'huddles', which are discussion points to further explore each topic.

Sailors' Society's head of wellness, Johan Smith, says: "We all know that being away at sea can be tough. But those working in offices supporting shipping operations and those waiting for seafarers back home also face challenges. Working together, the whole ecosystem of seafarer, family and shore staff can support one another.

"This Awareness Campaign is packed with resources and signposts users to all the other support services we offer from our 24/7 helpline and Crisis Response Network to our free e-learning platform and Peer-to-Peer Support Groups, where thousands of seafarers and families are sharing experiences and advice.

"We are very proud to bring groups together as they understand bestof all what one another is goingthrough. This support is so vital for wellbeing, for safety and for acompany's bottom line."

SUPPLY CHAIN SAFETY

The seven industry bodies dedicated to container safety, collaborating as the Cargo Integrity Group, highlight an independent study carried out by researchers at Italian University Politecnico di Torino into shipper and forwarder application of the CTU Code.

The 2023 survey yielded encouraging signs of adoption and highlighted several convincing arguments – including financial benefits for its use

The survey highlights multiple benefits to CTU Code users including:

- Improved safety, reputation and supply chain coordination
- Decreased cargo damage, environmental impact and operational inefficiencies
- Those using the CTU Code incurred no extra costs in employees, contractors, or vehicles
- Any increase in loading and waiting times were typically offset by CTU Code related efficiencies overall
- Annual costs and penalties reduced from €670,000 pre-implementation of the Code to €13,000 post-implementation
- Extra costs as a percentage of revenue reduced from 37% to 10%

In the words of the report's authors (Bruno, et al.), "The application of the CTU Code to cargo loading and transportation processes can increase the safety level of transport activities, and also improve business processes and competitiveness.

"The results show that the use ofthe CTU Code provides an increasein safety with a drastic reduction of loading accidents and damage to goods, as well as important benefits in terms of costs, improved efficiency, corporate image and reduced environmental impact."

The Cargo Integrity Group continues its efforts to underline the positive effects of the widespread use of guidance in the CTU Code, which is the Code of Practice for Packing of Cargo Transport Units jointly published by the International Maritime Organisation, the International Labour Organization and the United Nations Economic Commission for Europe.

The Group is dedicated to improving the safety, security and environmental performance throughout the logistics supply chain. In particular, it is concerned to promote safe methods to those responsible for the packing of cargoes in containers, securing them and accurately declaring them.

To view the full results of the Politecnico di Torino survey, visit:tinyurl.com/CTULink

RED SEA CRISIS

Consumers around the world will pay the price for the unfolding crisis in the Red Sea after missile attacks on merchant ships plunged supply chains into chaos.

Peter Sand, wXeneta chief analyst, says: "The region is essentially in a war situation because it is too dangerous for many vessels to sail through the Red Sea and therefore also the Suez Canal, which is the major artery for world trade.

"Ships are now being re-routed via the Cape of Good Hope, but not only will this add up to 10 days sailing time, it will cost up to US$1m extra in fuel for every round trip between the Far East and North Europe.

"If we look at container shipping alone, Xeneta estimate the diversion via Africa will also require additional shipping capacity in the region of 1m teu.

"There is capacity in the market, but it will come at a cost, and we could see ocean freight shipping rates increase by 100%. This is a cost that will ultimately be passed on to consumers who are buying the goods."

The US Secretary of Defense Lloyd Austin recently announced 'Operation Prosperity Guardian', a coalition task force to combat the Houthi attacks and protect merchant ships sailing through the Red Sea and Gulf of Aden. This builds upon the existing Task Force 153 in the region to tackle piracy.

Sand adds: "We are now seeing action from politicians, but we do not know how or when this coalition will be successful in opening safe passage for vessels through the Red Sea and Gulf of Aden.

"Everything is at stake here because free-flowing global trade effects almost every single human being on earth. The Suez Canal is absolutely critica,l with many billions of dollars in goods passing through every day from the Far East towards North Europe, Mediterranean and US East Coast.

"Ocean liner companies are taking decisive action in re-routing via the Cape of Good Hope, but there are still many unknowns and the longer this disruption lasts the more expensive and painful it will be.

XENETA CHIEF ANALYST PETER SAND

"Supply chains have still not fully recovered from the pandemic, with schedule reliability between Far East and North Europe standing at just 64%. This latest crisis could set that recovery back even further.

"For example, Maersk has stated it does not know when it will be safe to sail through the Bab-el-Mandeb Strait and CMA CGM Group has issued a notice of Force Majeure, which perhaps suggests they do not believe this situation will be resolved in the immediate future.

"We may also see this impact current negotiations between shippers and ocean freight carriers for long term contracts lasting the duration of 2024. Shippers may feel a level of concern that long term rates could follow the spot market and increase dramatically as a result of this crisis.

"The industry will be looking at the Xeneta XSI® closely during 2024."

SEAFIT SURVEY RESULTS

The 2023 SEAFiT Crew survey, which is the largest survey on crew welfare conducted worldwide with the participation of 1.6k ships and 19k seafarers, highlighted as a key outcome that the internet plays a vital role for life onboard.

More than 70% of the crew members don't experience difficulties in establishing good relationships with their colleagues and rely on high-quality internet access to maintain connections and communicate with their loved ones back on land, a need expressed by an astounding 91% of participants.

Also, the survey brought to light several critical concerns that the industry has not given priority to in terms of seafarer wellness, including issues related to wages and shore connectivity. It underscored that the industry tends to react to problems rather than taking a proactive approach.

The survey took place during Q1and Q2 of 2023, asking from people onboard and ashore to providefeedback on how they perceive several wellness/wellbeing factors regarding their work and life at sea. In particular, participants were asked to answer questions that cover the following key aspects of crew welfare: wellness; communication on physical/ mental health; wellbeing factors onboard; happiness issues; physical wellbeing issues; mental health barriers; and social wellbeing barriers.

The survey questionnaire was answered by a total of 18,352 seafarers, serving on board 1,574 Ships. The majority of nationalities came from Asia and Europe and the majority of participants were from Philippines (37.3%). Other countries with high participation were Ukraine, India and Georgia. The ship category that involved the majority of participants was bulk carriers as they form the 31.7 % of the fleet involved.

MARITIME TRAFFIC IN COVID

New research sheds light on previously unreported complexity in maritime traffic during the first year of covid-19.

The study, led by researchers at the Marine Biological Association (MBA) and the covid-19 Bio-Logging Initiative, assessed changes to global shipping and fishing activity, revealing in unprecedented detail how the rapid implementation of restrictions and lockdowns affected human mobility on the ocean in 2020.

Researchers used satellite and nightlight data to detail surprising complexity in maritime traffic patterns, investigating vessel activity from the global to the local scale across major fishing areas, exclusive economic zones and marine protected areas to determine where the largest reductions and increases in activity occurred in 2020.

Globally, changes were small: shipping activity in Exclusive Economic Zones decreased by 1.35 % and high-seas shipping activity increased by 0.28%.

However, there were striking differences at smaller scales depending on area, vessel type and time period examined. For example, between April and June 2020, passenger vessels were less active in 97% of Mediterranean Sea coastal states compared to 2017–2019, and in the Eastern Central part of the Pacific Ocean there were 2.5 times more detections of transiting squid jigging vessels than in 2017-2019.

Not all these changes were driven by the pandemic. Geopolitical tension, highly mobile fishing fleets, and ongoing trends in marine sectors impacted activity.

These results suggest a highly context-dependent response to the pandemic, depending on the industries operating and COVID-19 restrictions in an area.

Researchers warn that examining marine traffic at too large a scale and across multiple vessel types could risk overlooking important patterns. They stress the importance of monitoring maritime traffic using multiple data sources, especially when evaluating the long-term impacts of the pandemic on both maritime industries and the marine environment.

The study provides an effective measure of global maritime vessel activity that can support conservation efforts in vulnerable areas, highlighting where and when the largest changes in maritime activity occurred during 2020.

Postdoctoral research assistant Dr Alexandra Loveridge from the Sims Lab at the Marine Biological Association led the study alongside international research scientists.

Dr Loveridge says: "Unprecedented access to human mobility data has proven to be a powerful tool for managing the covid-19 pandemic. If

data accessibility and use are promoted beyond the duration of the pandemic, it will significantly improve our understanding of human-environment interactions, helping us pinpoint where, and when, mitigations may be necessary to safeguard wildlife, and support more effective management of future crises."

REVOLUTIONARY CONCEPT

Thordon Bearingsgs and Wärtsilä have announced the formation of the Blue Ocean Alliance to develop and promote the revolutionary sterntube-less ship concept.

The Blue Ocean Alliance brings together unrivalled maritime industry expertise, with seawater-lubricated bearings pioneer Thordon Bearings, systems integrator Wärtsilä, the School of Naval Architecture & Marine Engineering of the National Technical University of Athens (NTUA), naval architect SDARI (Shanghai Merchant Ship Design and Research Institute CSSC) and classification society ABS, which championed the initiative in 2019.

The concept of a ship design that does not require a sterntube and eliminates the need for oil-lubricated sterntube seals and bearings is revolutionary. The design is also likely to save ship owners hundreds of thousands of dollars in capital and operational expenditure over a vessel's lifespan, including zero requirement for lubricating oil or biodegradable lubricants.

ABS has estimated that in a sterntube-less ship design, a two-week dry-dock re-alignment or bearing and seal replacement job, can instead be completed in a single day while the vessel is afloat.

Ship designer SDARI, in partnership with Thordon and NTUA, has already been granted an Approval in Principle (AIP) from ABS for the concept design of the sterntube-less vessel with Thordon's COMPAC Split Seawater-Lubricated Aft Bearing. ABS is further developing a pertinent Guide and Notation for such a ship.

Thordon is calling the concept T-BOSS (Thordon-Blue Ocean Stern Space), a revolutionary sterntube-less propeller shaft system design, in which the vessel's sterntube cooling tank is replaced with a dry irregularly shaped chamber, thus allowing for inspection and maintenance of a seawater-lubricated single bearing and seal from inside the ship, while afloat, without any need to withdraw the shaft.

The T-BOSS utilises Thordon's award-winning seawater-lubricated Compac propeller shaft bearing system and the Wärtsilä Enviroguard Seal, which requires no maintenance between planned overhauls of up to five years. As well as eliminating the need to withdraw the propeller shaft for the lifetime of the ship, the Compac bearing comes with a lifetime bearing wearlife guarantee.

Anna Galoni, CEO, Thordon Bearings, says: "The Blue Ocean Alliance brings together a formidable partnership to develop and further promote the concept. The fact that several ship owners have already shown interest in this solution is extremely encouraging.

"The T-BOSS concept introduces a new approach to a merchant vessel's aft layout – removing the sterntube casing, employing seawater for lubrication and creating a dry chamber to permit in-water maintenance for the first time. These innovations enable ship owners and shipyards to eliminate propeller shaft oil emissions, simplify maintenance and lower operational costs."

Rob Burford, vice president of Shaft Line Solutions at Wärtsilä, says: "The Blue Ocean Alliance and the sterntube-less ship design promise to revolutionise the way that ships are built and operated, delivering cost savings and efficiency improvements."

Thordon and its partners strive to shape the decarbonisation of the marine and energy sectors, with products and solutions that provide efficiency, reliability, safety and environmental performance.

SHIP DESIGN IN SPOTLIGHT

Ship design, particularly the design of bulk carriers, presents particular challenges when it comes to the decarbonisation of existing vessels, a forum of INTERCARGO members and guests in Athens heard.

Welcoming more than 200 attendees to *Solutions for Sustainable Dry Bulk Shipping*, INTERCARGO chairman Dimitris Fafalios advised: "Shipping is an extremely wide term covering both tramp and liner sectors. Our sector, that of dry bulk carriers, presents special challenges to decarbonisation due to its non-regular, itinerant nature, serving more ports and more anchorages in the world than other sectors.

"The design of our bulk carriers, especially the smaller geared vessels, present a cargo section forward of the engine room bulkhead where deck tanks for alternative fuels cannot be located. In addition, the deck cranes leave little room for the increased storage volumes required by alternative, low-carbon or zero-carbon fuels."

The high-level evening seminar, held at the Stavros Niarchos Foundation Cultural Center and supported by @TECHNAVA, explored the real-life technical and operational solutions that can assist dry bulk operators to move forward on their decarbonisation journey.

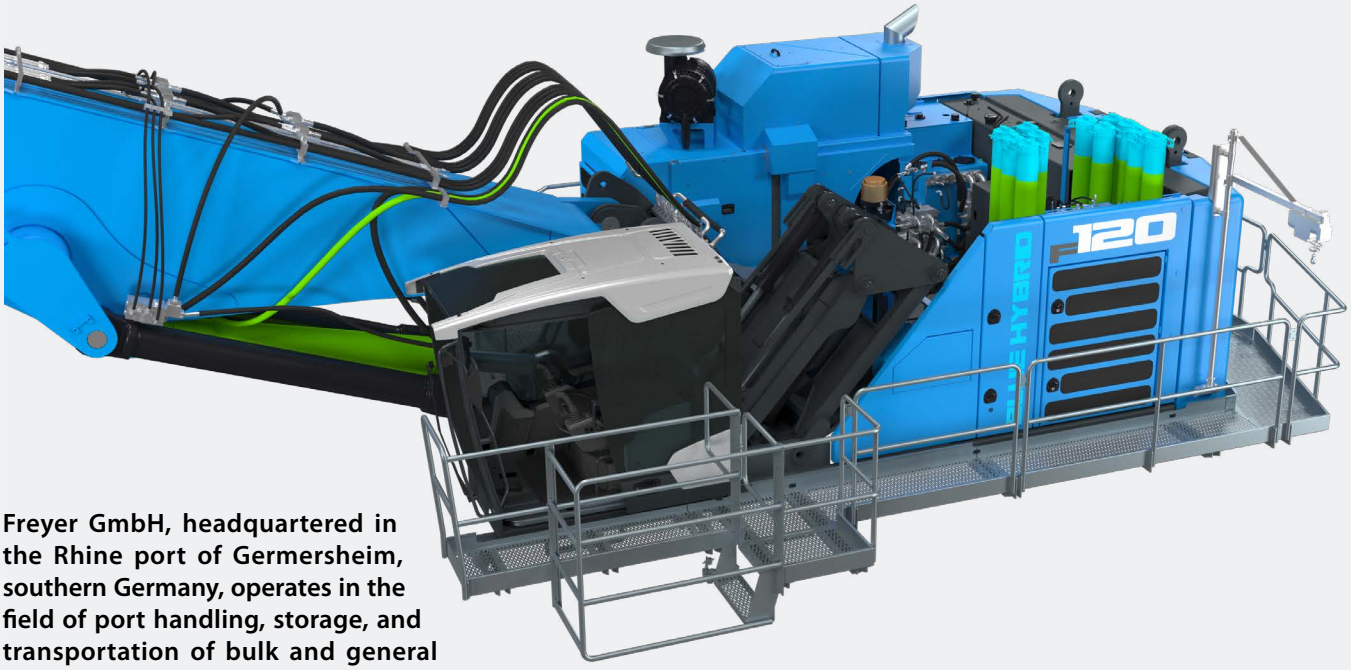
Speakers included representatives from Nihon Shipyard in Japan, one of the world's leading bulk carrier builders; engine maker WinGD, who shared their experience with engines designed for ammonia and methanol; leading marine technology firm Alfa Laval; and Oldendorff Carriers, an active INTERCARGO member that reviewed the commercial impact of the imminent EU Emissions Trading Scheme. Each presentation was followed by a lively Q+A session, where many participants shared their thoughts, concerns and experience.

Sessions were moderated by INTERCARGO technical committee vice chairman, Dimitris Monioudis while the association's vice chairman Spyros Tarassis and members of INTERCARGO's Secretariat were on hand to welcome attendees.

Fafalios comments: "It was exciting to have so many INTERCARGO members present at this important meeting. Dry bulk ship owners are keen to play their part in helping to meet shipping's ambitious decarbonisation goals and events like this enable us to share knowledge and experience."

FUCHS: F120 MH SETTLES INTO EVERYDAY WORK

COMPANY NEWS



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

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

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

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

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

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

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

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

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

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

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

BLUE HYBRID SYSTEM

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

TOP-CLASS SERVCE

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

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

For more information, visit: terex.com/fuchs

LESSONS TO BE LEARNED

Safety is key when using cranes and grabs, as has been proved in a number of recent cases involving accidents or near misses

VIDEO FOOTAGE FROM NEAR MISS SHOWING SWINGING LOAD IMPACTING CONTAINER

The International Marine Contractors Association (IMCA) recently underlined some of the dangers in a description of an incident during lifting operations.

A member of the deck crew member put themselves in the line of fire during landing of a structure on the back deck of a vessel. The installation aids (bumper bars) were insufficient to stabilise the load, resulting in the structure being landed narrowly missing the individual, and damaging an adjacent container.

The bumper bars were a critical barrier for keeping the banksman safe on the walkway, but as they were not spaced far enough apart for the structure, they allowed a rotational movement of the load.

What went right

- Before landing the structure, the area had been barriered off and non-essential personnel removed from the area.
- All containers were checked to ensure no-one was working inside them during the lift.

What went wrong

- The individual was focused on landing the structure in a tight space and was relying on the bumper bars to keep him safe in the event of unplanned movement of the structure.
- Even though the design of the installation aids (bumper bars) was within the vessel's design code, they were not there to protect people, but there as aids to landing and moving structures around the deck without damage. As they were not designed for personnel protection, the distance between them was not considered.

Lessons and actions

- There was a general misconception that installation aids can be used as personnel protection devices, but this is not their design nor their appropriate use
- Moving the counterweight location and bumper bars was seen as an improvement by the vessel team and therefore they did not go through a Management of Change (MOC) process. Even perceived improvements may have negative consequences and need to be managed.
- Despite all the good work done in pre-job planning, the banksman still put himself in the line of fire. In hindsight, this area should have been a complete no-go zone.
- Take into account when planning work, the difference between 'work as imagined' and work as actually done.
- Remain aware of your close environment and understand that during lifting activities, the exclusion zone may change.
- Review tasks where installation aids are being relied on for personnel protection. Should a wider exclusion zone be put in place for these tasks?

Isolated crane

In another incident mentioned by IMCA, on a vessel in dry dock, a crane, which had been isolated for many days for work to be conducted by a third party, was used by crew unaware that the crane was out of use for maintenance. The crane was damaged as a result, leading to increased maintenance time and cost.

A 'personal' isolation of the crane had been removed to allow a third party to function test the crane. A leak was found on the hydraulic system and work was being conducted to repair the issue. However, crew members not involved in the maintenance of the crane had a task to do which needed a crane and they decided to try and operate the crane, resulting in damage.

What went wrong

IMCA said members' internal procedures for personal isolations were not adequately applied. "It was noted by our member that this was not the first time this had occurred. The previous example had led to a crew member being exposed to 930Vdc."

A personal isolation is used when a single person conducts low-risk work on a piece of equipment. They cannot be used by more than one person and cannot cross shifts. A personal isolation was used inappropriately in this case as it was applied over a number of days by more than one person working on the equipment.

Contributory factors

- The vessel was in dry dock and there was a weight limit of 5 tonnes on the crane. Operation of the crane was required to be communicated with the bridge to ensure vessel stability on the blocks.
- The scope of the crane maintenance work was non-routine and involved risks of pressurised hydraulics and movement of heavy machinery.
- A Permit to Work (PTW) should have been used but was not used.
- The task was not adequately risk assessed in accordance with the requirements for when a Permit to Work (PTW) was required.
- The lack of a PTW was a missed opportunity – had the PTW process been followed, the errors which led to the failure of personal isolation, would have been spotted to follow the isolation procedure flowchart which would have captured the sanction to test control loop.
- Personal isolation should only be used by persons directly involved in a low risk activity and within the duration of one shift. The isolation of the crane was not low risk and there was an injury potential from exposure to pressurised hydraulics. Also, third-party personnel were not authorised to work using personal isolation at company worksites.

KEEPING CONTROL

ENABL, supplier of consulting services, equipment and service to the wind turbine industry, has just installed its Tagline Master System on Mammoet's PTC210-DS ring crane. The crane is among the world's largest onshore cranes.

The Tagline Master System securely attaches to the ring crane, eliminating the need for dependence on the surroundings and allowing the taglines to seamlessly follow the movements of the ring crane. This advancement leads to significantly improved and better-controlled lifting operations, reduced downtime, lower costs with only one operator compared to a bigger team, and enhanced safety – even at high wind speeds.

Mammoet has recently been supporting Cadeler's jack-up vessels *Wind Orca* and *Wind Osprey*, preparing them to install next-generation offshore wind turbines by mounting a high-capacity leg crane in a unique cooperation with GustoMSC. Mammoet's ring crane will be used for the removal of the current cranes onboard the vessels and to install the new leg cranes.

Mammoet's project manager Rutger Beelen says: "The system enables us to safely control loads while having a minimum impact on the project site itself. Due to its small footprint, it can be installed on the crane itself. It is a user-friendly system, and the remote control gives the possibility of operating the system at height during removal and installation."

Dan Albjerg, operation manager at ENABL, says: "With the Tagline Master System, Mammoet will be able to lift loads at higher wind speed, so they can simply speed up processes due to optimisation. Why not leverage all the advantages of the system for ring crane operations in general, such as increased operation speed, automatic control, single-operator functionality, load rotation and increased safety?"

CELLULOSE INVESTMENT

Konecranes recently delivered seven forklifts and two gantry cranes to Eldorado Brasil's new cellulose terminal in Port of Santos , completing an order that also involved joint planning and consulting on the layout of the terminal to ensure Eldorado gets the best business return for its major investment.

Eldorado Brasil's new terminal in Port of Santos, Latin America's largest port, is designed to process 3,000,000 tons of pulp bales annually – or close to 8,300 tons daily by rail and truck. Around 90% of the pulp is exported to 45 countries globally. Eldorado approached Konecranes for support in planning the layout of the terminal and to provide the specialised equipment to keep it running.

"We want to be the benchmark in cellulose logistics, so we chose Konecranes – the benchmark in material handling – for our new terminal. It helped us design the terminal and provided equipment with all the special adaptations we require for cellulose handling. After just a few months, we're already impressed with the productivity, safety and eco-efficiency," says Leandro Nogueira, logistics operations manager, Eldorado Brazil.

"Eldorado came to us after using a Konecranes indoor overhead crane at another pulp mill for over a decade. With this terminal, we offered them a complete pulp handling solution, and we will continue to offer such full-service support in the future," says Leandro Belotto Bosco, senior account executive, industrial cranes, Konecranes.

"This delivery strengthens a long partnership with Eldorado that offers many benefits to both sides, including extensive cooperation with our trusted local lift trucks distributor Equiport. The new cellulose terminal is a state-of-the-art digital ecosystem that brings the highest levels of efficiency and safety to lifting in the pulp and paper industry, and we're proud to support Eldorado in making it a success," says Andrés Ramirez, regional sales manager, lift trucks, Konecranes.

The seven Konecranes SMV 16-1200 C 16-ton forklifts use a special clamp designed to lift pulp bales without pallets and have several safety enhancement features including shock absorbers and safety lights and cameras. Special sensors optimise oil usage and reduce waste.

The two Konecranes gantry cranes are tailor-made with a customised open winch, a spreader clamp for pulp bales and the option to attach a container spreader when needed. A variety of smart features ensure smooth and accurate movement, and braking energy is recycled. Radio controls and a remote operating station (ROS) allow full crane control with maximum operator safety.

Konecranes is also providing Eldorado Brasil with Truconnect® remote monitoring, which collects near real-time diagnostics to optimize the performance, maintenance and eco-efficiency of all the equipment. This data is available 24/7 through the online customer portal yourKONECRANES.

Konecranes at Finnish RoRo terminal
After a successful handover in Q4 2023, Finnish stevedoring company Steveco Oy started operating its new Generation 6 Konecranes Gottwald ESP.8 Mobile Harbor Crane at its RoRo terminal in HaminaKotka, southern Finland, as it continues to modernise its equipment, increase handling capacity and improve operational flexibility.

Steveco's Hietanen terminal is part of a key transport hub for the Baltic Sea region. To ensure the highest standard of service for its customers, Steveco added a Generation 6 Konecranes Gottwald Mobile Harbor Crane to their cargo handling fleet. An easily adaptable, high-performance solution, the crane mostly handles containers but can also manage general and heavy project cargo.

"With an ever-increasing volume of annual throughput at our Hietanen terminal, we require the latest equipment to support it," says Jukka Muuri, foreman, technical staff, Steveco. "The new crane has already made a noticeable difference to our RoRo capacity. Its geometry and ergonomics help our drivers and its productivity impresses our customers. This crane is exactly what we need moving forward."

"Our partnership with Steveco is strong, as it has had Konecranes Gottwald Mobile Harbour Cranes on-site for many years," says Hans-Jürgen Schneider, regional sales manager, port solutions, Konecranes. "We are pleased to support Steveco's growth with the new crane, which is growing in popularity in northern Europe given its high performance and reliability."

The Mobile Harbor Crane has a working radius of up to 54m and a maximum capacity of 125 tonnes to serve container ships up to Panamax class. The ESP.8 is particularly suited to RoRo vessels with high ship sides, as its high boom pivot point helps reach the containers on top, while an elevated tower cab offers an excellent view of the working environment. Strong lifting capacity curves improve handling rates and a high classification ensures long service life.

The crane is powered by a hybrid drive that consists of an EU Stage V diesel engine combined with ultracapacitors that provide additional power for heavy lifts. The ultracaps are also refilled by the collection of lowering and braking energy.

Konecranes supplies Ership
Spanish maritime transport company Ership recently received a Generation 6 ESP.9B Konecranes Gottwald Mobile Harbour Crane with hybrid drive for its terminal in Gijón, northern Spain. The crane, Konecranes' bulk handling mobile harbor crane providing the highest handling rates, was ordered earlier in the year.

As it continues to build more capacity into its bulk operations, Ership has invested in four Generation 6 Konecranes Gottwald Mobile Harbor Cranes in the past two years for their busiest terminals in Spain. After using a Generation 6 ESP.8B crane for 18 months at its Cartagena facility, Ership ordered a second one for Cartagena and a third for its Gijón terminal earlier this year. For Gijón, the main bulk port in Spain, Ership decided on an ESP.9B, to further increase their handling rates with the highest performing bulk handling mobile harbour crane available on the market today.

"We urgently needed a new crane in Gijón to support growing demand," says Gonzalo Alvargonzález, CEO of Ership. "Konecranes was able to deliver the ESP.9B in a very short time. This excellent service is another reason why we've used Konecranes Gottwald mobile harbour cranes for over 25 years and currently have more than 20 in our fleet."

The crane is a four-rope grab crane with a working radius of 50m and a 74 tonne grab load curve for handling bulk cargo on Capesize vessels. In Gijón, it will be used mostly for bulk, but is flexible enough for project and general cargo as well.

A handling rate of up to 2,200 tonnes per hour, a high classification and easy maintenance ensure a long service life. It uses the innovative Konecranes hybrid drive, which consists of two modern diesel engines paired with ultracapacitors that can be recharged by energy recovered from lowering and braking motions. This gives the power needed for peak performance, while saving fuel on lighter loads. The tower of the crane is equipped with an elevator to facilitate access for operators and technicians alike.

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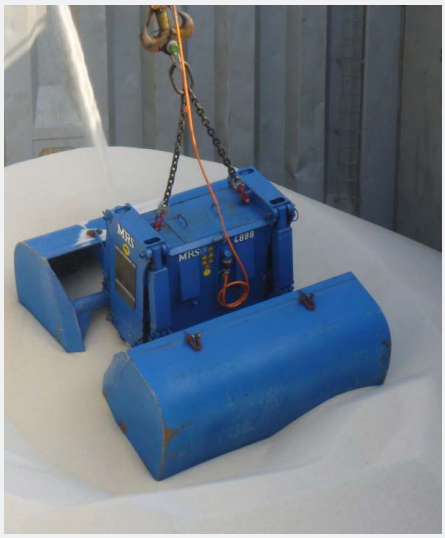
For more information, contact:
MRS Greifer GmbH
Talweg 15 - 17
74921 Helmstadt
Tel: +49 7263 9129-15
Fax: +49 7263 9129-12
Email: export@mrs-greifer.de
mrs-greifer.de



WASTE DISPOSAL CHALLENGE

Spitsbergen is one of the northernmost places on earth, only 1,300km from the North Pole. Here, the Sennebogen material handler 817 E works in recycling operations under particularly challenging conditions.

Despite the extreme weather and the Arctic climate, the 18-tonner reliably supports the Longyearbyen Miljostasjon waste management company in disposing of 2,000 t of waste a year. The machine was sold and delivered by local service partner Volvo Maskin AS.

Before purchasing the 817 E material handler from Sennebogen, the waste disposal company used a wheel loader for sorting and loading tasks.

However, the large amount of space required to manoeuvre and load the shredder and the poor visibility made daily work difficult. The new building and the changed space conditions in the hall also meant that other working heights were possible – a machine with more reach was required.

The investment in the 817 E material handler proved to be the perfect decision. The direct, electric control system ensures fast sorting and loading, while the machine can be moved around the hall.

The additional custom-made dozer blade attached to the undercarriage with four-point support helps to keep the working environment clean and prevent material from freezing to the ground.

The elevating cab provides an unrestricted view of the working area.

Recycling all-rounder

Turning waste into valuable raw materials is the mission of edi Entsorgungsdienste AG in Lyss.

Since its foundation in 2004, 45 employees ensure that 95 % of the more than 250,000 tonnes of waste delivered each year can be reused. Its holistic disposal concept ranges from collection and transport to the recycling of a wide range of industrial waste such as ferrous scrap, non-ferrous metals, electrical scrap, wood, paper, glass, cables, used tyres and plastics.

Between all the containers, shredders and sorting plants, the manoeuvrable 340 G telehandler from Sennebogen is at work and proves to be a recycling all-rounder.

The 340 G telehandler from Sennebogen has a lot of tasks at the recycling centre: from stacking materials such as wood to loading construction waste and inert materials, as well as crushing or loading glass and feeding systems such as the pulping mill.The latter is used to process electronic scrap.

Pre-shredded material is broken up in the grinder, causing the material composites to separate from each other. These are separated into different fractions via several vibrating plates and can then be processed further.

Due to the particularly tight space conditions, the company needed a powerful machine that was compact and agile at the same time. The 340 G, has a small turning circle and compact dimensions of a maximum overall height.

During operation, the system automatically selects the optimum setting for fast driving, negotiating slopes or picking up material.

The telehandler is equipped with various attachments for its wide range of tasks, allowing maximum when handling different materials. Thanks to the quick coupler, the waste disposal company can switch between bulk material bucket, grab bucket, container hook and lifting fork in a matter of seconds and at the touch of a button.

The cab of the new generation of machines offers protection against excessive noise and vibrations.

The ideal all-round visibility is another major advantage of the telehandler. The cab can be raised to an eye level of 4.10m, which enables optimum loading of trucks

"With the 340 G, we can see much more than with other telescopic handlers or wheel loaders and can therefore load more and higher. The machine is the perfect size," says Marc Uebelhart of edi Entsorgungsdienste AG.

BIOMASS EXPERTISE

Bruks Siwertell has secured a contract for the design and supply of a new biocarbon pellet plant, which will replace coal in steelmaking and deliver renewable energy to one of the first 'green steel' production facilities of its kind.

The plant, based in Columbus, Mississippi, US, has been ordered by one of the largest steel producers in the world, Steel Dynamics Incorporated (SDI), as part of a US joint venture company between SDI and Aymium, SDI Biocarbon Solutions.

"We are incredibly proud to be part of this sustainable development," says Christopher Duffy, area sales manager, Bruks Siwertell. "For this contract, we are drawing upon the full strength and expertise of our recently expanded wood-processing, handling and storage capabilities, with both Bruks and West Salem Machinery (WSM) equipment specified in the mix.

> "All eyes will be on this pioneering new biocarbon steel production operation, and our equipment will play an integral role

"The steel industry is in the top 5% of CO_2 emitters in the world, making it roughly responsible for about 8% of total global carbon dioxide emissions; it is looking for sustainable solutions," continues Duffy. "All eyes will be on this pioneering new biocarbon steel production operation, and our equipment will play an integral role."

The new pellet plant will produce biochar, a carbon-rich biomass-based charcoal. It will supply SDI's electric arc furnace steel mills with a renewable alternative to fossil fuel-based carbon sources using Aymium's patented technology, and use any excess as renewable energy. SDI estimates that the plant will reduce its scope 1 steelmaking greenhouse gas (GHG) emissions between 20-25%.

Bruks Siwertell's equipment deliveries include: a large high-capacity Bruks Klöckner horizontal drum chipper model DH 1050 x 1450; WSM screening and 4888SP vertical green hammermill systems; and a Bruks radial stacker, as well as the complete conveyor system from receiving to the dryer delivery.

"We are well-established in the wood pellet industry for designing and supplying complete systems, with the reputation of delivering on time and meeting all performance requirements," Duffy notes.

"The high-capacity micro-chipping capabilities of our drum chippers, which can process whole Southern Yellow Pine trees, as well as waste wood residues, along with our industry-setting storage and reclaimer capacities, were significant in winning the contract," he explains.

"Add to this, WSM green hammermill systems, which produce the ideal product quality necessary for the most efficient drying requirements and optimal fibre preparation for pellet production, and you can see why Bruks Siwertell became the one-stop-shop for SDI."

The plant is planned for a two-phase development process. Phase one will result in an annual biochar pellet production of 160,000 tonnes per year, increasing to reach its target of 480,000 tonnes per year in phase two. Phase one is due for delivery mid-2024 for startup and commissioning towards the end of the year. Phase two will be scheduled at a later date.

The vast majority of equipment has been sourced for supply from North America and is scheduled for delivery in installments as and when is practical to receive it on site.

Bruks Siwertell road mobile order

Bruks Siwertell has completed the delivery of a run of new Siwertell road-mobile ship unloaders, all now secure for efficient, spillage-free cement handling operations at installations in Mexico and North America.

"The US is seeing a huge rise in demand for cement, and our technology is helping operators meet these volume increases in the most sustainable way possible," explains Pedro Alfaro, project development engineer, Bruks Siwertell.

"Many Bruks Siwertell orders come from repeat customers, such as one of the operators in this latest delivery run. This customer already knows that Siwertell technology will deliver the necessary environmental and operational performance.

"Road-mobile units ensure minimal dust emissions and enclosed, spillage-free conveying, and offer excellent through-ship capacity, and the flexibility of being able to move between sites," Alfaro continues. "We are also one of the few companies able to supply a ship unloading solution that can discharge cement from vessels directly to trucks."

Siwertell 10 000 S road-mobile unloaders offer a continuous rated cement handling capacity of 300t/h and can discharge vessels up to 10,000 dwt. They have totally enclosed conveying lines and are fitted with dust filters and a double-bellows discharge arrangement with an automatic shifting function. This enables fast, efficient and dust-free vessel discharges direct to waiting trucks.

Innovative inlet feeder

Bruks Siwertell has introduced a new inlet feeder specifically designed to improve the through-ship efficiency of its large-scale VST-940 Siwertell ship unloaders, some of the highest capacity dry bulk handling machines on the market.

The customer-driven development increases through-ship capacity and the overall efficiency of unloading operations, particularly as material gets lower in the hold.

"We started the design process for improving the inlet feeder in response to an existing customer requesting a through-ship capacity, which was so high that it had not yet been achieved," says Jonas Andersson, technical director, Bruks Siwertell.

"Our Siwertell ship unloaders already offer the highest through-ship efficiencies on the market, in excess of 70%. To put this in perspective, an equivalent capacity grab crane, for example, offers through-ship efficiencies of around 50%.

"We always like a challenge, particularly when directed at meeting a specific customer's requirements," Andersson continues. "To to meet this capacity request, we needed to reduce any capacity loss or fluctuations and maintenance time to a minimum, so we started on a development programme that could realise this."

Bruks Siwertell uses advanced simulation software in the development of its technology, and with its help, was able to establish an optimised, improved design of the new inlet feeder.

"Theoretical results have to be tested under real-world conditions, and this is exactly what we have done," Andersson explains. "Successful trials of the new inlet feeder have now been completed, and we could not be happier with the results. They show that theory and reality really matched in this case, convincing us that the improved inlet feeder was as good as the simulation showed.

"It was installed, an even higher through-ship capacity test was achieved, and a new milestone was reached in Bruks Siwertell's history," Andersson adds.

"The through-ship capacity test result was about five% units higher than the customer's requirement and higher than our expectations. During the test it was noted that it was easier to maintain the capacity, especially when unloading with less material in the hold and when changing direction. This was all thanks to the improved design of the new inlet feeder."

The counter-rotating inlet feeder is one of the single most important components of the Siwertell screw-type ship unloader. It significantly increases the filling factor of the vertical screw conveyor and can operate both with free-flowing and crusted, compacted materials.

To minimise dust emissions, the inlet feeder is designed to pick up dry bulk cargo from below the surface. Different inlet feeders can be specified for different materials, especially important when handling very abrasive, corrosive or heavily compacted materials, which require high digging forces.

The tests were conducted on a coal-handling ship unloader, but the new inlet feeder can be used for various other materials, and retrofitted to existing ship unloaders within an hour.

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WINDOW OF OPPORTUNITY?

BY BASIL M KARATZAS

As the war in Ukraine continues, US grain producers are eyeing up the gap in the market as the Black Sea trade continues to falter

More than a quarter of the world's grains are produced and exported from the Black Sea, both in Ukraine and Russia. Ever since the Russian invasion of Ukraine, harvesting and shipping of grains from the region has become a global concern, not only for economic considerations but, and foremost, for humanitarian reasons.

Unlike coal and ores, though, storage and transport of grains is much more demanding; further, while people may sustain in a society without the benefits of coal and ores, they cannot live without grains.

Disruption of grain shipments from the Black Sea hopefully can be compensated with additional shipments from other regions on the planet. The Americas are the world's top grain producer, whether for the US and Canada in North or Argentina and Brazil in South America, and the hope is there will be enough spare producing and shipment capacity to make up from disruptions from Black Sea.

"Grains" is a broad term encompassing products, such as wheat and rice that are primarily intended for human consumption, and also products such as soybean and corn that are primarily intended for feedstock; there are also derivatives of "grains" such as Distiller's Dried Grains with Solubles (DDGS), Biscuit Cereal Meal High Energy (BCM High Energy), Soy Hull Pellet, Corn Gluten Feed, and several more, generally used for feedstock, but critically overall in the production of protein.

The global market for grains is very price sensitive as buyers in the global market typically buy from the cheapest source via a reverse auction process; given the fact that buyers think in CIF terms (Cost-Insurance-Freight) and not FOB (Free-on-Board), effectively they are concerned with the 'landed cost' to get the commodity to their facilities, which includes the cost of freight, mostly driven by international dry-bulk freight rates, in addition to the cost of the commodity itself.

In that respect, buying from nearest producing countries would make sense (for example, Egypt has a long tradition of buying grains from the Black Sea), but again, when times are challenging, one

has to think of procuring the needful from sources afar as well.

In normal freight shipping markets, freight cost by seaways transport for grains is generally cost competitive, especially when shipped on large capesize vessels.

Nevertheless, freight cost is always of consideration, given that grains require special handling as compared to coal and ore as cargoes.

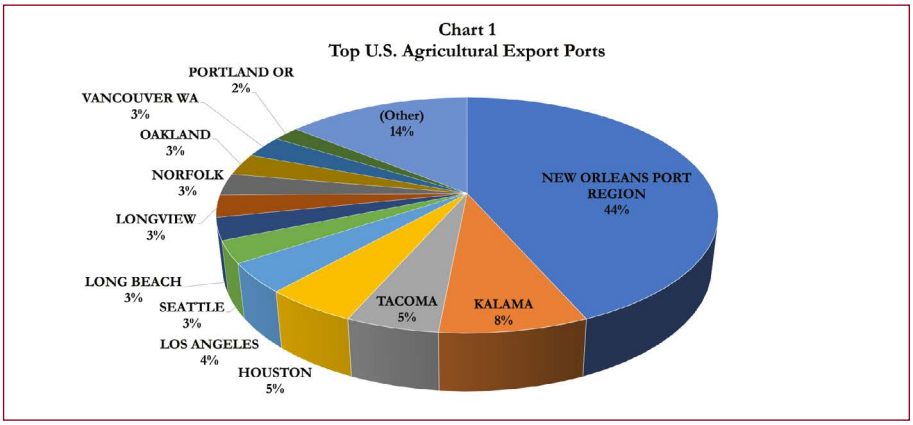
The Americas generally have a freight cost disadvantage (as compared with the Black Sea exports) given that geographically the Americas are furthest away from Asia and countries of the Pacific Rim. The freight cost is even more pronounced from the ports of the Eastern Seaboard of the US and Canada and the US and Gulf Coast, as generally the ports of Argentina and Brazil are closer to Asia.

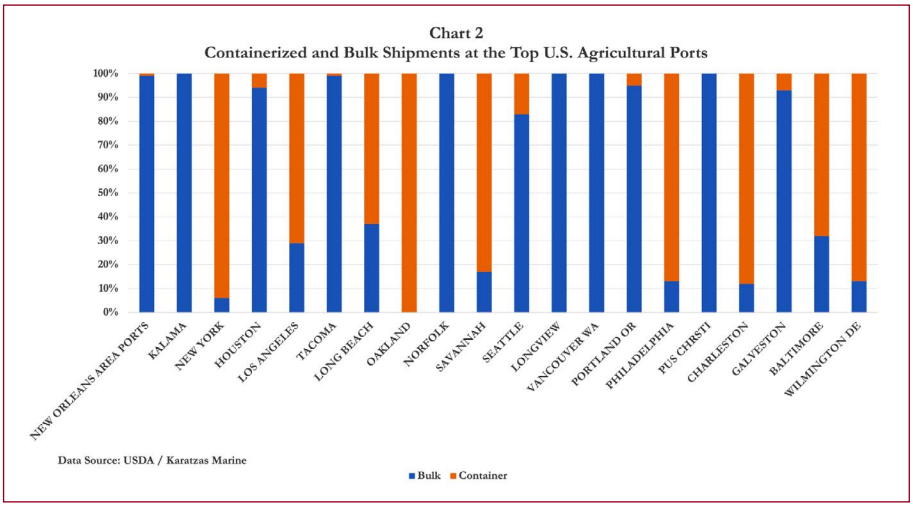
However, the ports of the Pacific Northwest (PNW) of the US (mainly from the States of Oregon and Washington) enjoy a distance, and thus freight, advantage for shipments to China and the Far East, all things being equal.

In North America, as grain production takes place inland, in the expansive Midwest region, the element of shipment of grains from the mainland to the ports of exporting ports is critical. In the western US, inland shipment of grains takes place mostly via rail, which it has its capacity and network limitations; likewise for grains exporting ports on the eastern Seaboard of the US.

However, the ports of the US Gulf, primarily those located on the riverbanks of the Mississippi River, enjoy a competitive domestic freight cost advantage, as grains from the US mainland can be shipped downstream in hopper barges, whereby there is unlimited transport capacity and fair amount of competition among barge owners and operators.

Thus, any disadvantages in terms of distance and international freight rates are compensated by the ease and competitive freight cost by barge domestically.





As per Chart 1, in 2021 – the year for which full stats exist – almost 44% of US grains were exported from ports in the New Orleans area and the riverbanks of the Mississippi River. When the ports of Texas are considered, too (which however obtain most of the grains from inland via rail), then agricultural products exports from the US Gulf count for approximately half the US exports. Nine ports on the US West Coast account for approximately 35% of US agricultural exports.

However, as per Chart 2, agricultural products exports from the US Gulf are almost exclusively in bulk on conventional dry bulk vessels, and also a great deal from the ports of the Pacific Northwest, while exports from ports in the West Coast and the East Seaboard are containerised cargo (think of empty container boxes that have to be repositioned back to China and Asia for loading).

While almost 100% of the exports from New Orleans in Louisiana and Kalama in Washington State is in bulk, just the opposite is true for the Port of Oakland in California.

The vicissitudes of the international grains markets notwithstanding, there is no secret that US farmers have been hard at growing their international market share, looking for new markets and new trades.

The war in Ukraine may be a window of opportunity for more US exports, but once again, strong competition on pricing and volumes from countries in South America (Argentina and Brazil) keeps any new trade opportunities thin on margins.

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

BEDESCHI: A STAR IN THE STOCKYARD

COMPANY NEWS

Stockyard equipment refers to all the equipment involved in the storage of material that is a major part of the handling process. For Bedeschi, it means the ability to offer bespoke solutions, from the design, the engineering, the production and the installation of a variety of turn-key material handling systems.

Diversification is our major asset, which we nourish with continuous innovation in products and services tailored to fit customers' needs. Operating in different industries and with different materials we are able to think out of the box: using technically consolidated concepts, but in different contexts, we put them together for a totally customised solution that capitalises on synergies and cross competence.

Bedeschi can offer a wide variety of tailor-made machines and applications in any type of storage, handling different types of materials as the following case studies show:

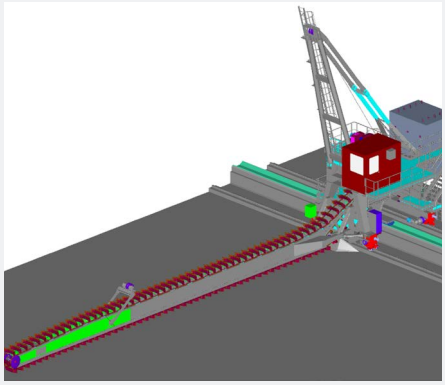
LONGITUDINAL STORAGE

For Wright Engineering, with the final client Etex Building Performance for its gypsum rock facility at Bristol Port, UK, Bedeschi will supply a Reclaimer PAL S 100/28+4.

The lateral reclaimer with blades for a storage facility of 55,000 tons of gypsum rock will have the following characteristics:

- Capacity of 150 t/h
- Bulk density of 1.4 t/m^3
- Boom length 28m
- Travelling distance of 130m

The distinguishing point of this machine is that it's fully automatic with the presence of a radar on the boom to detect the height of the stockpile, and the software is integrated in the main MCC of the client.



BEDESCHI LATERAL RECLAIMER

For a Peruvian mining company active in the extraction, processing and commercialisation of Iron ore, the company manufactured one stacker STK33/1000.

The supply includes a new stacker and yard conveyor, which are part of the new Shougang expansion project and are installed in the San Nicolas area, where the mineral is processed and stocked before dispatching.

The conveyor and the stacker are designed to handle 1.800 tph of iron ore and are under the commissioning phase, ready for handover to the mine operators.

LONGITUDINAL STORAGE AND PIPE CONVEYOR

Bedeschi is committed to helping its customers lower CO_2 emissions and comply with environmental standards by offering a range of eco-friendly solutions. The company's research and development department is constantly working to improve the capability of its systems, focusing on environmental protection, energy efficiency, investments into eco-friendly and innovative equipment and pollution prevention.

With this in mind, Bedeschi has been commissioned to supply two apron feeders, two crusher units, one stacker, one reclaimer and one pipe conveyor for the primary and secondary crushing area of the new Lehigh-Mitchell cement plant in Indiana, US, replacing the existing machines.

The new Lehigh-Mitchell cement plant will be completely renovated to increase its productivity and comply with the highest environmental standards. The new production capacity will be four times the amount of cement produced by the old facility and will be state-of-the-art when it comes to environmental standards. In fact, Heidelberg Materials' global commitment

is to decrease CO_2 emissions by 2030 and achieve carbon-neutral concrete by 2050. One sustainable feature the new facility has is the ability to use 100% natural gas, which will reduce the CO_2 of clinker production by 25-30 %.

When completed, the Lehigh-Mitchell cement plant will be one of the highest producing and most efficient cement plants in North America.

Bedeschi is finalising the installation of the equipment inside the plant. Both stacker and reclaimer are installed inside a longitudinal storage area and are at their final stage of installation. The stacker will handle limestone at a capacity of 1200 t/h, while the reclaimer has a capacity of 650 t/h. The pipe conveyor will handle cement at a rate of 420 t/h and will have a total length of about 700m. The system is currently at the assembly phase and the Bedeschi technical team is on site to support and supervise the installation.

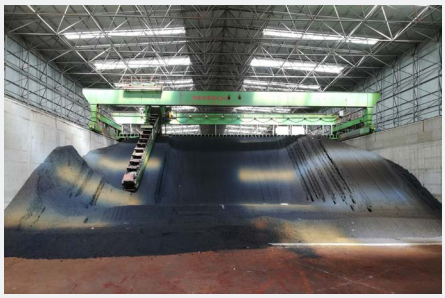
BEDESCHI PIPE CONVEYOR UNDER ASSEMBLY

VERTICAL WALLS BLENDING STORAGE

Bedeschi supplied 2 BEL C and 3 STKP for a mixed clay and coal park with a capacity of 470 t/h in storage and a capacity of 200 t/h in reclaiming.

This is a typical cement plant for processing wet and sticky materials. Bedeschi has extensive experience in the treatment of this kind of material.

The BEL C system, based on rectangular section piles, is composed of an interconnected system with a tripper, two bridge stackers and one overhead bucket reclaimer, to provide a complete remote automatic material stacking and reclaiming process. Thanks to the BEL C system, it is possible to achieve a very high blending effect, comparable to or higher than the best frontal pre-blending bridge reclaimer.

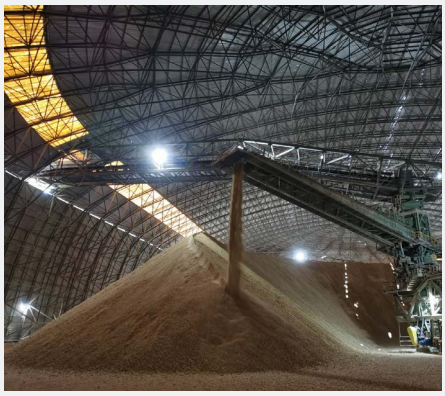


BEDESCHI VERTICAL WALLS BLENDING STORAGE IN CHINA

CIRCULAR STORAGE

The long co-operation between Colacem and Bedeschi continues with the award to Bedeschi of the complete revamping project for the limestone reclaiming system in San Cristobal plant, Dominican Republic, managed by Domicem (part of Colacem Group).

The original stacking and reclaiming equipment, installed by Bedeschi in 2004, allows clay and limestone handling. The revamping of the machine has improved the limestone reclaiming system, increasing its capacity from 200 t/h to 360 t/h, the capacity needed to feed the new production line that has been installed at the plant. The system has been renewed mechanically as well as electrically, in order to guarantee the upgrade of all the components and deliver to our partner a completely new system.



BEDESCHI CIRCULAR STORAGE IN THE DOMINICAN REPUBLIC

BUCKET-WHEEL STACKER RECLAIMER

Bedeschi is at the final stage of the supply of two continuous barge unloader capable of handling 1,250 t/h of coal from the barge to the delivery belt conveyor.

Under the same contract, Bedeschi has also supplied one bucket wheel stacker reclaimer that is currently under commission for its imminent start in operations,handling coal with stacking capacity of 750 t/h and a reclaiming capacity of 150 t/h.

BEDESCHI BWSR UNDER COMMISSION

Furthermore, Bedeschi has recently been awarded two different projects supplying dry bulk stockyard equipment.

For one client, Bedeschi will supply five bucket wheel stacker-reclaimer to handle coal with a 4,000/4,500 t/h capacity. For another client – to which Bedeschi has already supplied four reclaimers to improve the capacity of its existing plant – the company will supply three reclaimers, one for sulphur with a reclaiming capacity of 500 t/h, and two 1500 t/h reclaimers for fertiliser.

These projects are currently under the commissioning phase.

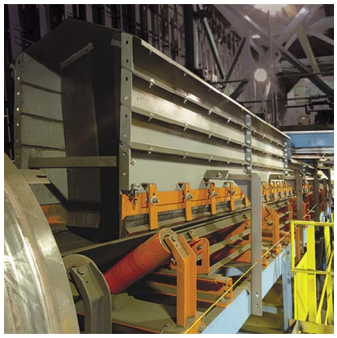
For more information, visit: bedeschi.com

DECLINING DEMAND

After reaching an all-time high this year, global coal demand is expected to decline to 2026, according to the latest edition of the International Energy Agency's (IEA) annual coal market report – the first time that the report has predicted a drop in global coal consumption over its forecast period

CLEANER, SAFER, MORE PRODUCTIVE CONVEYING

KEEP IT CLEAN



Martin® Transfer Point Kits feature modular loading, settling and stilling zone configurations specifically designed for optimal dust containment and air flow management. Kits include a wide variety of chute options and are engineered to facilitate future upgrades without expensive onsite construction.

Our transfer point products virtually eliminate all fugitive material — minimizing cleanup and maintenance time, and maximizing efficiency, productivity and profitability.

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martin® engineering

According to Coal 2023, the latest edition of the International Energy Agency's (IEA) annual coal market report, global demand for coal will rise by 1.4% in 2023, surpassing 8.5bn tonnes for the first time.

The global increase masks stark differences among regions. Consumption is on course to decline sharply in most advanced economies in 2023, including record drops in the EU and US of around 20% each. Demand in emerging and developing economies, meanwhile, remains very strong, increasing by 8% in India and by 5% in China in 2023 due to rising demand for electricity and weak hydropower output.

However, the report expects global coal demand to fall by 2.3% by 2026 compared with 2023 levels, even in the absence of governments announcing and implementing stronger clean energy and climate policies. This decline is set to be driven by the major expansion of renewable energy capacity coming online in the three years to 2026.

More than half of this global renewable capacity expansion is set to occur in China, which currently accounts for more than half of the world's demand for coal. As a result, Chinese coal demand is expected to fall in 2024 and plateau through 2026. That said, the outlook for coal in China will be significantly affected in the coming years by the pace of clean energy deployment, weather conditions and structural shifts in the Chinese economy.

The projected decline in global demand for coal – which is currently the largest energy source for electricity generation, steelmaking and cement production, but also the largest source of CO_2 emissions from human activity – could mark a historic turning point.

However, global consumption is forecast to remain well over 8bn tonnes through 2026, according to the market report. To drive down emissions at a rate consistent with the goals of the Paris Agreement, the use of unabated coal would need to fall significantly faster.

"We have seen declines in global coal demand a few times, but they were brief and caused by extraordinary events such as the collapse of the Soviet Union or the covid-19 crisis. This time appears different, as the decline is more structural, driven by the formidable and sustained expansion of clean energy technologies," says Keisuke Sadamori, IEA director of energy markets and security. "A turning point for coal is clearly on the horizon – although the pace at which renewables expand in key Asian economies will dictate what happens next, and much greater efforts are needed to meet international climate targets."

The report finds that the shift in coal demand and production to Asia is accelerating. This year, China, India and South-east Asia are set to account for three-quarters of global consumption, up from only about one-quarter in 1990. Consumption in South-east Asia is expected to exceed for the first time that of the US and that of the EU in 2023.

Through 2026, India and Southeast Asia are the only regions where coal consumption is poised to grow significantly. In advanced economies, the expansion of renewables amid weak electricity demand growth is set to continue driving the structural decline of coal consumption.

Meanwhile, China, India and Indonesia – the three largest coal producers globally – are expected to break output records in 2023, pushing global production to a new high in 2023. These three countries now account for more than 70% of the world's coal production.

Global coal trade is expected to contract as demand declines in the years ahead. However, trade will reach a new high in 2023, driven by strong growth in Asia. Chinese imports are on track to reach 450m tonnes, which is more than 100m tonnes above the previous global record set by the country in 2013, while Indonesia's exports in 2023 will be close to 500 million tonnes – also a global record.

> "The outlook for coal in China will be affected in the coming years by the pace of clean energy deployment

SUSTAINABLE PROGRESS

Port of Newcastle has continued its improvement trajectory, achieving its highest coveted Global Real Estate Sustainability Benchmark (GRESB) score to date and maintaining its five-star GRESB rating for a third consecutive year.

"GRESB is a world-leading leading environmental, social and governance (ESG) benchmarking tool, which provides insight into an organisation's ESG performance over time and compared to its industry peers," says Craig Carmody, Port of Newcastle CEO.

"For the world's largest coal port to go from a GRESB score of 40 in our first assessment in 2019 to 96 in 2023 is a remarkable achievement and our continuous improvement shows that we have truly embedded ESG as a core principle across our business and our culture.

"We have been actively working to diversify our Port and to support a more sustainable future. Our Clean Energy Precinct will position us as a leading production, storage and export hub for future sustainable, clean energy products and technologies including hydrogen and green ammonia.

"Our Port now handles more than 25 different types of cargoes and last year despite challenging environmental conditions we saw strong trade volumes across a number of export commodities including wheat, meals and grains exports and increased roll-on-roll-off project cargo including wind turbine components," Carmody says.

HARD SCIENCE

With Fit for 55, the EU's target of reducing net greenhouse gas emissions by at least 55% by 2030, cement producers are putting the focus on providing products that meet the needs of environmental regulation

Following increased demand for its more sustainable product lines, global building materials supplier Cemex has seen sales of its cement that provides the greatest reduction in CO_2 emissions increase to now account for more than 20% of sales volumes across Europe.

Advances in product design and manufacturing technology, including the widescale use of hydrogen in the production process, has enabled the creation of this new high-performance cement, which gives a reduction in CO_2 emissions of more than 55% compared with a traditional Type I OPC cement.

Additionally, the CO_2 saving achieved when using this cement means it is already compliant with Fit for 55, the EU's target of reducing net greenhouse gas emissions by at least 55% by 2030, and Cemex's corresponding regional goal for its operations.

This cement has now been categorised as Vertua® Supreme, the latest addition to Cemex's Vertua lower carbon cement range.

Graham Russell, commercial vice president for Cemex Europe, comments: "We are seeing high cut-through for our more sustainable products across the region, with particularly increased demand for our lower carbon cement range. We are therefore proud to expand this portfolio further with the introduction of Vertua Supreme, perfect for customers keen to achieve top-tier CO_2 emission savings of more than 55%."

Cemex has welcomed the introduction of the newly revised standard for concrete, BS8500. The introduction of the new standard represents a significant advancement for the UK construction industry, to provide even greater options for concrete and cement manufacture, in the critical area of reducing the embodied carbon.

Richard Boult, commercial technical manager for cement, Cemex UK, says: "BS 8500 has been long awaited and will be transformational for the industry, increasing the options of specifying lower-carbon concretes.

Lex Russell, managing director, Cemex UK materials and chairman of the Mineral Products Association, adds: "As the first UK company to introduce net-zero CO_2 concrete in 2020, we have the ongoing responsibility to deliver lower carbon products at scale. The incoming changes to BS8 500 are welcomed by all at Cemex as it underpins our ambitious global goal for Vertua lower-carbon cement and concrete products to reach half of all cement and concrete sales by 2025."

> "The incoming changes to BS8 500 are welcomed by all at Cemex as it underpins our ambitious global goal for Vertua lower-carbon cement and concrete products to reach half of all cement and concrete sales by 2025

Consortium announcement

Cemex recently announced that it is part of the HYIELD consortium, which has been awarded a €10m grant from the European Union for the R&D to develop a waste-to-hydrogen demonstration plant.

Safety first

Cemex is strengthening its commitment to health and safety by implementing new safety assistance systems across all its European Admixtures facilities.

This technology was completely installed at most of these sites by the end of 2023, with further plans for it to be rolled out in the wider Europe, Middle East and Africa (EMEA) region during 2024.

The technology was supplied by German manufacturer Linde Material Handling. Its features include a reverse assist camera for forklifts, which detects pedestrians behind reversing forklifts. In the event of danger, the technology will alert the driver and automatically reduce the speed of the forklift.

Linde will also implement its 'safety guard system' at hall gates of buildings where forklifts can be driven; these project warnings signs make pedestrians and other forklift operators aware that a vehicle is entering the facility.

Dietmar Voetsch, director of Admixtures Europe, says: "At Cemex, we are always looking for new processes and innovations to ensure safety in our workplaces. Linde's safety guard system and reverse assist camera are ideal solutions for occupational safety in our Admixtures plants. We were immediately convinced by the technology and the feedback we've received from employees who have used it has been extremely positive.

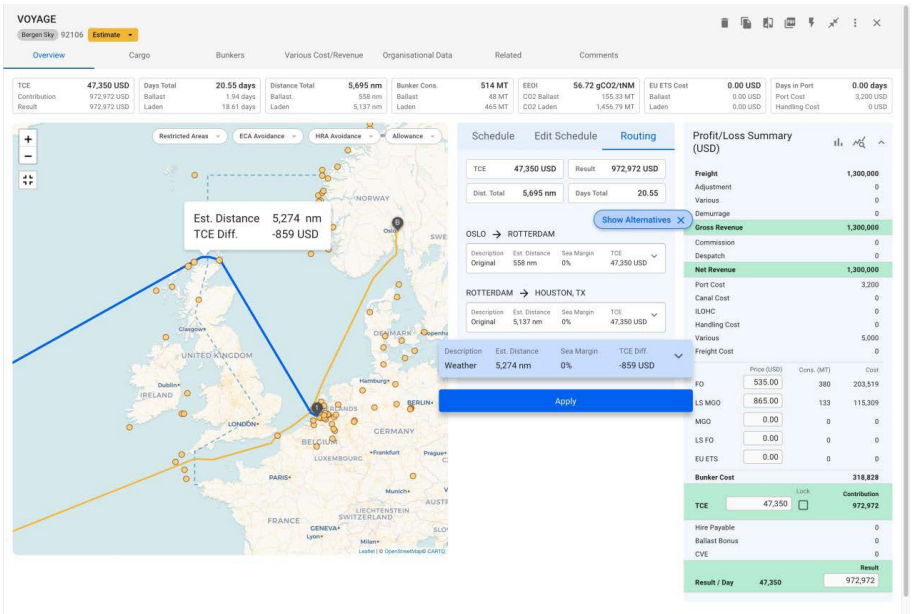
"Once the European rollout is complete, we are excited to adapt the technology further for use in our Admixtures plants across the wider EMEA region."

STRENGTH IN NUMBERS

The EU Emissions Trading Scheme (EU ETS) regulation, which came into force on 1 January, will have a transformative impact on the maritime industry, but there are a number of innovative technological offerings available to ensure that companies are prepared to meet the challenges

Shipping companies operating under the EU Emissions Trading System (ETS) will have to further optimise voyages to mitigate the increased costs of CO_2 emissions. To help clients in the new regulatory environment, Weathernews has updated its SeaNavigator content to include:

- Enhanced data management: Resilient data collection to minimise errors in ship reports.
- Validation and monitoring: Comprehensive data validation together with a smart ship-reporting tool to prevent errors in the report.
- Automated EU ETS voyage data record: Identification and calculation of CO_2 impact during EU ETS-covered voyages.
- Streamlined voyage records: User-friendly features for keeping and managing EU ETS voyage records.



VOYAGE MANAGEMENT SYSTEM INTEGRATION: ACCESSING ALTERNATIVE ROUTE SUGGESTIONS WITH UNIQUE WEATHER DATA (©: DATALOY SYSTEMS)

New features include the integration of simulation and predictive capabilities enabled by AI-driven machine-learning technology. With the EU ETS requiring precise voyage estimates, Weathernews' smart solution allows users to simulate vessel routes using different speeds and even changes of destination, so they can accurately estimate voyage time (ETA), fuel consumption, and the CO_2 cost impact.

The vessel performance database includes not only ships already using Weathernews' routing service, but all other vessels submitting AIS data – amounting to more than 32,000 ships globally, enabling users to make informed decisions regarding voyage costs both pre- and post-fixture.

"Available exclusively in our SeaNavigator tool, this release represents a key step in our commitment to building a robust data community and helping to accelerate the decarbonisation of shipping. The

HENRIK FAURSCHOU, GLOBAL PRODUCT AND MARKET STRATEGY LEADER, WEATHERNEWS (CREDIT: WEATHERNEWS)

ERIK FRITZ LOY, CEO, DATALOY SYSTEMS (© DATALOY SYSTEMS)

> Optimising route-planning functions with advanced weather technology empowers owners and operators

enhancement provides our customers with actionable data insights through an all-in-one solution, supporting critical needs in terms of safety, cost optimization, and profit maximisation," says Keemoon Kwon, head of global sales and marketing, Sea Planning Group.

As part of their collaborative data integration, Weathernews and Dataloy Systems have introduced an integrated solution to refine voyage management based on weather data. This integration combines Weathernews' comprehensive historical seasonal routes and sea margins with Dataloy Systems' Voyage Management System (VMS) – providing streamlined access to critical data, error reduction, increased efficiency, and a focus on enhancing voyage quality and profitability.

"Optimising route-planning functions with advanced weather technology empowers owners and operators to make well-informed route decisions, prioritising both efficiency and vessel safety. With a team of highly trained weather forecasters and meteorologists working around the clock to deliver cutting-edge weather forecasts, risk analyses, and routing advice, Weathernews currently provides weather forecast, risk analysis, and routing advice to approximately 10,000 vessels worldwide," says Henrik Faurschou, global product and market strategy leader at Weathernews.

DIGITISED BULK SOLUTIONS

Shi.E.L.D. Services has selected Spinergie as its preferred digitised solution provider to monitor and optimise the company's global bulk operations.

The solution combines a user-friendly interface with algorithms to analyse the true performance of operations in the bulk industry. Spinergie's solution includes daily reporting capabilities and a smart daily reporting application, that can be used on any vessel type, that improves data quality before reports are submitted.

The solution provides tracking capabilities for real-time fleet coordination with a unified interface that compiles all operations data into a unique solution.

It incorporates customised operational KPI analytics and alerts which include gross and net loading and discharge rates and fuel consumption per ton. The system automates the laytime calculation in a pre-populated Statement of Facts to streamline work processes, save time and remove calculation errors.

Guglielmo Tersavi, operations director at Shi.E.L.D. Services comments: "In the bulk logistics industry, operational efficiency is absolutely critical to avoid demurrage fees."

STEEL COIL LOADING

DNV's Steel Load Planner app facilitates the optimised loading of steel coils, saving time, reducing costs, and ensuring regulatory compliance.

The Steel Load Planner app marks a breakthrough in steel coil load planning. Users can customise a vessel's loading plan for steel coils of any length, diameter and weight as needed. The app can instantly test, update and confirm tailor-made loading plans for diverse steel coil loads, ensuring regulatory compliance.

This enables the optimisation of steel coil loads, which can boost revenue, increase fuel efficiency, and reduce emissions per ton.

FUNDING SECURITY

UK-based sensor technology innovator Ladar is seeking private funding to finalise the security and defence capabilities of its Ladar™ Sensor Suite platform as the EU-funded development project draws to a close.

Ladar 's portable hybrid detection unit features a combination of digital cameras, thermal cameras, and light detection and ranging (LiDAR) laser diodes whose sensor data is fused to generate a highly accurate image of the vessel or floating infrastructure surroundings (also called situational awareness). The system works in limited visibility and adverse

LADAR LTD'S PORTABLE HYBRID DETECTION UNIT (PHOTO: LADAR)

sea conditions for the ocean surface level, as well as above and below the water column. The unique fusion sensor technology was first conceived in an earlier research project for on-the-surface detection and has evolved into the latest prototypes developed in-house as part of the EU-funded MARINA project.

AI and machine learning algorithms use combined sensor data to accurately find, classify,and track targets (on and above the surface, semi-submerged and submerged) in the ocean surface layer up to a depth of six metres. Data is displayed on a user-friendly graphical interface both onboard and transmitted to control centres onshore if required, and can be complemented by other types of sensors to get a full picture of the water column and above the surface.

The smart platform's core applications include providing 'near proximity' situational awareness supplemented by visual and audible warnings for collision avoidance (to support navigators in informed decision-making on the bridge, ie, navigational safety); enabling environmental protection (for example, monitoring of marine mammals/whales in environmentally sensitive and protected areas); and providing security/defence surveillance.

The compact unit has a small footprint of less than 0.5m and can be mounted on any type of vessel or floating/fixed infrastructure.

In terms of security threats, Ladar 's focus is on what it calls the 'detection gap'. Currently, the best available technology for primary navigational aid used at sea is the radar, which can accurately detect targets above the water surface at distances over one nautical mile (nm).

"But as of today, there is no near-detection capability on the surface or in the surface layer and below. Ladar™ Sensor Suite is a meaningful change in this space and we aim to be the best available technology to cover this detection gap for objects at the ocean surface and semi-submerged," says Ladar CEO Captain Jorgen Grindevoll.

Installed on land for security and surveillance purposes, the unit can be used to detect manned, remote operated or autonomous underwater vessels approaching, for example, port entrances and harbour areas, as well as to identify threats to refineries, liquefied natural gas/energy terminals and other critical infrastructure, alerting coastguards and/or maritime police to activate timely countermeasures.

It can also be deployed onboard unmanned vessels, on patrol boats or the energy infrastructure itself, to scan and monitor safety and security zones surrounding offshore wind farms, offshore energy platforms, and high-risk vessels in port, including floating storage and regasification units.

"When the security and surveillance features are fully developed and commercialised, the system is an effective, autonomous and cost-effective way to lower the need for manned guard vessels around port and energy infrastructure," says Grindevoll.

Also on the defence front, the unit can be used to detect threats, including semi-submerged drones, sea mines (for example the current situation in the Black Sea where sea mines are posing a very real danger to shipping), and even divers with malicious intent.

"As we see today in attack reports, and in the news from areas of conflict, what is today used to attack a target at sea and in port is likely to be operating in the surface layer," Grindevoll adds.

In view of such risks, Ladar™ Sensor Suite fits very neatly into the Revised Maritime Security Strategy recently released by the European Commission, which outlines the strategic aims to increase maritime monitoring and surveillance of critical maritime infrastructure in all coastal and port areas of the EU.

"We see our platform closing the detection gap as part of this effort at a time of increasing geopolitical uncertainty," says Grindevoll.

The MARINA project ended at the end of November 2023. The past three years have been spent focusing on the prototype for collision avoidance and detection in the surface layer, which is right now being tested in the Mediterranean.


LADAR LTD CEO CAPTAIN JORGEN GRINDEVOLL (PHOTO: LADAR)

PORT DIGITALISATION

Johor Port Berhad, a major trade hub in Southern Malaysia, has announced an agreement with Innovez One, a leading provider of port management information systems, to accelerate the digitalisation and boost the efficiency of marine services and port operations.

The partnership will leverage artificial intelligence to optimise operations and reduce greenhouse gas emissions at the fully Integrated multipurpose port, which is the world's single largest edible oil terminal and one of the few approved London Metal Exchange locations in the region.

Innovez One's AI-powered software, marineM, will be used to digitalise and optimise the entire chain of marine services for ships arriving and departing Johor Port, from vessel registration to billing.

MarineM will use machine learning, a subset of AI, to automate and optimise the scheduling of port, tug and pilotage services. Algorithms, using data on Johor Port's unique operations, will dispatch pilots and tugboats in the most efficient way, and reallocate resources seamlessly when vessels' ETAs change. This is key to maximising fuel efficiency and reducing greenhouse gas emissions from those fleets, while also minimising congestion for visiting ships.

Crucially, the marineM platform will provide port managers with real-time tracking of marine services operations, while also integrating data into a single dashboard for business and operational analytics. This will unlock new insights that will help optimise operations further and facilitate critical decisions such as investments in new infrastructure, for example.

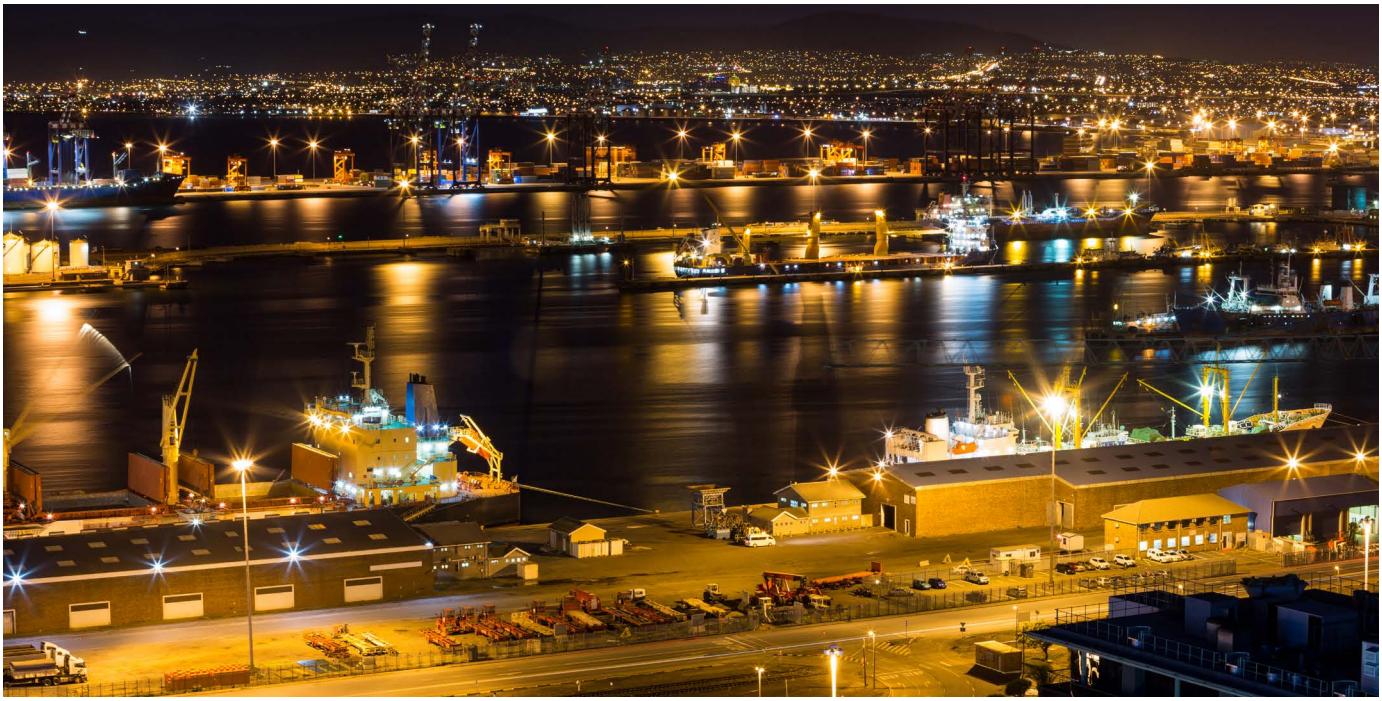
For visiting ships, the digital system will enable agents to register their vessels, request services and track the progress of each job in real time through an online portal that can be accessed wherever they are, and whatever device they are using. The system will also automate the billing process and tariff management, which will help eliminate billing issues, delays and disputes.

Md Derick Basir, CEO of Johor Port, says: "As the southern gateway for Malaysia, Johor Port plays a vital role not only for our local communities and businesses, but also for the economy of the entire region. Our ambition is to deliver smart, efficient and sustainable Port Operations, while ensuring safety at all times, and digitalisation is at the heart of our strategy to deliver that vision.

"We are proud to partner with Innovez One to harness the latest advances in artificial intelligence to optimise planning and, ultimately, achieve greater fuel and operational efficiency. This will enable us to serve our customers and communities better while reducing our environmental footprint."

David Yeo, CEO of Innovez One, says: "Ports around the world are experiencing profound and fast-paced transformations. They are pressed to not only tackle congestion and reduce greenhouse gas emissions, but also to play new roles as energy hubs for green shipping – and do all this while continuing to thrive commercially.

"Digitalisation is the essential foundation on which progress can be built, helping ports become smarter, greener and more transparent, while also delivering key insights to support strategic decision-making. We are delighted to support Johor Port as it joins the growing ranks of the fully digitised ports of tomorrow."



EMISSIONS ESTIMATOR

Voyage costs are set to increase with the EU Emissions Trading System (EU ETS) that will demand clarity on emissions both to determine stakeholder liabilities and manage compliance. Maritime Carbon Solutions (MCS) is providing emissions cost predictability for stakeholders using AI-generated data from nearly 15,000 voyages on the Orbit platform.

MCS, a joint venture between New York-based maritime software firm OrbitMI and broking giant Ifchor Galbraiths, has developed the Emissions Estimator tool to deliver an accurate readout of estimated CO_2 emissions on various routes, showing both EU ETS cost exposure and the impact on the International Maritme Organization's Carbon Intensity Indicator (CII).

"With thousands of voyages from all segments, the machine learning in the Orbit platform has already established a position as a reliable supplier of crucial accuracy for the industry," says Kenneth Aasland, director of Ifchor Galbraiths.

"A lot of voyage data needed to be fed into the platform to provide reliable solutions," he adds.

> With thousands of voyages from all segments, the machine learning in the Orbit platform has already established a position as a reliable supplier of crucial accuracy for the industry

PASSAGE PLANNING

Navtor has updated its Passage Planning module. Featured in the latest release of Navtor's NavStation planning software (version 6.3), the new module offers expanded automation and auto-calculations, slashing both administration time and the potential for human errors, compliance with the very latest industry standards, enhanced data utilisation, the ability to revise and update plans (rather than creating new ones after voyage deviations/ changes), and an all-new dashboard for easy insights.

Timo Essers, e-navigation director, Navtor, says the innovations have been driven by the company's "commitment to understanding and addressing the pain points of today's evolving maritime industry".

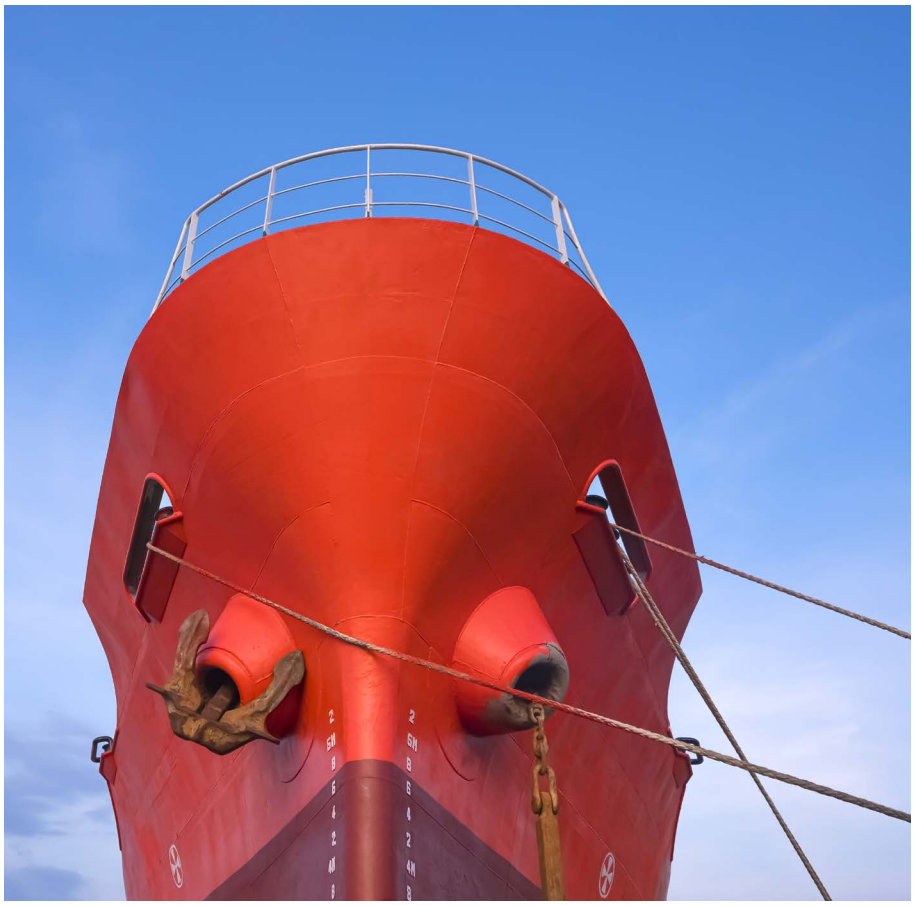
Essers explains: "Passage Plans are vital documents that come under close scrutiny from state controls and global authorities. But, as any navigator knows, they are also time-consuming and, in an atmosphere of ever-increasing responsibility and regulation, which is a real burden in terms of administrative workload.

"Our software module has addressed this issue over the past few years, but after close collaboration with the industry we've now taken that to the next level with a new batch of digital innovations. We see this as smart shipping in action."

TIMO ESSERS, E-NAVIGATION DIRECTOR, NAVTOR

HIGH-TECH APPLICATIONS

Use of paints and coatings is becoming increasingly sophisticated and the use of AI, for example, is now part of the mix to ensure that those applying the coatings do so in the most effective way, while at the same time reducing their carbon footprint



Software co-developed by AkzoNobel's Powder Coatings and coatingAI is using artificial intelligence to help customers.

The technology, called Flightpath, optimises equipment settings to reduce defects and overspray and improve powder consumption – helping to reduce costs, avoid rework and save time and energy.

The AI-based software has been in development for two years and an exclusivity agreement has just been signed by both parties – who joined forces after first crossing paths during AkzoNobel's Paint the Future start-up challenge in 2021.

"We're delighted to team up with coatingAI and strengthen our technical service capabilities," says Remco Maassen van den Brink, marketing director of AkzoNobel's Powder Coatings business. "We proactively look for ways to support customers in becoming more sustainable in their operations and this will significantly improve our ability to help them get better results – while contributing to our own ambition of

halving carbon emissions across the value chain by 2030."

Marlon Boldrini, CEO of coatingAI, says: "The collaboration with AkzoNobel has helped to accelerate our vision since day one. Our solution, built on the power of artificial intelligence and AkzoNobel's technical expertise, will not only increase efficiency for their customers, but also drive greater sustainability within the powder coatings industry."

The software enables customers to optimise equipment settings such as gun motion and achieve more uniform, consistent coverage with fewer flaws – all thanks to the AI-powered recommendations. The software doesn't require complex integration and, as conditions change, it continually adapts its recommended parameters.

"Collaborating with a startup like coatingAI means we can accelerate our own powder revolution and provide services like no other," adds Maassen van den Brink.

The company's Powder Coatings business recently launched an online energy savings calculator for all users of powder coatings. It helps customers better understand how even making small changes in the coatings process can have a big impact in terms of becoming more energy efficient.

TOUGH TALK

Taiwanese dry bulk shipowner Wisdom Marine Group has selected marine coatings leader Nippon Paint Marine's Neoguard Toughness coating to provide anti-abrasion and corrosion protection for 10 of its vessels. Pollution of seas is leading to increased metal corrosion on vessels at sea.

Neoguard Toughness is a heavy-duty system that can generate significant cost savings for ship operators by reducing the need for costly maintenance and lengthy downtime. The coating's easy cleaning properties also allow for quick and efficient turnaround between cargos, further contributing to reduced maintenance and repair work.

Reducing maintenance costs and vessel downtime is a key priority for Wisdom Marine , and the company therefore needed a fast turnaround in dry dock and set a deadline for the cargo hold application of Neoguard Toughness to be completed within five days. The coating was used to coat more than 10 vessels since its launch and the application of the entire cargo hold was eventually done in just four days, enabling Wisdom to get its vessels operating again ahead of schedule.

As a dry bulk shipowner, it is also vital for Wisdom Marine Group to protect its vessels from mechanical damage to its holds from abrasive cargoes and high-impact loading procedures, which can lead to corrosion and structural failure.

"We were assessing the market for a high-performing marine coating that would enable us to protect our bulk carriers from corrosion and mechanical damage. Nippon Paint Marine's Neoguard Toughness stood out to us as a best-in-class solution to achieve this," says Wisdom Marine Group.

"Protecting our assets is critical to reducing the need for costly maintenance and repair work and to ensure that cargo is safe on board. We are confident that working with Nippon Paint Marine will help us to drive these cost savings and efficiencies and we were particularly impressed at the fast turnaround at dry dock with the application of the entire cargo hold done in four days ahead of schedule."

"The greatest asset for our shipowning customers is their fleet, and so enabling them to protect vessels from challenges such as corrosion and mechanical damage is naturally a key priority for us at Nippon Paint Marine," says Adrian Hwang, deputy general manager at Nippon Paint Marine Taiwan.

ANTIFOULING EFFECTIVENESS

Antifouling is an effective method of not only improving performance, but safeguarding against the impact of biofouling on the environment.

Almost two thirds (59%) of the shipping industry underestimate the negative environmental impacts of biofouling, with as much as one in four claiming to know little about the issue, a new report by Jotun has found.

Biofouling is caused by the build-up of micro-organisms, plants, algae, and other small aquatic animals on the hull of a ship which can result in significant operational impacts. The marine growth, which clings to the underside of a ship's hull, reduces speed and manoeuvrability, causes the captain to power up and use more fuel to compensate for speed loss, and in extreme cases, can damage the hull.

The survey of 100 shipping industry professionals, conducted by Lloyd's List on behalf of the specialist marine coatings manufacturer earlier this year followed on from the GloFouling report published in partnership with the International Maritime Organization (IMO).

This found that maritime transportation is responsible for 3% of the world's total greenhouse gas emissions, but should vessels operate with a clean hull free from biofouling, CO_2 emissions could be slashed by a fifth and fuel spend reduced by 19%.

The research by Jotun shows that the industry has a long way to go before achieving such gains. Just over a third of shipping companies (38%) said they invest in biofouling solutions outside of dry-docking, a process which tends to be conducted in five-yearly cycles.

Lack of awareness and cost-limitations were cited as the main reasons why 62% of shipping companies only invest in biofouling solutions during the dry-docking period. However, the GloFouling report showed that a ship could save as much as $6.5m on fuel costs over a five-year period by adopting proactive hull and propeller cleaning.

Morten Sten Johansen, global marketing director, hull performance category at Jotun, says: "If the shipping industry took a more proactive approach to hull cleaning, we as an industry could save as much as 198m tonnes of CO_2, according to global estimations published by the IMO in 2022. This is more than six times the volume produced by the nation of Norway annually.

"However, an issue which is often overlooked is the potentially catastrophic impact biofouling can have on biodiversity through the spread of invasive aquatic species, such as Pacific oysters, which are plaguing European coastlines. The responses to our survey showed that this is still an incredibly misunderstood issue, with only 14% believing it posed a significant risk.

"As well as being more fuel efficient and lowering emissions, proactive cleaning would reduce the risks ships pose to international waterways and maintain the shipping industry's right to operate."

The survey highlighted the positive impacts of new Carbon Intensity Indicator (CII) regulations, with 88% of shipping industry professional saying they expect tackling biofouling to form part of their strategy to improve fuel efficiency, reduce greenhouse gas emissions and support environmental policies.

Sten Johansen adds: "It's encouraging to see the impact new policies are already having on the industry and it's likely that we'll face more regulatory challenges in the future. Decarbonisation is vital and adopting new regulations to deliver the long-term goals of the Paris Agreement requires significant collaboration from industry and policymakers."

Expanding and innovating

Jotun, as one of the major providers of intumescent fire protection coatings for the infrastructure and energy industries, recently announced the completion of major expansion of its Global Intumescent R&D Laboratory to advance new product innovation and technologies.

This ambitious expansion more than doubles the size of the Flixborough Global Intumescent R&D facility, aiming to increase Jotun's product development and fire testing capacity and capabilities.

The new facilities will accelerate the development of new innovations and more advanced products, while providing additional certification support to Jotun's existing product range.

Drone service

Jotun Hellas recently introduced an aerial drone inspection service, where drones are used to conduct comprehensive outdoor and indoor inspections of vessels.

With the capability to access even the most challenging areas, including decks, accommodation, funnels and lifeboats, cranes, cargo holds, hatch covers, and the external hull above the waterline, this service ensures the most thorough assessment possible.

The inspection service provides users with an accurate and detailed information about the state of their vessels. The service analyses the vessel's paints and coatings condition, documented with high-resolution photos and videos, enabling data-driven decisions for maintenance and repair works.

The inspection material, including a complete Drone Inspection Paint Condition Report, is prepared by Jotun coating advisors having assessed each inspected area, ensuring that every aspect is considered, and every detail reported.

The advantages are numerous, according to the company. Ship operators may now benefit from enhanced accuracy in budgeting and efficient scheduling of maintenance and repair works, resulting in cost efficiency and timely maintenance. By identifying and addressing corrosion at an early stage, drone inspections support the prevention of deterioration and enable data-driven decision-making for safety on board. With access to reliable inspection information, ship operators can proceed with confidence in their improvement initiatives.

ANTIFOULING CONFERENCE

A recent article by Selektope's Catherine Austin covered the International Antifouling Conference in September last year, where a who's who in the world of antifouling coatings and biofouling prevention technology gathered on the west coast of Sweden.

"At the inaugural International Antifouling Conference last September, the resounding message among participants was that collaboration between paint manufacturers, biocide suppliers, other raw material suppliers and end users is essential to ensuring that coatings technology being developed today, meets the industry's needs of tomorrow.

"In the shadow of the Initial International Maritime Organization (IMO) greenhouse gas (GHG) strategy, which set decarbonisation targets for the international shipping industry, there had never been more pressure on antifouling coatings to perform.

"Fast forward one year and the need for proactive biofouling management and effective antifouling coatings had stepped up a gear. As participants gathered on the west coast of Sweden for the second edition of the International Antifouling Conference, the pressure on ship operators to decarbonise their fleet had increased significantly in the July before the summer break.

"The IMO had turned the dial up on international shipping's climate change ambitions at the highly anticipated 80th Marine Environment Protection Committee (MEPC80). A game of regulatory ping pong during MEPC80 resulted in a leap from 50% reduction in GHG emissions by 2050 to net-zero emissions by, "or around i.e., close to" 2050.

"That is a huge step up for the industry, not least because vessels being ordered now, and in the next few years, will need to meet the net-zero emissions requirement towards the golden oldie years of their operating life, given that ships have a lifetime that often surpasses 25 years.

"While 2050 may seem like a vessel lifetime away, there are also a multitude of regulatory requirements facing the industry before 2050. In terms of climate change ambition, the newly revised 2023 IMO GHG Strategy (upgraded from the Initial IMO GHG Strategy) sets a first level of ambition for the industry to 'strive' to 30% GHG emissions reduction by 2030, plus a mandatory 40% CO_2-specific reduction target, also by 2030 compared with 2008 levels.

"Those immediate targets sit on top of the already established emissions reduction regulatory instruments, EEDI (Energy Efficiency Design Index), EEXI (Energy Efficiency existing ship Index), CII (Carbon Intensity Indicator).

"To top that off, there's an incoming emission trading scheme for ships calling at EU ports and an emissions trading scheme in the UK for domestic vessels.

"In a nutshell, biofouling accumulation on the hull makes the surface rougher and the ship slower, meaning that to operate at the same speed the ship consumes more fuel and emits more GHG emissions.

"Research conducted by the IMO GloFouling initiative has shown that even a light layer of slime can trigger an increase in emissions of 25%, by the time the hull is fully covered in barnacles the increase in emissions can rise up to 55%."

Expanding and innovating

Selektope's Markus Hoffmann has also commented on biocides and their use as coatings.

"To-date, the marine biocide, Selektope (medetomidine) has been successfully commercialised in multiple self-polishing biocidal coating products for its function of repelling barnacle larvae from underwater hulls to prevent settling behaviour.

"This barnacle repelling effect is achieved when medetomidine leaches out from the coating surface when it is continuously polished by seawater.

"Currently, the use of medetomidine in foul release coating types has not been commercialised.

However, extensive R&D work has been undertaken by I-Tech to investigate concepts for incorporating medetomidine into foul release coatings (FRC).

"The concept of incorporating medetomidine into silicone-based foul release coatings through the reaction of medetomidine and a functional isocyanate group on silicones has been successfully proven."

To read both reports in full, visit: selektope.com

BUILDING BRIDGES

Energy efficiency is key in modern ship design and shipbuilders are mindful of meeting stringent environmental regulations with innovative, eco-friendly designs for every aspect of the vessel

VALE IS TO INSTALL FIVE ROTOR SAILS FROM ANEMOI ONBOARD THE VLOC *SOHAR MAX* TO BRING SIGNIFICANT FUEL AND EMISSION SAVINGS. THE ROTOR SAILS WILL BE INSTALLED WITH ANEMOI'S BESPOKE FOLDING DEPLOYMENT SYSTEM TO MITIGATE IMPACT ON AIR DRAUGHT AND CARGO HANDLING OPERATIONS (CREDIT: ANEMOI MARINE TECHNOLOGIES)

Brazilian mining giant Vale SA has announced that it is to install five rotor sails from Anemoi Marine Technologies – a leading supplier of wind-assisted propulsion technology for commercial vessels – onboard a 400,000dwt valemax, the world's largest ore carrier. The vessel is owned by Omani shipowner, Asyad.

The agreement between Vale and Anemoi will see five 35m tall, 5m in diameter, cylindrical sails installed on the *Sohar Max* VLOC. The rotor sails will be installed on Anemoi's bespoke folding deployment system, whereby the sails can be folded from vertical to mitigate impact on air draught and cargo handling operations. The installation work is expected to be completed in the second quarter of 2024.

Rotor sails, also known as 'Flettner rotors', are vertical cylinders that harness the renewable power of the wind to provide additional forward thrust and improve the energy efficiency of the vessel, along with significant cuts to carbon emissions.

Vale's fleet of valemax vessels typically trade on deep-sea routes between Brazil, China and the Middle East, which are particularly well-suited for wind propulsion and analysing the savings. As a result, the installation of Anemoi rotor sails is expected to bring significant fuel and emission savings with an expected 6% fuel reduction and cutting CO_2 equivalent emissions by up to 3,000 tons per ship per year.

Of the installation, Vale's shipping technical manager, Rodrigo Bermelho, says: "Wind energy will play a central role in our strategy to decarbonise the maritime transportation of iron ore."

Nick Contopoulos, COO of Anemoi, says: "We are delighted to be announcing this partnership with Vale, Asyad and other key project stakeholders. Anemoi has been developing tailored solutions for Vale's vessels for a number of years and this latest project signifies an important step in Vale's decarbonisation journey, using wind assisted propulsion as they lead the way to improve the energy efficiency of its vessels and reduce their net emissions."

Anemoi has established a world-class supply chain that is unrivalled in China for manufacturing and delivering its rotor sails, partnering with CSSC Chengxi (China State Shipbuilding Corporation), Lianyungang Zhongfu Lianzhong Composite Material Group, CRRC Corporation and SaierNico Electric and Automation.

Anemoi has also been appointed by Vale to undertake a full array of technical services both pre- and post-delivery, including the vessel integration design with Shanghai Ship Design and Research Institute, support with plan approval, project management and on-site supervision, onboard training and after-sales services, to name a few.

Classification for the project will be awarded by Lloyd Register, which is also providing services related to the Equipment Design Approval and Plan Approvals for vessel integration.

This latest project from Anemoi follows the successful retrofit of three Rotor Sails with Rail Deployment Systems onboard an 82,000dwt Kamsarmax bulk carrier in June 2023. Initial data harvested from the vessel to date suggest more than 10% average annual savings can be achieved.

Rotor sails are proving a popular choice for shipowners looking for net-zero technologies to improve the energy efficiency of their vessels and help their ships meet critical international emission reduction targets, including Energy Efficiency Design Index (EEDI), Energy Efficiency Existing Index and the Carbon Intensity Indicator.

POWERING UP ON AMMONIA

Technology group Wärtsilä has introduced the marine sector's first commercially available four-stroke engine-based solution for ammonia fuel. The new solution enables a significant advance in sustainable shipping operations – during a time in which shipowners are seeking viable options among green fuels.

The ammonia solution is now commercially available as part of the Wärtsilä 25 engine platform, which was launched in September 2022.

Viridis Bulk Carriers is intended to be the first shipowner to benefit from the new ammonia solution. The company is a partnership between Amon Maritime, Mosvolds Rederi and Navigare Logistics. Wärtsilä and Viridis Bulk Carriers recently signed a Letter of Intent for the Wärtsilä 25 ammonia engine solution, aiming to sign a commercial contract in early 2024.

Viridis Bulk Carriers is bringing a 'green game changer' to the European short sea bulk market, planning a carbon-free transportation service based on a series of ammonia-powered newbuild vessels.

"The maritime industry must significantly reduce its emissions if we are to succeed in reaching the goals set in the Paris agreement," says André Risholm, board member at Viridis Bulk Carriers. "The adoption of new technologies and ammonia as a carbon-free fuel is central to this. We are delighted to partner with Wärtsilä on another important milestone for our ammonia-powered short sea bulk vessels."

Håkan Agnevall, president and CEO of Wärtsilä says: "This industry-leading solution is yet another flagship moment in Wärtsilä's extensive programme to ensure future marine fuels are both viable and safe. Working in partnership with Viridis Bulk Carriers, we take the next step in our decarbonisation journey, enabling the transition to greener fuels and accelerating towards net-zero emissions shipping."

In addition to the engine, the full solution includes an AmmoniaPac fuel gas supply system, the Wärtsilä Ammonia Release Mitigation System (WARMS), and the Wärtsilä NOx Reducer (NOR) for optimal exhaust after-treatment. Safety and efficiency are central to the solution design, maximised by a highly sophisticated automation system and maintenance agreement to ensure safe and efficient onboard operations.

The safe and smooth adoption of ammonia as a new fuel for crew members is further supported by dedicated training and 24/7 global support.

"The ammonia solution is based on Wärtsilä's well-proven LNG system, from which we have gained invaluable experience. The Wärtsilä 25 engine has been designed for easy adoption of sustainable fuels and, now, in addition to its previous capability of operating on diesel, liquefied natural gas, or on gas or liquid carbon-neutral biofuels, we are proud to add ammonia to its specifications. This makes Wärtsilä 25 a thoroughly future-proof engine platform, that combines operational efficiency with environmental sustainability," adds Roger Holm, president of Wärtsilä's Marine Power business.

Sustainable ammonia is one of the leading candidates in shipping's search for alternative clean fuels. This new Wärtsilä 25 Ammonia solution can immediately reduce greenhouse gas emissions by more than 70%, according to the company, compared with a similar-sized diesel solution, meeting current EU targets until 2050 and even exceeding the International Maritime Organization target for 2040.

"This is only the beginning," says Stefan Nysjö, vice president of power supply, Wärtsilä Marine Power. "The Wärtsilä 25 is the first Wärtsilä engineto run on ammonia as a fuel, and this is an important milestone, but we do not stop here.

"While we are planning for additional ammonia engines in our portfolio over time, we are also committed to continue development and testing of technologies and solutions that can continue to support the industry with reducing greenhouse gas emissions even further in the future."

The company has also announced plans to introduce another four methanol engines to its portfolio. In addition to the Wärtsilä 32 methanol engine Wärtsilä will add the Wärtsilä 20, Wärtsilä 31, Wärtsilä 46F and Wärtsilä 46TS to its portfolio of engines capable of operating with methanol fuel.

Methanol is one of the primary alternative fuel choices for the shipping industry to achieve net-zero carbon emissions by 2050. For example, 'green' methanol can be produced using renewable energy sources and carbon capture technology, making it a sustainable and carbon-neutral option. It can also be easily integrated into existing shipping operations as it can be stored and transported using the existing infrastructure for conventional liquid fuels.

Throughout the Wärtsilä diesel engine portfolio, covering both new engines, as well as those currently in operation, Wärtsilä is developing the corresponding methanol retrofit capabilities. Methanol upgrades are either available or under development for the Wärtsilä 31, Wärtsilä 32, Wärtsilä 46F, Wärtsilä 46TS and Wärtsilä ZA40S engines. The Wärtsilä 20 engine family, meanwhile, can be ordered with methanol combustion capabilities

"Decarbonisation is front and centre to our strategy going forward, and the development of engines capable of running on future fuels is crucial to that. Wärtsilä takes an innovative approach to supporting the marine industry's transformation to more sustainable operations, and this broad range of methanol engines emphasises this," says Roger Holm, president of Wärtsilä's Marine Power business.

The four new methanol engines will be available for deliveries at different points from 2025 onwards.

3D INITIATIVE

Jiangnan Shipyard and Bureau Veritas (BV) have issued a joint declaration on 3D auditing and recognition, aiming at accelerating the process of 3D submission and approval by shipyards and classification societies. A partnership agreement was signed during Marintec China 2023, in Shanghai.

The partnership aims to meet the needs of the digital transformation of ship and sea equipment design and construction, promote the deep integration of digital technology, empower the transformation and upgrading of traditional industries, support the emergence of new industries, and enable the use of a single source of data in the ship design and building processes in the future.

The co-operation agreement comprises four main initiatives: strengthening digital transformation; defining interoperability, common standards and data security strategies; assisting full lifecycle digitisation; and creating opportunities for sharing and co-innovation to further enable digital twins to create a larger "three-dimensional community of application"

HU KEYI, CHIEF OF COOPERATION TECHNOLOGY, JIANGNAN SHIPYARD (GROUP) CO. [LEFT], MATTHIEU DE TUGNY, EXECUTIVE VICE PRESIDENT, BUREAU VERITAS MARINE & OFFSHORE [RIGHT]

within the maritime sector.

Alex Gregg-Smith, senior vice president of BV Group, president of BV Classification France, North Asia and China, said at the signing: "Digitalisation is one of the major trends in the transformation of the maritime industry. In today's world, digitalisation plays an increasingly significant role in the process of ship design, review, manufacture, operation and decommissioning, and it profoundly affects the development pattern of the shipbuilding and shipping world.

"Among them, 3D digital review, including sending and returning, is an important part of the ship digital ecology and one of the hot spots in the development of today's shipbuilding industry."

BV, the Shanghai Merchant Ship Design and Research Institute (SDARI) and NAPA, a global provider of maritime software and data services, recenty completed the first phase of a joint development project (JDP) to enable 3D model-based approvals for the classification of ships.

The project validated the feasibility of 3D model-based approvals (3D MBA), where classification reviews are directly based on the 3D model provided by the designer, rather than requiring multiple conversions to 2D drawings, which is the traditional process.

The objective is to boost efficiency in the design process, saving time and costs, while improving accuracy and communication between all parties involved in a design, including shipyards, naval architects and engineers, shipowners, and classification societies.

The JDP confirmed that the expected benefits of 3D MBA were achieved, with the project demonstrating an improvement of design review quality as well as enhanced collaboration between all parties.

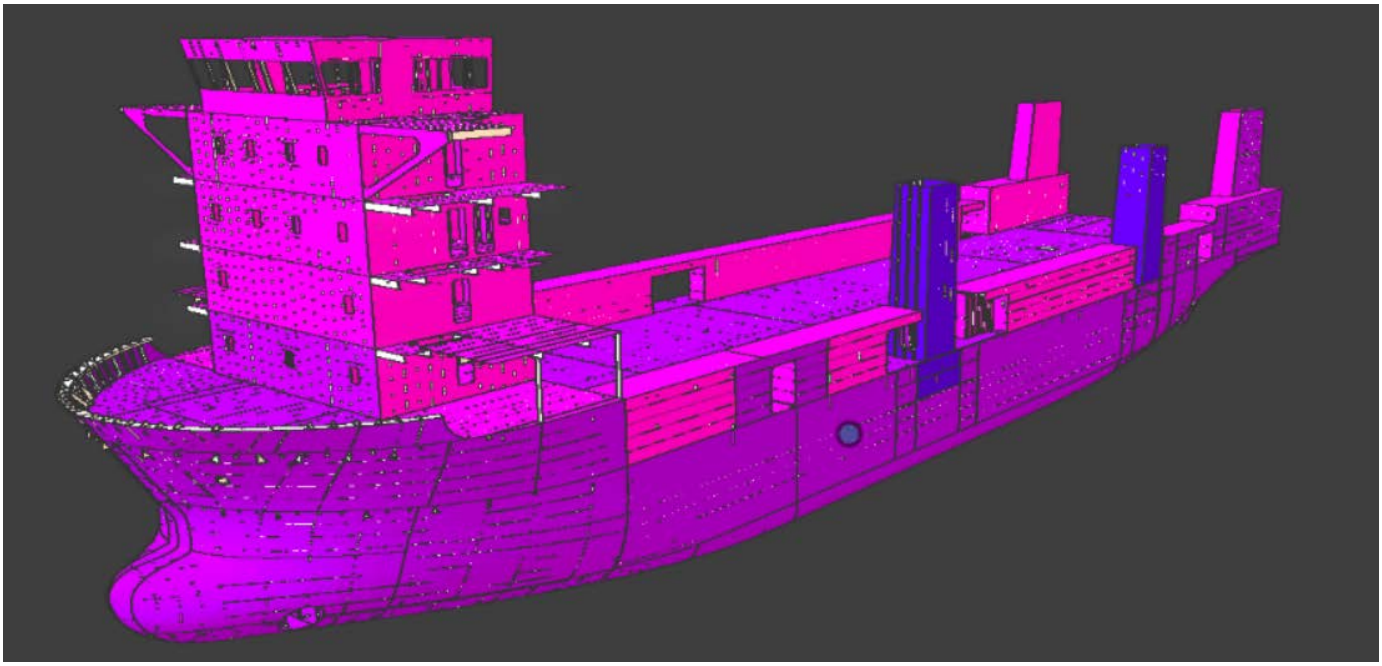
The first phase of the project tested the entire classification process to ensure that all steps were properly carried out and improve the various software as needed.

A well-known ship designer under China State Shipbuilding Corporation (CSSC), SDARI adopted NAPA Steel software, while BV used NAPA Designer for the automatic generation of the calculation models to perform rule checks. Using an open file format (OCX) generated by NAPA Designer, BV could use the 3D model provided by SDARI to perform the design review using its in-house rule checking software: MARS and VeriSTAR Hull. BV's structure assessment comments were then associated directly to the 3D model, which facilitated a better understanding and seamless communication between BV and SDARI.

This joint project demonstrates BV's digital leadership and is supporting SDARI's ambition to improve design processes through 3D technology.

Lu Li, vice president at SDARI, says: "We are proud to take the next step in our digital transformation, by developing 3D model-based approval procedures in collaboration with NAPA and BV. This will significantly streamline ship design processes, thereby boosting our capacity and competitiveness at a time when the decarbonisation transition brings new challenges for ship designers and engineers. With this project, we found that using 3D models with BV for classification rule checks and approvals is a win-win situation."

Mikko Forss, executive vice president for design solutions at NAPA, says: "This fruitful collaboration with BV and SDARI has proven that 3D model-based



3D OCX (OPEN CLASS EXCHANGE) MODEL READY FOR 3D CLASSIFICATION

approval can make the design process more streamlined, efficient, and collaborative. As such, 3D MBA is an essential foundation for the fast-paced innovation that is needed to deliver the next generation of greener, energy efficient vessels that are demanded by the industry.

"Using a 3D model consistently as a 'single source of truth' will help all parties work together efficiently to deliver the best possible designs, while also enhancing their own productivity to ensure strong, profitable businesses."

Laurent Leblanc, senior vice-president, technical and operations at BV Marine and Offshore, says: "This project has provided further evidence of the effectiveness and viability of 3D model-based approvals to enable more efficient communication between ship designers and classification societies, while ensuring that all safety and regulatory standards are met. This collaboration with SDARI and NAPA is a tangible demonstration of BV's commitment to make 3D model-based approval a reality as a foundation for enhanced innovation and efficiency in ship design, ready to meet the safety and sustainability challenges ahead."

PIPING SYSTEMS STANDARDS

The International Association of Classification Societies (IACS) has announced the launch of a new recommendation, Rec.177, to enhance the quality of machinery piping systems in shipbuilding.

The purpose of machinery piping systems is to convey different fluids at various temperatures and pressures to all parts of the ship, including to nearly every enclosed space on a vessel. As such, and because these systems are a means through which many of a ship's control systems operate, it is crucial that these systems are designed to meet high quality standards in order to mitigate against the possibility of failure.

In recognition of the need for uniform quality standards to be implemented across the shipbuilding industry, IACS has developed Rec.177, which provides comprehensive guidance on shipbuilding quality standards for machinery piping systems for use during a ship's new construction phase.

This recommendation is designed to improve the quality standards of machinery piping systems in terms of fabrication, installation, commissioning and function tests as well as incorporating remedial standards to address situations where the prescribed quality standards have not been met.

Furthermore, these standards can be applied to cover repairs/modifications and piping system retrofits onboard ships in service, so ensuring a through-life approach to enhancing and maintaining the quality standards of machinery piping systems.

Rec.177 focuses primarily on machinery piping systems covered by those Classification Society rules which address critical functions such as ship propulsion, electricity generation and navigational safety. The recommendation builds upon, and complements, IACS current Rec.47, which sets down guidance on ship-building quality standards for the hull structure itself.

Commenting on the new Rec.177, IACS secretary general, Robert Ashdown says: "The publication of Rec.177 is yet another example of IACS' ongoing commitment to supporting the maritime industry through the development of guidelines that improve safety across all aspects of ship construction."

A STUDY IN SAFETY

Seafarers' safety is top of the list for the industry and a number of new initiatives aim to further improve it – including an extensive survey aimed at search and rescue personnel

The International Maritime Rescue Federation (IMRF) has announced the launch of its #SaferSAR initiative, which will look to enable global search and rescue (SAR) organisations to better collect, analyse and share maritime SAR incident response data in a bid to enhance future maritime SAR response operations.

The initiative, which is being funded by Lloyd's Register Foundation, will encompass a 12-month feasibility study for a globally accessible platform that SAR personnel and organisations can use to share lessons and best practices identified in SAR response, incidents, accidents and exercises to improve safety at sea.

"All leading marine accident investigation branches, like the UK's Marine Accident Investigation Branch or Germany's Bureau of Maritime Casualty Investigation, as well as SAR organisations and government bodies, analyse and publish reports on maritime incidents and lessons learned," says Caroline Jupe, CEO of the IMRF. "However, there is no global system that collates this SAR data, analyses it for trends, patterns, or particular safety concerns and then disseminates these findings more widely.

"While SAR delivery ranges from country to country and organisation to organisation, at its core the principle remains the same: saving lives and rescuing people in distress in the world's waters.

"By sharing data and experiences more effectively, global SAR organisations can develop greater understanding and safer operations to drive that principle. This way the global community can also assist organisations that do not yet have the adequate resources to collect such information themselves, by providing information on identified safety risks," she adds.

Olivia Swift, senior programme manager at Lloyd's Register Foundation, says: "Global safety challenges around maritime activity are vast, and it is vital that the maritime sector has access to the best possible information on evolving risks and how to mitigate them. We are pleased to partner with the IMRF on the #SaferSAR initiative to help SAR organisations reduce these risks and enhance the safety of the maritime sector more widely."

The IMRF will work closely with a number of key industry stakeholders and SAR organisations during the study, including its own membership of more than 120 SAR organisations, governmental and non-governmental bodies, and service providers from over 50 countries.

REDUCING THE MARKET

Reducing the threat of theft in the supply chain can have many lines of attack, and freight insurance specialist TT Club is advocating that of cutting off the market for stolen goods. Receiving stolen property is not just illegal, it provides a market for the criminals, consequently causing lost time, revenue and reputational damage to the rightful owners as well as the transport and storage businesses that serve them.

Theft of cargo is an ever-present concern within the logistics industry and prevention is in the interest of businesses, law enforcement agencies and the economy as a whole. As the industry seeks to understand the way that criminal networks operate, it is worth questioning what happens to goods after they are stolen.

Organised criminal networks employ many of the same 'business' strategies used by legitimate supply chain operators. There are myriad examples of police forces uncovering large warehouses containing stolen goods, trucking operations engaged in the movement of those goods and incidents of stolen goods entering the retail market.

As TT's managing director, loss prevention Mike Yarwood reports: "Earlier this year, two containers of barbecue equipment destined for a high street retailer were stolen from a depot in the UK. Two months later the owner of the goods, shopping in another retail store recognised the equipment and, by tracing the serial numbers, was able to identify them as those stolen earlier in the year."

A ongoing legal wrangle has ensued, but as Yarwood explains: "The moral of the tale is that a relatively ready market for stolen goods is accessible to thieves if unknowing 'receivers' do not take sufficient care to ensure the goods they purchase are legitimate."

TT is promoting the need for more vigilance and is offering preventative advice to procurement managers that covers such means as:

- Forming strong, ongoing partnerships with trusted suppliers and thoroughly vetting all new suppliers
- Implementing a code of conduct that explicitly forbids unethical and illegal procurement practices, including whistleblower protection
- Verifying the provenance of all goods. All incoming goods should be accompanied by documentation such as bills of sale, invoices and shipping records
- Initiating regular audits to be conducted by an external party and conducting particularly stringent due diligence when procuring high-risk goods, such as electronics or luxury goods
- Engaging with law enforcement immediately if suspected stolen goods are identified.

INTELLIGENT APPROACH

Pan-European ferry and logistics company P&O Ferries is now using the portable Intelligent Fingerprinting Drug Screening System to support its drug and alcohol testing policy.

P&O previously used an external drug testing service provider to conduct random urine testing of seafaring staff on board its ferries. The testing process typically required multiple cabins with toilet facilities, HR support, external testers and a series of two-hour testing sessions across multiple voyages to conduct testing. This approach proved expensive and inflexible. Switching to an in-house programme using the Intelligent Fingerprinting Drug Screening System

is expected to reduce P&O Ferries' overall drug testing costs by 90%.

"When we first saw fingerprint sweat-based drug screening in action, we knew it would be a great fit for P&O Ferries and our need for a flexible system that we could use on board our ferries," explains Grant Laversuch, head of safety and designated person ashore at P&O Ferries.

"This has proved to be the case, with the portable and non-invasive Intelligent Fingerprinting system giving us the ability to test on our ferries as needed. Having rolled out the innovative fingerprint solution to our ferries, we're now looking at training additional HR team members so that we can extend the programme to our employees onshore".

P&O Ferries will deploy the Intelligent Fingerprinting Drug Screening System at its three UK ferry port sites at Larne in Northern Ireland, as well as Hull and Dover in England. The company's portable DSR-Plus readers and screening cartridges will be used to randomly test seafaring staff on board ferries in line with the company's drug and alcohol policy.

"The ease-of-use and portability of our Intelligent Fingerprinting Drug Screening System makes it a powerful solution for random workplace testing across different locations," adds Harry Simeonidis, president and chief executive officer at Intelligent Bio Solution. "P&O Ferries' deployment of fingerprint testing on its ferries demonstrates the system's flexibility. It's great that we're not only helping the company maintain a safe and efficient work environment, but also equipping it with a more cost-effective method of testings.

MANAGEMENT MISTAKES

International Transport Intermediaries Club (ITIC) has advised ship managers to be wary of the risks and costs involved with claims of failing to meet contractual and safety obligations.

The warning came as part of ITIC's October 2023 *Claims Review* that cited a case of a ship manager managing two vessels for the same owner and allegedly failing to meet the required standards expected according to the signed BIMCO Shipman contracts.

For the first vessel, the owners alleged that the managers mismanaged their ships by failing to identify deficiencies, arrange and supervise maintenance and repairs, implement the onboard ISM and PMC systems, and communicate appropriately with the crew.

> It is of utmost importance that ship managers ensure they adhere to contractual obligations at all times

The owners further alleged that the managers failed to provide them with sufficient information in respect of 'extraordinary' expenditure to allow owners to make an informed decision on whether to approve incurring the cost.

For the second vessel, the owners made various allegations, including failure to plan a crew change and dismiss the crew for misconduct – which allegedly meant the crew were not suitably qualified – and failure to maintain the ship adequately.

Owners presented their claims under various heads of damages, including cost of repairs, loss of hire, cost of bunkers, and port and agency costs. The total claim was for US$9.5m. BIMCO Shipman contracts limited liability to US$1.5m for each ship.

The ship managers accepted that there had been some mismanagement on their part. Therefore, there was a significant litigation risk. Furthermore, costs incurred in fighting the claims would be substantial – in the hundreds of thousands, if not more. This also meant a lot of management time would be used to defend the claims. As a result, with ITIC's assistance, the managers met with the owner for settlement talks.

Following several rounds of settlement talks, both ships were eventually settled at US$ 700,000 each (US$ 1.4m total), with ITIC paying this claim less the deductibles.

"It is of utmost importance that ship managers ensure they adhere to contractual obligations at all times and that maintenance works are kept up to date," says Mark Brattman, claims director at ITIC. "Professional Indemnity (PI) insurance is part of our member's risk management strategy, and it gives the ship manager peace of mind and protects them against claims such as this one.

"The benefit of having cover from a company such as ITIC is that you have an insurer who understands the business and risks ship managers face and speaks the ship manager's language."'

SUPPLY CHAIN SAFETY

With the primary goal of ensuring the safety of the global supply chain, international freight insurer TT Club draws attention to the critical question of who is initially responsible for the state in which cargo is shipped. The insurer is also updating its guidance on correct dangerous goods packing procedures by reissuing its *Book it right and pack it tight* publication.

The intricacies of responsibilities during the transfer of goods internationally are standardly defined by the Incoterms that may govern the sale and purchase of the goods. This has a crucial bearing on who has responsibility for certain risks relating to the cargo in transit.

TT indicates that a substantial 65% of cargo damage claims can be attributed to inadequate packing and securing in the cargo transport unit (CTU). The question of responsibility for packaging and packing has therefore an important impact on the safety of the supply chain.

"Poor packing practices, including improperly secured loads and mis-declared goods, give rise to the majority

of incidents resulting in damage to cargo both on land and at sea, and potentially in injuries or broader incidents," explains Peregrine Storrs-Fox, TT's risk management director.

"While Incoterms seek to standardise the responsibilities and costs between seller and buyer under a sale of goods contract, where the goods are to be transported, such that there is clarity for delivery, the influence on the fulfilment of the transport (or 'carriage') contract may be less understood.

"There is, therefore a need to increase awareness for those involved in trading goods to ensure that responsible decisions are taken in relation to the physical packing operations or, indeed, placement of cargo insurance."

When incorporated, Incoterms will determine when responsibility, and therefore risk, is transferred from the seller to the buyer for delivery of the goods, which includes not just who is contracting for the transport but also inherently issues relating to packaging and packing.

For example, under the 'Ex Works' (EXW) Incoterm, the risk is transferred from the seller to the buyer at the seller's premises. This means that the buyer assumes responsibility for packing and transporting the goods from that point onward. In contrast, under the "Delivered Duty Paid" (DDP) Incoterm, the seller is responsible for delivering the goods to the buyer's premises, including arrangements for transport.

"Issues impacting safety within the supply chain are not directly answered by Incoterms, and thus the concern. As with much of logistics, the range of practices is complex, but there is silence or insufficient clarity around issues of safe packaging and packing that impacts the interface between the differing types of contracts involved (including sales, financing, carriage and insurance).

"These terms may mitigate certain risks associated with cargo safety," concludes Storrs-Fox. "Therefore, businesses engaged in international trade need to consider carefully the implications of the choice of terms of sale, specifically ensuring that packaging and packing are adequately understood to enhance safety."

Regardless of any sales term that may be agreed, therefore, both parties need to consider responsibly the broader issues. However, TT urges buyers, often also importers, particularly to consider carefully the potential implications of the term selected, not just in relation to the simple division of responsibilities, but also the impact of the condition of the goods at the commencement of the movement on all involved in fulfilling the transport, as well as the wider environment.

Alongside this alert on the influence of this trading scenario may have, TT regularly highlights safety issues arising from inadequate CTU packing processes, most notably in relation to Dangerous Goods. In regard to this critical aspect of international trade, TT has, along with its sister insurance mutual UK P&I, recently published an update to the *Book it right and pack it tight*, joint publication, now reflecting Amendment 41-22 of the International Maritime Dangerous Goods (IMDG) Code, which enters mandatory effect on 1st January next year.

This publication also explains the importance of the Code of Practice for Packing of Cargo Transport Units, known as the CTU Code and provides the important reminder from caselaw that it is the shipper's duty to ensure that the carrier is alerted to all the hazards posed by the cargo, even beyond what may be strictly required by the regulations.

FIRE SUPPRESSION

Global Survival Technology solutions provider Survitec recently released the results of pioneering tests conducted on high-pressure CO_2 fire extinguishing systems aboard three floating production storage and offloading (FPSO) vessels.

The full-release tests, believed to be the first to be conducted on vessels of this type and of such protected volume, confirmed the value to shipyards and ship operators of live testing to verify on-paper or on-screen predictions of fire system performance.

Michal Sadzynski, product manager, Survitec, says: "The important take-home for the industry here is that some of the protected spaces did not pass the tests the first time. This suggests there may be other vessels and offshore structures out there with potentially underperforming CO_2 fire extinguishing systems in fire-critical areas such as switchboard rooms, engine rooms and generator houses."

The tests were conducted as per the National Fire Protection Agency's (NFPA) NFPA12 Standard on Carbon Dioxide Extinguishing Systems, published in 2011, allowing a calculation-based prediction of system performance. This was upgraded by NFPA in 2018 to a much stronger standard and regulations advocating live, full discharge testing of all cylinders along with the constant monitoring of CO_2 and oxygen concentrations over a 20-minute period in all protected spaces.

SEAFARER RESEARCH

The Maritime Charities Group (MCG) is commissioning new research on the size and demographic profile of the UK seafarer population.

Information about working and former seafarers is vital to the work of MCG members and their partner organisations. It helps them to understand the welfare needs, locations, challenges and changes facing seafarers and their families and informs all aspects of their work. From grant-making to service provision, this data will enable the maritime charity sector to make more informed decisions from now to 2040.

Announcing the launch of a call for proposals, MCG chair Dr Tim Slingsby says: "This new study is a key element of MCG's programme for the coming year. It will update our existing datasets, building on the work we first undertook in 2007 and then updated in 2015. These studies showed that despite the fall in the number of working and former seafarers, the demand for charitable services and support was not likely to decline.

"It's nearly 10 years since we last looked at seafarer demographics and we need a more up-to-date picture, including the impact of the pandemic, to help us understand the potential demand for the next decade and beyond. We are now calling on research teams to respond to our call for proposals."

The new MCG study will focus on the UK's Merchant Navy and fishing fleet and their dependants and will include both working and former seafarers. A comparable study is being carried out with the UK's Royal Navy and Royal Marines communities by MCG members Greenwich Hospital and the Royal Navy and Royal Marines Charity, in partnership with the RAF Benevolent Fund. Together these two pieces of work will provide the sector with the data it needs to plan future services.

To find out more, visit: maritimecharitiesgroup.org

BULK CARRIER PRACTICE

The Nautical Institute has published a fully revised edition of its reference work *Bulk Carrier Practice*.

The publication provides comprehensive, practical guidance on every aspect of bulk carrier operations. It takes the reader through a typical voyage – from paperwork, hold preparation and loading to cargo care on the voyage and discharging – illustrated with more than 300 photographs. There is extensive coverage of the carriage and monitoring of both standard and unusual cargoes.

The book describes the various vessel types, detailing their construction, maintenance, equipment and safety considerations, paying particular attention to hatch covers, stability and trim. Chapters incorporate useful checklists and sources of further information. Examples of cargo documents and ships' certificates are reproduced in the book's extensive appendices.

The new publication is organised in the same logical way as the second edition, but the text has been significantly updated to take into account the many changes in the sector since 2010. New material includes important guidance on the dangers of liquefaction and dynamic separation.

The sections on bulker casualties and charterparties have been completely updated and new case studies have been added. The layout has been improved and many of the diagrams have been redrawn.

Bulk Carrier Practice is a reference book for masters, shipowners, ship operators, charterers, marine consultants and surveyors and a companion for mariners preparing for their exams.

BATTERY FIRES

In an opinion piece to be found on the Gard website, industry players are warned that the risk of EV battery fires should not be downplayed.

They can be hotter, more toxic, quicker to spread – and possibly more explosive. Most experts agree that lithium battery fires are different and that the risks for people on board are serious. The industry needs to align and collaborate more to address the issue.

Lithium batteries and the potential fire hazard they pose in electric vehicles (EVs) during transportation by sea, have become a hot topic in the industry. Awareness is increasing, but discussions remain as to how risky this cargo really is.

To read the article in full, visit: gard.no

A GROWING MARKET

Consultancy Sea Sentinels has been looking at the issue of scrapping of old tonnage in the wake of a new EU agreement on waste shipments

A new EU agreement on waste shipments is set to remove a legal roadblock to make it possible for a raft of non-OECD ship recycling yards to be included on an EU-approved list, which would unleash much-needed shipbreaking capacity for a massive wave of tonnage due to be scrapped over the coming years, according to green recycling consultancy Sea Sentinels.

The European Parliament and Council have agreed to allow exports of hazardous waste, including that contained in EU-flagged ships, to non-OECD countries provided receiving facilities can document sustainable management and disposal of this waste in line with EU regulations under a proposed amendment to the EU Waste Shipment Regulation (WSR) expected to be ratified by year-end. This would be subject to the receiving facility being included on an EU-approved list.

Ships that are sold for recycling at the end of their lifetime contain hazardous materials such as asbestos, ozone depleting substances, mercury and many others, as well as operational substances and waste including oil, fuel, ballast water and sludge, which constitute a risk both to human health and the environment if they are not managed and disposed of properly.

Exports of such waste in EU-flagged ships are currently banned by the EU under the Basel Convention on transboundary movements of hazardous waste, or Basel Ban, that is transposed into the WSR. In addition, the EU Ship Recycling Regulation (EUSRR) sets stringent standards for ship recycling and requires all EU-flagged vessels to be recycled at a facility on a list of approved yards.

"The latest EU agreement would represent a significant legal shift as it would open the way for many yards in non-OECD countries, which have applied for inclusion on the EU list and have been banging on the door for a very long time, to finally gain compliance with the EUSRR," explains Rakesh Bhargava, chief executive of Singapore-based Sea Sentinels.

"At the same time, this would greatly expand the shipbreaking opportunities for many shipowners with EU-flagged vessels who have been constrained by legal and reputational reasons to recycle their vessels at mainly European yards on the approved list with limited capacity for larger ships."

Bhargava says there are as many as 32 recycling yards in non-OECD countries – including 27 in India and one in Bahrain – that have applied for EU approval, of which some have been subjected to preliminary audits for compliance with the EUSRR, along with eight yards in Turkey and one in the US.

> "Many of these will be larger vessels that many non-OECD yards with EU-compliant facilities would have the capacity to handle

While these non-OECD yards have upgraded their facilities to meet EU standards, their applications have been stymied by the Basel Ban, which has effectively barred the way for their inclusion on the EU list, which currently comprises 48 approved yards.

Bhargava believes the pending Brussels directive, which apparently would only apply to EU-flagged ships trading in non-EU waters when the decision to recycle is made, would be a "game-changer" for the shipbreaking industry. He explains it would level the competitive playing field as EUSRR-compliant yards in both OECD and non-OECD countries would all be subject to the same regulations interpreted, applied and enforced uniformly by one common entity.

Danish Shipping's executive director for climate, environment and security, Nina Porst, says the proposed WSR amendment would give non-OECD yards a renewed incentive to raise their standards and pursue EUSRR compliance as it makes inclusion on the EU list a realistic possibility, rather than a theoretical one hitherto precluded by the Basel Ban.

"Provided a yard can meet the standards of the EUSRR for safe, responsible and environmentally sustainable recycling, there is no reason why it should not be approved for the list, regardless of its location," she says.

"If the WSR amendment is ratified, we would expect to see renewed auditing activity at these yards to expedite the application process for EU approval – and hopefully that will lead to ripple effects with other yards seeking to raise their standards to make the EU list."

This is important to raise the level of sustainable shipbreaking capacity to cope with an expected flood of older tonnage due for recycling over the next decade as green newbuilds enter the global fleet, which could otherwise lead to a situation of market oversupply, Porst explains.

Industry body BIMCO has estimated more than 15,000 ships could be recycled over the next decade, although Porst believes the figure could be even higher with some estimates indicating three times as many vessels could be recycled over the next 10-year period. For comparison, an average of around 700 ocean-going commercial ships have been scrapped annually over the past 10 years, according to statistics from NGO Shipbreaking Platform.

"As well as a high volume of tonnage coming up for recycling, many of these will be larger vessels that many non-OECD yards with EU-compliant facilities would have the capacity to handle," Porst says.

In its latest Report on the European List of Ship Recycling Facilities, BIMCO stated more non-EU yards need to be included on the list to meet the requirement for large-scale recycling of large ocean-going ships as the existing approved yards do not have

sufficient capacity, given many are focused on niche recycling or offshore decommissioning.

It stated this leaves Turkey – which has nine yards on the list – as "the only major ship recycling nation contributing significant capacity to the EU list".

There are presently no facilities from the main recycling states such as India, Bangladesh or Pakistan included on the EU list to meet the demand for recycling of larger ships, even though many yards in these countries have made significant efforts to upgrade their facilities, according to Bimco secretary general and CEO David Loosley.

Bhargava says non-OECD yards pursuing responsible shipbreaking practices have been given a lift after the IMO's Hong Kong Convention for the Safe and Environmentally Sound Recycling of Ships was ratified by Bangladesh and Liberia earlier this year, allowing it to finally enter into force in 2025 – 16 years after it was adopted.

"This will finally give us a universally applicable regulatory framework for the global shipbreaking industry that will lift recycling standards across the board and make it more difficult for sub-standard yards to survive," he says.

But he adds: "Simply selecting a compliant yard will not be sufficient and independent expert supervision throughout the recycling process is necessary to ensure documented compliance with regulations for ESG accountability and reporting purposes."

Sea Sentinels has been enlisted to supervise and monitor a number of recycling projects at EU-listed yards in Turkey to ensure on-site regulatory compliance to EUSRR standards, according to Bhargava.

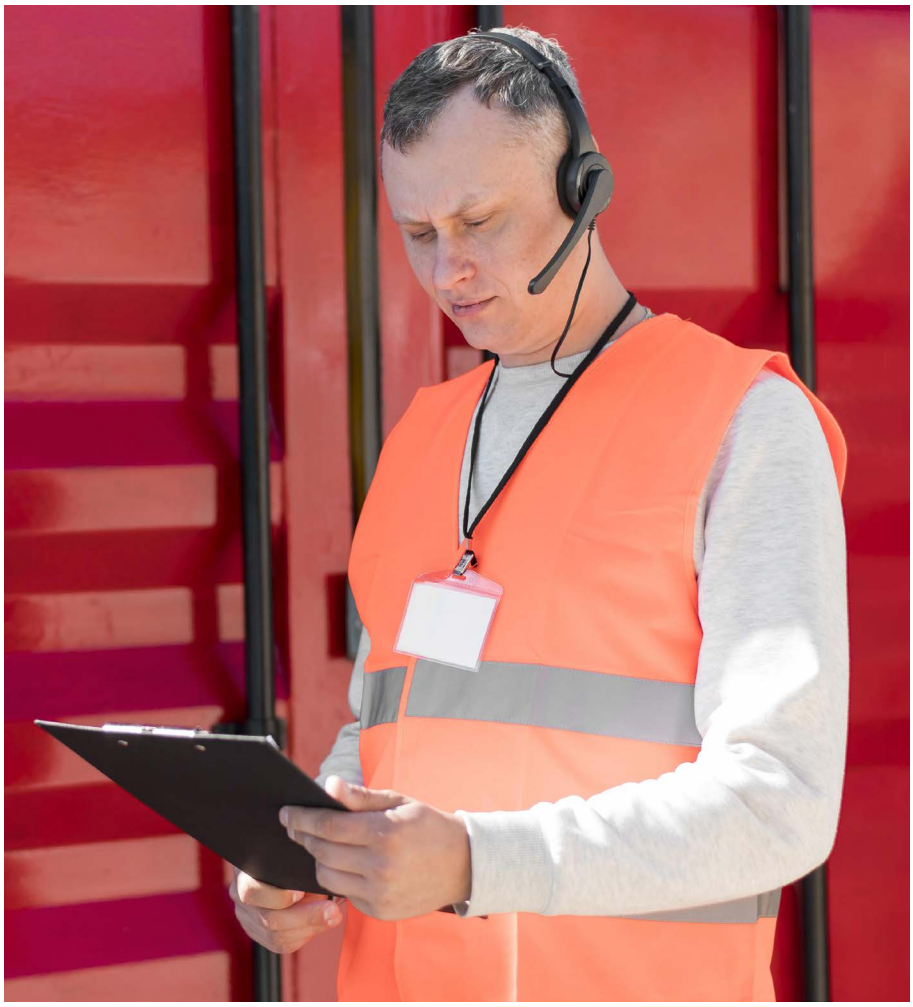
"The EUSRR provides the most comprehensive standards currently available in the industry, but the non-availability of these standards outside the OECD has a deterrent effect for EU-flagged vessels.

"These vessels currently have to sail to EU-listed facilities only in the OECD areas, incurring added costs and emissions. A globalisation of these standards would provide options and largely incentivise all shipowners who would want to meet these standards voluntarily," Bhargava says.

"With the prospect of non-OECD yards now being able to gain inclusion on the EU list, this will give them the required stamp of approval and regulatory legitimacy to allow more shipowners to securely recycle their ships at these locations," Bhargava concludes.

PAYING THE PRICE

Enforcement of new rules can be a tricky task, but shipowners who ignore regulations can find themselves hit with hefty fines



The 'polluter pays' principle is starting to hit shipowners where it hurts – in the pocket – when it comes to ballast water pollution of oceans says Optimarin in an opinion piece.

Ships plying US waters have recently been slapped with heavy penalties and this can be the shape of things to come for shipping with wider regulatory enforcement to protect marine ecosystems.

Several industry players have paid the price for non-compliance in recent months with substantial fines dished out by the US Environmental Protection Agency (EPA) for violations of the Clean Water Act in relation to ballast water discharge, recordkeeping, inspection, monitoring and reporting.

Earlier this year, one major shipping company suffered penalties totalling $165,000 for four ships calling at US ports, after two other companies were hit with respective fines of $137,000 and $200,000 over violations involving two vessels for each company.

"Shipping has an ethical responsibility to mitigate the harmful environmental impact of its operations in this area through proper ballast water treatment,

and non-compliance will ultimately also have serious commercial consequences," says Birgir Nilsen, co-founder and director of Norwegian ballast water treatment specialist Optimarin and also president of the Ballast Water Equipment Manufacturers Association (BEMA).

But he says there has been variable port state enforcement at the global level of the International Maritime Organization's (IMO) Ballast Water Management (BWM) Convention, implemented in 2017, that requires every vessel over 400gt to have onboard an approved ballast water management plan, a ballast water record book and an International Ballast Water Management Certificate.

Furthermore, all ships will need to have installed a compliant ballast water treatment system (BWTS) meeting the so-called D2 standard for the maximum amount of viable organisms that can be discharged by September 2024 under the BWM Convention.

"We see very little movement when it comes to port state control of ballast water treatment systems. Furthermore, if inspections are only based on logbooks and reporting protocols, there is no confirmation of whether the BWTS actually works as it should," Nilsen explains.

"Therefore, we want port states to be more active on testing systems, but so far we do not see that happening. It is really only in the US that we see consequences for non-compliance and this has been mainly on the administrative side."

The US, which is not a party to the BWM Convention, has shown the way in acting on ballast water regulation after developing its own stringent regime – based on the National Invasive Species Act and Clean Water Act – in response to serious incidents of ballast water pollution in its national waters.

This entails annual port state control examinations of around 10,000 foreign-flagged vessels, including reviews of vessel documentation and visual monitoring of the BWTS condition and operation enforced by the US Coast Guard (USCG).

As well as hefty fines, further costs can be incurred with non-compliance if a vessel is prevented by the USCG from discharging ballast water in port. This may require a ship to divert its voyage, modify cargo operations and sail outside 12 nautical miles to discharge ballast water, which could result in additional pilotage and launch fees, extra fuel fees, demurrage and other financial repercussions.

Nilsen has been working vigorously through BEMA to push for stronger port state enforcement of ballast water regulations, mainly by raising the issue with the IMO's Marine Environment Protection Committee (MEPC). BEMA has, for example, submitted documents that have been approved by the MEPC calling for port state inspection and testing of systems.

And the reason that BEMA is calling for a tougher port state crackdown on ballast water treatment is simple: the transfer of invasive aquatic species in ballast water carried by ships is seen by the UN as one of the four biggest threats to the global environment.

Conservation and sustainable use of oceans, seas and coastal areas, which cover about two-thirds of the Earth, is listed as one of the UN's Sustainable Development Goals – and disruption of finely balanced marine ecosystems due to ballast water discharges is a major concern.

According to the UN, oceans contribute to poverty eradication by creating sustainable livelihoods and decent work, and more than three billion people depend on marine and coastal resources for their livelihoods. It states that oceans are crucial for global food security and human health, while also hosting huge reservoirs of biodiversity.

But ballast water pollution has resulted in major damage to the ecology of coastal regions that support local economic activity, and the problem has escalated with the dramatic increase in world trade and ship traffic volumes over the past two decades.

It is estimated that around 35,000 ships are sailing the seas laden with 10bn tonnes of ballast water at any given time, with more than 3000 species being transported in their ballast tanks.

Non-indigenous organisms carried in a ship's ballast water tanks, such as bacteria, microbes, small invertebrates and other pathogens, can have an extremely harmful ecological impact on the marine environment when transferred from one sea area to another.

This can lead to a loss of biodiversity as native species are wiped out by the invaders, destruction of marine habitats, imbalance in coastal ecosystems and damage to vital resources needed to sustain fisheries and aquaculture, while also posing a public health hazard.

Nilsen says invasive species can have "devastating effects" on fisheries, a staple industry of his native Norway. But he points out this is considered "invisible pollution" as the impact from the introduction of such species via ballast water may not be evident until years later, unlike CO_2 emissions that are more visible and therefore have higher priority in the shipping industry.

"As a result, this has made it more challenging to communicate to the world the vital role of ballast water treatment in eliminating underwater pollution," he says.

Nilsen claims there has been a lack of industry action on ballast water treatment because installing a BWTS has typically been seen by shipowners as having little economic benefit, unlike say removal of hull biofouling that reduces drag in the water and can therefore cut fuel consumption.

But the regulatory ground is now shifting for shipping. Having a reliable and well-functioning BWTS installed onboard for effective ballast water treatment is necessary to ensure the oceans are protected – and this will be a ticket to trade in future as the regulatory net tightens, Nilsen underlines.

It is here that port state intervention is needed as there is no guarantee that a system labelled as compliant with the D2 discharge standard actually functions consistently without adequate monitoring and maintenance, he says.

"System reliability, proper crew training and effective maintenance with

a global support network and availability of spare parts are key factors in ensuring consistent ballast water operations," he explains.

"We have unfortunately seen an increasing number of cases with the requirement to replace unsupported systems that have become inoperable, which obviously makes it impossible to maintain a ballast water record book in line with IMO regulations."

Nilsen believes that having an inefficient or non-compliant BWTS onboard can limit future trading opportunities for vessels, given that most port states have ratified the IMO's BWM Convention – and it is only a matter of time before stricter global enforcement kicks in.

"A stricter regulatory regime, combined with the heightened focus on ESG reporting and green accountability to stakeholders, represent compelling commercial reasons for efficient ballast water management aside from the overriding factor of ethical responsibility for the industry," he says.

HYDROGEN CLASSIFICATION

Bureau Veritas has launched its first classification Rules for hydrogen-fuelled ships (NR678) to support the safe development of hydrogen propulsion in the maritime sector.

The rules outline technical requirements for the safe bunkering, storage, preparation, distribution, and use of hydrogen as fuel for power generation on board. Monitoring and control systems are also covered, addressing specific safety challenges relating to the transport and use of hydrogen on ships, such as high flammability, as well as the need to store the fuel in very high pressure or low temperature conditions.

BV's Rules for hydrogen-fuelled ships aim to mitigate the risk of hydrogen leakage, fire or explosion, with detailed requirements for machinery and engine design, as well as the vessel's configuration and the arrangement of fuel tanks and other systems on board. They also include prescriptions for the ventilation of hazardous areas, venting and pressure relief systems, and monitoring and safety systems including vapour and gas detection.

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NR678 also covers 'hydrogen-prepared' vessels, which are designed to be ready for the installation of a hydrogen fuel system at a later stage.

These classification Rules complement BV's existing rule note (NR 547) on fuel cell power systems on board ships that was launched in 2022 in response to growing interest in the maritime industry for fuel cells, and cover all types of fuels including hydrogen. BV is currently working on around 10 projects involving hydrogen as a fuel, either as main propulsion source for smaller ships or as an auxiliary power for larger vessels.

These new rules have been informed by industry feedback and input from a wide range of stakeholders, combined with the land-based hydrogen experience of other divisions within the Bureau Veritas Group.

NR678 reflects the latest state of industry knowledge on the use of hydrogen as ship's fuel and will be periodically updated, in line with the evolution of the technology, as well as regulatory decisions from Flag States and at the International Maritime Organization (IMO).

Laurent Leblanc, senior vice president, technical and operations at Bureau Veritas Marine & Offshore, says: "The objective of these new Rules is to bring the clarity needed to support industry pioneers as they harness the potential of hydrogen to deliver more sustainable shipping.

"We are at the start of an important technology turning point, with the introduction of hydrogen as a potential zero-carbon fuel on the road to decarbonisation. We are proud to be writing this new chapter in history together with our partnering shipowners, shipyards, and technology developers, and our colleagues across the BV Group, all of whom have contributed their expertise to help shape these rules, NR678.

"Hydrogen has great potential but its use as fuel by ships is still not common, so it is essential that all guidance is tailored to hydrogen's specific properties, and this is reflected in these new Rules.

"At a time when IMO regulation on hydrogen is still being developed, BV is playing a key role in guiding the industry on the technical criteria and risk assessment processes that must be followed to enable innovation, while ensuring that the highest safety standards are met."

Putting collaboration at the heart of this process, BV is also keen to encourage feedback from stakeholders on these Rules, in order to ensure they reflect the latest experiences and requirements of users.

BATTERY GUIDANCE

The UK Chamber of Shipping has released its new guidance, *Carriage of Electric Vehicles with Lithium-Ion Batteries – Information for Masters and Crew*.

Developed by the ad hoc Lithium–Ion Battery Working Group, established under the auspices of the Health & Safety Sub Committee, the group comprises members and experts with knowledge of fire and explosion hazards associated with lithium-ion batteries (LIBs).

The guide considers what information, training and equipment should be provided to seafarers. It also examines what national and international research and future regulations will be required for the safe carriage of LIBs as cargo or in electric vehicles.

The guidance, freely available as a PDF and suggested for use either as an A4 booklet or A3 poster for display on a ship or ashore, aims to provide a summary of the safe carriage of LIBs. ***To download a copy of the guidance, visit: ukchamberofshipping.com***

ROBERT HODGE, GENERAL MANAGER AT ITIC © ITIC BIODIVERSITY

COST OF ETS

International Transport Intermediaries Club (ITIC) has forecasted that the cost of the European Union's (EU's) new Emissions Trading Scheme (ETS) to the shipping industry could be in the billions.

The extended EU ETS, which comes into force on 1 January 2024, will set an annual absolute limit on emissions of greenhouse gases (GHG) for vessels of 5,000gt and above calling at EU ports. However, its implementation is creating tensions between shipowners and charterers, particularly surrounding the language within charter agreements to ensure a fair distribution of costs and legal risks.

Despite these challenges, Robert Hodge, general manager at ITIC, notes that it is vital that ship managers take necessary due diligence to ensure any of these risks are mitigated.

"Ship managers will have an important role in managing the scheme for their owners. It is, therefore, vital that ship management agreements set out the responsibilities and liabilities for doing so. The EU ETS is likely to cost the industry billions in extra fees so ship managers and charterers should assess every aspect of the costs and legal risks associated with the scheme to ensure they are not left in a financial precarious position," Hodge says.

ITIC's warning comes on the back of the most recent meeting of BIMCO's documentary committee, which includes ITIC and other shipping stakeholders. During the meeting, BIMCO adopted a groundbreaking ETS allowances clause for its ship management agreement, Shipman, and three ETS clauses tailored for voyage charter parties. These clauses were crafted to facilitate compliance with evolving regulations, offering a strategic approach to navigating the changing nature of carbon emissions in the maritime sector.

As part of its role as an advisor on the BIMCO document committee, ITIC is set to host a webinar to advise its members on potential challenges and offer guidance to ship managers at large. The webinar, entitled *EU ETS – Ship Managers, are you ready?* will be hosted by Hodge and will cover topics including risks related to the scheme, an overview of the ETS clause and what ship managers should do to protect themselves.

The EU ETS comes as a result of the increasing regulatory landscape imposed by the International Maritime Organization (IMO) and the EU when it comes to reducing GHG for vessels transiting European waters and docking at European ports.

The most recent updates to the BIMCO Shipman Emission Trading Scheme Allowances Clause 2023 ensure that the costs and responsibilities for obtaining, transferring and surrendering emission allowances for ships operating under an emission scheme in a ship management context.

BIMCO's new ETS clauses have been developed for use with any applicable emission scheme, including, but not limited to, the EU ETS. This is done to ensure that the clause can be used with other schemes that may come into force in the future.

"The purpose of the ETS clause for Shipman is to allocate costs and responsibilities between owners and managers, thereby facilitating compliance with emission trading schemes. This includes the reporting of emission data, as well as the transfer and surrender of emission allowances for ships operating under an emission

scheme," says Stinne Taiger Ivø, director, contracts and support at BIMCO.

The clause has been developed for inclusion in the upcoming revision of Shipman (expected to be published during the first half of 2024) and as a freestanding clause for use with Shipman 2009.

BIMCO's Documentary Committee also adopted three ETS clauses for voyage charter parties which are an ETS – Emission Scheme Freight Clause for Voyage Charter Parties 2023, an ETS – Emission Scheme Surcharge Clause for Voyage Charter Parties 2023 and an ETS – Emission Scheme Transfer of Allowances Clause for Voyage Charter Parties 2023.

"Our three new clauses have been developed with the aim of providing industry stakeholders with flexibility to use the clauses that are best suited for their specific trade and business," says Taiger Ivø.

Other already published carbon clauses from BIMCO include the Emission Trading Scheme Allowances Clause for Time Charter Parties, CII Clause for Voyage Charter Parties, CII Operations Clause for Time Charter Parties and the EEXI Transition Clause for Time Charter Parties.

In addition, a BIMCO subcommittee is currently working on the development of an ETS clause for Contracts of Affreightment.

DIGITAL TRANSFORMATION

It is estimated that four billion trade documents are in circulation around the world at any given time, increasing costs, delays and risk of errors. To fuel a transition away from paper-based trade, four of the world's largest mining companies; Anglo American, BHP, Rio Tinto and Vale have published a position paper, together with BIMCO, that proposes solutions and aims to accelerate the adoption of digital technologies across the metals and mining supply chain.

The four mining companies have formed a working group, the Metals and Mining Digitalization Forum (MMDF) and, with the support of BIMCO, aim to engage all parties involved in the digitalisation of trade, from solution providers to legislators, in an initiative to break down the barriers to a digital future.

The position paper outlines the progress made so far in digitalising the metals and mining trade, highlights the barriers that MMDF members are facing in achieving full end-to-end digitalisation, and describes the significant benefits to the industries, and thereby the global economy, if trade digitalisation is achieved.

The economic benefits of trade digitalisation are unmistakable. According to a report by the International Chamber of Commerce (ICC), an estimated four billion trade documents are in circulation. If stacked on each other, the documents would be 520,000m high and constitute about half a million trees, testifying to the fact that paperless trade reduces the carbon footprint of trade.

"Manual paper-based processes are a source of cost, delay, error, inefficiency and risk. One research report shows that these inefficiencies contribute to a staggering $507bn of working capital trapped in S&P 1500 supply chains alone," says Grant Hunter, director, standards, innovation and research at BIMCO.

Often, legal uncertainty, interoperability of various platforms and the lack of comprehensive standards are cited by industry stakeholders as barriers and challenges that need to be resolved.

"As a working group, the MMDF aims to bring forth the next wave of digitalisation at speed, drawing on insights and synergies from all stakeholders to advocate for a conducive environment and greater adoption of digital tools," the mining majors say in a joint statement.

Global events such as the covid-19 pandemic and the disruption of shipping and supply chains due to lockdowns, lost paper documents and errors clearly highlight the need for change. Over the past decade, each of the founding members of the MMDF has invested in digital transformation within mining processes, operations and supply chains.

At the forefront of trade digitalisation, the founding members have carried out landmark digital-first transactions.

An area of initial focus is the Electronic Bill of Lading (eBL) which is gaining traction in the iron ore trade. Based on information provided by MMDF members, and consolidated by BIMCO, MMDF members together account for around one billion tonnes of iron ore shipped on average per year. Between 2021 and 2022, these leading mining companies contributed to an increase in the amount of iron ore carried on eBLs by 80%, equivalent to 100m tonnes of cargo. eBLs now account for more than 20% of their annual trade volumes for iron ore.

In March 2023, BIMCO launched its "25 by 25 pledge" where shippers commit to target moving 25% of their annual seaborne trade volume for at least one commodity on eBLs by 2025. Anglo American, BHP, Rio Tinto and Vale have all supported the pledge.

"Their signing up is a yet another testament to their resolve to digitalise the end-to-end global trade process," Hunter says.

Grain charter revision

BIMCO's Documentary Committee has approved a revised version of the Continent Grain Charter Party, SYNACOMEX, to reflect changes in the geopolitical landscape following events including the COVID-19 pandemic and the war in Ukraine.

The revised charter party now includes BIMCO's anti-corruption clause and updated versions of the war risks and sanctions clauses.

The charter party is developed by joint copyright holders SYNACOMEX and Armateurs de France, the French Union for Grains and Seeds Trade and the French Shipowners' Association. It is widely used by grain traders in areas including the Baltics, the East Coast of South America and the Black Sea.

The revision of the contract began during the pandemic when the way of doing business changed for many, and the war in Ukraine has amplified the need to update. The charter was last revised in 2000 and the new update also includes changes in the commercial utilisation, including a removal of its "box layout".

"SYNACOMEX 2023 is the result of thorough consultations within the membership of SYNACOMEX and a detailed review by BIMCO to ensure that the form reflects the parties' needs. It is an up-to-date and easy-to-use standard based on what we know works in the industry," says Christelle Tailhardat, secretary general of SYNACOMEX.

The first SYNACOMEX charter party was introduced in 1957 and previous editions of the form have also been approved by BIMCO.

"We are pleased to work with other organisations to support and raise the contractual standards in the industry. The grain charter is an important document which has been increasingly used in the global grains and seeds trade over the years," says BIMCO's documentary committee chairperson Nick Fell, executive vice president corporate services and general counsel of BW Group.

The BIMCO review was assisted by a committee representing frequent users of the form from Pacific Basin, NORDEN, Ifchor/Nova Marine Carriers and Gard Japan.

"As joint copyright holders of the SYNACOMEX form and members of the Documentary Committee, we are pleased to see BIMCO supporting the document. This is a quality stamp which will further assist the acceptance of the form in the market," says Jean-Philippe Casanova, executive officer of Armateurs de France.

SYNACOMEX 2023 will soon be made available for use on SmartCon and on the BIMCO website, accompanied by explanatory notes.

BPA WARNS ON RULES

A new approach is needed to measure biodiversity in England's foreshore in order to avoid a devastating impact on port development, the British Ports Association has said in a letter to the new Environment Secretary.

New rules requiring a biodiversity 'net gain' in planning rules coming into force in January have the support of industry and must go ahead, but the method of calculating the 'gain' is so disproportionate that a temporary approach is needed in order to avoid stalling port development.

Ports have been supportive of the government's aim to halt biodiversity loss by 2030 and of using planning to deliver mandatory 'net gain' of 10% in development.

In order to deliver the required 10% biodiversity gain, Defra and Natural England have developed an 'intertidal metric' designed to measure biodiversity loss and calculate the required habitats to be delivered to ensure the gain. Industry has been alarmed at the proposals however, as new research shows that environmental costs of new projects would be larger than the projects themselves and 10-15 times more than is currently required under the habitats regulations, which as designed to protect our most precious habitats.

The BPA is calling on government to temporarily use one of a series of proposed alternatives that will all deliver more habitats than current rules while a new metric can be developed that aligns closely with tools being developed for marine habitats.

The ports industry, alongside other marine developer sectors, has been engaging with the government for two years on the implementation of 'net gain', which will become mandatory in terrestrial development in England from November. Planning legislation defines the intertidal area – the area of shoreline between high and low tides – as part of the terrestrial area, despite habitats being more dynamic and more similar to marine habitats.

Mark Simmonds, director of policy at the British Ports Association says: "Ports support mandatory net gain in order to improve biodiversity and the industry has a wealth of experience in delivering new habitats as part of development.

"If implemented as planned, the new rules will be a disaster for ports in England. It doesn't have to be like this, the rest of the UK is taking a different approach that seeks to deliver biodiversity enhancements without permanently stunting development.

"It's clear that the UK will need more port capacity to deliver on our ambitious plans for offshore wind. If 'net gain' is bungled in such a way that it costs more than entire build costs of a port development then it means the economic and social benefits to be reaped from the offshore wind revolution will go elsewhere. The biodiversity benefits of building additional habitats are also lost.

MARK SIMMONDS, DIRECTOR OF POLICY, BRITISH PORTS ASSOCIATION

CONNECTOR CONTRACT

Bureau Veritas (BV) has granted an Approval in Principle to Greek company Erma First for its Blue Connect system, a high voltage alternative maritime power solution that can be housed in a 40ft container.

Erma First's system, which can be housed in a container or provided in a stand-alone configuration, enables most ships to connect with different shore power systems based on their required power. Blue Connect can be plugged into a port's infrastructure (external connection) and to a vessel's electrical grid (internal connection).

Connection to shore power will be a requirement for container ships and cruise ships in European ports from 2030 and may be demanded by other

LEFT TO RIGHT, KONSTANTINOS STAMPEDAKIS (ERMA) AND VASSILIOS DIMOULAS (BV).

customers looking to eliminate or reduce emissions while in port.

The Blue Connect system has been designed for a specific maximum load capacity according to individual vessel specifications and to meet specific port requirements. This provides maximum flexibility for access to shore power while at berth. High voltage shore connection (HVSC) equipment can either be standalone or included in the 40ft container.

Bureau Veritas has confirmed that the Blue Connect HVSC system meets its requirements for safety, including structural integrity of the containerised 'box' containing the connection system, allowing the unit to be stored on a ship's deck and deployed when required.

Athens-based Paillette Palaiologou, vice president, marine and offshore for Bureau Veritas, says: "It's always a pleasure to be able to support innovation – and for us, based here, to support innovation in Greece. Our approval helps enable the rapid application of the Blue Connect solution by providing the confidence that our classification requirements for safety and performance will be met."

Konstantinos Stampedakis, co-founder and managing director of Erma First, says: "We are delighted to receive this AiP from Bureau Veritas, which confirms that Blue Connect's safety and operational profile meets the in-principle expectations of the classification society."

Theodosia Digalaki, technical product manager at Erma First, says: "Blue Connect is a highly advanced shore power solution than can significantly reduce emissions in ports and enhance CII ratings for ships. Throughout the development process, flexibility, reliability and safety were key priorities and we are pleased that the exhaustive approach taken by Erma First has been recognised by Bureau Veritas through the award of this AiP."

> "Blue Connect is a highly advanced shore power solution than can significantly reduce emissions

DECARBONISATION WORK

The International Association of Classification Societies (IACS) Council, meeting recently in London for its 88th session (C88), welcomed the huge progress being made by the Association to deliver measures to ensure the safe decarbonisation of the industry.

Work towards Unified Requirements (UR) in support of battery power, hydrogen and carbon capture is well advanced, while a UR on ammonia as a fuel will be published imminently.

Alongside IACS submissions to IMO, IACS is meeting its commitment to working closely with flags and industry in the shared drive to decarbonise, most recently through the signing of a Letter of Intent with Singapore and the establishment of a joint industry working group on safe decarbonisation.

As the scale and pace of digitalisation within shipping continues to accelerate, IACS Council emphasised that implementing the many and varied benefits of digital solutions can also introduce new safety risks to the ship. To support industry in managing these changes safely, and recognising the multi-decadal nature of the challenge, C88 agreed to establish a new 'Safe Digital Transformation Panel' (SDTP). Bringing all IACS' current digitalisation activities within a single forum allows for issues such as MASS, cyber safety, data management and exchange and digital assurance, as well as their associated regulatory structures, to be taken forward in a holistic manner.

As with the Safe Decarbonisation Panel, IACS' new SDTP will focus its attention on the safety implications that accompany increasingly digitised ships and on working closely with industry and equipment manufacturers to ensure that its work programme is carefully tailored to meet the needs and priorities of the shipbuilding and shipowning communities.

Elsewhere at C88, Council was advised that all IACS QSCS audits returned to pre-covid levels in 2023 and also welcomed the substantial progress that the International Quality Review Body is making in achieving wider recognition at the International Maritime Organization.

MOVES TOWARDS NET ZERO

Clean energy marine hubs were on the agenda at the recent COP28 summit in Dubai in December and Hamburg Port Authority was one of those pushing for group action on the matter

At the recent COP28 Shaping the Future of Shipping summit organised by the International Chamber of Shipping (ICS) in Dubai on 10 December with over 300 maritime industry CEOs, government ministers and NGOs present, International Association of Ports and Harbors (IAPH) President and Hamburg Port Authority CEO Jens Meier called on ports to actively collaborate with each other on knowledge sharing between themselves and the maritime community to accelerate decarbonisation.

The summit was hosted under the patronage of the United Arab Emirates Ministry of Energy and Infrastructure, and organised by a coalition of leading maritime industry bodies and coordinated by the ICS, in partnership with Emirates Shipping Association.

Meier commented: "We should not see this as a competitive issue among ports. We need to develop tools together to ensure the infrastructure is available for low- and zero-carbon fuels for when the ships calling need them."

He cited capacity building of ports and their people as well as the development of safety and readiness level tools by the Association between the IAPH climate and energy technical committee port colleagues as examples of such collaboration.

In recent months, IAPH had worked as partner of the International Maritime Organization (IMO) Norway GreenVoyage2050 project on developing skills in the safe and efficient handling of alternative fuels at a seminar held in Mumbai, India involving port professionals from developing countries. In the New Year, a Port Readiness Level tool developed by a group of advanced ports of the World Port Climate Action Program and IAPH's Clean Marine Fuels Working Group will be made available by IAPH as an initial manual self-assessment tool following successful testing by the Port of Rotterdam.

Asked whether ports will be ready in time with infrastructure, he commented: "Hamburg Port Authority will be ready, other pioneering ports will be ready. But another important factor to consider is the necessary critical volume of mass demand, given the lower density of these fuels and the need for our organisations to look at our KPIs and bottom lines."

The key role of a market-based measure to ensure an equitable energy transition was also on the agenda at the meeting.

IAPH managing director Patrick Verhoeven commented on the vital role of ports as Clean Marine Fuel Hubs (CEM Hubs) in the supply of new and existing fuels not only to bunker ships, but also the production of green hydrogen, storage and subsequent seaborne transportation of this renewable energy via fuels such as methanol and ammonia to import countries.

He said: "With the IMO agreeing to accelerate shipping decarbonisation, one key success factor will be the successful negotiation of a market-based measure to raise funding for a just and equitable energy transition. A globally implemented economic measure will need to be agreed upon at the IMO that also ensures developing countries and small island states are not left out in infrastructure and capacity building. Their active participation in the Clean Energy Ministerial CEM Hubs initiative is one way of ensuring that."

Verhoeven thanked the ICS for taking the initiative on the CEM Hubs and bringing IAPH's 180-strong global network of port authorities and operators on board: "Shipping and ports as well as regulators, the energy sector and governments need to work together globally to resolve this difficult conundrum – regional schemes risk creating imbalances and unfair competition, distorting markets both on- and offshore."

RAIL IN THE SPOTLIGHT

Ensuring a strong rail network for North German ports has been a key element of their activities in recent times. In the Port of Hamburg, a good half of all hinterland transport is already carried by rail. At the same time, the importance of rail as a climate-friendly means of transport is also growing.

The growing demand is increasingly becoming a major challenge for the railways, as capacities are almost exhausted. Constructive solutions are therefore urgently needed. Experts analysed the prospects for rail transport at the 7th Rail Conference, 'Rail freight transport and seaports'.

"The ports are hubs and the backbone of the German economy – we see a functioning and well-financed port infrastructure as a national responsibility,

said Sebastian Doderer, head of the Rail Expert Group of the Logistics Initiative Hamburg. "The new German port strategy must provide impetus here in order to ensure the future viability of German seaports. This also includes the expansion of rail capacities."

All participants at the rail conference are convinced that well-developed and functioning rail transport is essential for the development of climate-neutral ports. However, they also agreed that this goal can only be achieved with a great deal of effort and investment.

Hamburg's senator for transport, Dr Anjes Tjarks, said: "Freight transport plays an essential role in the mobility transition: with more freight on the railways, we can achieve urgently needed CO_2 savings and relieve the burden on the road infrastructure. The Port of Hamburg already moves half of its container throughput by rail – we want to increase this proportion even further by expanding the rail network.

"Hamburg is making considerable efforts to significantly improve the rail infrastructure for freight transport, including the renovation, modernisation and widening of the Elbe bridges. This also strengthens the competitiveness of our port."

Bremen's State Councillor for Ports, Kai Stührenberg, said. "Our ports are nothing without the people who keep the handling and connections with the hinterland running. This must also apply to the National Ports Strategy in the same way. The rail sector is facing particularly urgent challenges here, as a lack of staff in locomotives, in signal boxes, in dispatching centres and on rail construction sites is a very real threat to Germany as a business location."

"Efficient transport, port and communication infrastructures form the basis for successful port development. Efficient networking is already a competitive advantage for Germany as a port location," said Dr Wibke Mellwig, head of waterways and shipping at the Federal Ministry for Digital and Transport.

Rail is becoming increasingly interesting for shippers from an ecological point of view. Warsteiner, for example, has further expanded its own intermodal terminal and made it accessible to third parties. "It is not easy to get shippers out of their comfort zone. That's why the regulations in rail transport need to be drastically minimised so that the product becomes more competitive," said Daniel Küster, supply chain manager at Warsteiner.

Maintaining and further improving reliability is the task of Deutsche Bahn AG (DB) and the expansion and modernisation of the network will be one of its biggest tasks. "With the development of the high-performance network, DB is creating a clear perspective for reliability and growth. At the end of the construction phases, we will have a more resilient rail network, which will also mean capacity improvements for our customers," said Ute Plambeck, Deutsche Bahn's group representative for the North German states.

ON 9 FEBRUARY 2024, THE FIRST NEW-BUILD WITH METHANOL-CAPABLE ENGINES WILL COMMENCE OPERATIONS ON THE AE7 SERVICE BETWEEN ASIA AND EUROPE.

METHANOL SAILS IN

Hamburg is on the itinerary for the first large methanol-capable container ship with a new ship design with bridge superstructure at the bow for improved loading capacity.

The first of AP Møller-Maersk's methanol capable vessels will come into operation in February.

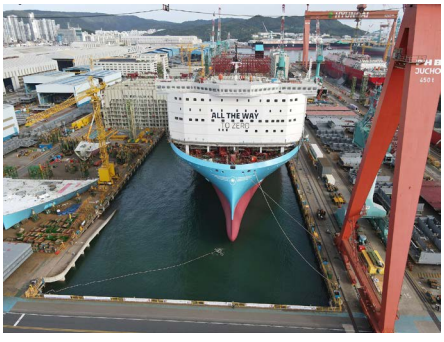
In February this year, the first newbuild with methanol-capable engines will start sailing on the AE7 service between Asia and Europe, calling at the ports of Shanghai, Tanjung Pelepas, Colombo and Hamburg, among others. Ningbo in China will be the ship's first destination.

Built by Hyundai Heavy Industries in South Korea, the container ship has a capacity of 16,000 containers (TEU) and is equipped with a dual-fuel engine that can run on methanol, biodiesel or conventional bunker fuel.

Maersk has set itself a net-zero target for greenhouse gas emissions for the entire company in 2040 (that is, for land transport, air freight, warehousing and all other areas in addition to sea freight). In addition, there are already specific and ambitious short-term targets for 2030.

Maersk has secured sufficient green methanol to cover the vessel's maiden voyage and continues to work on procurement solutions for 2024-25 for its methanol-capable fleet.

"The deployment of the first of our large methanol-capable vessels on one of the world's largest trade routes is a milestone on our journey towards our net-zero goal," says Karsten Kildahl, chief commercial officer at Maersk. "This vessel will have a significant impact on our customers' efforts to decarbonise their supply chains, and we look forward to introducing more."



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