# BULK TERMINALS *international*

SPRING 2026

THE OFFICIAL MAGAZINE OF THE ASSOCIATION OF BULK TERMINAL OPERATORS


## POWER LIFTING

The latest high-performance cranes and grabs boosting ports' productivity

## SPREADING THE WORD

Bulk solids handling expert Professor Mike Bradley on his mission to improve safety

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# FROM THE EDITOR

BY SAMANTHA ROBINSON

Find out what's coming up in this Spring edition of *Bulk Terminals International*

***Welcome to the latest edition of Bulk Terminals International, bringing you all the latest news, views, innovations and initiatives from across the industry.***

We have plenty for you to enjoy in this issue, starting with an in-depth interview with Professor Mike Bradley, Director of The Wolfson Centre for Bulk Solids Handling Technology. Mike is a familiar face at our *Bulk Terminals International* annual conferences and will be resuming his role of Chairman at this year's not-to-be-missed event in A Coruña, Spain, this October.

In our special Q&A with Mike, he talks frankly about the lack of training people tend to have when they enter industries handling bulk solids, leading to a long and often painful learning curve. He explains why the Wolfson Centre is therefore on a mission to spread its knowledge to enable people to run their operations more efficiently, more safely and ultimately more profitably. You can read Mike's insightful interview on page 38.

One bulk solid that is often in the news is coal. As most of the rest of the world is winding down its use, the US is bucking the global trend with a large – and controversial – cash injection aimed at boosting the country's coal industry. Read all about it on page 33.

We also report on another commodity often hitting the headlines – grains – and the ups and downs of the global grain trade (p27).

Meanwhile, we take our usual look at the latest innovations and investments that are enhancing port operations, from next-generation cranes and grabs (p17) to state-of-the-art ship loaders and unloaders (p22). We also examine the latest digital tools operators are taking on board to ensure smooth-running ports, including digital twins and port community systems (p46).

We turn the spotlight on three very different regions in this issue to find out how their ports are progressing. Turn to page 51 to find out more about Southeast Asia, page 54 for South America and page 57 for the UK.

Finally, read all about the latest industry appointments on page 61 – and do let me know about anyone on the move at editor@bulkterminals.org

I hope you enjoy this issue.

# BULK TERMINALS A CORUÑA 2026

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**The 2026 conference will set the scene with our traditional analysis of bulk markets, continuing with a full programme focused on the concerns of operators – offering sound practical solutions to terminal operators for improving profitability, streamlining operations, improving safety, online security and ensuring environmental compliance & protection.**

Uncertainties surrounding tariff regimes and geopolitical tensions will continue to have an impact on bulk trade flows, both in terms of total volumes and trade routes. In addition to the obvious economic repercussions, how will bulk terminals cope with operational challenges and the need to make strategic adaptations?

Bulk Terminals A Coruña 2026 will examine the impact these continuing challenges place on bulk terminal operations – both in the short and long term.

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PUBLISHED BY abto ASSOCIATION OF BULK TERMINAL OPERATORS

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

DESIGNER: JUSTIN IVES
JUSTINDESIGN@LIVE.CO.UK

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

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

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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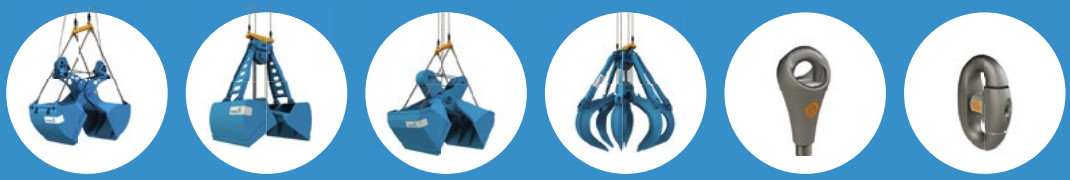

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# CONTENTS




# NAVIGATING THE UNCERTAINTIES

BY SIMON GUTTERIDGE, ABTO CEO

Don't miss our ABTO Bulk Terminals conference this year, which sheds light on timely themes

***As we look forward to meeting in A Coruña for the annual ABTO Bulk Terminals conference this autumn, the theme of the event, 'Coping with continuing uncertainties' – chosen before the US and Israeli attack on Iran – seems almost an understatement.***

*Bulk Terminals A Coruña 2026* will set the scene with our traditional analysis of bulk markets, continuing with a full programme focused on the concerns of operators. As usual, we will offer sound practical solutions to terminal operators for improving operations and online security and ensuring environmental compliance and protection.

Uncertainties surrounding tariff regimes and geopolitical tensions continue to have an impact on bulk trade flows, both in terms of total volumes and trade routes. *Bulk Terminals A Coruña 2026* will examine the impact these continuing challenges place on bulk terminal operations – both in the short and long term.

Appropriately, the conference on day one starts with the KEYNOTE 'Continuing geopolitical tensions and volatility of the US tariff regime impacting the global bulk trade', delivered by Sean Fairley, Principal Consultant, Drewry Shipping Consultants. Sean is also the Markets session Chairman.

It would be foolish at this stage to predict what tariffs the mercurial US President Trump will have decided to impose, amend or withdraw and on whom. However, what can be predicted with certainty is that the continuing uncertainties surrounding tariff regimes, geopolitical tensions and conflicts will continue to have an impact on bulk trade flows, both in terms of total volumes and trade routes. In addition to the obvious economic repercussions, how will bulk terminals cope with operational challenges and the need to make strategic adaptations?

These are the questions Sean and the following sector presentations will seek to answer. Some light can be thrown on them at this stage, whether or not the lifting of the blockade of the Strait of Hormuz, still somewhat up in the air at the time of going to press remains in place.

**Industry impacts**

Come October, presenters in the Markets session at A Coruña will attempt to answer the question as to the extent that events in the Gulf – and other factors – will influence sector markets and trade flows.

But at this moment in time, what are the likely impacts on the various sectors?

The effect on the iron ore trade would be mostly indirect rather than direct. Reuters recently noted that iron ore has remained relatively resilient because its principal trade lanes bypass the Gulf region. Most seaborne iron ore is shipped from Australia to China, Japan and South Korea, from Brazil to China and Europe and from South Africa and Canada to various markets.

However, a renewed closure of the Strait of Hormuz will have a major impact on energy markets, since around 20% of global oil supply normally transits there – leading to increased bunker rates, a major albeit not the only element in shipping costs, as well as increased mining costs. S&P Global estimates that shipping costs are the largest component of the iron ore cost increase. Its scenario modelling indicates a potential 11.3% increase in the global iron ore cost base, driven primarily by shipping and fuel price shocks. This would be particularly relevant if China's manufacturing sector slowed because of higher energy costs.

For iron ore, the Hormuz closure is an energy and freight-cost shock rather than a supply shock. Iron ore cargoes would continue moving from Australia and Brazil, but higher fuel prices, higher freight rates, increased insurance costs and potentially weaker steel demand would create significant secondary effects. If the closure renews, the more the issue would shift from logistics costs to reduced global steel consumption.

At the conference, Pablo Rodas-Martini, Director of Market Intelligence, Emerging & Frontier will examine 'Iron ore – previous patterns and future

predictions'. By then, it will be interesting to see who will be the winners and losers among the major iron ore exporters if there is a renewed closure of Hormuz.

A renewed closure would have a substantial indirect impact on the global coal trade. While relatively little coal moves through the Strait itself, the disruption of oil and liquefied natural gas (LNG) exports from the Gulf would further tighten global energy markets and increase demand for alternative fuels. The most significant effect would be the loss of LNG supplies, particularly from Qatar, prompting utilities in Asia to switch from gas-fired generation to coal where possible. This would increase thermal coal imports into key markets such as Japan, South Korea, India and Southeast Asia.

**Coal on the move**

At the same time, higher oil prices, increased bunker fuel costs, war-risk insurance premiums and tighter vessel availability would raise dry bulk freight rates, increasing the delivered cost of coal worldwide. Major coal exporters including Australia, Indonesia, South Africa and Colombia would likely benefit from stronger demand and higher prices. In a renewed prolonged closure lasting several months, seaborne thermal coal trade could expand significantly as countries seek to replace unavailable LNG supplies. Will Tooth, Senior Dry Bulk Analyst, SSY will discuss 'Coal – remains a key dry bulk commodity' at the conference.

For the grain trade, the direct impact of a Strait of Hormuz closure would likely be manageable because the Gulf is primarily an importing region rather than a major exporter. However, considering the significant loss of Gulf natural gas and fertiliser production, the far more serious consequence is likely be a global fertiliser shock, leading to higher crop production costs, lower yields in some regions and stronger grain prices worldwide over the following months.

Harry Grimes, Head of Dry Bulk Research & Data Analytics, Arrow will present 'Grain markets – conflicts and structural changes' at A Coruña.

Regarding the cementitious materials trade, with trade flows increasingly influenced by structural trends this sector is assuming a growing importance. The trade is currently undergoing one of its biggest shifts in decades, driven by decarbonisation, changing industrial production patterns, and the search for alternative supplementary cementitious materials.

Consequently, terminals that can accommodate a range of cementitious materials may be better positioned than those designed solely for traditional cement imports.

The implications of a renewed Hormuz closure would probably have a larger impact on cement, clinker and supplementary cementitious materials than some of the other sectors, such as iron ore. Cement production is highly energy-intensive and coal, petcoke, gas and electricity costs would rise. Sylvie Doutres Ghizzo, Associate and Joint Managing Director, DsG Consultants will discuss 'Cementitious trade – factors reshaping trade flows' this October.

The rest of day one consists of the Operations and Opportunities session. Our Chairman, Professor Mike Bradley, Director of the Wolfson Centre for Bulk Solids Handling Technology, opens the session with 'Minimising ship-to-shore and shore-to-ship material losses'.

Francisco Martínez, Product Manager, igus SLU will then discuss 'Lubrication-free polymers in bulk terminal applications'.

Irene Souto, Head of Port and Business Development at our host the Port of A Coruña Authority will introduce a discussion: 'A Coruña: A port of destination and a logistics distribution platform'. In the agrifood sector, port activity has shifted from the Inner Port to the Outer Port, moving an activity with a high environmental impact to a new location. This opens up new possibilities for other kinds of clean cargo in the inner port close to the urban areas of the city. At the outer port, significant investment in new infrastructure has enhanced the strategic position of the port for traffic in the agrifood sector.

Irene will be joined by Roque Gonzalez Nogueira, Director Supply Chain and Terminals, Galigrain SAU, Jorge Rico Caramés, Commercial Director, Pérez Torres Marítima and Pablo Ramilo Méndez, Director, Terminales Marítimos de Galicia.

Our industry is often said to be slow to adopt new technology. Javier Sánchez, Innovation Department, Galigrain SAU will report on ' The SMARTSTORE project – improving port logistics, storage and transformation of relevant products in Galicia through Industry 4.0 technologies'.

Kent Busk, Director Seaport Group, and Mo Dualeh, EMEA Sales Manager, TBA Group will then present 'CASE STUDY: Implementing a terminal operations system'. Each general cargo and bulk terminal has its own operational profile, meaning there is no true one-size-fits-all Terminal Operating System (TOS).

However, there are several core capabilities that any robust TOS should deliver and there are must have customisations. The challenge is to include these in the specs and contract. This is where a structured procurement approach becomes critical.

'How to develop an opportunity? Moving from concept to commissioning' presented by Hani Katerji, Director, Hani Katerji Consulting will illustrate the steps to take.

After a day packed full of discussion and information, it will be time for the Conference Reception, kindly sponsored by the Port of A Coruña Authority.

**Reshaping the landscape**

Richard Hodder, Managing Director and Principal Cybersecurity Consultant, Engage Cyber opens day two with a topic focusing the minds of many port operators: 'Update on the threat – how artificial intelligence is reshaping the cyber-risk landscape for bulk terminals', together with measures terminals must take to strengthen their cyber defences and protect operations from attack.

Dorota Jilli, Senior Underwriter, TT Club opens the Environment and Safety session with 'Understanding climate risks, planning adaptive responses and embedding resilience.'

Dust suppression in dry bulk terminals is critical for environmental compliance, worker safety, equipment protection, and community relations. Designing an effective dust suppression system starts with analysing the characteristics of the dust being processed. In a panel with Frank van Laarhoven from RAM Spreaders and David Ingvarsson from BRUKS Siwertell, Professor Mike Bradley examines the various methods.

Neil Dalus, Risk Assessment Manager, TT Club then moderates a panel on 'Fire suppression, with Robert Tengvall from Fogmaker and a panellist from Dafo Vehicle.

The Port Authority of A Coruña prides itself on its green credentials. Andrés Guerra, the Head of Sustainability and Strategy, introduces a 'PANEL DISCUSSION: A Coruña Green Port' with Roque Gonzalez, Jorge Rico Caramés and a panellist from Terminales Marítimos de Galicia, which concludes the formal part of the conference. After lunch we leave for the Outer Port of A Coruña and terminal visits.

**Opportunities for interaction**

As always, the event promises to be interesting and informative. The annual ABTO Bulk Terminals conferences are designed for all those involved in the transportation, storage and handling of bulk commodities. As well as terminals and ports we welcome equipment and service suppliers, professional advisors and academics to the conference.

Indeed, ABTO feels strongly it is only through the interaction with these others that bulk terminals will achieve increased the operational efficiencies, better security, safety and environmental compliance they need to achieve.

There will be plenty of opportunities for that interaction. Ample time is provided to network during the course of the conference. Additionally, there is the relaxed and convivial atmosphere of ice breaker drinks in the bar of the Hotel Eurostars Atlántico for arrivals on the evening before the event starts and then the Conference Reception at the end of day one. Both of these provide the perfect opportunity renew old friendships and make new ones. A further valuable networking opportunity is afforded by our traditional terminal visit on the afternoon of the second day. This year we will be visiting three adjacent terminals in the Outer Port of A Coruña: Galigrain SAU (GrupoNogar), Pérez Torres Marítima and Terminales Marítimos de Galicia.

ABTO could not stage the annual Bulk Terminals conference without the support of our sponsors: igus, indurad, RAM Spreaders, the TT Club and BRUKS Siwertell. A big thank you to them, our host port of A Coruña and conference partners DsG Consultants and The Wolfson Centre.

ABTO is delighted that DsG Consultants is again a conference partner for Bulk Terminals Marseille. DsG Consultants is the leading consultancy in France serving the bulk terminal industry. The consultancy advises and assists companies operating in the port sector or the dry bulk sector, during the different phases of their development.

The Wolfson Centre for Bulk Solids Handling Technology, in particular their Director and our conference Chairman Professor Mike Bradley, will be well known to many of you. The Wolfson Centre is a department within the School of Engineering at the University of Greenwich Medway campus. For the past 50 years, its consultants have been helping industry identify and solve its bulk solids handling problems. The centre is one of only three institutions worldwide that specialise in the handling of bulk solids. You can read more about it on page 38, in our in-depth interview with Mike.

**Our host**

We are very grateful for the support of the Port of A Coruña our host port for this year's conference.

Bulk cargo represents around 30% of total traffic through the port, the most important being agri-food products. This has positioned A Coruña as the main port on the Atlantic-Cantabrian coast in the movement of cereal destined for the livestock of Galicia, western Asturias, northern Portugal and part of Castilla-León. Other bulk goods that move through the port are coke, cement, quartz, sulphur, phosphate rock, stone and other aggregates.

The inner harbour docks where these cargoes are handled comprise the Centenario dock, for the movement of agri-food products and the export of quartz from a nearby mine; the San Diego dock is used for unloading cement at a concessionary company's facility.

The unloading operations of different cereals and raw materials for the manufacture of feed and compound food are carried out at the dock and operations area of the Outer Port. These are stored in the warehouses of the main operators – their volume of activity has gradually increased turning Punta Langosteira into the 'Agrifood Hub' of Spain's North West peninsula.

Port operators have made significant investments to equip Punta Langosteira with modern storage facilities, featuring mechanised systems for unloading and transporting goods from ships to warehouses via a closed-circuit network of conveyor belts and transfer towers. These investments have improved productivity and environmental performance, strengthening A Coruña's competitiveness and its position as the most important logistics hub in North West Spain for agri-food bulk cargo.

**How to register**

To register and for details of the Hotel Eurostars Atlántico conference hotel please complete the form on our website at **bulkterminals.org**.

If you have any questions, please drop me a line at **events@bulkterminals.org** or call +33 (0)321 47 72 19.

Together with our conference Chairman, Professor Mike Bradley, and ABTO's Technical Director Ian Adams, I look forward to welcoming you to *Bulk Terminals A Coruña* in October.

Enjoy this spring edition of *Bulk Terminals International*.

**Simon Gutteridge, Chief Executive**
**ce@bulkterinals.org**
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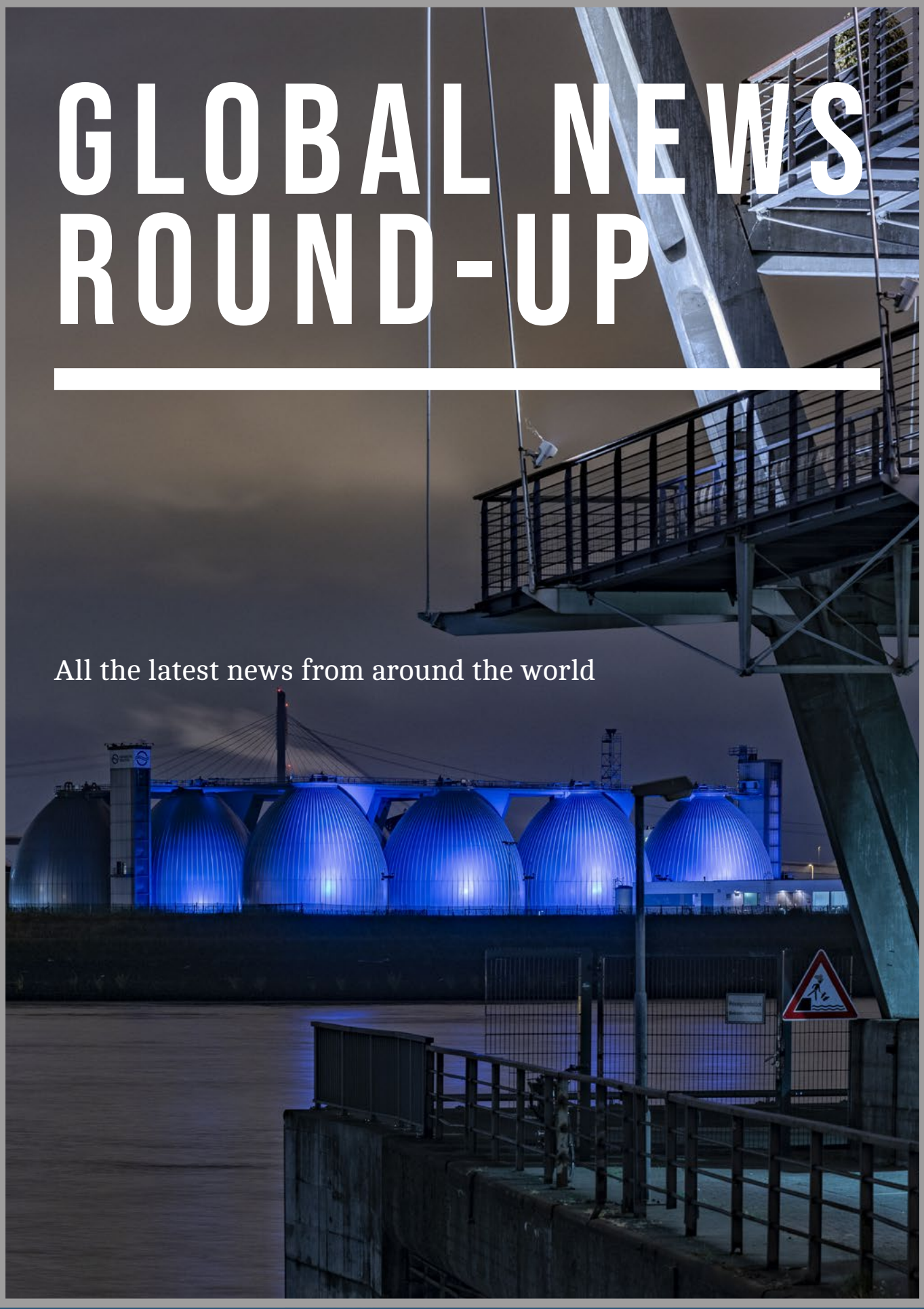
# GLOBAL NEWS ROUND-UP

All the latest news from around the world



## RESCUE MISSION

Maritime tech provider Wallem Group has released details of an incident in May when a ship under its management rescued two Filipino fishermen from their sinking boat.

A WALLEM GROUP SHIP RESCUED TWO FILIPINO FISHERMEN

The bulk carrier was underway from Abbot Point, Australia to Cam Pha, Vietnam with a full load of 80,000 tonnes of coal when the crew observed a small fishing boat in distress with its crew waving for help at 08.35 local time near the Babuyan Islands off the Philippines.

Under guidance from its Master, the bulk carrier was brought to a stop and its rescue boat prepared and promptly lowered. The two fishermen were safely recovered and brought on board in an operation professionally executed by the all-Chinese crew in open waters.

The ship then sailed to a rendezvous point where it was met by a high-speed Philippine Coast Guard response vessel and the fishermen were handed over.

The Philippine Coast Guard thanked the Wallem crew for its immediate response and action in saving the fishermen. "Special appreciation goes to the Captain and Wallem team for their professional guidance throughout the operation," a Coast Guard representative said.

Subramanian Rajagopal, Marine and Safety Director, Wallem Group added: "The rescue is a clear testament to the crew's strong seamanship, effective training, and commitment to safety at sea. It ensured that decisive action was taken swiftly when lives were at risk."

## APSEZ MILESTONE

Adani Ports and Special Economic Zone (APSEZ), India's largest private port operator, has surpassed the landmark milestone of 500 million tonnes of cargo handled.

The achievement marks a defining moment in APSEZ's evolution and underscores the growing strength of India's infrastructure-led transformation.

From a single port-led vision in 1998 to a network spanning 19 ports and terminals across India and beyond, APSEZ has an annual cargo capacity of 633 million metric tonnes. As a bulk terminal operator, it handles diverse dry and liquid bulk commodities using deep-draft infrastructure that accommodates Capesize vessels.

Gautam Adani, Chairman, Adani Group, says: "Ports are not merely gateways for trade, they are gateways to national confidence, competitiveness and destiny. I am grateful to our customers, partners, and every member of the APSEZ family whose dedication and belief have made this milestone possible. I also extend my sincere appreciation to the Central and State Governments whose policy and commitment to infrastructure have helped create the foundation on which APSEZ has grown.

While APSEZ took 16 years to reach its first 100 million tonnes, each subsequent 100 million tonnes has been added faster than the last, reflecting the increasing scale, efficiency, resilience and strategic depth of its platform.

With this milestone, APSEZ remains firmly on course toward its next major ambition of handling one billion tonnes of cargo by 2030.

## MTS GREEK SERVICE

The Mission to Seafarers (MtS), one of the world's leading maritime welfare charities, launched its global services to the Greek shipping community at a special event held at the Yacht Club of Greece. The launch marks a significant milestone for the 170-year-old organisation as it establishes a permanent presence in Greece and deepens its engagement with one of the world's most influential maritime nations.

The event, held on 22 May, welcomed HRH The Princess Royal and her husband Vice-Admiral Sir Tim Laurence to the closing reception alongside Peter Rouch, Secretary General of MtS and Matthew Lodge, HM Ambassador to the Hellenic Republic. The day-long programme brought together 24 leaders from the Greek shipping industry for a series of presentations and discussions.

A SafeTALK suicide-alertness training session also took place at NorthStandard's offices in Piraeus. Delivered by Tom O'Hare, MtS' Programme Manager and accredited SafeTALK trainer, the session brought together 40 crewing managers to experience this important training firsthand, with a view to extending it to their seafarers. With a waiting list of a further 20, it is expected that this course will be repeated in the autumn.

Jan Webber, Director of Development, The Mission to Seafarers, says: "Greece's shipping sector plays a vital role in global maritime trade, and we recognise its significant contribution to the lives and livelihoods of those who work at sea. We look forward to building trusted partnerships and ensuring our welfare support is well-targeted, relevant, and effective. We have taken our first small steps in reaching out to the Greek shipping community and we have received nothing but warmth and recognition for our work, which is an encouraging sign."

Dimitris Patrikios, Vice Chairman, Senior Business Development – Mediterranean, V.Ships, says: "We are proud to support The Mission to Seafarers' presence in Greece at a time when seafarer wellbeing is inseparable from the safety and sustainability of our industry. Bringing the Greek shipping community together in this way reinforces our shared responsibility to keep the human element at the heart of shipping. We are delighted to contribute to that collective effort."

Founded in 1856, The Mission to Seafarers provides practical and emotional support to the world's 1.9 million seafarers across more than 200 ports globally. Its services span chaplaincy and pastoral care, mental health support, emergency assistance, and advocacy. The organisation has supported seafarers of all nationalities -including Greek seafarers, throughout its long history.

The Greek launch builds on this legacy, with MtS now focused on forging partnerships with Greek shipping companies, listening to their needs and tailoring its welfare programmes to the

realities of life aboard Greek-managed and Greek-owned vessels. The Seafarers Happiness Index for Q1 2026 recorded a score of 7.18 out of 10, underlining the ongoing need for proactive welfare support.

## ENERGY INVESTMENT

The far-reaching effects of the conflict in the Middle East are prompting countries and companies to rethink energy investment strategies in response to heightened concerns over energy security and the reliability of trade flows, according to a new IEA report.

The 2026 edition of the IEA's annual *World Energy Investment* report highlights that the current energy crisis, stemming from the effective closure of the Strait of Hormuz, is changing risk perceptions and bolstering moves towards greater diversification. Coming just a few years after the energy crisis centred around Russia's invasion of Ukraine in 2022, today's supply shock is expected to leave a lasting imprint on future investment priorities, particularly in Asia and the Middle East, where the impacts of the disruptions to shipping flows through the Strait of Hormuz have been felt most acutely.

"We are in the midst of the largest energy security crisis the world has ever faced – and I believe this will reshape investment strategies globally, with parallels to the major changes the energy world witnessed after the oil shocks of the 1970s," says IEA Executive Director Fatih Birol.

"We are already seeing intensified efforts by both producer and consumer countries to diversify trade routes and energy sources – such as advancing new pipelines and other supply infrastructure, on the one hand, and turning more to domestically available resources, on the other. These range from renewables and nuclear to coal, oil and gas, in some cases – as well as broader measures to strengthen electricity systems, expand electrification and accelerate energy efficiency."

The report projects that global energy investment will reach $3.4trn in 2026, a slight increase year-on-year. Around $2.2tn is expected to go to grids, storage, low-emissions fuels, nuclear, renewables, efficiency and electrification in 2026, while around $1.2trn is set to be invested in oil, natural gas and coal.

Despite higher oil prices, oil investment is expected to decline for a third consecutive year in 2026, falling below $500bn. The report finds that uncertainty over the duration of the price spike, long project lead times, supply chain constraints and tighter offshore rig markets are limiting near-term spending responses outside the Middle East.

At the same time, natural gas investment is projected to rise to $330bn, the highest level in a decade, supported by a wave of new liquefied natural gas export projects, particularly in the United States and Qatar.

The report highlights growing interest among fuel-importing countries in energy sources available domestically including renewables, nuclear power and, in some cases, coal.

Investment in renewable power projects is expected to total around $665bn in 2026, with $365bn going toward solar alone. While annual investment growth in renewables has moderated following several years of rapid expansion, low-emissions sources

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still account for more than 70% of total power generation investment globally.

Nuclear investment is continuing its resurgence, exceeding $80bn annually, with close to 80 gigawatts of new nuclear capacity under construction across 15 countries.

Coal investment, meanwhile, is set to rise to $180bn in 2026, the highest level since 2012, with China accounting for almost 70% of global coal supply spending. The report notes that some Asian countries affected by the current crisis may seek to keep existing coal-fired power plants operating for longer to bolster energy security.

Previous energy shocks have led to step-changes in policy attention to demand-side efficiency. The coverage of energy efficiency policies has broadened over recent years, and around $350bn is invested worldwide each year in efficiency improvements. IEA policy tracking suggests that some 20 countries have already announced new policies to improve efficiency as a result of the crisis. But there are plenty of gaps that remain to be filled.

At the same time, the Middle East conflict is complicating the prospects for financing future energy projects. The conflict has triggered volatility within financial markets, slowing investment decisions in the short term and pushing up long-term financing costs. This could disproportionately affect capital-intensive energy technologies, the report warns, particularly in emerging and developing economies where financing costs are already significantly higher than in advanced economies.

Electricity-related investment remains the dominant theme in global energy spending trends. Investment in electricity supply and infrastructure is expected to reach nearly $1.6trn in 2026 and rise to $2trn when end-use electrification is included. Spending on electricity grids is projected to approach $550bn, up nearly 20% year-on-year, while battery storage investment is set to exceed $100bn.

The electricity demands of the rapid expansion of data centres and artificial intelligence are also becoming a major influence on energy investment trends in some markets, particularly in the United States. Orders for new gas-fired power plants reached a 25-year high in 2025, with data centre needs playing a significant role. The strong demand in the United States and Middle East is limiting the availability of turbines for near-term deployment elsewhere in the world.

## ACCOUNTABILITY ACTION

Global charity Lloyd's Register Foundation has announced a new £500,000 project to tackle inconsistent worker safety and corporate accountability standards.

C4Safe, led by Lancaster University, will create the first corporate-focused reporting and accountability toolkit designed specifically for ocean-related sectors. It will bring clarity, consistency and practical guidance to companies operating in complex maritime environments.

The two-year project will focus on three core areas. First, worker protection, which will reduce and prevent harm to workers by focusing on health and safety, labour conditions, equality, diversity and overall wellbeing. Second, community impact – making sure communities affected by ocean industries have access to their traditional resources (such as fishing grounds and navigation routes for example), are informed about corporate activities and engage in benefit-sharing schemes. Third, strengthening due diligence making sure human rights are to the fore and that risks of forced labour are mitigated.

The project responds to the need for coherent, practical standards that help companies track and improve safety and social performance across the ocean economy, tailored to the realities of the sectors they operate in.

It will focus on seven major ocean industries – from container shipping and cruise tourism to marine equipment and construction, offshore wind, port operations, seafood, and shipbuilding and repair – examining how each currently reports on these issues.

By establishing a clear reporting baseline across these sectors, C4Safe will then work with companies and the organisations that influence them – including stock exchanges, owners, insurers, ESG rating agencies and UN Global Compact networks – to codefine expectations and develop usable guidance. The aim is to create the conditions for meaningful, systemwide change.

Nancy Hey, Director of Evidence and Insight at Lloyd's Register Foundation says: "Evidence is the strongest tool we have to improve maritime safety. By generating clear, credible insight, we can help industry make smarter decisions that protect people and strengthen the ocean economy.

Project leader Professor Jan Bebbington from the Pentland Centre for Sustainability in Business at Lancaster University says: "While state-based regulation is critical to ensuring the maritime system of multiple and overlapping industrial sectors is safe, corporate-led action is equally important.

"Corporations have the responsibility to protect those working in ocean industries, ensure that communities who interact with them are treated fairly, and meet due diligence requirements across their value and supply chains."

## SHIP-TO-SHIP GUIDANCE

Ship-to-ship (STS) transfers are an established part of dry bulk operations, and they are growing. As new trading areas and cargo flows emerge, STS operations are expanding into regions where port infrastructure or draft limitations make direct berth access impossible. However, the sector has been doing this without a dedicated standard.

In tanker shipping, STS activity is underpinned by established industry guidance. Dry bulk has had no equivalent framework, despite the added complexity arising from different cargoes, equipment and operating conditions.

INTERCARGO has now published *Ship to Ship Transfer Guidelines for Bulk Carriers*, setting out the first dedicated standard for these activities in the dry bulk sector.

STS transfers allow cargo operations in locations where ports cannot accommodate the vessel size, required draft or cargo volumes, particularly in regions where infrastructure is limited. However, such operations also introduce additional challenges, including increased operational interfaces, greater personnel involvement and less margin for error when operating conditions change.

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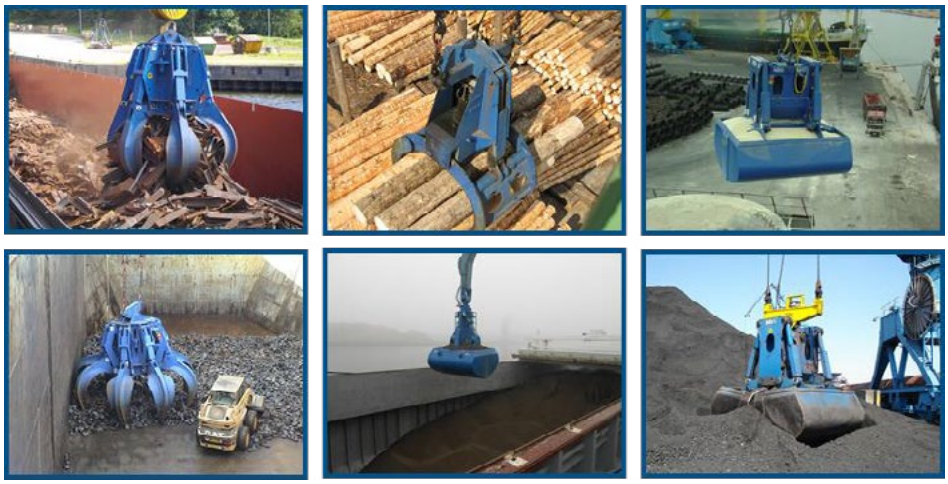

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Zone 1, 21, 2, 22

MRS Greifer- und Maschinenbau Helmstadt GmbH
Talweg 15 - 17 - 74921 Helmstadt - Germany
Tel.: +49 7263-9129 0 - Fax.: +49 7263-912912
export@mrs-greifer.de - www.mrs-greifer.de

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The new guidelines are built around the practical realities of conducting STS operations at sea. They address planning, risk assessment, manoeuvring, fendering, cargo handling and emergency response procedures, with practical checklists and operational responsibilities. Together, they bring a consistent framework to operations that until now have had none.

John Xylas, Chair of INTERCARGO, says: "Ship-to-ship transfers in dry bulk are already happening across the industry and they are increasing. However, a published standard for dry bulk shipping wasn't available for consistent application and safe operations.

"As STS becomes more widely used, we expect to see greater alignment across operators, charterers, insurers and regulators, so that a more consistent approach becomes the norm for dry bulk operations."

The STS publication was developed through the collective operational experience and technical input of shipowners, operators, marine and technical specialists throughout the sector, reflecting both operational experience and the realities crews face on the water. It aims to introduce more clarity, consistency and standardisation to how STS transfers are carried out in dry bulk shipping and reduce the operational inconsistency that exists today.

As STS activity continues across both traditional and emerging trades, the next step will be wider alignment across the maritime industry. Adoption by operators, charterers, insurers and regulators will shape how quickly these practices are applied in reality, and how quickly a more consistent approach becomes established across dry bulk STS operations worldwide.

## ROTTERDAM THROUGHPUT

Throughput at the port of Rotterdam fell slightly by 0.7% in the first quarter of 2026 compared with the same period last year. Throughput in the first three months of this year stood at 103.0 million tonnes, compared with 103.7 million tonnes in the first quarter of 2025. The decline is mainly due to a reduction in the throughput of agribulk, coal, other liquid bulk and breakbulk.

The throughput of iron ore and scrap metal, other dry bulk, crude oil, mineral oil products, LNG and containers (TEU) increased.

The closure of the Strait of Hormuz has severely disrupted the global energy system. Rotterdam was dependent on countries in the Persian Gulf for 10% of its crude oil throughput and 14% of its oil product throughput. The impact of the closure of the Strait of Hormuz on throughput in Rotterdam is barely visible in the first-quarter figures.

Boudewijn Siemons, CEO of Port of Rotterdam Authority, says: "Throughput at the port of Rotterdam remained largely stable in the first quarter of 2026, despite growing geopolitical tensions. The closure of the Strait of Hormuz highlights just how vulnerable global energy flows are; the effects of this were only marginally apparent in the first quarter and may become more pronounced in the second quarter.

At the same time, the growth in oil, oil products and containers shows that Rotterdam remains resilient as a European energy and logistics hub."

In the first quarter, throughput in the dry bulk segment fell by 4.3%. The biggest decline (20.9%) was in the throughput of agribulk. This decline is largely a return to normal levels, as last year saw a temporary increase in volumes shipped via Rotterdam.

Coal throughput fell by 9.8% compared with the first quarter of 2025. This was mainly due to a declinein the throughput of energy coal following exceptionally high production levels in 2025. In the first quarter of 2026, production returned to its usual level.

The volume of iron ore and scrap metal throughput increased by 5.3% compared with last year. This growth is in line with the slight upturn in German steel production in the first quarter.

The throughput of liquid bulk rose by 2.2% in the first three months of this year. Crude oil throughput rose by 1.7% to 25.2 million tonnes. Refining margins in January and February were similar to those in 2025. In March, they rose sharply following price increases for crude oil and petroleum products caused by the blockade of the Strait of Hormuz in late February. The throughput of mineral oil products (petrol, diesel, kerosene, etc.) is 10.3% higher than in 2025.

It is striking that exports of oil products rose while imports fell. One possible explanation is that, just as in 2025, most oil products were in backwardation, which provides no incentive for storage.

There has also been an increase in exports of gas oil / diesel to Spain and Gibraltar. This may be because the Mediterranean is now an Emission Control Area (ECA), where the sulphur content of bunker fuel must not exceed 0.1%.

LNG throughput increased by 1.7% compared with 2025. The low temperatures at the start of the year have led to higher consumption, and so more imports are needed to replenish stocks.

Other liquid bulk fell by 7.2%. The decline is particularly evident in chemical products and can be partly attributed to lower production levels in Germany during January and February. This always has an impact on the throughput of raw materials and finished products in Rotterdam.

Throughput in the breakbulk segment fell by 1.5%. Markets related to the automotive, construction and machinery sectors are still under pressure. As a result, the throughput of aluminium and steel has fallen. RoRo volumes rose slightly by 1.6% as a result of the modest economic recovery in the United Kingdom.

## DIGITAL DIRECTIONS

The UK Hydrographic Office (UKHO) has launched ADMIRALTY Digital Sailing Directions (ADSD), transforming its Sailing Directions navigational guides into a high-performance, interactive digital format. Designed to simplify passage planning and increase situational awareness, ADSD moves Sailing Directions beyond static guides to a dynamic and searchable digital tool.

The launch of ADSD marks a significant milestone in the UKHO's ongoing efforts to develop next-generation digital solutions that are safe, compliant and aligned with the evolving needs of mariners. It also reflects the UKHO's wider programme of work to deliver trusted products and services that will help shape the future of navigation and support digital transformation across the maritime sector.

ADSD delivers the same authoritative and compliant ADMIRALTY Sailing Directions content in a more accessible and user-friendly format, helping mariners access the information they need more quickly and easily, streamlining passage planning and facilitating more accurate decision-making on the bridge.

An integrated geo-display enables users to view navigational features and routeing information in a geographical context, alongside high-quality images of coastal views and navigational aids. This bridges the gap between reading a description and visualising the environment, improving situational awareness and navigational confidence.

With powerful search and bookmarking functions, navigators can instantly locate and save the relevant Sailing Directions for their passage planning, including port details, traffic information and navigational warnings.

In addition, the inclusion of indicative routes within the geo-display enables more dynamic passage planning, simplifying access to key routeing information. ADSD has been developed in close consultation with navigating officers from around the world, including testing across a diverse range of vessel types and navigational scenarios. In a survey of more than 50 mariners who used ADSD:

- 88% of users said ADSD was intuitive and easy to use
- 91% of users agreed ADSD's geo-display made sailing directions easier to understand
- 88% of users said ADSD saved them time in passage planning.

George Huish, Product Manager at the UKHO, says: "With the launch of ADSD, we are making it quicker and easier for mariners to find the Sailing Directions they need to create safe, effective and compliant passage plans. As a visual, searchable tool, ADSD delivers significant ease-of-use benefits, making critical navigational and routeing information more accessible and helping mariners to enhance their situational awareness."

With this launch, the UKHO will be making the 38 most popular volumes of ADMIRALTY Sailing Directions available in the ADSD format. These initial volumes cover major shipping routes including 27 of the world's top 30 ports, with a particular focus on the primary trade corridor linking Northern Europe to East Asia.

This includes continuous coverage from the UK and North Sea, through the Mediterranean and Suez Canal or via the Cape of Good Hope, across the Indian Ocean, and onward through Southeast Asia to China and Japan.

This continually expanding coverage ensures mariners navigating the world's busiest trade routes and major ports have access to authoritative, up-to-date information across the majority of their voyage. The remaining 38 volumes will be made available by the end of 2026, providing full global coverage.

# ANALYSIS

## WHEN A SHIP IN DISTRESS CALLS, HOW SHOULD PORTS RESPOND? A RECENT TT TALK OFFERS GUIDANCE

**Ports exist to keep trade moving. Occasionally, they are asked to do something fundamentally different: provide refuge for a ship in distress. Whether the incident involves fire, structural damage, cargo instability or loss of propulsion, these situations are rarely straightforward. They are high-pressure, highly visible, and can become politically charged. For the port, this is a risk decision with potentially long-lasting consequences.**

A practical response requires more than an immediate acceptance or refusal. It requires a structured assessment of where the hazard can be managed with the greatest control, and how operational, safety, environmental, and stakeholder impacts will be sustained over time.

### Why refuge is not a simple yes or no

A common misconception is that acknowledging a casualty automatically means accepting it. There are international guidelines setting out the expectations on coastal states; some nations have adopted mandatory procedures. However, each situation must be assessed on its own merits, balancing operational capability, safety considerations, and environmental impact.

In reality there are multiple parties that will need to be involved, balancing the risks carefully. Simply refusing entry does not remove the hazard - it can push the problem offshore, where conditions may be less controlled and consequences can escalate. The question to be addressed is therefore not whether to accept the ship, but where the risk is best managed.

This framing supports decision-making that is risk-led rather than reaction-led. It also creates space for all interests, including states, ports and ship to consider all appropriate refuge options that provide control without resulting in unnecessary exposure to the coastal or port environment.

### A place of refuge is not always a port

Refuge should not be automatically equated with berthing. In many cases, the safest solution may be an anchorage, sheltered waters, or a managed offshore position. Bringing a casualty directly alongside may introduce new exposures to infrastructure, workforce and nearby communities.

In practice, 'refuge' is better understood as a spectrum of options. A ship may be granted refuge in a controlled location that allows stabilisation, assessment, and specialist response, without the additional hazards created by immediate berthing. The correct outcome may therefore be to keep the risk away from the port, rather than bring it inside.

This distinction is especially important where the incident involves ongoing instability, uncertain cargo behaviour, or limited availability of controlled space ashore.

The operational reality, this will not be quick .One of the most consistent misunderstandings is duration. A ship granted refuge is unlikely to stay for only a few days. If a ship is brought into

the port environs, it may remain for weeks or months, particularly where cargo discharge, investigation or repair are required.

This may have consequences for berth availability, commercial operations, access and security, and stakeholder expectations. Ports should therefore assume from the outset that this is a long-duration event, not a short stabilisation exercise.

Treating refuge as a long-duration scenario changes the planning baseline. It encourages the decision-makers, including port authorities to consider how the wider port estate will continue operating, how cordons and access routes will be maintained, and how communication will be managed as the situation evolves.

**Space, not berth, is often the real constraint**

When managing casualty ships, decision-makers often find the port's most valuable asset is not quay length, it is space. Significant areas may be required for damaged or contaminated cargo, waste streams, quarantine or isolation zones, and temporary storage pending inspection or disposal.

Without sufficient controlled space, a ship incident can quickly evolve into a port-wide operational problem. Space constraints can also drive risk decisions, for example, whether cargo can be safely discharged, segregated, monitored, and disposed of, and whether the port can maintain separation from other operations.

This means early assessment should extend beyond where the ship might be positioned, to where consequential materials and activities will be managed and controlled.

**Cargo is often the real risk**

While initial attention focuses on the ship, it is frequently the cargo that defines the risk profile. Cargoes that appear benign can become problematic when damaged, heated or exposed to water. Examples described include materials that self-heat or smoulder, contaminated consumer goods, and overweight or structurally compromised containers.

In these situations, cargo behaviour directly drives handling methodology, equipment requirements, and most importantly, the safety of personnel. For ports, this reinforces the value of early cargo-led assessment and of planning for the practical constraints of managing damaged, unstable, or contaminated cargo within a live operating environment.

It also supports a structured approach to isolation and control. Where cargo defines the hazard, it is often the cargo management plan, rather than the berth plan, that determines whether refuge can be provided safely.

**Fire changes everything**

Fire remains one of the most challenging scenarios for a port to manage. It is complex, unpredictable, and shipboard events inevitably present local landside emergency responders with unfamiliar environments.

Where a ship fire is ongoing, particularly in scenarios such as vehicle carriers, the risks are amplified, with heat, toxicity, and potential escalation all relevant.

Accepting such a ship can effectively transfer the hazard from offshore into a populated and infrastructure-dense environment. Ports are understandably hesitant in these scenarios but are urged to collaborate with all interested parties.

Advance engagement between ports and local fire and rescue services is essential to educate on ship-specific hazards, agree response expectations, and rehearse practical constraints including access, water supply, foam capability, cordons, and air monitoring. Preparedness reduces the likelihood that critical limitations are discovered only after a ship is alongside.

**What good looks like**

Where refuge situations are handled successfully, the difference is rarely luck, it is preparedness. States and ports that perform well typically have clear decision-making frameworks, established relationships with authorities, salvors and insurers, pre-identified refuge options (both alongside and offshore), and experience gained through exercises and scenario planning.

Such a coastal response is not improvising under pressure, it is executing a plan. In practice, that plan helps decision-makers balance competing objectives, maintain control of information, and manage the consequences over time.

Effective preparedness also supports proportionate decision-making. A port does not need to default to acceptance or refusal, it needs the capability to input appropriately to decision-making that mitigates the risks, implements appropriate controls, and maintains the operational discipline required to sustain the response.

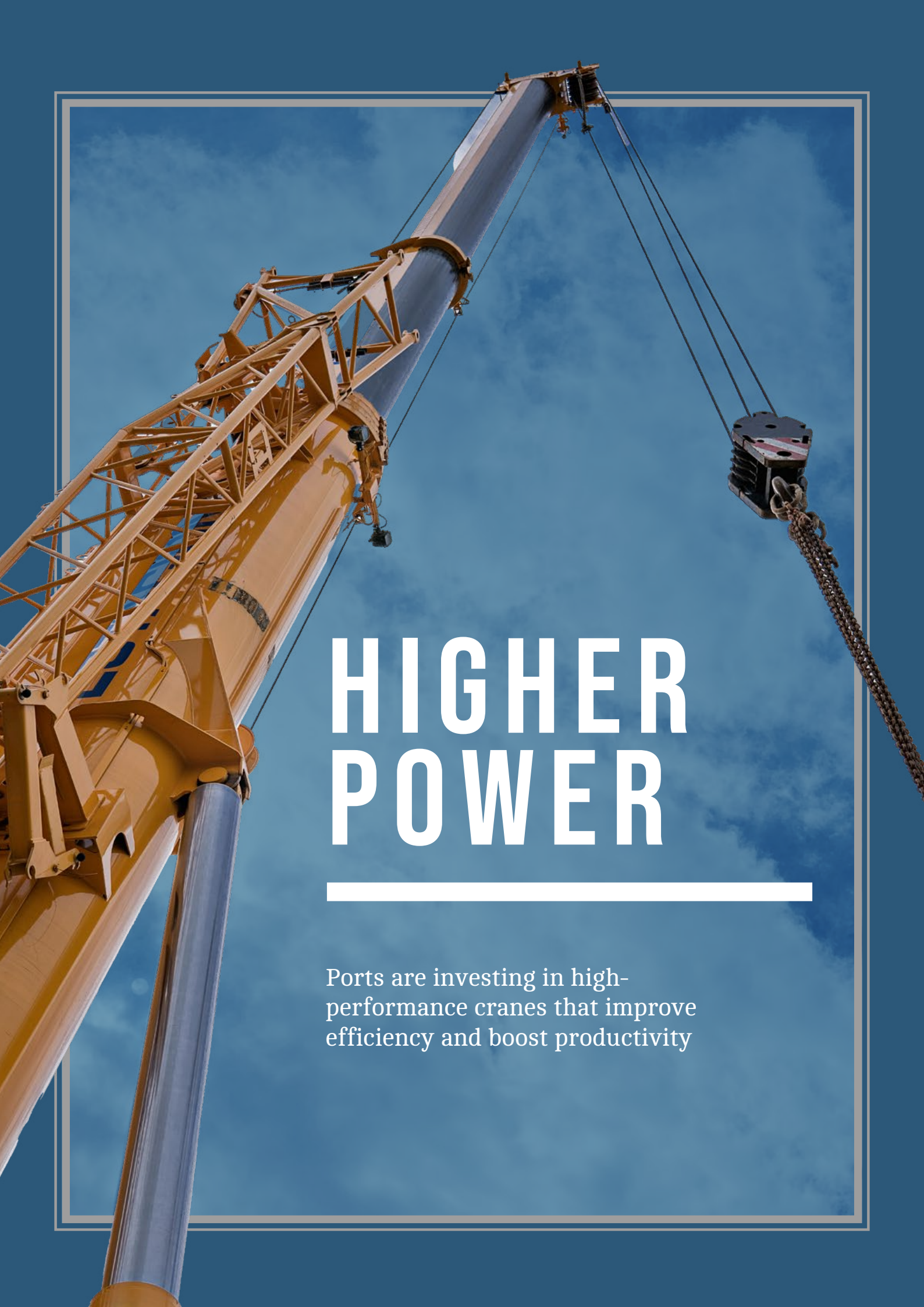
**Conclusion**

Places of refuge are not routine operational matters. They are rare, complex and highly visible events that require clear judgement and decisive leadership. Effective coastal and port response is not a simple yes or no.

The measures of success are assessment of where the risk can be best managed, the application of the controls, coordination, and endurance required to manage the event over time.

Ultimately, refuge is not about where a ship may want to go, it is about where the risk can be best managed.

**For more information, visit: ttclub.com**



# HIGHER POWER

Ports are investing in high-performance cranes that improve efficiency and boost productivity

## BELFAST BULK ARRIVAL

Belfast Harbour has made its latest investment in the development of the port with the arrival of a brand new £4.5m bulk crane, which will operate on Stormont Wharf.

The Liebherr LHM 550 crane, which arrived mid-May, is a key component of £208m investment committed to developing and improving the Port under Belfast Harbour's five-year strategy 'Advance Regional Prosperity' and Horizon 1 of the port's ambitious 2050 Masterplan.

The new crane, manufactured by Liebherr in Rostock, Germany, can operate on both electrical power and Hydrotreated Vegetable Oil (HVO) fuel. Initially, the crane will run on HVO and once further electrical infrastructure is in place, the crane will be able to be powered entirely by electricity, with zero emissions.

The addition of the new crane will improve performance, resilience and reliability for Belfast Harbour's customers at its deep water quay, Stormont Wharf, with the capability to operate across a wide range of vessels and cargo types.

Belfast Harbour is Northern Ireland's leading gateway and key economic hub for trade and tourism, handling 70% of the region's seaborne imports and exports and 25% of seaborne trade for the island. The port handles £26.7bn worth of goods each year, enabling more than almost 16% of Northern Ireland's total economic output and contributes £8.8bn in gross value added annually, through trade activity alone.

Cargoes, including grain, animal feeds and coal, make up around 25% of imports and exports to and from Belfast Harbour and the purchase of the new crane enhances the port's resilience and efficiency in handling these products for the benefit of local importers and exporters.

Michael Robinson, Port Director at Belfast Harbour, says: "The purchase of this new bulk crane is the latest investment supporting our commitment to advance regional prosperity and continuously modernise our crane fleet. By working with our port customers and responding to their needs we are confident that this investment will help to improve the efficiency and resilience of cargo operations as well as supporting our sustainability goals.

"Strengthening port infrastructure and safeguarding the port's role as a vital economic gateway is the cornerstone of our 2050 Masterplan. The arrival of this crane is another milestone and a further step in our longterm investment programme."

### PD Ports productivity boost

From Liebherr's Baltic-side production facility, an LPS 550 fitted with an electric drive has been delivered to Middlesbrough to increase PD Ports' productivity. The new machine will focus on bulk work at Teesport, complementing two sister cranes commissioned in 2023, strengthening hatch coverage and maintaining consistent cycle times.

Day-to-day, the Port supports a complex gateway that handles tens of millions of tonnes of cargo each year, with more than £1.4bn contributed to the regional economy. With easy access from the sea, deep quays and rail connections timed around ship arrivals, the Port is well positioned to benefit from equipment that operates reliably, quietly and on schedule.

The LPS 550's long outreach reduces repositioning across wider hatches, while its 144-tonne capacity supports heavier lifts across mixed cargo operations. The addition of the third LPS 550 further enhances PD Ports' capabilities and opens up new business opportunities.

Electric drives allow the crane to move smoothly and precisely, helping operators work consistently over long shifts. Operating exclusively on shore power, the crane runs without combustion, eliminating fuel use and supporting a fully electric, efficient way of working. The crane's portal structure leaves plenty of room for trucks and rail vehicles to move around, helping Teesport make the most of its direct road links via the A66 and A19.

Grant Honzik, Business Unit Director – Bulks at PD Ports, says: "This latest investment is about building resilience and capacity into our bulk operations at Teesport for the long term.

"The performance and reliability of the existing Liebherr cranes has been proven day in, day out, and adding a third LPS 550 gives us greater flexibility on the berth and more headroom during peak demand. For our customers, that means consistent performance, quicker turnarounds and confidence that Teesport can keep cargo moving efficiently."

### Bound for Bristol

After more than two and a half years of project management, planning and collaboration, The Bristol Port Company has welcomed the arrival of a new £11.4m Liebherr LPS 600 crane and hopper system.

Purpose-built in Rostock, Germany, the crane arrived at Royal Portbury Dock after its journey by sea aboard a geared vessel. It will now be positioned on Berth 6, where it will support the handling of bulk cargoes including animal feed and gypsum, with future capability for steel coil and other breakbulk cargoes.

The significant investment reflects the Port's continued commitment to customers, future growth and modern port infrastructure, the Port says, ensuring it continues to invest in the equipment and facilities needed for future generations of trade.

## HY ADDITION

Chinese crane manufacturer HY Crane has unveiled a 20-ton automatic grab crane designed to address the unique challenges of port bulk cargo handling, such as high-volume throughput, harsh marine environments and the need for precise load control.

Equipped with a high-precision positioning sensor and PLC control system, the crane achieves automatic fixed-point grabbing, lifting and unloading without manual intervention. The grab bucket adapts to different bulk cargo types (for example coal, iron ore or grain) with an adjustable clamping force, ensuring stable cargo holding and minimising spillage during

transportation. This automation reduces human error, improves operational efficiency by 40%, compared with traditional manual cranes, and lowers labour costs for port operators.

Built to withstand the harsh marine environment, the crane's main structure uses high-strength steel with anti-corrosion coating, effectively resisting salt spray, humidity and UV radiation. The 20-ton load capacity meets the heavy-duty requirements of port bulk operations, while the optimised beam design enhances structural stability and extends the equipment's service life to more than 15 years under normal operating conditions.

Aligning with HY Crane's 'zero-carbon factory' certification, the new automatic grab crane adopts an energy-saving motor and regenerative braking system, reducing energy consumption by 18% compared with conventional models. It complies with international environmental standards, making it an ideal choice for ports aiming to reduce their carbon footprint and achieve green logistics goals.

The crane is also equipped with multiple safety mechanisms, including overload protection, anti-collision sensors, emergency stop systems and voltage stability monitoring. All components are CE-certified, meeting strict international safety standards to ensure safe operation even in high-intensity, 24/7 port working environments.

Specifically engineered for port bulk cargo terminals, container yards and coastal logistics hubs, the crane excels in handling large quantities of loose materials, providing a one-stop solution for loading/unloading ships, transferring cargo between storage yards and warehouses, and optimising port logistics workflows.

## JUMBO ORDER

Heavy-lift shipping contractor Jumbo has signed a contract with Dajin Heavy Industry for the construction of two new heavy lift transportation vessels. The vessels will form Jumbo's new L-Class fleet, designed to support a broad range of heavy lift transport operations.

Jumbo has developed the energy efficient and methanol ready 25,000 DWT L-Class vessels in-house. This is Jumbo's regular practice, enabling it to incorporate lessons learned into successive generations of vessels, thereby ensuring continual fleet evolution.

The L-Class will each be equipped with two Huisman 1,200-tonne heavy lift cranes, providing a combined lifting capacity of 2,400 tonnes per vessel. The first vessel is scheduled for delivery in 2028, followed by the second in 2029.

Designed for flexibility and efficiency, the vessels will feature high deck strength, large open deck area, a substantial cargo capacity, deep cargo hold and advanced lifting performance.

Built in compliance with DNV classification standards and modern clean-energy shipping requirements, the L-Class vessels will support operations across Jumbo's key markets, including offshore wind, oil and gas, mining and any other specialised marine heavy lift requirements.

The vessels will join the JSI Alliance fleet alongside Jumbo's existing heavy lift vessels. Jumbo's shipping activities are conducted through the JSI Alliance, the commercial partnership established with SAL in 2021. The alliance expanded further in 2024 with the addition of SAL Intermarine, creating a combined fleet of more than 80 vessels serving the global project cargo, energy, industrial and infrastructure markets.

"Fleet development is an exciting time for any shipping company. This project brings new energy to our organisation and will create valuable opportunities for our clients and partners worldwide," says Jumbo CEO Peter de Bree. "We look forward to continuing our collaboration with Dajin and building outstanding vessels together."

## NINE FOR KONECRANES

Konecranes has received an order to supply nine overhead cranes to PT Tata Metal Lestari's facility in Sadang, West Java, to support material handling requirements across all stages of the processing centre. Delivery and installation is scheduled for Q3 2026.

The order includes two 30-ton Konecranes CXT overhead cranes, one 16-ton CXT overhead crane, one 12-ton CXT overhead crane, one 10-ton CXT overhead crane and three 10-ton Konecranes S-series overhead cranes, all with TRUCONNECT Remote Monitoring. Konecranes will also provide one 10-ton CXT cantilever crane.

The cranes will be used to support operations from lifting raw materials to handling materials during production and in the warehouse area.

© KONECRANES

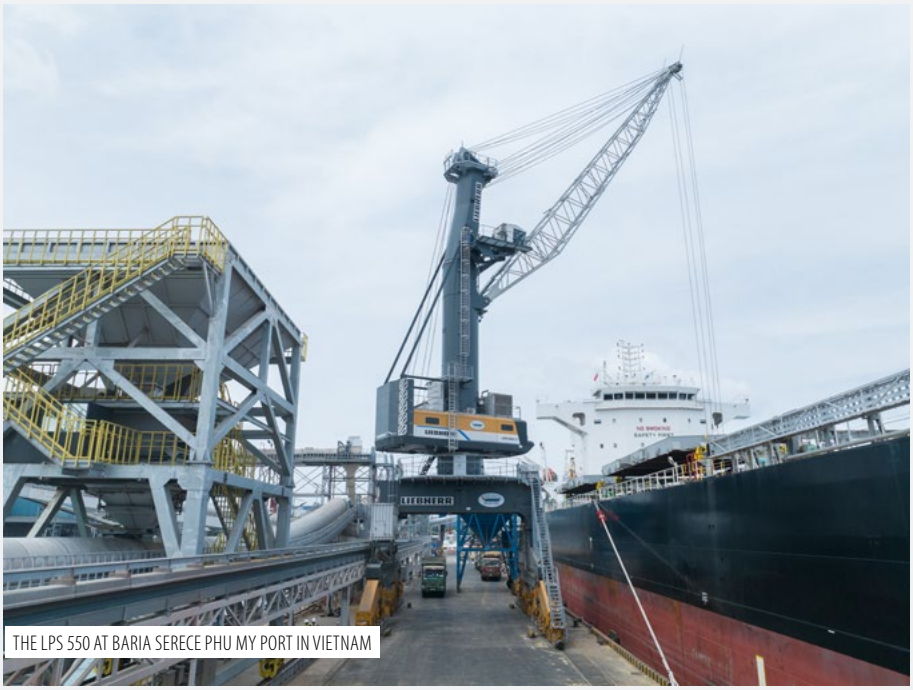
# LIEBHERR: PORTAL CRANES FOR BULK TERMINALS

COMPANY NEWS

**Bulk terminals live by cycle time. Every grab, every slewing movement and every minute at berth affects throughput, vessel rotation and customer satisfaction. For cargoes such as clinker, cement and agribulk, equipment must deliver high-intensity performance with reliability, safety, and sustainability.**

Rail-mounted portal cranes fit these needs well. They travel on quay rails while keeping ground access clear for hoppers, trucks and conveyors. This preserves apron space and integrates cleanly with fixed terminal infrastructure. It is especially valuable on narrow or constrained berths.

Liebherr Maritime Cranes addresses these requirements with the LPS series, rail-mounted portal slewing cranes engineered for bulk handling. Two recent projects show why this form factor, paired with electrification, is resonating with operators: Nuh Çimento's Hereke port in Türkiye and Baria Serece's Phu My Port in Vietnam.



THE LPS 550 AT BARIA SERECE PHU MY PORT IN VIETNAM

## HEREKE, TÜRKIYE: A GENERATIONAL UPGRADE WITH LPS 420

Nuh Çimento runs one of Türkiye's largest cement export operations. At its private port in Hereke, the terminal handles around five million tonnes of dry bulk per year and serves more than 40 export markets. The site features a 595 metre berth for vessels up to 80,000 DWT, a 300 metre underground conveyor tunnel and automated loading systems designed for continuous high throughput. Into this environment, Liebherr delivered an electric LPS 420 portal crane. It replaces an LPS 400 that had operated since 1999.

The LPS 420 offers a 124 tonne lifting capacity and handling rates up to 1,500 tonnes per hour. Slewing uses Liebherr's

closed hydraulic circuit for smooth, energy-efficient rotation under load. The Litronic control system provides precise handling for materials like clinker and cement. The crane's electric drive reduces local emissions and fuel consumption. These attributes align with tighter environmental standards and energy economics in bulk ports.

Commissioning was completed on schedule under Liebherr supervision. The customer praised easy installation and operator familiarity. The machine felt like a continuation of proven workflows, with more power and less effort. The upgrade keeps the portal concept that matches the quay and conveyor layout and moves to a modern electric platform with faster cycles and lower maintenance.

Hereke also illustrates the maturity of the LPS platform. The LPS 400 there was the first Liebherr portal slewing crane ever delivered. Liebherr now references more than 130 LPS cranes in global service. This matters for terminals that value proven design lineages and sustained support.

## PHU MY, VIETNAM: SPACE, SPEED AND STABILITY WITH LPS 550

On the Thi Vai River, Baria Serece Phu My Port links Vietnam's industrial heartland to global markets. The terminal has two berths totalling 620 metres and can receive vessels up to 100,000 DWT. To boost discharge performance for agribulk and fertilisers, the operator selected the LPS 550 portal slewing crane. The rail-mounted unit pairs a 144 tonne lifting capacity with a 48-metre boom. Its high-voltage electric drive is complemented by a diesel backup for continuity during grid interruptions. Performance tests confirmed handling rates up to 1,250 tonnes per hour, surpassing initial expectations.

For operators, the LPS 550's value is multi-dimensional. A four-rope grab system and advanced hydrostatic drive sustain simultaneous hoisting, slewing and luffing. This yields cycle-time gains under real-world loads. High-visibility cabins, integrated digital displays, and camera systems support precision and safety. Storm anchors and a robust portal design ensure stability in challenging conditions. In its first year, the crane logged about 4,000 operating hours, often up to 22 hours per day, directly cutting vessel time at berth.

The portal undercarriage is central to Phu My's application. By travelling on rails and keeping the space beneath the portal open, the crane preserves quay access for trucks and service traffic. It enables direct integration above conveyor lines and reduces re-handling and congestion. As Liebherr states, engineering at Baria Serece was driven by space, cycle time, and reliability. The portal configuration and four-rope grab concept address each of these drivers.

Baria Serece previously operated five Liebherr TCC 300 cranes. This history underscores a partnership focused on reliable cargo handling. The LPS 550 extends that relationship by delivering high-cycle bulk performance with an electrified backbone.

## ELECTRIFICATION AND CONTROL: THE COMMON THREAD

Across Hereke and Phu My, electrification is a practical lever for uptime, cost control, and environmental performance. At Nuh Çimento, the electric LPS 420 lowers local emissions and fuel use while improving cycle consistency under abrasive bulk. At Baria Serece, the LPS 550's high-voltage electric drive, paired with diesel backup, maintains resilience during power variability. In both deployments, electric architectures combine with hydraulic or hydrostatic slewing and Litronic or advanced control systems. The result is smooth, precise motion. Faster grabs, clean rotations, and reliable luffing sequences.

Portal cranes also integrate naturally with conveyors and hoppers. On narrow quays, preserving ground space beneath the portal is decisive in maintaining vehicle access and safety buffers during peak hours.

## TAKEAWAYS FOR BULK TERMINAL PROFESSIONALS

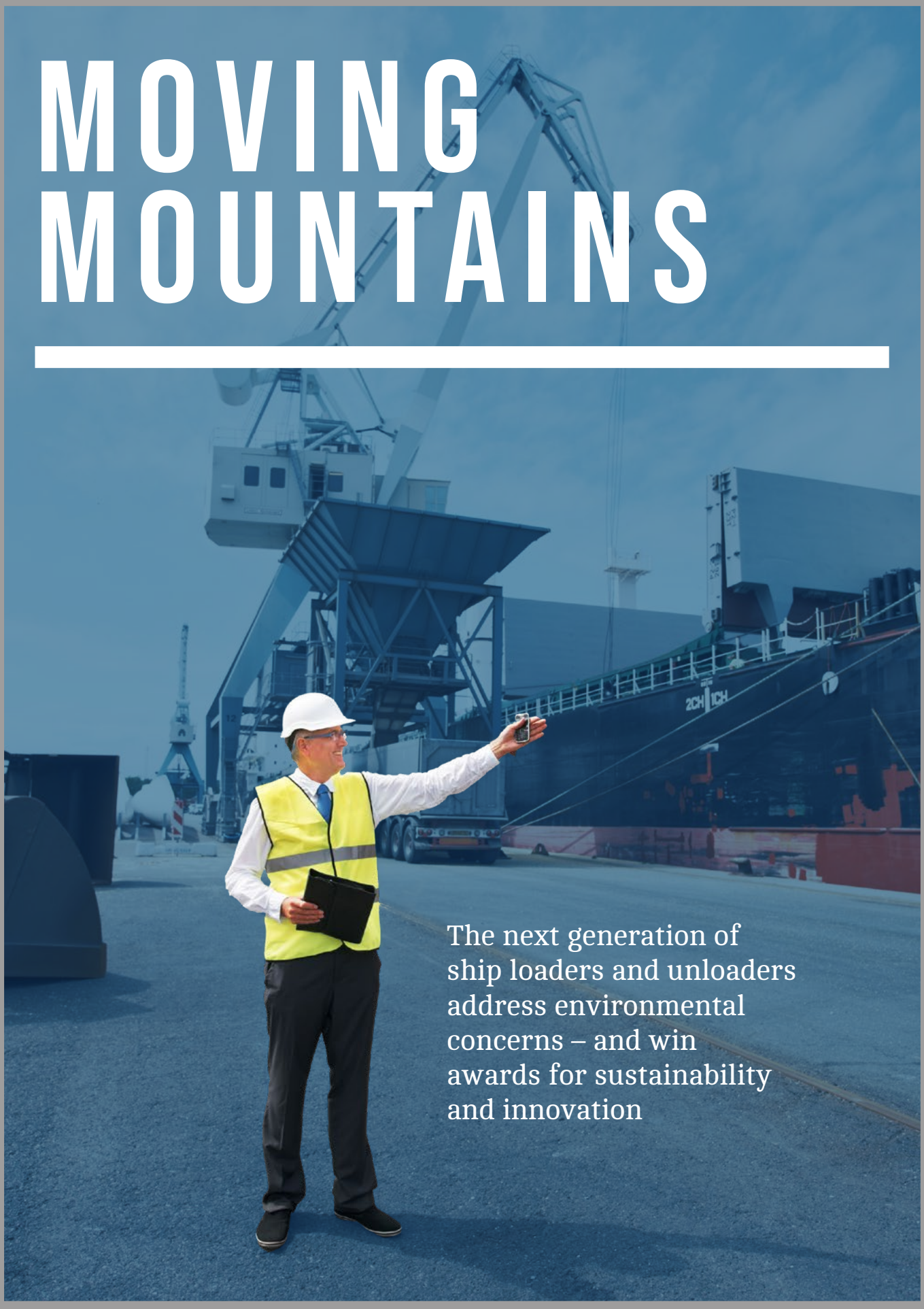
- **Cycle time**: Verified figures show up to 1,500tph for LPS 420 and up to 1,250tph for LPS 550. These rates reflect sustained high-intensity cycles with four-rope grabs and simultaneous motion profiles.
- **Layout fit**: Rails and portal geometry keep the quay clear and tie directly into conveyors. This avoids logistics penalties from blocked ground access and suits constrained berths.
- **Lifecycle economics and sustainability**: Electric drives reduce local emissions and fuel consumption. Modern controls improve working conditions. Backup systems at Phu My and proven lineage at Hereke enhance resilience and asset longevity.

The two projects show why electric portal cranes are a strong match for bulk terminals that demand high throughput without sacrificing quay access or environmental performance.

Shorter vessel times, cleaner operations, and high equipment availability are measurable outcomes.

**For more information, visit: go.liebherr.com/4tjk92**

# MOVING MOUNTAINS



The next generation of ship loaders and unloaders address environmental concerns – and win awards for sustainability and innovation

## INDUSTRY AWARD

Bruks Siwertell has been awarded the 2026 JCE Sustainability & Innovation Award by JCE Group for the development of the Siwertell Edge ship unloader concept.

The award recognises the outstanding work carried out by the Design and Calculation team within Port Technology in developing a new-generation mechanical ship unloader specialised for grain handling applications.

Siwertell Edge has been developed through advanced engineering and simulation work with a clear focus on combining operational performance, sustainability and commercial competitiveness. The solution introduces a standardised and lightweight design concept while maintaining high unloading efficiency and operational reliability.

According to the awards jury, the project demonstrates how technical excellence and sustainable innovation can be combined into a future-proof and commercially attractive offering.

The Siwertell Edge concept contributes to sustainability improvements through reduced material usage, lower $CO_2$ footprint and high energy efficiency throughout the product lifecycle. At the same time, the solution strengthens Bruks Siwertell competitiveness within an important and growing market segment.

The original concept behind Siwertell Edge was initiated and developed by Zoltan Habony and Kristoffer Enggren, whose innovative thinking laid the foundation for the project. Through cross-functional collaboration across the organisation, the concept has evolved into a commercially ready product platform.

"This award reflects the strong engineering competence, innovation capability and teamwork that exist throughout our organisation. Siwertell Edge represents an important step forward in combining operational performance with long-term sustainability," says Malin Pekberg, Bruks Siwertell Marketing Manager.

## MARTIN ACQUISITION

Bulk materials handling specialist Martin Engineering has strengthened its position in the conveyor maintenance sector through the acquisition of Australian company ConveyorTech Pty, expanding its range of belt-cleaning solutions for mining, ports and bulk handling operations.

The acquisition brings a broad portfolio of conveyor belt cleaners and associated components into Martin Engineering's product offering, adding to the company's existing range of belt-cleaning technologies used across industries including mining, quarrying, ports, terminals and industrial processing and enhancing its ability to provide application-specific products for a wider range of conveying environments.

Conveyor belt cleaners play a critical role in bulk handling operations by removing carryback material from belts after discharge. Effective cleaning systems can help reduce spillage, minimise dust generation, improve workplace safety and lower maintenance requirements across conveyor networks.

The acquisition is particularly relevant to port and terminal operators, many of whom rely on extensive conveyor systems to handle commodities such as coal, iron ore, grain, fertilisers, aggregates and biomass. As terminals seek to improve operational efficiency and environmental performance, conveyor maintenance technologies are becoming an increasingly important area of investment.

Industry demand for conveyor optimisation technologies has continued to grow as operators look to reduce downtime, improve housekeeping and extend equipment life. Belt-cleaning systems are often viewed as a relatively small component of a conveyor installation, but poor cleaning performance can contribute to material losses, increased wear and higher operating costs.

For bulk terminals, where long conveyor systems frequently form the backbone of cargo-handling operations, effective belt cleaning remains an important factor in maintaining throughput, reducing dust emissions and improving overall operational reliability.

The acquisition further strengthens Martin Engineering's presence in the global conveyor maintenance market and reflects continued investment in technologies aimed at improving the performance of bulk materials handling systems.

## CEMENT COMMISSION

Dutch bulk handling specialist Van Aalst Bulk Handling has successfully commissioned a new ship unloader for Nova Cement Scotland, marking a significant milestone for the company's latest cement import operation in the UK.

The new unloader completed commissioning and performance testing during February, with the equipment now handling its first vessel.

According to Van Aalst, the machine passed its performance tests comfortably and has received positive feedback from the Nova Cement team following the completion of wet commissioning and operational trials.

The project represents another addition to Van Aalst's portfolio of pneumatic ship unloading systems, which are widely used by cement producers and terminal operators handling powdered bulk materials. The company's unloading technology is designed to provide enclosed, dust-controlled cargo handling while maintaining high discharge rates and operational flexibility.

Van Aalst has supplied ship unloading systems to cement and dry bulk operators all around the world and has developed a strong presence in the handling of cement, fly ash and other powdered bulk commodities.

The successful completion of the Nova Cement Scotland project further strengthens the company's position in the specialised bulk terminal equipment market.

# ANALYSIS

## WHY DUST SUPPRESSION IS MOVING CENTRE STAGE IN BULK TERMINAL OPERATIONS

**Environmental performance is becoming an increasingly important consideration in bulk terminal operations, with dust control now regarded as a key element of ship loading and unloading activities rather than a secondary operational concern.**

Whether handling grain, fertilisers, biomass, minerals, aggregates or other dry bulk commodities, terminal operators face growing pressure to minimise airborne dust emissions while maintaining high loading and unloading rates. As a result, investment in dust suppression technologies is accelerating across the sector.

The trend is being driven by a combination of factors, including tighter environmental regulations, increasing scrutiny from neighbouring communities and a growing focus on operational efficiency. In many cases, dust control measures can also reduce cargo losses, improve visibility and lower maintenance requirements.

### Beyond water

Historically, water sprays were the most common method used to control dust at bulk handling facilities. While still widely used, many operators are now seeking more sophisticated solutions that provide effective suppression without increasing cargo moisture content or creating run-off issues.

Recent research highlights the growing interest in intelligent dust-control systems that combine monitoring, automation and targeted suppression technologies across terminal operations. Researchers say that the next generation of dust-control systems will rely increasingly on real-time monitoring and intelligent control, enabling operators to respond dynamically to changing operating and weather conditions.

### Spouts gain popularity

One of the most significant developments in recent years has been the wider adoption of telescopic loading spouts.

The systems are designed to minimise the distance between the discharge point and the cargo surface, reducing the amount of airborne dust generated during loading. Manufacturers report growing interest from ports handling a wide range of commodities, particularly where environmental performance is becoming a competitive advantage.

Modern telescopic loading spouts are designed to reduce dust pollution, minimise material losses and improve safety during loading operations.

A recent example comes from the Port of Paranaguá in Brazil, which began operating new telescopic loading spouts equipped with integrated dust-suppression devices at its East Export Corridor. The technology is intended to reduce particulate emissions during agricultural bulk loading operations while maintaining throughput efficiency.

### Smart monitoring

Digitalisation is also beginning to influence environmental management.

Modern systems increasingly combine particulate monitoring, weather data and automated suppression controls. The aim is to provide more precise dust mitigation while reducing water consumption and operating costs.

Future systems are likely to integrate fixed monitoring stations, area-wide sensors and advanced technologies such as LiDAR-based monitoring to provide continuous oversight of terminal emissions. Such systems could support real-time decision-making and allow suppression equipment to be activated only when required. This reflects a broader trend towards intelligent environmental management systems that support both operational efficiency and regulatory compliance.

### Dust suppression hoppers

Unlike conventional spray systems, dust suppression hoppers are designed to contain dust within the material stream during loading operations.

The technology can reduce airborne dust, improve workplace safety and minimise product losses without requiring significant energy consumption or complex moving components.

### Strategic priority

Academic reviews of dry bulk terminal operations increasingly identify environmental performance, including dust pollution, as a critical component of future terminal development.

Operators are recognising that effective dust control can deliver benefits beyond regulatory compliance, including improved operational efficiency, reduced housekeeping costs and stronger community relations.

For terminal operators, the challenge is no longer whether to invest in dust control, but which technologies offer the best balance of environmental performance, operational efficiency and long-term value.

# MACHINE, REPAIR AND SERVICES

## COMPANY NEWS

**Established in 1977, MRS Greifer- und Maschinenbau Helmstadt GmbH is a leading engineering company providing design, manufacture, supply and after sales services for grab buckets up to 30m$^3$ capacity. Our commitment to continuous research and development ensures our grabs are world leaders in terms of technology, quality and performance.**

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

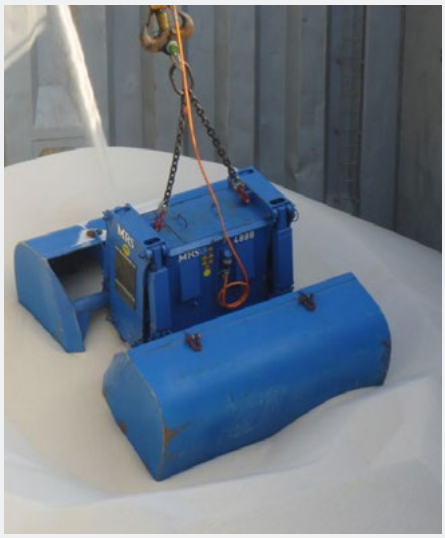
We design grabs to fully meet the needs of our clients and the parameters within which they work, producing equipment capable of unloading all kinds of bulk cargo. Our machines include the latest features and are of optimal weight, ensuring an exemplary performance for a longer period of time. When it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

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

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

MRS GREIFER

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




# Handle bulk with efficiency and reliability

## Pneumatic and mechanical ship (un)loaders

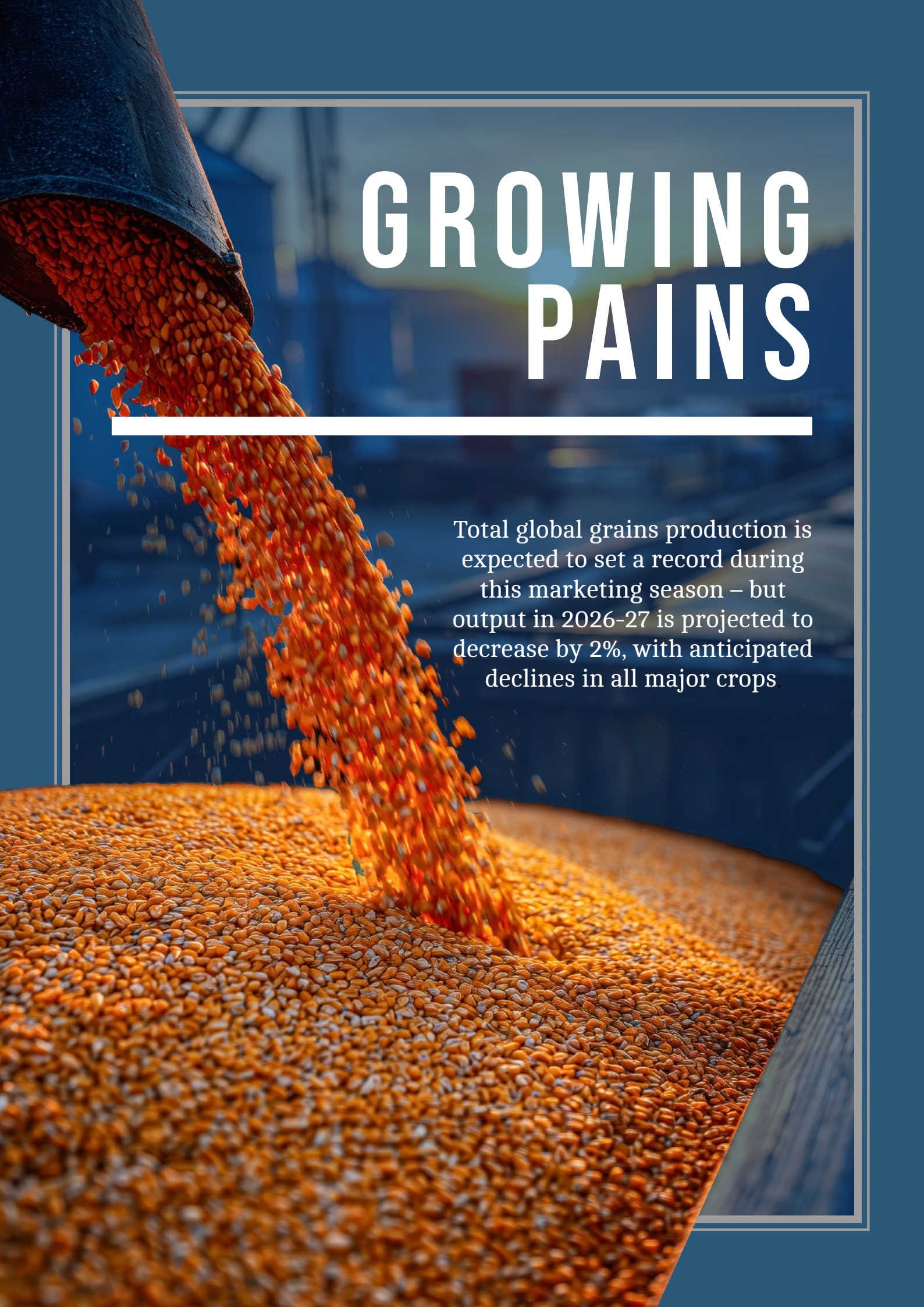
Up to 2500 tph for loaders and up to 1200 tph for unloaders.

## Low noise & no dust emission

Turnkey solutions for cereals, soy flour, fertilizer, pellets and more...

SCAN ME

VIGAN



# GROWING PAINS

Total global grains production is expected to set a record during this marketing season – but output in 2026-27 is projected to decrease by 2%, with anticipated declines in all major crops.

## MARYLAND MOVES

A new grain transloading facility at the Port of Baltimore Seagirt Marine Terminal will make it easier for Maryland farmers to get their products to the Port for export worldwide.

The facility will encompass four acres, include three grain silos and be used to facilitate the export of soybeans, corn, wheat and other agricultural commodities around the world. The project is a partnership agreement between Ports America Chesapeake and Frey Commodities and is expected to be open and operational in August 2026.

"This new partnership with Frey adds transloading capabilities at the Port of Baltimore and creates a more efficient, streamlined supply chain for farmers while strengthening the region's competitive position," says Mark Schmidt, President of Ports America Chesapeake. "Direct delivery to Seagirt reduces complexity and cost for producers and allows the Port to expand agricultural exports."

"Maryland agriculture benefits significantly from expanded export opportunities, and this new transloading facility is a critical step in connecting our grain and soybean producers with the global marketplace," says Maryland Department of Agriculture Secretary Kevin Atticks. "By streamlining the supply chain and providing direct access to the Port of Baltimore, we are reducing costs for our farm families and ensuring they remain competitive."

Under the new system, a farm truck will come directly into the Seagirt terminal and deposit its grain on to a conveyor system, which will transport it directly into a silo. Ports America Chesapeake will then remove the grain from the silo when it's ready to ship and place it into containers for export operations.

## INDIANA EXPANSION

State and local officials have celebrated the groundbreaking of Consolidated Grain and Barge Co's (CGB's) $47m expansion at Ports of Indiana-Mount Vernon, the largest investment at Indiana's largest port in more than 20 years. Consolidated Grain and Barge Co is a wholly owned subsidiary of CGB Enterprises.

The project is designed to triple grain handling capacity of CGB's soybean processing operations at the Ohio River port. CGB currently processes approximately 50 million bushels of soybeans annually at Mount Vernon, producing soybean oil, meal,and soy hulls that are shipped to livestock producers and food companies around the world.

> This new facility connects our grain producers with the global marketplace

The expansion includes new grain storage and truck unloading facilities, as well as a conveyor system that transfers grain between multiple sites at the port. The project will increase the facility's storage volume by 4.25 million bushels and boost truck unloading capacity by 200%. Construction is expected to be completed in 2027.

"CGB has been a long-standing leader in Indiana agriculture and this investment at Ports of Indiana-Mount Vernon strengthens two of our greatest assets – world-class infrastructure and a leading agriculture economy," says Indiana Governor Mike Braun. "Expanding CGB's port facilities helps Hoosier farmers move crops more efficiently to global markets, supports rural communities, and reinforces Indiana's leadership in agriculture and trade."

CGB's soybean volume at Mount Vernon has increased more than 60% over the past decade, driving the need for expanded capacity and improved truck flow. The new unloading system will allow entire truckloads to discharge without repositioning, reducing congestion on port roads, shortening turnaround times, and lowering transportation costs for local farmers.

"We strongly value our relationship with the state of Indiana, Ports of Indiana and the Mount Vernon community, and this investment centres on serving our farmers and the local community," says CGB Enterprises Executive Vice President Tom Malecha. "By improving traffic flow and reducing wait times, CGB is making soybean delivery at Mount Vernon more efficient while positioning the facility for the future. This port is an ideal location for growing our business and continuing to expand the value we bring to the agricultural, energy and food sectors."

CGB also manages grain merchandising as well as ethanol and DDG transload facilities at the port. Founded in 1969, CGB operates more than 110 grain facilities across the Midwest and beyond with integrated barge, rail, and truck transportation capabilities.

"CGB is a world-class company that has been a tremendous partner at our Ohio River ports for nearly three decades," says Ports of Indiana CEO Jody Peacock. "This investment demonstrates CGB's strong commitment to Indiana agriculture, our port and future growth opportunities that support local farmers. It also highlights the strategic competitive advantages Indiana's ports create through robust barge and rail connections in the heart of one of the nation's most productive agricultural regions."

Indiana is one of the nation's leading soybean-producing states, and the Mount Vernon port serves as a major gateway for agricultural exports. The port handles approximately five million tons of cargo annually, including grain, soy products, ethanol, fertiliser, steel and project cargo. The 1,200-acre port has connections to five Class I railroads and is part of the nation's busiest inland port district.

# INSIGHT

## AN IN-DEPTH LOOK AT THE GLOBAL GRAIN MARKET

**The global agriculture industry is entering a definitive transitional phase. Following an exceptional 2025/26 season defined by bumper crops and record production, market mechanics are shifting toward a tighter, more complex supply-and-demand dynamic for the 2026/27 marketing year. Higher baseline production costs, erratic weather patterns and shifting geographic import demands are testing trading firms and bulk terminal operations alike.**

As consumption continues to rise, global ending stocks are facing a draw-down, leaving forward markets hyper-sensitive to weather disruptions. For the maritime industry, the upcoming season will demand extreme flexibility as supply corridors shift and local processing footprints expand.

While total global grains production is expected to set a record during this marketing season, output in 2026-27 is projected to decrease by 2% with anticipated declines in all major crops, according to the latest Grain Market Report from the International Grains Council.

**Wheat**: global wheat output is forecast at 845 million tons, a drop of roughly 24 million tons from last season's high. The contraction is heavily felt across major export nations, including the United States, Argentina, Australia, and the EU.

**Maize**: maize production is also expected to contract, falling by 2% to 1.3bn tons. Production gains in Brazil and China are failing to entirely offset sharp drops across US and Argentine farming hubs.

**Soybeans:** countering the downward trend, global soybean output is expanding by 3% to a projected record 442 million tonnes, fuelled by aggressive planting and heavy processing demand across North and South America.

## REGIONAL MARKETS

**South America (Brazil and Argentina)**: Brazil continues its aggressive agricultural expansion, particularly in the soybean sector. Driven by strong demand from both domestic biofuel industries and Chinese imports, Brazilian soybean production is on track for a record-breaking year.

Conversely, Argentina's maize sector is grappling with erratic weather and policy shifts, resulting in tighter export surpluses that are forcing bulk terminals in the Paraná River network to optimise logistics.

**North America (US and Canada):** the US is facing a tightening squeeze. According to the latest USDA WASDE reports, regional droughts across the Plains have lowered wheat production forecasts and drawn down domestic ending stocks.

US corn production has also pulled back from its historic peaks, forcing domestic ethanol plants and export terminals to compete fiercely for local grain supplies.

**Europe and the Black Sea**

The European theatre is characterised by weather-induced production drops balanced against highly complex, structurally altered transit corridors.

**European Union**: total grain output across the EU is forecast to decline due to a mix of overly wet planting conditions in Western Europe and localised droughts in the south. The resulting smaller wheat crop means the EU is likely to see a reduction in its traditional export volumes to North Africa.

**Black Sea Region (Ukraine and Russia)**: despite ongoing logistical challenges, the Black Sea remains a vital global supplier. Ukraine's export volumes have stabilised around fixed maritime and Danube River corridors, though domestic focus is shifting heavily toward infrastructure modernisation, such as transitioning grain elevators to alternative fuels to lower operational costs.

Russia continues to leverage large carry-over stocks to maintain high wheat export volumes, keeping global baseline prices partially checked.

**Asia-Pacific**

Import dynamics across the Eastern Hemisphere are being radically rewritten as a unique combination of exceptional localised weather and shifting national supply s trategies transforms traditional trade pathways.

**China:** China remains the wildcard of the global agricultural balance sheet. Beijing is making measurable strides in its domestic food security mandates, successfully boosting internal maize and wheat self-sufficiency to suppress its dependency on raw foreign cereal imports.

However, this is counterbalanced by an insatiable, structural reliance on imported soybeans and soy meal to feed its booming domestic livestock and aquaculture industries.

**South and Southeast Asia**: Rapid industrialisation and expanding livestock sectors are cementing new demand patterns across South and Southeast Asia. According to the USDA's June 2026 Grain Report,

Vietnam is leading the region in year-on-year import growth, aggressively pulling in foreign grain to bolster its commercial animal feed manufacturing hubs.

Meanwhile, India is carving out a distinct trajectory; despite soaring feed demands from its poultry sector, India's domestic corn production is forecast to expand by more than 50% compared to its five-year average.

**Australia**: as the world's fourth-largest wheat exporter, Australia is moving away from the bumper harvests that defined its previous cycle and heading into a period of sharp consolidation for the 2026/27 marketing year.

According to the ABARES June 2026 Australian Crop Report, total winter crop output is forecast to contract significantly. Market forecasters, including Rabobank, have trimmed early projections to flag a massive potential pullback in wheat volumes – with some localised estimates falling significantly below the 35.8 million tonnes harvested the previous season.

This downturn is driven by low baseline soil moisture, rising domestic fuel and fertiliser costs, and an increasing risk of an El Niño and positive Indian Ocean Dipole event emerging. This climate combination is expected to sharply compress crop yields across South Australia, Victoria, and New South Wales.

The pullback extends well beyond wheat. The national canola harvest is projected to drop roughly 20% to 6.2 million tonnes – its lowest level since the 2023/24 season – spurring an immediate 6% reduction in planted acreage as farmers pivot away from high-input oilseeds.

Coarse grains are facing similar downward pressure; the overall value of Australian barley production is forecast to slide by 12% to $4.3bn, forcing regional bulk terminals to plan for lower physical volumes across their export networks.

Despite the projected production drop, Australia's export pipeline will not experience an immediate collapse. In its April 2026 Grain and Feed Annual, FAS/Canberra noted that a slower-than-expected export pace late last season left substantial, high-quality 'carry-in' stocks sitting in domestic grain silos.

**North Africa (including Türkiye)**: historically some of the world's most vulnerable and aggressive bulk grain buyers, nations across North Africa are celebrating highly favourable growing seasons. Exceptional domestic wheat and barley harvests mean these traditional buying hubs are scaling back their bulk import requirements for the 2026/27 season, taking immediate pressure off Mediterranean and Black Sea trade flows.

In tandem, the sudden military disruption to the Strait of Hormuz has forced Gulf-adjacent importers to completely abandon standard maritime routes, instead relying on highly expensive overland desert trucking networks to haul grain from safe ports on the Red and Arabian Seas.

### Strategic implications for bulk terminal operators

For terminal networks and port authorities, this data underscores a shift from volume-driven logistics to margin-driven efficiency.

With raw grain volumes slightly contracting in the Northern Hemisphere and booming in the Southern Hemisphere, flexibility is key. Capital investments – such as AD Ports Group's multi-billion acquisition of Brazilian infrastructure – demonstrate that the industry is aggressively positioning itself around South American origination.

Furthermore, as domestic processing (such as soy crushing and ethanol production) expands within producing nations, terminals must adapt to handling more diversified, value-added products alongside traditional raw bulk commodities.

## HIGH RISK AREAS

While global grain production remains strong, the geopolitical map of 2026 has concentrated unprecedented risk across three vital maritime corridors. For bulk operators, navigating these bottlenecks is no longer about speed – it is about survival.

### BLACK SEA CORRIDOR

**Current status: high security**

**Reason**: the collapse of diplomatic shipping pacts forced Ukraine to rely on a unilateral, air-defended coastal corridor and Danube River barges.

**Impact**: a permanent 'war premium' on hull insurance and freight rates compresses farmer margins, while continuous energy grid attacks force terminals to run on localised alternative fuels.

### THE STRAIT OF HORMUZ

**Current status: severely disrupted / closed to most bulk traffic**

**Reason**: military conflict between the US/Israel and Iran have effectively closed the passage to commercial vessels, stranding regional food imports at hubs outside the Gulf.

**Impact**: regional buyers are forced into expensive desert trucking bypasses. Globally, the total halt of Persian Gulf nitrogen and fertiliser exports has sent input costs skyrocketing, forcing farmers in the West to pivot away from fertiliser-heavy corn crops.

### THE SUEZ CANAL AND RED SEA

**Current status: restricted long-term avoidance**

**Reason:** security threats continue to divert the majority of bulk carriers away from the shorter Mediterranean-Asia route.

**Impact:** vessels must take the lengthy detour around the Cape of Good Hope. This is adding up to 14 days to transit times, burning expensive bunker fuel and driving global Panamax and Supramax vessel freight rates to a four-year high.

# VIGAN: MEETING THE UNIQUE NEEDS OF GLOBAL PORTS

COMPANY NEWS

**Bulk equipment plays a pivotal role in the efficient operation of ports worldwide, enabling the seamless loading and unloading of various goods, especially dry bulk products such as cereals. VIGAN Engineering SA, founded and headquartered in Nivelles, Belgium, has been at the forefront of this industry for more than 55 years, revolutionising bulk handling in ports. With a strong global presence and a commitment to innovation, VIGAN has become a leading provider of handling equipment for dry bulk products.**

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

## STRONG PORTFOLIO

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

- **Grain pumps:** Compact and mobile, these VIGAN pumps can reach up to 250 tonnes per hour, offering a cost-effective, efficient solution for quick deployment without heavy equipment investments.
- **Pneumatic and mechanical ship unloaders:** VIGAN's pneumatic unloaders, available in stationary and mobile configurations (rails or tyres), are highly efficient, with capacities up to 1000 tonnes per hour. Mechanical unloaders push throughput to 1,500 tonnes per hour. VIGAN's unloading systems utilise pneumatic suction technology to minimise dust emissions, meeting stringent environmental standards.

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

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

**Terminals:** VIGAN's expertise extends to complete port terminal solutions. It provides turnkey projects, including the design and implementation of entire bulk handling systems within port

facilities. These terminals are designed for maximum efficiency, reliability and environmental compliance.

## SET OF STRENGTHS

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

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

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

**Engineering and development:** VIGAN continually innovates to provide top-performing equipment, often being ahead of the curve in the industry's developments. The company's focus on energy consumption and technology advancements demonstrates its commitment to efficiency.

A decade and a half ago, the company led the way in creating inline multi-stage turbo-blowers, powered by high-frequency drives with substantial suction power. Despite numerous efforts to replicate, there is still no other authentic multi-stage turboblower design available in the ship unloading market today.

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

**Customer services:** Customer satisfaction lies at the core of VIGAN's philosophy, reflected in its integrated sales and service approach. From spare parts delivery – available even for machines that are more than 30 years old– to technical inspections and modernisation proposals, VIGAN ensures long-term operational excellence for its clients.

Leveraging decades of engineering expertise, VIGAN develops customised retrofit solutions that boost energy efficiency and extend the lifespan of existing port equipment. In response to rising energy costs, the company has introduced upgrade modules that reduce consumption by up to 25% through the integration of new VIGAN electric multi-stage turbo-blowers and frequency steering systems – achieving results with minimal structural impact and payback times of just two to four years.

A recent project in Portugal exemplifies this innovation-driven support. VIGAN replaced an outdated high-voltage Roots pump on a 500tph ship unloader with modern multi-stage turbines controlled by variable speed drives. The upgrade not only slashed energy usage but also simplified maintenance and significantly improved performance – restoring and surpassing the machine's original capacity.

## DESIGNED FOR TODAY'S PORTS – AND TOMORROW'S

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

- **Performance**: VIGAN's equipment is known for its high performance, even under extreme conditions. It offers robust and reliable machines that consistently deliver outstanding results.
- **Energy efficiency**: With a focus on reducing energy consumption, VIGAN has been a pioneer in incorporating variable speed drive technology in its suction units, setting new standards for efficiency.
- **Low noise levels**: As more homes are built near industrial areas, noise reduction has become crucial. VIGAN addresses this concern by employing acoustic insulation solutions, ensuring that noise levels remain within acceptable limits, typically 60 to 65 decibels.
- **Ease of maintenance**: VIGAN designs its machines with longevity in mind. The company provides detailed maintenance instructions and offers preventive maintenance programmes to maximise machine uptime.
- **Dust emission reduction**: In response to evolving environmental regulations, VIGAN uses pneumatic suction technology that minimises dust emissions. The closed-circuit systems with overpressure filters keep dust contained, reducing emissions to around 3 mg/m$^3$.

## STRONG FOCUS

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

With a focus on precision, adaptability and sustainable solutions, VIGAN continues to provide its customers with modern tools to meet today's operational and environmental demands, while positioning itself as a global leader in bulk handling solutions.

**For more information, visit: vigan.com**

VIGAN

# DIGGING DEEP

The US is bucking the global trend of decreasing coal use with a large cash injection aimed at boosting the country's coal industry

## US TERMINAL BOOST

US President Donald Trump has announced a package of federal support worth almost US$700m aimed at reviving the country's coal industry, with funding earmarked for power plant upgrades, new coal projects and a long-disputed export terminal on the US West Coast.

The funding will be provided through the Defense Production Act, a Cold War-era law that allows the federal government to support industries deemed important to national security. The Trump administration has argued that reliable domestic energy supplies will be needed to support growing electricity demand, particularly from artificial intelligence data centres and other energy-intensive industries.

According to administration officials, approximately US$425m will be used to modernise 13 coal-fired power stations across the US. Additional funding will support the development of new coal-related projects in states including Alaska and West Virginia, while $75m has been allocated to the proposed West Gateway export terminal in Oakland, California.

Planned for the former Oakland Army Base site in West Oakland, the facility has been the subject of legal and political disputes for more than a decade. Developers have long argued that the terminal would provide a much-needed export outlet for coal produced in western states, while opponents have raised concerns about dust emissions, air quality and climate impacts.

The latest federal funding announcement provides fresh momentum for the development. The administration says the project could begin construction this year and eventually handle more than 12 million tonnes of coal exports annually, creating a direct shipping link between US producers and customers in Asia. Countries identified as potential destinations include Japan, South Korea, Taiwan, Vietnam and Malaysia.

Supporters of the initiative argue that export infrastructure is an important part of maintaining the competitiveness of the US coal sector. While domestic coal consumption has declined significantly over the past two decades, international demand remains substantial in parts of Asia where coal continues to play a major role in electricity generation and industrial production.

If the West Oakland project proceeds as planned, it would create one of the few dedicated coal export gateways on the US West Coast and provide a new route for producers seeking access to Pacific markets. After years of uncertainty, the terminal now appears closer to development than at any point since the project was first proposed.

> The West Oakland facility has been the subject of legal and political disputes for more than a decade

## SOUTH AFRICA RAIL REFORM

South Africa's rail reform journey continues apace with the Transnet Rail Infrastructure Manager (TRIM) has successfully concluding Rail Access Agreements (RAAs) with all 11 Train Operating Companies (TOCs) that were allocated slots.

The new TOCs are: ARC South Africa (ARC), The Railway Corporation, TLD Marine, Menar Ports & Rail, Sharp Logistics, Barberry, Grindrod, Minrail, IRACEMA, Motheo Logistics and Interlinks. They span key sectors such as coal, manganese, containers, fuel and general freight, collectively driving diversification and competitiveness across the network.

This achievement increases the number of active operators on the national rail network from one to 12, spanning five strategic corridors. The allocations are expected to introduce an additional 24 million tonnes (mt) of freight capacity to the network, with the potential to scale to 52mt over the next five years, supporting the national objective of increasing rail volumes from approximately 180mt to 250mt by 2030.

"This milestone represents more than just slot allocation, it signals the creation of a functional and competitive rail marketplace. We have moved from policy design to practical implementation, enabling real private sector participation and investment

in rail," says TRIM Chief Executive, Moshe Motlohi.

In December 2025, TRIM introduced the Ad Hoc Slot application process, an innovative, rules-based mechanism that enables rapid allocation of rail capacity outside the annual cycle.

This process has already unlocked new opportunities, including a proposed short-haul service between Cato Ridge and Durban aimed at reducing road congestion in the port precinct. The service is targeted to commence operations in May 2026.

"The Ad Hoc Slot process is a game-changer. It allows operators to respond to real-time demand while maintaining the highest standards of safety, transparency and efficiency," says Motlohi.

Engagements are currently underway to onboard and assist the new TOCs with operational readiness. Some TOCs are targeting to commence operations before the end of 2026, while the remaining operators are expected to be operational during the course of 2027.

This collaborative process has also enhanced the bankability of rail projects by incorporating feedback from both operators and financial institutions. The insights gathered are informing ongoing improvements to Network Statement Version 4, which is currently at an advanced stage of finalisation.

As TRIM continues to refine its access framework through Network Statement Version 4, the focus remains on scaling participation, enhancing operational efficiency, and unlocking further investment into the rail sector – building a modern rail ecosystem that is competitive, accessible, and aligned with South Africa's economic growth ambitions.

**Exports up**

South Africa's Richards Bay Coal Terminal (RBCT) reported an 11% increase in coal exports in the first half of this year, buoyed by enhancements in Transnet's railway services.

Annual exports reached 57.66 million metric tons, the highest four years.

## CAPACITY BOOST

New facilities at the Lavna Coal Handling Complex in Murmansk, Russia, have resulted in an increase in capacity to 12 million tons of coal a year.

The first export consignment of coal from Lavna was in March 2025.

The port is a key infrastructure facility in the Murmansk Region, an important Arctic transport hub with access to the Greater Northern Sea Route (a transport corridor stretching from Saint Petersburg and Kaliningrad to Vladivostok).

In October, the State Transport Leasing Company's Director General Mikhail Parnev said the Lavna port could reach its project capacity of 18 million tons of coal in 2026

The Lavna port is an anchor project of the Murmansk Transport Hub, which provides for creation of transport infrastructures on the Kola Bay's western shore, including coal and oil terminals, and railway infrastructures.

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# ANALYSIS

## AN IN-DEPTH LOOK AT GLOBAL COAL DEMAND

**Global coal demand in 2025 grew modestly above 2024 levels, rising by only 0.4%, an increase of around 30 million tonnes (or 0.7 EJ). This growth was significantly below the 1.4% increase seen in 2024 and marked the end of the post-Covid rebound, with global coal demand growth slowing each year since 2021.**

Coal use in power generation diverged from recent trends in several regions around the world. In the US, strong coal use in the power sector supported a 10% rise in demand, reversing the trend of declines in recent years.

Meanwhile, in China – by far the world's biggest coal consumer – electricity generation from coal fell for the first time since 2015. In India, coal-fired electricity generation also declined, mostly due to the impact of an early monsoon.

And in the European Union , the long-term decrease in coal use slowed, mostly due to low hydropower and wind output. Together, these trends balanced each other out, resulting in only modest global demand growth over the year.

### Main driver

Coal power generation accounts for two-thirds of coal consumption globally, and therefore it is the main driver of global coal demand trends.

In 2025, coal power generation was basically flat, remaining close to 2024 levels. In the industrial sector, coal demand continued its decline in advanced economies as well as in heavy industry in China, where cement and steel production peaked in 2014 and 2020 respectively.

However, this was offset by demand growth in other sectors, with coal increasingly used to produce chemicals in China, steel in India and nickel in Indonesia. China consumes 30% more coal than the rest of the world put together, so it remains the main driver of global demand trends. Coal demand in China in 2025 stayed very close to 2024 levels, recording a slight increase of 0.1%.

While China saw continued strong electricity demand growth in 2025, this was met by a combination of fast growth in solar PV and wind generation, increased hydropower output and growth in nuclear power. As a result, coal electricity generation in China declined by around 1.5% in 2025, falling for only the second time since the 1970s.

Coal use in energy-intensive industry in China also declined as steel and cement output shrank by 4% and 7%, respectively. However, these declines were largely offset by an increase in demand for coal for the production of plastics and the chemical sector.

### Elevated approvals

In parallel, the commissioning of coal power plants in China accelerated significantly in 2025, reaching almost 80 gigawatts. This was due to an elevated number of approvals between 2022 and 2024 following power shortages in 2021.

The construction of new plants is intended to meet peak electricity demand and support China's energy security goals.

In India, an early and intense monsoon had a significant impact on coal power generation, and hence on wider coal demand, with electricity accounting for almost three-quarters of the country's coal use. The change in the monsoon resulted in weaker electricity demand growth, mainly because of reduced air conditioning and agricultural pump use.

In addition, record high rainfall significantly boosted hydropower output, while growth in wind and solar PV continued.

### Offsetting decline

As a result, coal-fired power generation in India declined by around 3%, marking only the third decline in five decades.

Other sectors partially offset the decline in the power sector. The output of steel – the second-largest coal-consuming sector – grew by more than 10% in 2025. These effects combined to result in an overall decline in coal demand of 1%.

In the US, where coal use had declined by 16% in 2023 and 5% in 2024, demand grew by 10% in 2025, driven by higher use in the electricity sector, which accounts for almost 90% of US coal consumption.

Strong electricity demand and higher gas prices, together with US government support for slowing coal plant retirements, were the major drivers behind this reversal.

In the European Union, coal demand fell by 5% in 2025, a much slower rate than in 2023 and 2024, when consumption declined by 23% and 11%, respectively. Coal use in the EU halved over the previous decade, due to factors such as coal plant closures, the growth of renewables and high carbon prices.

**To find out more about IEA's Global Energy Review, visit: iea.org**

# ‘MACHINES WILL ALWAYS BE MY PASSION’

## PROFESSOR MIKE BRADLEY

***Professor Mike Bradley, Director, The Wolfson Centre for Bulk Solids Handling Technology, tells us about the Centre’s mission to spread its knowledge so port owners can run their operations more efficiently, more safely – and ultimately more profitably***

**Q: Tell us a little bit about your career and how it led you to this particular role.**

Like most people who work in bulk solids handling, I came into it by accident. It started with a passion for making things, from an early age. Woodwork and metalwork lessons at school inflamed my passion further. At 13, I got a Saturday job in an engineer’s supplier and saved my wages to buy my first metalworking lathe, so by the time I left school I had set up my own small machine shop in my father’s garage. I think I was about 15 when I took on my first commission to build a special purpose machine, a multi-spindle drilling machine to aid production of wooden playpens, from an entrepreneur who was developing his small business locally. So I knew this would be my direction.

I joined the aerospace industry when I left school, as an apprentice mechanical technician working for a company that is now part of BAe Systems. Subsequently, I did a degree in mechanical engineering at what was then Thames Polytechnic in London and went back to BAe to work in its Flight Automation Research Lab. The work was interesting: I did development work on airships, underwater viewing systems for submersibles and various other ground breaking technologies, but I felt too much of a small cog in a big machine, a machine in which design decisions were too often swayed by political manoeuvring rather than sound technical reasons, which I found very frustrating. I had a lot of heated arguments with my boss! So I was looking for something where I could express my technical creativity more freely.

> “That freedom to express technical leadership swayed me

I was offered the chance to study under the company’s Chief Designer, a stunningly clever Aussie engineer who rejoiced in the name of Stafford Ellis and who was more or less the inventor of the modern head-up display used in fighter aircraft. The indication was that I might become his replacement in time. I sometimes wonder where I would be today if I had followed that path! His were very big shoes to fill – I knew some of his work and it was quite outstanding.

However, at just the time I was considering that, I got a phone call from one of the lecturers at Thames Polytechnic asking me: “Would you like to come back and do a PhD?” So I went to have a look at the opportunity. At this stage, it had already had a small established Bulk Solids Handling Unit. I was impressed with the pilot plant and laboratories and the fact they were getting funding from industry for leading edge research.

The PhD offer sounded like an interesting challenge – I’d be funded for three years to work on the problem of improving design methods for pneumatic conveying systems. More to the point, it was made clear to me it would be my project, to run my own way and use my own initiative to bring to fruition – support and mentoring would be given, but project leadership would be down to me. I think that freedom to express technical leadership was what swayed me.

I completed the PhD project in 1990 and the design method I developed is still in use to this day. Afterwards, there was the opportunity to stay on to undertake consultancy work for industry.

In parallel, I never lost my passion for hands-on work with machines. I worked

for a while as a part time volunteer in the locomotive department of a heritage railway, rebuilding steam engines. Also I was a bit of a petrol-head and got heavily involved in rally driving, so I was building and modifying my own car and engines to support that passion too!

I guess the message is, through all of this, machines are my passion! Always were, always will be…

**Q: Please tell us about the work of the Wolfson Centre.**

By the time I had finished my PhD, Thames Polytechnic had become The University of Greenwich and growth of the Bulk Solids Handling research area had stimulated my boss, Professor Alan Reed, to apply for some funding from The Wolfson Foundation, a charitable organisation founded by the multi-millionaire Isaac Wolfson, for some money to expand the facilities with larger laboratories and dedicated offices. The application was successful so the Bulk Solids Handling Unit became The Wolfson Centre for Bulk Solids Handling Technology and I was asked to become the first manager. Since then, I never reached escape velocity! I moved up to Director in 2003 when Alan Reed moved on.

Nowadays The Wolfson Centre is still quite a small group, around 12 people, mostly tenured academics but with a very small teaching workload and a focus on the needs of industry. We're part of the Engineering department, but have an independent identity, with our own building, our own staff, and our own business plan so we operate as more-or-less an autonomous small business, expected to cover all our outgoings.

The majority of our income is from providing consultancy services to industry. These range from day visits to plants to do troubleshooting, to large system design and redesign projects for new handling installations for process plants of all scales across a huge range of industries from food and pharmaceuticals to ports and power stations. The fastest-developing areas for us at present are waste and recycling, renewable fuels such as biomass, and powder-based additive manufacturing for aerospace.

**Q: What does a typical day look like for you?**

This job has no typical day and that's what I still love about it. My favourite sort of day is to be out on a port or plant visit because I still get excited about getting out among operating machinery! Often on such a visit I'll be looking at how the material is flowing, wear of the equipment, throughput and stoppages, how it's being used by the operators, dust emissions and other hazards, and condition of the material being handled in order to get an idea of what is causing the problem or ought to be improved.

On another day I might be in the lab or pilot plant, testing some material samples to measure their handling properties or running trials with them through test equipment. Our philosophy at The Wolfson Centre starts with "knowing your enemy" – material characterisation. If you don't have quantitative values for the key handling parameters of a material (density, flow properties, dustiness, explosion hazards etc), then you can't make any meaningful calculations of plant performance or equipment design, so getting to know the material being handled is always the first stage of any study.

Using those measured properties to undertake analysis or plant design is then another day's work.

Then again, I might be supervising a research project that is trying to address better ways of doing solids handling, or improving the models we use – we have over the years produced a lot of leading edge knowledge and new analytical and characterisation tools to enable better equipment design.

Of course I don't do this alone – I have a great team around me who do all this stuff. Each has their particular specialism, but all have a wide base of knowledge and experience in the industry. But that doesn't happen by accident – much of my time has always been taken up with passing this knowledge on to younger people and giving them the chance to do their own research, learn from their own experiences and getting used to sharing their knowledge in the team and beyond.

As well as mentoring new generations of up-and-coming engineers in the Wolfson team, we get about 250 delegates from industry come to us every year on the short courses we run. Helping companies in the field to improve their knowledge management is another part of my work, to mitigate the loss of knowledge and experience when people retire.

The trouble with bulk solids handling is that almost nobody teaches it on training courses, whether at college or university, so people who come into the industries that handle bulk solids have to learn from experience and that can be a long and painful process. So our mission at The Wolfson Centre has always included trying to reach out to people to spread the knowledge so they can run their operations more efficiently, more safely and ultimately more profitably.

Doing outreach, plant and company visits and so on has taken me all over the World. Seeing and working with people in all these different places and cultures has been a fantastic experience, but after 40 years of doing so I must say I do get a bit travel-weary sometimes!

**Q: What do you think has been the biggest change during your time in the industry that has affected terminal operators? And what change would you like to see?**

Dry cargo handling nowadays has advanced massively from when I first started 40 years ago. In particular, environmental and safety management have come on in leaps and bounds. I remember when I was a lad, visiting the town of Snodland in the Medway valley, and all the roofs of the houses and the

roads were covered in white dust from the cement works. That would not be tolerable today. Many ports are surrounded by towns that have grown up to support them, and the people living there deserve to be protected from emissions of dust and so on. Proper concern about occupational health and physical safety of stevedores from the hazards of the job have taken a big step forwards.

Over the years my team have made big efforts to raise awareness of these hazards of bulk cargoes and how to manage them and I think most managers nowadays realise that while there may be a cost to safety, there's a much bigger cost to having an accident. There's still plenty to go at though – accidents are still too common.

This applies not only to stevedores, but even more to ship's crew – if you go to sea in a bulk carrier, you are several times more likely to be shipwrecked than the average mariner. Structural failure and cargo liquefaction are the main culprits – the latter is an area we have worked on for some time as it claims lives regularly, but there is not enough interest among ship owners and insurers to tackle the problem – probably because it's not Europeans who are losing their lives in these shipwrecks. That's something I'd like to see taken more seriously.

We've also seen a huge change in cargos handled. Years ago it was mostly grain and coal that drove our ports' work. Nowadays coal has gone from Europe, but we've seen an ever greater diversity of cargoes – lots of different biomass fuels, waste materials like scrap metal and plastics, aggregates, animal feeds, speciality minerals and so on. This has brought lots of challenges that we have helped our customers to solve because equipment suited to handling one material will often not work with another without careful modification.

A negative trend we have seen over the years has been increasing short-termism in choice of equipment. While the available choice of handling equipment has got more sophisticated, the willingness of some port owners to invest in equipment that will give them reliable service at low cost for years to come, has been replaced with a 'do it quick and on the cheap' mentality.

One example is the widespread use of mobile harbour cranes for bulk discharge. Available on short programme and at highly competitive cost, a mobile harbour crane is a great choice if your operations really benefit from its ability to move between different locations in the port to do different jobs from day to day. But if you want a crane to do the most efficient job of intensive bulk cargo discharge in one location for a long period, it's not a cost-effective option long term. A portal rail-mounted crane, preferably a horse-head crane with a kangaroo hopper built in, will cost more and take longer to get, but will greatly reduce cost of ownership due to ruggedness, lower downtime, improved operator-friendliness and lower maintenance cost.

> Most managers realise that while there may be a cost to safety, there's a much bigger cost to having an accident

The attraction of lower first cost is hard for some people to resist. The same goes for the use of crinkly-tin farm-type silos instead of proper steel or concrete silos. On a farm or a granary, where they're loaded maybe once or twice a year, they're great, but not for port operations, which are much more intensive.

A significant trend we need to accelerate is bearing down on carbon emissions. Electrification of mobile plant, whether battery or cable-tethered, is gradually taking off and brings other benefits of reduced fire risk and improved working atmosphere. We're a long way behind China on this one. Another trend we need to accelerate is cold ironing (shore power for berthed ships) to reduce emissions to air in port, not just carbon, but particulates and NOx. There are now some de facto standards emerging for the hook-up connections and equipment, so it is becoming more viable. Shore power from the UK grid is not competitive with auxiliary engine power, but many ports have large areas of shed roofs that could be used for solar power for this purpose.

Here's another thing I'd like to see adopted more: automated mooring systems. They are starting to come in for ferries and they give huge safety benefits; rope handling produces more accidents and injuries than any other part of the stevedore's workload. They can self-adjust for tide and draft during loading or unloading so need little attention.

**Q: What challenges do you see ahead for the industry?**

Availability of skilled personnel is a huge issue, not only stevedores but even more so maintenance technicians. Nowadays, most schools are just focused on getting kids to university – because that's what drives their league table results. In the UK, the top 46% of school leavers are sent straight to university, following which they are not interested in these jobs. So it's incredibly hard to recruit youngsters of a good level of intelligence and commitment into these roles, even though they are challenging, interesting and well-paid jobs – while we have an over-supply of graduates. And without quality people in these front-line roles, it's increasingly hard to find experienced people to fill management roles.

I don't know what the answer is to this one; some companies have had moderate success by reaching out to local schools to show off the opportunities available through their apprenticeship programmes. I fear that as a society, we have over the past 40 years developed a habit of looking

down on people who haven't been to university as second-class citizens, and by doing so we have excluded high-calibre people from the technician workforce.

Longer term threats from changing weather and sea level rise are existential. Ports are all built in low-lying areas and it's now a certainty that sea level rise, within my children's lifetime, will make many facilities unusable. Raising jetties, lifting equipment, building banks to keep the sea out are all possible – the Dutch have been doing it for years – but it's going to be costly.

More problematic, I don't think the UK construction industry has the capacity to do the amount of work that is needed, in the time. Ironically, those ports who are the first to be affected might come out on top because they'll start the process sooner whilst capacity is still available.

**Q: What effect do you think AI will have/is having on port operations?**

Artificial intelligence at the moment seems to mostly produce artificial stupidity, in my experience! The big problem is that it can turn up all sorts of useful information, but it also has this ability to 'hallucinate', producing a lot of stuff that appears plausible, but is actually completely false. That is a really fundamental problem because AI is absolutely NOT intelligent in any meaningful way. The thing is that AI doesn't understand anything. It simply looks for patterns and repeats them. So it looks intelligent, but it's not using any logical thinking process. It works well at amassing experience and deploying it, but as we all know experience only gets you so far. When something changes and you are moving outside the box, relying on your experience alone can get you into serious trouble.

So relying on AI for advice or guidance in anything that is business-critical, or safety-critical, is a long way off. I think the main advances will come when it starts to find its way into specialised niche applications where it is well suited to doing relatively repetitive but quite challenging tasks 'within the box' to support human decision-makers: scheduling, slow-steaming, optimising use of stores for diverse commodities, watching cameras to identify physical or security risks, and so on. AI works best when it is doing a first stage of screening to identify things a human ought to look at.

One area I think is overdue for development is increased use of autonomous vehicles in ports. Mine sites in Australia have been using self-driving dump-trucks for more than a decade, with great results – fewer accidents, lower maintenance, less wear and tear as well as reduced labour – and ports offer a more controlled environment than the public road where self-driving vehicles are struggling to make an inroad. It's happening with container handling, but bulk handling is far behind for a whole variety of reasons.

Gender diversity is also an issue. More women are coming into engineering, but port work and especially bulk solids handling are very male dominated. This means we're only fishing in half the talent pool. Better gender balance in any team always improves attitudes, respect and performance.

**Q: What are the future plans/goals for the Wolfson Centre?**

Our work is far from done! There are lots of areas of solids handling where we still need in-depth technical research to improve our knowledge and design techniques. Structural loadings on silos, you might be surprised to learn, is still an area where there are open questions that have never been bottomed. Automated control of continuous ship unloaders is another.

At the other end of the scale there are an awful lot of plants in service, and still being built now, in which known best practice in design is not used. Conveyor transfer point design, dust control, wear protection are just a few of many examples where bad practice still prevails, often because neither the buyer of the equipment nor the supplier has people properly educated in the science of bulk solids. And when the buyer of the equipment doesn't really know what he ought to look for in a good design, how does he judge between tenders? Usually on capital price.

This, of course, is virtually a guarantee of poor plant performance because the supplier who doesn't fully understand the risks caused by cutting every possible corner in the design, usually comes in cheapest. The result is often under-performance, excessive downtime, high manning costs and altogether excessively high cost of ownership.

Henry Ford used to say "There is always someone willing to do it cheaper – but at what cost?". So our need to keep on trying to reach out to plant users and buyers, and persuade them to come and get educated in the state-of-the-art so they demand better equipment from their suppliers, will never be done with. This issue is addressed in our short course **Optimising Cost of Ownership**.

To drive up standards and drive down costs, we're aiming for more people in the industry to come on our short courses – have a look at our website: **bulksolids.com**.

# INSIDE STORIES

State-of-the-art storage facilities are enhancing efficiency, reducing handling times and improving port offerings

## STEEL-FRAME STORAGE

Collinson Tensile has completed a 9,800m$^2$ storage building for Holcim UK's new Tilbury Cement Terminal.

Holcim UK signed up Collinson Tensile to design and construct a steel frame tension membrane building for the storage hall element of the flagship materials imports and manufacturing facility at Tilbury, London.

With a focus on innovation, agility and environmental responsibility, the terminal is set to become a key hub for Holcim UK's cement product ranges. Once operational, it will manufacture and supply a diverse range of traditional and innovative products, including GGBS, ECOPlanet and other low carbon and circular cementitious materials.

The building measures 175m in length and 56m in width, with a 15m eaves height.

Tim Fry, Project Manager Holcim UK, says: "Collinson Tensile's delivery team worked closely with Holcim UK to design, manufacture and safely construct a world-class storage solution aligned with our operational needs.

"The selection of a roofing membrane that maximised natural daylight within the building also allowed us to optimise our lighting design and minimise power consumption."

Dan Collinson, Managing Director at Collinson Tensile, says: "Working with the Holcim team alongside our team helped ensure the project was delivered on time, safely and to the high standard and specifications Holcim require."

## KARACHI AGREEMENT

Karachi Gateway Terminal Multipurpose (KGTML) and global agricultural goods merchant Louis Dreyfus Company Pakistan (LDC) have signed a long-term commercial agreement to develop and operate a modern clean bulk handling and storage facility for agricultural goods at Karachi Port.

Part of Noatum Ports, the international ports operating arm of AD Ports Group, KGTML will invest in the design and construction of a highly efficient, food-grade clean bulk facility, including a handling and conveyor system along with associated infrastructure and utilities, to support the efficient handling and storage of dry agricultural bulk cargo. LDC, meanwhile, has committed to providing an inbound volume of agricultural commodities.

The investment is in addition to the US$75m AD Ports Group committed during phase one of the KGTML project.

The partnership brings together two companies within the portfolio of ADQ, an active sovereign investor focused on critical infrastructure and global supply chains, to strengthen Pakistan's agricultural supply chain and port logistics ecosystem by leveraging their global expertise and regional capabilities.

The new facility will enhance efficiency, reduce handling times and improve the resilience of Pakistan's agricultural logistics network, in line with international food safety and operational standards. By leveraging advanced infrastructure, the project will strengthen regional trade connectivity and contribute to wider access to food.

This agreement marks another significant milestone in advancing bilateral trade and economic development between the UAE and Pakistan.

Mohammed Al Tamimi, Chief Executive Officer of Noatum Ports, says: "This collaboration reflects a shared commitment to strengthening Pakistan's agricultural supply chain and port logistics ecosystem. As a key gateway for regional trade, KGTML plays a vital role in enhancing connectivity and driving efficiency across Pakistan's maritime sector. This development will significantly upgrade the country's logistics infrastructure, creating new opportunities for growth, and reinforcing Karachi Port's position as a critical hub for international commerce. The agreement with LDC represents a significant strategic milestone in our partnership."

Rubens Marques, LDC's Head of South and Southeast Asia, says: "We are pleased to partner with KGTML, and increase our cooperation with AD Ports Group, on this transformative project to upgrade and modernise Karachi's port infrastructure, supporting the growth of Pakistan's agriculture sector. This development reflects our long-term commitment to the country, where we have been operating for over 15 years, and our confidence in its growing role in global agricultural trade. The facility will be a key lever as we work to enhance our supply chain capabilities for the benefit of our business partners up- and downstream – in Pakistan, the region and beyond."

Including a continuous 12-hour inflation and commissioning process and demanding on-site conditions, every stage of the project tested the team's ability in systematic execution and cross-functional coordination.

As one of the leading industrial air-dome structures in the Americas, its completion has not only enhanced bulk material storage capacity and operational efficiency at the port, but also marked a crucial step forward in the region's move toward greener and more sustainable infrastructure.

## CASE STUDY: A UNIQUE AIR DOME STRUCTURE

**Built by Hong Kong-based Broadwell Air Dome, the air-dome woodchip bulk storage facility at Port Corral in Valdivia, Chile, 20,420 m², is one of the largest industrial air dome structures in South America and also one of the region's most distinctive air-supported buildings.**

Set within the port environment of Corral, the structure is visually striking yet naturally harmonious. Beyond delivering highly efficient storage performance, its design redefines the relationship between industrial architecture and the surrounding environment, creating a restrained and elegant visual balance between a busy working port and the fragile wetland ecosystem nearby.

The design of the air-dome facility draws inspiration from the layered form of mountain ranges. Its exterior features a gradient of olive green, blue and white, with textures reminiscent of tree rings. This design approach softens the visual impact of the building's large scale while allowing it to blend seamlessly into the temperate rainforest landscape of southern Chile.

The green tones echo the dense forest behind the site and the open grassland in front of it, enabling the structure to appear from a distance like a natural hill. In doing so, it effectively reduces the visual intrusion typically associated with industrial buildings in pristine landscapes, truly achieving a concept that is born from nature and concealed within nature.

### Efficient performance

Designed for the enclosed storage of woodchips handled at the terminal, the air-dome facility measures 245.344m in length, 85.664m in width and 23.928m in height, with a total area of 20,420 m².

In terms of foundation design, the project uses double-layer shipping containers as the ground foundation. This solution offers a short installation period while also being relocatable and reusable. Such a lightweight structural approach provides clear advantages for long-distance transport and construction under complex port conditions, fully demonstrating the flexibility of air-supported architecture in industrial applications.

Inside the dome, there are no beams or columns, creating maximum clear-span space and flexibility for the efficient storage of woodchips.

Given the rainy and windy coastal climate of southern Chile, the air-dome warehouse offers excellent airtightness, protecting stored materials from rain and humidity and thereby improving product quality. At the same time, dust and noise generated during woodchip handling operations are fully contained within the structure, helping protect the surrounding wetlands and port environment.

The project is equipped with Broadwell's patented Bias-Pro Diagonal-Orthogonal Steel Cable Net System, which further strengthens the structure's ability to withstand severe weather conditions such as strong winds and heavy rainfall.

The whole process included community consultation, public hearings and multiple rounds of open discussion, ensuring that the views of residents, industry stakeholders and environmental organisations were fully taken into account. Through transparent communication and repeated evaluation, the project direction was continuously refined.

Against this backdrop, the project also launched a global solution selection process. After multiple rounds of international comparison and technical assessment, the Broadwell air-dome storage solution was ultimately chosen. In this sense, the selected scheme was not only the best answer in terms of technology and cost-effectiveness, but also a consensus solution shaped by environmental responsibility and community expectations.

Diego Sprenger, General Manager of Portuaria Corral, comments: "This air dome represents a major transformation in the way port operations are carried out. As one of the first companies in the timber industry to adopt this kind of structure, we have regarded the community as a key participant from the project's inception, always seeking a balance between development and environmental stewardship. This project has attracted attention across the industry and is also a practice of global significance. It will not only help improve material quality and reduce environmental impact, but also promote higher operational standards across the port as a whole."

From the remote geographic location and the extended installation cycle, including a continuous 12-hour inflation and commissioning process, to the demanding on-site conditions, every stage of the project tested the team's ability in systematic execution and cross-functional coordination.

As one of the leading industrial air-dome structures in the Americas, its completion has not only enhanced bulk material storage capacity and operational efficiency at the port, but also marked a crucial step forward in the region's move toward greener and more sustainable infrastructure.

# ANALYSIS

## FROM STOCKPILES TO SILOS: WHY BULK TERMINALS ARE INVESTING IN MODERN STORAGE

**Storage infrastructure is becoming an increasingly important area of investment for bulk terminal operators as ports seek to improve cargo quality, increase operational flexibility and strengthen supply-chain resilience.**

Traditionally, many bulk commodities were stored in open stockyards, particularly coal, aggregates and minerals. While these facilities remain an important part of terminal operations, growing environmental requirements, customer expectations and commodity diversification are driving investment in covered warehouses, silos, specialised sheds and modern liquid bulk storage facilities.

As a result, storage is increasingly being viewed not simply as a supporting function but as a strategic asset that can help terminals attract new cargoes, improve service offerings and create additional revenue streams.

### Demand for quality

One of the key drivers behind storage investment is the need to protect cargo quality. Many bulk commodities, including grain, animal feed, biomass, fertilisers and industrial minerals, can be affected by weather exposure during storage. Covered facilities help minimise contamination risks and reduce cargo losses whilst maintaining product quality throughout the supply chain.

Industry observers note that customers increasingly expect terminals to provide secure, weather-protected storage as part of a wider logistics service rather than simply offering ship loading and unloading operations.

Modern storage infrastructure is also helping ports differentiate themselves in increasingly competitive markets. Investments in storage facilities linked to mechanised unloading systems and enclosed conveyor networks can improve both productivity and environmental performance whilst strengthening a port's position as a logistics hub.

The integration of storage, conveying and cargo handling systems allows operators to move commodities more efficiently whilst reducing dust emissions and cargo losses. Such investments are becoming increasingly important as ports compete to attract long-term commodity flows.

### Supply-chain resilience

Recent global supply-chain disruptions have highlighted the importance of storage capacity within port logistics networks. Terminals with sufficient storage capacity are often better positioned to manage fluctuations in cargo flows and vessel schedules.

While much attention has focused on digitalisation, physical storage capacity remains a critical component of resilient port operations. For many terminal operators, storage is increasingly viewed as a buffer that helps absorb volatility in global trade patterns.

### New opportunities

Another factor driving investment is the emergence of new cargo streams linked to the energy transition. Operators are adapting storage infrastructure to accommodate biofuels, biomass and other alternative energy products that often require specialised handling and storage conditions.

Projects involving dedicated storage, blending and distribution facilities demonstrate how storage infrastructure is evolving beyond traditional commodity markets and becoming a key enabler of future cargo growth.

### Digitalisation

Storage facilities are also benefiting from the wider digitalisation trend affecting the bulk terminal sector. Modern terminals are increasingly using digital inventory management systems, sensors and automated monitoring technologies to improve visibility across storage operations.

These tools can provide real-time information on stock levels, cargo movements and available capacity, enabling operators to optimise storage utilisation and improve planning.

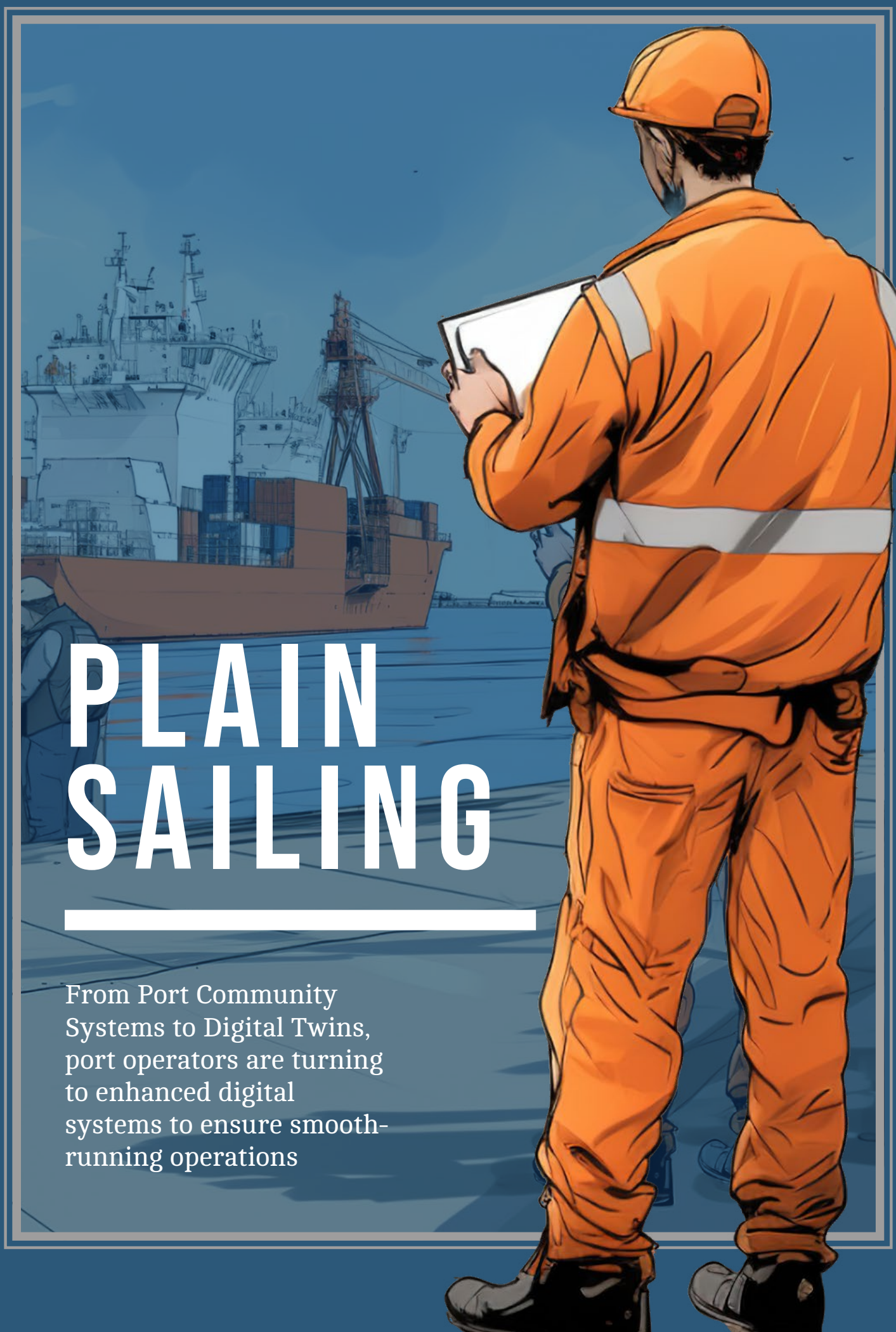
The combination of physical storage assets and digital management systems is expected to play an increasingly important role as terminals seek greater efficiency and operational flexibility.

### Looking ahead

The role of storage within bulk terminals is changing rapidly. Once viewed primarily as a supporting element of cargo handling operations, storage facilities are becoming a central part of terminal development strategies.

Whether through covered warehouses, automated silos, specialised liquid storage tanks or integrated logistics hubs, operators are investing in infrastructure that offers greater flexibility, improved environmental performance and stronger supply-chain resilience.

As commodity markets evolve and customer requirements become more demanding, storage is likely to remain one of the most important areas of investment across the global bulk terminal sector.



# PLAIN SAILING

From Port Community Systems to Digital Twins, port operators are turning to enhanced digital systems to ensure smooth-running operations

## SURVITEC WARNING

Survitec is warning shipowners and operators that port state control (PSC) detentions are becoming an increasingly predictable operational risk for global fleets, driven largely by deficiencies in safety systems, maintenance standards and onboard procedures.

In a newly released white paper, *In-port Detentions: The costs and implications for an ageing fleet – and how to avoid them*, the Survival Technology solutions provider reveals that PSC detentions increasingly stem from deficiencies that are visible, foreseeable and often preventable.

Metkel Yohannes, Chief Portfolio Officer at Survitec, says: "Detention is increasingly becoming part of the operating environment for many fleets, and even the shortest detention can quickly escalate into six-figure costs once off-hire exposure, berth costs, emergency repairs, schedule disruption, insurance impacts and reputational damage are factored in.

"The commercial reality is simple," Yohannes adds. "Proactive annual inspections and lifecycle planning significantly reduce the risk of costly compliance failures and operational disruption. Investing in prevention is materially cheaper than absorbing even one detention."

The findings come at a time when global inspection volumes have remained broadly stable at around 75,000 per year, while detention outcomes have worsened significantly. Detentions under the Tokyo MoU have more than doubled over the past five years, and the Black Sea MoU recorded the highest detention rates relative to inspections, driven in part by a concentration of older tonnage.

As fleets continue to age and pressure mounts from tighter budgets, stretched maintenance windows and reduced crew capacity, more vessels are entering inspections in a compromised state, particularly for safety-critical systems, significantly increasing the likelihood of detention.

Many of the deficiencies identified are not simply compliance issues, but relate directly to the operational readiness of fire safety and lifesaving systems, raising concerns about a vessel's ability to respond effectively in an emergency.

As shipowners increasingly extend vessel lifecycles amid geopolitical instability, shipyard constraints, uncertainty around future fuels and ongoing trade disruption are all contributing to an older global fleet operating under greater technical and regulatory pressure.

> "Detention is increasingly becoming part of the operating environment for many fleets

The white paper draws on a series of onboard inspection case studies from real-world safety assessments by Survitec technicians, highlighting a range of risks affecting critical firefighting and lifesaving equipment. These findings point to both hidden internal failures and visible system defects that could compromise performance in an emergency. Issues identified include the degradation of firefighting systems, the impact of poor maintenance practices, and the deterioration of portable safety equipment. The paper also highlights concerns in lifeboat systems, where environmental exposure and inadequate maintenance can compromise the reliability of safety systems and equipment.

Jan-Oskar Lid, Technical Sales and Support Manager at Survitec, says: "As the case studies show, these types of failures rarely occur in isolation or suddenly and highlight the critical role of rigorous, standards-based inspection regimes in identifying hidden risks before they escalate. The challenge for many operators lies in keeping pace with increasingly complex, fast-changing regulations that vary by vessel type, flag, class, and equipment, while still meeting the demands of day-to-day commercial operations.

"Against this backdrop, the critical question is not simply why incidents occur, but how vessel condition, maintenance discipline and emergency readiness influence the severity of an incident.

Yohannes adds: "Operators must ensure safety-critical equipment works when it counts to reducing risk, avoiding costly failures, and ultimately protecting lives."

## CLASSNK UPDATE

Classification society ClassNK has released PrimeShipHULL 2026.1, the latest version of its hull structure assessment software for shipbuilders and design firms. This release integrates the evaluation functions for IACS Common Structural Rules for Bulk Carriers and Oil Tankers (CSR-B&T) into the new PrimeShipHULL platform, which is compliant with the Rules for the Survey and Construction of Steel Ships, Part C.

Previously, when applying the Rules for the Survey and Construction of Steel Ships, Part C related to hull structure, and when applying the CSR-B&T, it was necessary to use different versions of PrimeShipHULL for each. With this release, PrimeShipHULL2026.1 offers a unified interface that can be used consistently across different rule requirements and ship types, improving convenience and operational efficiency.

ClassNK released PrimeShip-HULL (new platform) in 2022, compliant with the comprehensive revision of Part C of its Rules. Since then, ClassNK has continuously enhanced usability by incorporating feedback from designers, introducing automation features, and reducing design manhours.

Key features

» Integrated assessment functions for CSR-B&T, enabling both the Part C of its Rules and CSRB&T assessments to be carried out with the same user experience and operational workflow
» Improved usability and design efficiency through an intuitive UI and comfortable UX*1, automation functions for workload reduction, and improved data interoperability with 3D CAD systems

## HONG KONG ROLLOUT

Hong Kong has achieved a landmark milestone in its digital transformation journey with the rollout of its Port Community System (PCS). Spearheaded by the Transport and Logistics Bureau, PCS aims to accelerate the development of Hong Kong into a world-leading smart port and strengthen its multifaceted role as an international financial, trade and maritime centre.

By breaking down silos of fragmented information, PCS provides a single source of information on cargo movement, offering transparency across the entire logistics chain. Its foundation rests on providing free essential services to encourage widespread adoption. Designed to support around 50,000 users, PCS fundamentally changes how stakeholders interact with cargo information.

» **One-stop real-time tracking** enables freight forwarders, importers, and other stakeholders to track cargo 24/7 via web or mobile platforms using a Bill of Lading number. The system provides live vessel locations, schedules, container release status, and even temperature monitoring for refrigerated cargo in Hong Kong terminals.
» **Integrated sea-land-air logistics** delivers end-to-end supply chain visibility. PCS uses a unique QR code for each consignment to connect trucks, warehouses, and operators, enabling real-time tracking and instant receipt confirmation across sea, land, and air, thereby improving transparency, efficiency, and connectivity throughout the logistics chain.
» **Intelligent alerts and analytics** transform the system into an active risk management platform, providing proactive alerts on vessel delays, temperature deviations, and uncollected containers to enable rapid response and protect cargo value.
» **Secure and interoperable technology** underpins the entire system. Blockchain-backed security ensures tamper-proof, permissioned data sharing, while an application programming interface allows PCS to fit seamlessly into existing systems, minimising disruption and maximising adoption.

One-data-multiple-declarations allows users to enter data once and auto-generate customs declarations for both Hong Kong and the Chinese Mainland. The system cuts duplication, reduces errors, and decreases clearance time. This value-added electronic service provides one-stop services for local logistics and trading companies, supporting upgrading of the entire industry.

PCS is developing a dedicated module with the Customs and Excise Department. As a first phase, PCS will digitalise the cargo detention notification process, providing the trade with faster and more transparent information, which marks a concrete step towards a 'smart customs' vision, enhancing customs clearance efficiency through digital collaboration.

Beyond tracking cargo, PCS links transport information and trade flows with capital flows, creating a foundation for financial innovation. Blockchain-verified cargo data provides trusted, transparent, and real-time financial information, which enhances risk assessment, shortens approval time and lowers financing costs for the trade.

## DIGITAL TWIN FIRST

The VO Chidambaranar Port Authority has achieved a major technological milestone by becoming the first port in India to launch the Digital Twin initiative for port management, marking a significant step toward smart, efficient and technology-driven maritime management.

The Digital Twin platform will create a real-time virtual replica of the port's infrastructure, operational assets and maritime ecosystem, enabling enhanced operational visibility, predictive analytics and data-driven decision-making across the port. By integrating advanced technologies such as IoT sensors, GPS tracking, LiDAR mapping, drone imaging and CCTV networks, the platform will continuously mirror real-time conditions, enabling efficient coordination among all operational departments.

The Digital Twin Platform enables real-time operational monitoring, providing live visualisation of berth occupancy, vessel movements, crane utilisation and yard capacity across the port. It supports predictive maintenance of cargo handling equipment through AI-based asset monitoring, helping to minimise equipment downtime and improve operational reliability.

The system facilitates berth and traffic optimisation by enabling intelligent scheduling of vessels and cargo operations, thereby reducing congestion and waiting time.

In addition, the platform will also provide energy and emissions tracking to support data-driven sustainability management and include scenario simulation capabilities that allow operators to conduct 'what-if' modelling to prepare for peak demand situations and operational disruptions.

The platform is designed to support the Port's transformation into a smart and efficient maritime gateway by reducing vessel turnaround time by up to 25%, improving equipment availability and reliability, enhancing operational safety through predictive alerts, and optimising energy utilisation to lower carbon emissions.

The project is being implemented in a phased and planned manner. The full-fledged Digital Twin initiative is expected to strengthen resilience against potential operational disruptions while enabling more efficient, sustainable, and data-driven port operations.

# ANALYSIS

## HOW ARE BULK TERMINALS EMBRACING DIGITAL TRANSFORMATION?

**Digitalisation is rapidly becoming a defining trend across the global bulk terminal sector as operators seek new ways to improve efficiency, strengthen resilience and reduce operational costs. While container ports have traditionally been at the forefront of technology adoption, terminals handling commodities such as coal, iron ore, grain, fertilisers, aggregates and biomass are increasingly investing in digital solutions to optimise cargo handling operations.**

The growing interest in digitalisation reflects a range of pressures facing terminal operators. Rising labour costs, increasingly complex supply chains, stricter environmental requirements and customer expectations for greater transparency are all encouraging investment in smarter technologies. As a result, digital tools that were once considered optional are increasingly becoming part of mainstream terminal operations.

According to logistics insurer TT Club, automation and digital technologies are helping bulk terminals improve safety, operational accuracy and overall resilience. The organisation notes that technologies such as artificial intelligence, digital twins, sensors and automated monitoring systems are becoming more widely available and can deliver measurable benefits across a broad range of terminal activities.

### Smarter stockyard management

One of the most significant opportunities lies in stockyard management. Bulk terminals often handle large volumes of material across extensive storage areas, making inventory control a complex and resource-intensive task.

Digital stockyard management systems can provide operators with real-time information on stockpile locations, cargo volumes and material characteristics. Sensors and monitoring systems can track inventory movements and provide a clearer picture of available capacity, reducing the need for manual inspections and improving planning accuracy.

For terminals handling multiple commodities or cargo grades, improved visibility can help optimise storage arrangements and minimise unnecessary material rehandling. The result is greater operational efficiency and better utilisation of available space.

TT Club highlights the growing use of sensor technology and digital monitoring tools to

improve inventory management and support more informed operational decision-making.

**Predictive maintenance gains momentum**

Maintenance is another area where digitalisation is delivering tangible benefits.

Bulk terminals depend on a wide range of equipment, including conveyors, stacker-reclaimers, shiploaders and unloaders, crushers and transfer stations. Unexpected equipment failures can lead to costly delays, reduced throughput and missed vessel schedules.

Traditionally, maintenance programmes have relied on fixed schedules or reactive repairs after faults occur. However, predictive maintenance systems use sensors and data analytics to monitor equipment performance continuously, identifying signs of wear or deterioration before failures develop.

By analysing vibration, temperature, energy consumption and other operational data, terminal operators can schedule maintenance activities more effectively and reduce unplanned downtime.

According to TT Club, predictive maintenance technologies are becoming increasingly attractive because they can improve asset reliability while helping operators reduce maintenance costs and extend equipment life.

**The rise of digital twins**

Another emerging technology attracting attention across the maritime sector is the digital twin.

A digital twin creates a virtual representation of physical assets, systems or entire facilities. By combining real-time operational data with simulation models, digital twins allow operators to test scenarios, evaluate potential changes and optimise performance in a virtual environment before implementing decisions in the real world.

Researchers examining digital twin applications in ports suggest the technology can support more effective planning, improve situational awareness and strengthen collaboration between stakeholders involved in cargo movements.

For bulk terminals, digital twins can help operators optimise stockyard layouts, improve equipment utilisation, model vessel-loading strategies and identify potential bottlenecks before they affect operations.

While large-scale deployment remains at an early stage, many industry observers view digital twins as a key component of future terminal management systems.

**Improving supply-chain visibility**

Digitalisation is also extending beyond individual terminals to encompass the wider logistics chain.

The World Bank and the International Association of Ports and Harbors have identified digital information-sharing platforms as a critical element in improving supply-chain efficiency. Their research highlights the role of Port Community Systems and other digital platforms in facilitating communication between shipping lines, terminal operators, cargo owners, transport providers and regulatory agencies.

By improving data sharing and reducing reliance on manual processes, digital platforms can help reduce delays, improve cargo visibility and support more efficient planning throughout the transport chain.

This increased connectivity is becoming particularly important as global supply chains continue to face disruption from geopolitical tensions, weather events and changing trade patterns.

**Automation becoming more accessible**

Historically, advanced automation was often associated with major container terminals and large-scale capital investment programmes. However, industry experts suggest this is changing.

TT Club argues that automation and digitalisation are increasingly accessible to terminals of all sizes, with technology providers offering scalable solutions that can be tailored to specific operational requirements.

Rather than pursuing fully autonomous operations, many bulk terminal operators are focusing on targeted investments that deliver clear returns. Examples include automated reporting systems, remote equipment monitoring, inventory management platforms and predictive maintenance applications.

This incremental approach allows terminals to improve performance while limiting implementation risks and capital expenditure.

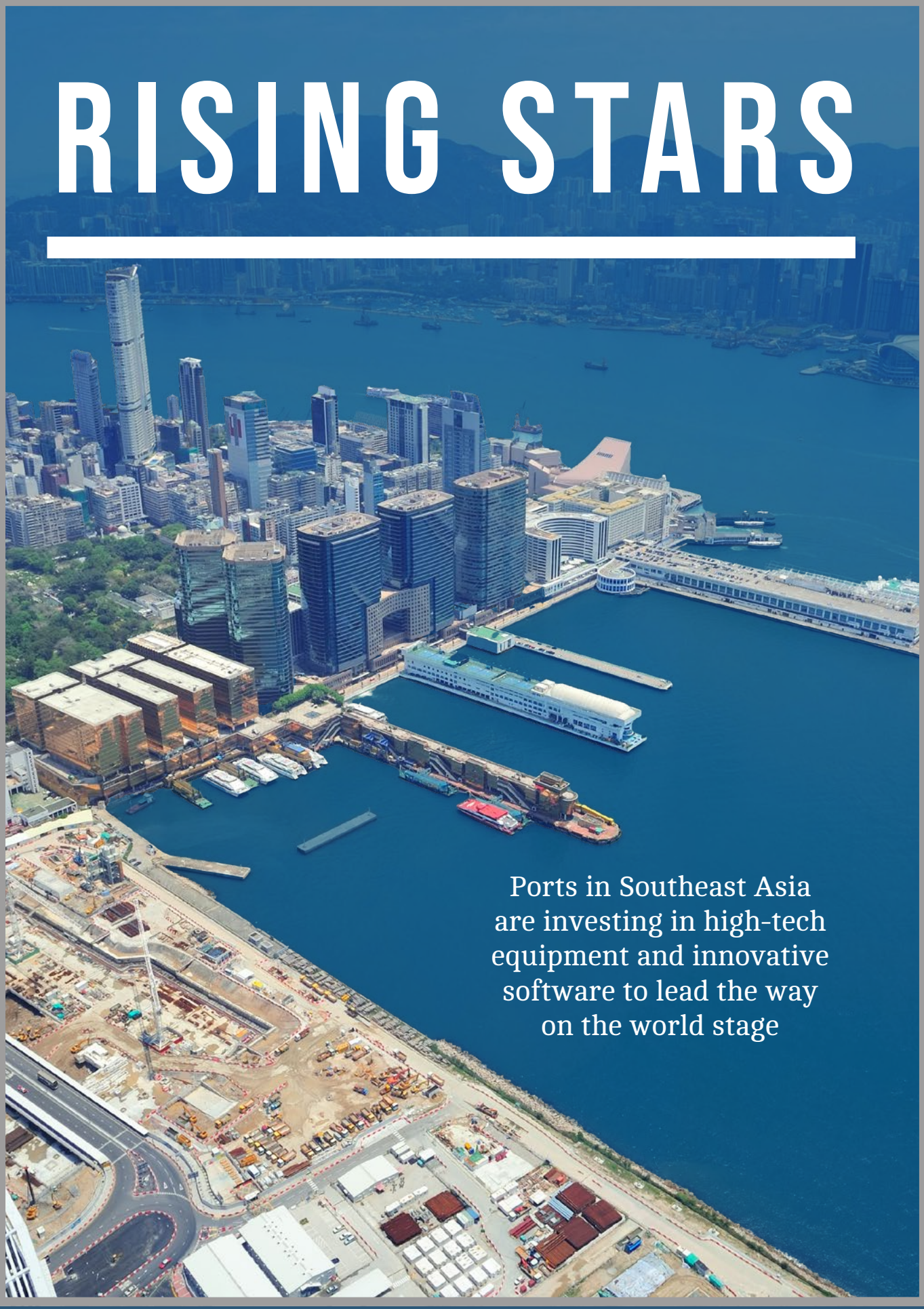
**A long-term transformation**

Although bulk terminals may not be digitising at the same pace as some container facilities, the direction of travel is becoming increasingly clear.

Investment in digital tools is moving from isolated pilot projects to broader operational strategies aimed at improving efficiency, reliability and resilience. As technologies become more mature and affordable, digitalisation is expected to play an increasingly important role in terminal development programmes around the world.

For terminal operators facing growing competitive pressures and increasingly complex supply chains, the ability to make better use of operational data may prove just as important as investments in physical infrastructure. The terminals that successfully combine traditional cargo-handling expertise with digital innovation are likely to be best positioned for the challenges and opportunities of the coming decade.

# RISING STARS



Ports in Southeast Asia are investing in high-tech equipment and innovative software to lead the way on the world stage

## MALAYSIA

**Bruks Siwertell order**

Bruks Siwertell has secured an order from Westports Malaysia for a high-capacity, rail-travelling Siwertell ship unloader. The order represents the first Siwertell unloader installation in Malaysia and establishes an important new reference deployment in Southeast Asia's port and dry bulk handling sector.

The scope of supply comprises one rail-travelling Siwertell ship unloader, type ST 640-M, engineered to serve up to Panamax-sized vessels. The system will be delivered fully assembled and transported by heavy-lift vessel to its location at Westports in Malaysia. Delivery is scheduled for summer 2027.

Designed for versatility and operational efficiency, the unloader will primarily handle soya bean meal, while also accommodating wheat, maize, soya beans and raw sugar. Depending on material characteristics, the system offers a rated capacity of 800–1,000 t/h.

Westports selected the Siwertell solution for its combination of high continuous capacity, strong environmental performance and proven capability to efficiently handle heavily compacted dry bulk materials. The fully enclosed, screw-type unloading technology enables controlled, dust-free operation while delivering high reliability and consistent performance, even under demanding conditions, which also meets Westports' sustainability impetus.

This order marks an important milestone for Bruks Siwertell, strengthening its presence in Southeast Asia and further expanding the global installed base of Siwertell ship unloading technology.

**Petronas signing**

Malaysia-based Petronas has signed a 20-year time charter agreement with MISC Group for five newbuild 174,000-cbm liquefied natural gas (LNG) carriers, reinforcing its long-term LNG supply reliability while supporting customers' energy transition towards a lower-carbon future.

The agreement was signed by Petronas CEO Ezran Mahadzir and MISC Vice President of Gas Asset and Solutions, Hazrin Hasan. This follows the conclusion of shipbuilding contracts between MISC and Hudong-Zhonghua Shipbuilding in January and February 2026. These state-of-the-art vessels will be constructed in Shanghai, China, with charter commencement expected between 2029 and 2030.

Petrona Executive Vice President Datuk Adif Zulkifli says: "The addition of these new LNG carriers marks another important milestone as we continue leveraging the collective strengths of our businesses to create long-term value across the LNG value chain. By aligning our growth ambitions with MISC's maritime expertise, we are strengthening the integrated capabilities that support Petronas's position as a trusted and reliable global LNG supplier."

The vessels will incorporate modern and efficiency-driven technologies aligned with evolving environmental and operational standards. These include the latest XDF2.1 propulsion technology, shaft generators that enhance fuel efficiency during voyages and an onboard reliquefaction plant to effectively manage boil-off.

MISC will provide project management services throughout the shipbuilding phase, followed by operationalisation and ship management of the vessels upon delivery beginning 2029. This integrated approach ensures greater operational continuity and reliability from construction to commercial operations, leveraging MISC's extensive experience in LNG vessel management.

The collaboration reflects Petronas's continued focus on strengthening the resilience and reliability of its LNG supply chain through strategic partnerships, while contributing to the advancement of Malaysia's energy and maritime capabilities.

## VIETNAM

**Saigon Port goes digital**

Saigon Port has officially gone live with the General Cargo Terminal Operating System (GTOS) at Tan Thuan Terminal Operation Centre. This milestone marked a major advancement in the port's modernisation journey, signalling a shift toward a streamlined and fully digitalised operating model.

The system is designed to comprehensively support the management and operation of general cargo handling, including:

- Managing vessel schedules, berths and handling equipment
- Coordinating operations and monitoring throughput in real time via handheld devices
- Managing cargo, yard allocation and warehouse storage
- Managing delivery orders and import/export procedures
- Integrating data for operational reporting and production statistics
- Connecting and sharing datawith related systems (ERP, ePort, accounting, etc).

Prior to the system's go-live, Tan Thuan personnel participated in extensive training and hands-on exercises on GTOS. These sessions enabled them to master key workflows, such as cargo import/export, berth planning, order processing, and production monitoring, ensuring a smooth and uninterrupted transition into live operation.

During the initial days of system operation, real-time issues arising from daily production were promptly identified and resolved in alignment with the new procedures. Challenges related to data synchronisation, throughput verification and order processing were addressed directly onsite by CEH specialists and Saigon Port's IT Department.

The successful rollout of GTOS represented not only a technological upgrade, but also a strategic foundation for Saigon Port to enhance operational transparency, optimise workflows, and strengthen its competitive advantage. The go-live at Tan Thuan served as an important step toward expanding system adoption across all units, advancing the port toward a smarter, more modern, and more efficient operational model.

## INDONESIA

**New port for South Sumatra**

After a four-decade-long wait, the South Sumatra, Indonesia, the Provincial Government has officially launched the Palembang New Port Project at Tanjung Carat.

This event marks an important milestone for connectivity and economic acceleration in South Sumatra. The launch was attended by several cabinet members, including Minister of Transportation Dudy Purwagandhi and Minister of Agrarian Affairs and Spatial Planning/ Head of the National Land Agency Nusron Wahid.

In his remarks, Governor Herman Deru expressed his gratitude for the realisation of an idea that has spanned eight previous gubernatorial administrations.

"The idea of building a deep-sea port in South Sumatra began 40 years ago. While neighbouring provinces in southern Sumatra already have their own ports, South Sumatra had been left behind. Today, we are beginning to realise that dream," he said.

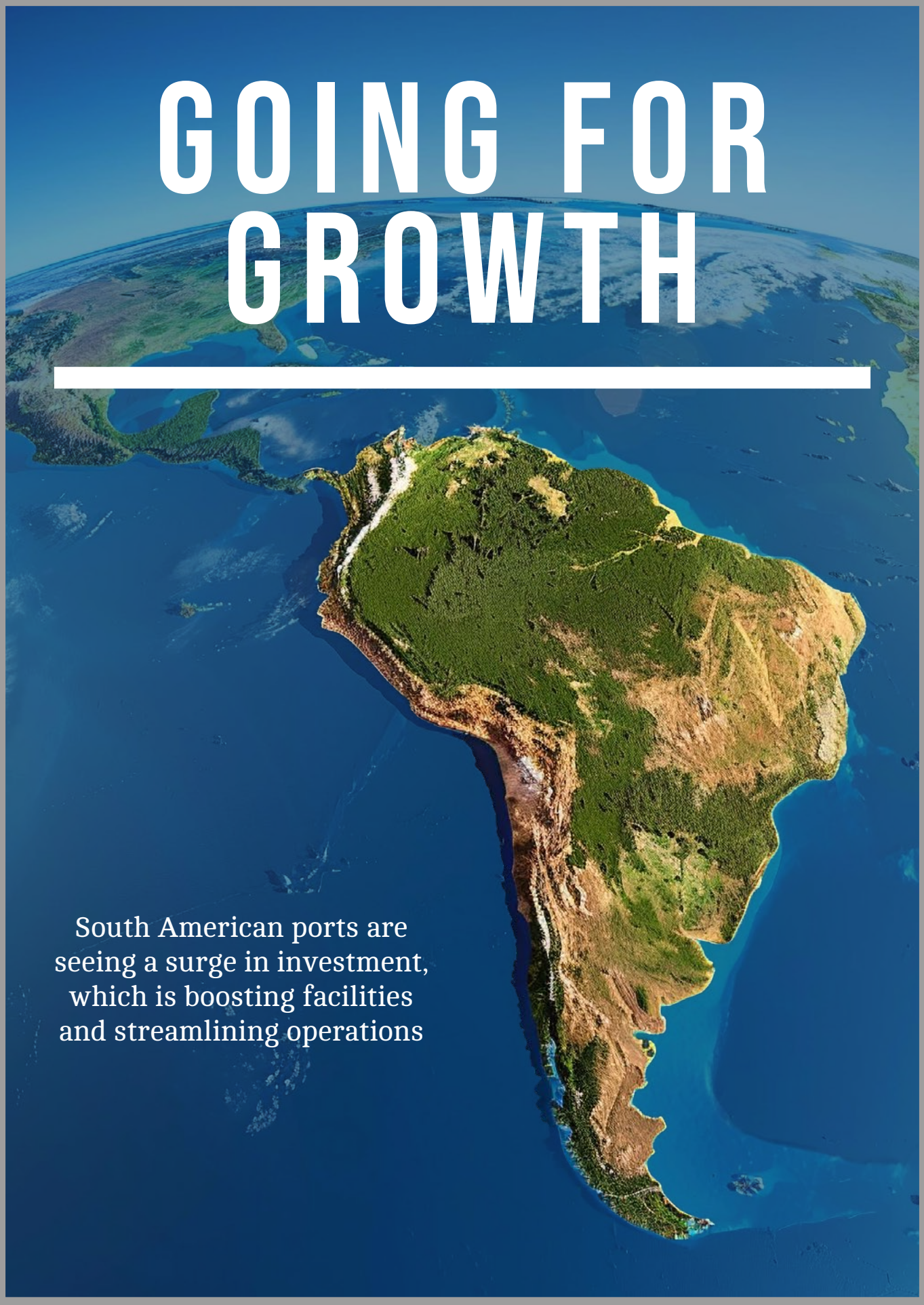
He emphasised that Tanjung Carat Port is a permanent solution to the limitations of Boom Baru Port. Currently, Boom Baru Port is experiencing severe sedimentation, making it difficult for large vessels to pass through. Its location in the city centre also frequently causes traffic congestion and increases the risk of accidents.

South Sumatra is a major global commodity hub, with abundant natural resources. It is the third-largest coffee producer in the world, with approximately 208,000 hectares of plantations, as well as around 1.4 million hectares of oil palm plantations, and significant rubber production. Until now, exports of these commodities have often had to go through neighbouring provinces.

"With Tanjung Carat, logistics flows will become far more efficient and will enhance the region's image. I assure you that all administrative and land issues have been finalised – there are no more obstacles," the Governor affirmed.

Transport Minister Purwagandhi has slated the entire construction to be completed before 2029.

# GOING FOR GROWTH



South American ports are seeing a surge in investment, which is boosting facilities and streamlining operations

## BRAZIL

### AD Ports buy-up

AD Ports Group has acquired Corredor Logística e Infraestrutura (CLI), Brazil's leading independent agri-bulk port terminal operator, entering the South American market with a strategically major expansion transaction.

São Paulo-based CLI operates two of Brazil's most important agri-bulk export terminals under long-term concessions: CLI Sul, Brazil's leading sugar export terminal and key export terminal for corn and soybeans, located in the Port of Santos; and CLI Norte, another key grains gateway at the Port of Itaqui, which is part of the Brazilian 'Arc of the North', an essential geographical region encompassing the Amazon basin that is a pivotal logistics hub and significant emerging corridor for agriculture exports.

In 2025, ports and terminals in northern Brazil recorded the fastest growth in the country, reinforcing the strategic role of the Arc of the North corridor in reshaping the nation's logistics map.

The two terminals play a key role in connecting the producing regions of Brazil, the world's leading sugar exporter and one of the largest grain exporters, to the world.

AD Ports Group agreed to acquire CLI from joint owners Macquarie Asset Management and IG4 Capital. CLI owns 100% of CLI Norte, which operates a terminal at the Port of Itaqui, and 80% of CLI Sul, which operates a terminal at the Port of Santos.

The transaction, which is expected to be completed in the second half of the year subject to customary closing conditions, including regulatory and antitrust approval, was conducted at an enterprise value of AED3.1bn (US$835m).

It has also been agreed that CLI's existing senior management team will remain in place to continue running the company.

The CLI acquisition represents a transformative step for AD Ports Group, positioning it as one of South America's leading independent agri-bulk terminal operators, with strategic access to a vast new number of opportunities for the Group's associated businesses of maritime and shipping, logistics, economic cities, and digital services.

Captain Mohamed Juma Al Shamisi, Managing Director and Group CEO of AD Ports Group, says: "The purchase of CLI is a gamechanger for AD Ports. The transaction extends our Group's international reach for the first time into Latin America and deepens our growing agrifoods activities, one of our core verticals.

"AD Ports Group is committed to enabling trade in one of the world's most-important, fastest-growing agricultural commodities markets, which will not only benefit the Group's global clients, including those in Brazil, but also strengthen the AD Ports Group global network."

Brazil supports AD Ports Group's geographic expansion as well as the Group's plan to develop a major new East-West trade spoke linking South America's largest economy to the Indian Subcontinent, East Africa and Southeast Asia. The UAE is in advanced negotiations with Mercosur, the South American trading bloc that includes Brazil, to establish a Comprehensive Economic Partnership Agreement.

Emirati investments in Brazil are estimated to be approximately US$5bn in total, according to the UAE Ministry of Foreign Affairs. The two countries maintain a highly active strategic partnership, having signed a Double Taxation Agreement and eliminated various tax and investment barriers to boost bilateral business.

## PERU

### San Juan investment

Peruvian government funding agency ProInversión has signed a contract with the Sociedad Concesionaria San Juan Port for the development of the San Juan de Marcona Port Terminal.

With an investment of US$405m, the project includes the design, financing, construction, operation and maintenance of the complex, under a Public-Private Partnership. The terminal will feature two piers, three berths and equipment to handle both bulk and container cargo.

The initiative will be primarily focused on the storage and shipment of iron and copper concentrates, with an estimated capacity of 47 million metric tons sourced from local deposits. In addition, it is expected to generate more than US$2bn in complementary.

The terminal will be developed in four phases. The first phase includes the construction of a mineral pier with an investment of US$271m. Subsequent phases involve the development of a general cargo pier and the expansion of storage areas and logistics capacities.

The New Port Terminal of San Juan de Marcona also marks the first project signed by Proinversión in its role as the granting authority, under its expanded mandate to drive and lead major strategic investments in the country. The new terminal will become the third largest port in Peru, after Callao and Chancay, strengthening national port capacity and the competitiveness of foreign trade.

### Milestone reached

The Peruvian State and TISUR, the concessionaire company of the Matarani Port Terminal, have signed a contract worth US$700m to expand the operational capacity and strengthen the competitiveness of the south of the country's main port.

The agreement represents a significant milestone for the national port infrastructure, following a technical and legal evaluation process that lasted more than two years.

The contract will allow for significant improvements in port operations, including:

- 25% increase in mooring capacity, optimising the reception of ships.
- 50% increase in cargo handling, thanks to the incorporation of new state-of-the-art electric cranes.
- 22% expansion in mineral storage capacity, strengthening bulk cargo handling.

With these advances, the Port of

Matarani aims to consolidate its role as a strategic multipurpose terminal for Peru's foreign trade.

Minister of Transport and Communications, Aldo Prieto, says: "Matarani has established itself as an economic engine for Arequipa and for the south of the country. Today we renew that confidence, ensuring the continuity of a model that generates employment and boosts foreign trade."

The projected investment will allow the Port to meet the growing logistical demands of important mining projects such as Zafranal (worth $2bn) and Tía María ($1.8bn), as well as other initiatives that together exceed $11bn in future investment.

## PARAGUAY

**Liebherr crane delivery**

Crane manufacturer Liebherr has delivered an electric-powered FCC 280 to Puerto Seguro Fluvial, Paraguay's largest multipurpose terminal.

The FCC 280, a fixed cargo crane designed for demanding port environments and known for compact footprint and high lifting performance, will join Puerto Seguro Fluvial's existing Liebherr fleet, which includes an FCC 230 and an FCC 280, delivered eight years ago.

Featuring an 11-metre pedestal and reinforced hydraulic systems, the latest unit offers an exceptional lifting capacity of 80 tonnes at an 18-metre outreach. The crane operates with an electro-hydraulic drive that produces no emissions at the port and reduces noise levels, creating a cleaner and quieter working environment.

The configuration ensures robust performance for container handling and occasional heavy load tasks while maintaining operational efficiency across diverse cargo profiles.

Delivery is scheduled for Q3 2026, timed to support the terminal's expansion programme and ensure a smooth integration into operations.

Puerto Seguro Fluvial's decision to invest in a second FCC 280 underscores its commitment to strengthening Paraguay's logistics infrastructure. "This investment reflects our long-term vision for Puerto Seguro Fluvial and our commitment to strengthening regional logistics," says Francisco Griñó, founder of Puerto Seguro Fluvial. "By working closely with Liebherr, we are introducing equipment that combines performance, reliability and environmental responsibility, while creating better conditions for the people who operate it every day."

The FCC 280's reinforced structure and hydraulic systems were developed to meet the client's unique requirements, ensuring durability and precision under challenging conditions. Liebherr's engineering team collaborated closely with Puerto Seguro Fluvial to deliver a solution that balances lifting power with operational versatility.

Liebherr's Maritime Service Centre in Latin America will provide dedicated support throughout the crane's lifecycle, ensuring reliable performance and steady operational availability.

"This project demonstrates how tailored solutions can shape the future of regional logistics," says Gregor Hillen, Sales Manager at Liebherr-Rostock GmbH. "By combining technical expertise with a deep understanding of customer needs, we enable terminals to achieve their strategic objectives."

# FUTURE PERFECT

Ports across the UK are securing a bright future not only with investment plans, but also by attracting young people to the industry

## BELFAST MASTERPLAN

Belfast Harbour has launched an ambitious 25-year Masterplan, setting out £1.3bn of planned investment to ensure that the port remains resilient, efficient and competitive, capable of supporting economic growth across Northern Ireland and the wider island for decades to come.

*The Belfast Harbour 2025–2050 Masterplan: Horizons of Opportunity* sets out how the Trust Port will expand and adapt to meet rising demand for trade, providing critical additional capacity and further strengthen Belfast's position as a leading maritime gateway.

Independent analysis by Ulster University and Grant Thornton found that the investments set out in the Masterplan will underpin an increase in the economic output enabled by Belfast Harbour to approximately £12bn in gross value added annually from trade handled and support almost 5,500 construction jobs.

The Masterplan has been developed against the backdrop of clear evidence that capacity at ports along Ireland's east coast will tighten over the next 20 years. As demand for trade continues to grow and space becomes constrained elsewhere, Belfast Harbour is planning ahead – putting the scale of its estate to work to secure the island's future port capacity. With an unmatched footprint of approximately 2,000 acres of land and 1,000 acres of water, and long-term development potential, Belfast Harbour is uniquely positioned to respond.

The Masterplan sets out how the port will provide planned, sustainable capacity where the island needs it most, to support trade flows, strengthen supply chains and enable the growth ambitions of its customers.

External forecasts prepared by port masterplanning experts Haskoning indicate that trade volumes through Belfast Harbour could increase from around 24 million tonnes today to more than 30 million tonnes by 2050 under steady growth, and to between 40 million and 50 million tonnes under higher growth scenarios. Under every scenario other than decline or stagnation, growth will outpace current infrastructure without planned investment.

The Masterplan identifies a £1.3bn programme of investment in critical port infrastructure to support this growth. It also sets out how the Harbour Estate can continue to integrate port operations, logistics, clean energy and regeneration within a single, connected environment.

Projects include completion of the £90m D3 deepwater cruise terminal; Belfast's first land reclamation project in 25 years to create a new freight terminal at West Bank Road; redevelopment of the island's longest deep water quay – Stormont Wharf; a berth extension to its container terminal for next generation vessels; the first shore power for docked vessels; construction of a new logistics park and a clean energy hub; and creation of a new maritime skills academy to support jobs in the sector.

Together, these plans position Belfast Harbour as the principal maritime gateway on the Dublin – Belfast Economic Corridor, strengthening its role as a critical hub for Irish Sea trade and a primary link with Great Britain.

The Masterplan also identifies housing and other real estate regeneration opportunities requiring additional investment of between £500m and £750m. Belfast Harbour is actively exploring delivery models and commercial partnerships to bring these projects forward, helping to ensure the Harbour Estate continues to function as both a working port and an integral part of the city.

Dr Theresa Donaldson, Chair of Belfast Harbour Commissioners, says: "Belfast Harbour has served the regional economy for nearly two centuries as a Trust Port – adapting, investing and growing as trade has evolved and the city around us has changed. The port is not simply a feature of Northern Ireland's economy – it is a cornerstone of it.

"This Masterplan sets out a clear, longterm vision for how Belfast Harbour will continue to deliver growth with purpose over the next 25 years."

Joe O'Neill, Chief Executive of Belfast Harbour, says: "Belfast Harbour is a working port first and foremost. Much of what people and businesses across Northern Ireland depend on passes through here every day, from food and fuel to construction materials and consumer goods. Ensuring that trade continues to flow efficiently is our core purpose.

"As capacity tightens at key ports on the Irish east coast, we are putting the scale of our estate to work providing the planned capacity the island needs, supporting customers today and preparing Belfast Harbour to be the principal maritime gateway on the Dublin–Belfast Economic Corridor."

Belfast Harbour highlighted that successful delivery of the Masterplan depends on collaboration beyond the Harbour Estate.

Dr Donaldson adds: "Delivering a plan of this scale requires true collaboration.

We are committed to working with all our partners to navigate the strategic challenges that sit outside our direct control, as coordinated action will be essential to our collective success.

"For port projects, a key priority remains the reclassification of Belfast Harbour's accounting status, which would allow us to borrow prudently to fund critical investment. Without this change, we can still deliver, but we will face harder choices regarding the pace and scope of our work. With it, we can go further and prepare for the scale of growth that both the economy and our customers require."

## BLYTH EXPANSION

The Port of Blyth has launched its Battleship Wharf Expansion scheme, unveiling a transformative investment of up to £100m to expand key infrastructure and increasing Port capacity to support the next era of clean energy growth.

The early development phase of the scheme is being jointly funded by Port of Blyth, Northumberland County Council and the North East Combined Authority, and match funding £275,000 awarded by The Crown Estate through the second round of its £50m Supply Chain Accelerator fund. This demonstrates strong regional and national backing for a project expected to deliver significant long-term economic and environmental benefits.

The Battleship Wharf Expansion is designed to unlock new operational capacity at the Port, enabling it to handle larger offshore energy projects and emerging low-carbon technologies. Building on more than 25 years of leadership in offshore wind, the development reinforces the Port of Blyth's position as a key hub in the UK's clean energy transition.

The project will deliver upgraded marine and terminal infrastructure, including approximately three hectares of reclaimed land and up to 260 metres of quay extensions and rock revetment linking to the new deep-water berth adjacent to JDR cable factory to enable seamless operations. Channel and berth deepening will allow larger vessels to access the Port, supported by additional heavy-duty handling equipment to accommodate next-generation offshore components.

Collectively, these enhancements are expected to attract clean energy manufacturers, generate hundreds of new jobs and deliver significant economic benefits to the North East through increased investment and a more resilient clean energy supply chain.

Martin Lawlor OBE, Chief Executive of the Port of Blyth, says: "This is a landmark moment for the Port and for the wider region. The Battleship Wharf Expansion will ensure we have the infrastructure, capacity and capability to support the next generation of offshore wind and clean energy projects. With strong backing from our regional partners, we are taking a significant step forward in driving sustainable growth, creating jobs, and reinforcing Blyth's position at the heart of the UK's energy transition."

> "The enhancements are expected to generate hundreds of new jobs and deliver significant economic benefits

Henry Kippin, Chief Executive of the North East Combined Authority, says: "By supporting infrastructure like the Battleship Wharf Expansion, we are strengthening our region's ability to deliver offshore wind at scale, unlocking jobs and investment, and ensuring the North East is ready to seize the opportunities created by new seabed leasing off our coast.

"We are proud to be supporting the early development of this scheme. By backing strategic infrastructure like this, we are helping to unlock long-term investment, create skilled jobs and ensure our region is fully prepared to take advantage of new offshore wind opportunities off the North East coast.

"This is exactly the kind of partnership-led, delivery-focused investment that will drive sustainable growth, strengthen supply chains and ensure the benefits of the clean energy transition are felt across our communities."

## WORK EXPERIENCE

Associated British Ports (ABP) has launched a new virtual work experience programme that gives students a flexible way to explore how Britain's ports work and the careers linked to them.

The online programme, created with Talent XP, uses interactive modules to introduce students to the role of our ports in the movement of goods and the UK's energy transition as well as ABP's approach to safety and wellbeing. Designed with accessibility in mind, students can complete the activities on a computer, tablet or phone and receive a certificate at the end.

The virtual work experience widens access for young people who may not be able to visit ports in person. It removes barriers for students who want to understand the sector and explore future roles.

ABP's programme includes four modules designed to give students insight into key parts of the business:

- Keeping Britain Trading, which explains how goods move through ports and the scale of ABP's national operations.
- Enabling the Energy Transition, which explores what the energy transition means and how ABP supports renewable projects like offshore wind, shaping greener careers.
- Home Safe Every Day, which explores

ABP's safety-first culture, life-saving rules and wellbeing initiatives that make it a great place to work.

» Careers at ABP, which gives students the opportunity to hear about the different pathways available at ABP, as well as hearing the experiences of ABP's apprentices and graduates.

The programme also enables ABP to stay in touch with students who complete the modules and encourage them to explore future opportunities.

Rachael Parr, Group HR Director at ABP, says: "Our goal is to open the world of ports to a much wider group of young people. Many students have never seen a port or understood the careers linked to maritime logistics. This programme gives them a simple and engaging way to learn, wherever they live.

"ABP offers a range of early career opportunities across its ports, including apprenticeships, graduate roles and entry pathways into engineering, marine operations, commercial, and safety. The virtual programme gives students a starting point to learn about these routes and understand where their interests fit within the industry."

## TRAINING FIRST

Peel Ports has become the first UK port to deliver a full suite of maritime qualifications. It has officially achieved accredited learning provider status, marking a major step forward in its commitment to workforce development and industry excellence.

As an approved provider, the Group is now delivering port-specific training directly to employees, including Level 2 and Level 4 Port Marine Operations Officer programmes.

A Level 3 Apprenticeship is also set to launch imminently, positioning Peel Ports as the first UK port to offer all three levels of this nationally recognised qualification.

This milestone reflects Peel Ports' ongoing investment in skills, safety, and operational capability across its port estate. And positions it alongside major employers such as Amazon UK, IBM, National Grid and Jet2 on the government's apprenticeship provider and assessment register.

Training is already being provided to employees across the Group's UK operations, with its apprentices currently spanning from age 16 to 64.

The move allows Peel Ports Group to tailor training to its specific business needs, while also addressing areas that have historically lacked formal qualifications in the sector.

Plans are already underway to expand the Group's programme of qualifications to fit a wider scope of maritime employees. It hopes to offer Level 3 Management qualifications and Level 2 Customer Service qualifications soon.

The move forms part of Peel Ports Group's wider aims to help tackle the skills shortage across the maritime sector, by delivering qualifications tailored specifically for ports.

The courses will be regularly adapted to reflect industry trends and operational requirements, helping to build the unique skillset required of port workers.

Claire McKay, Head of Learning and Development at Peel Ports Group, says: "This achievement is about more than just status, it is about creating opportunities for our people at every stage of their career.

"People have always been at the heart of our operations, and learning provider status allows us to go even further with internal training. By developing and delivering qualifications in-house, we can nurture local talent and ensure our workforce has the skills to meet the demands of a changing industry.

"Being recognised as a training provider also reinforces our role as a leader in workforce development within maritime and logistics. We are setting a benchmark for our sector; while also supporting the key industries we serve including construction, retail and energy."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# ON THE MOVE

All the latest appointments across the industry. Got a promotion you would like to announce? Let us know by emailing editor@bulkterminals.org

**The Port of Tyne has appointed Elaine Scott as its new Director of Innovation. Following her promotion from Innovation Partnerships Manager, Scott will lead the Port's sustainable innovation agenda and run the National Maritime Innovation Hub.**

She will oversee a range of programmes including Venture Connect, alongside international collaboration initiatives such as the Ports Innovation Partnership. Scott brings more than 25 years of experience across economic development and regeneration, with a strong focus on technology-enabled innovation and sustainability-led initiatives.

Before joining the Port of Tyne, she was Director at Space North East England based at NETPark, the region's first science park.

**The Montreal Port Authority (MPA) has appointed Paul Bird as President and Chief Executive Officer. He was previously Chief Commercial Officer of the MPA.**

His appointment comes at a new strategic phase for the organisation, marked in particular by the securing of a $1.16bn loan from the Canada Infrastructure Bank to support the Contrecœur terminal project.

Having joined the MPA in 2020 as Senior Director of the Contrecœur expansion project and later serving as Chief Commercial Officer, he played a key role in securing environmental permits, finalising design and engineering, developing partnership agreements and initiating preparatory work for the terminal project. He previously spent nearly 10 years overseeing infrastructure for the mining, rail and port sectors at ArcelorMittal.

"The MPA is a key link in supporting the growth of our domestic businesses, and I will leverage my leadership and operational experience at the Port to ensure the sound management of operations as thousands of businesses rely on us to diversify or reshore trade flows," says Bird.

**Shipping group CMA CGM has appointed Amelie Humphreys as General Manager of CMA CGM China.**

Based in Shanghai, Humphreys will oversee the continued development of the Group's activities in the Chinese market.

She joined CMA CGM in Spain in 2012 and has held several leadership positions within the company. Her previous roles include Vice President Sales in Marseille and Regional Director for Latin America.

Most recently, Humphreys served as General Manager of the Vietnam cluster.

She succeeds Esra Bora, who has been promoted to lead ANL Container Line and CMA CGM Oceania agencies.

**Middle Eastern port operator Red Sea Gateway Terminal (RSGT) has appointed Lars Vang Christensen as Group Chief Executive Officer. He succeeds Jens O Floe, who has served as Group CEO since 2016 and will become a non-executive director, representing RSGT shareholders in various board roles.**

Vang Christensen brings more than 30 years of global leadership experience across the maritime, port and logistics sectors, having held multiple CEO and senior executive roles within major international terminal and shipping companies. Most recently, he served as Regional Head of Joint Ventures and Strategic Partnerships at APM Terminals, where he oversaw strategic engagement across a diversified global portfolio.

In his new role, he will lead RSGT into its next phase of growth, accelerating strategic expansion, strengthening international partnerships and advance the company's continued commitment to operational excellence and innovation.

"It is an honour to join RSGT at such an important stage in its journey," he says .

**Rob Smeets has become CEO of the Antwerp-Bruges Port Authority for a six-year term. Smeets has worked for the Port Authority for more than 20 years and has held several senior roles, including head of the Towage Department, Nautical Operations Director and, since 2019, Chief Operations Officer.**

With extensive experience within the organisation, in-depth knowledge of the port and its operations and strong familiarity with a wide stakeholder landscape, Smeets has a solid foundation to lead Port of Antwerp-Bruges.

"Port of Antwerp-Bruges is strongly positioned internationally and has outstanding employees, customers and partners. Together, we want to continue building a port that keeps increasing its impact, is ready for tomorrow's challenges, and further strengthens its position as a leading global port. I am looking forward to it," he says.

**The UK's largest port operator, Associated British Ports (ABP), has appointed Rupert Joseland as its new Group Head of Property. He will lead the property team of one of the UK's biggest commercial landowners, with a portfolio of over 8,600 acres across a range of strategic locations providing unrivalled development options and multimodal logistics links.**

Joseland has more than 30 years of experience in delivering large-scale industrial and logistics development, including as Managing Director at St Modwen Properties. He has established high-performing regional teams, delivering major schemes such as Swansea University Bay Campus and creating a more than 10 million square foot logistics portfolio.

"The sector-leading scope of the ABP property portfolio and the range of development opportunities is clear. What has particularly struck me from my initial conversations with ABP is their ambitious vision for developing and growing their estate. I'm excited to be joining ABP to lead the team in realising this ambition," says Joseland.

**Kristian Durhuus has become CEO of Copenhagen Malmö Port (CMP). He brings a strong leadership and commercial background, most recently serving as CEO of Molslinjen A/S and Øresundslinjen AB, as well as COO at Copenhagen Airports A/S.**

He combines his experience from infrastructure and transport-related companies with a strong business focus and competencies in strategy, business development, digitalisation and the green transition. He has also worked in international environments across organisations with diverse cultures and employee groups.

"I am very much looking forward to becoming part of Copenhagen Malmö Port and to further developing the company in line with the new strategy together with the organisation. CMP holds a strong position in an attractive region, and I see great potential to continue developing the business with a focus on sustainable growth and increased competitiveness," Durhuus says.

**Canada's Prince Rupert Port Authority (PRPA) has appointed Kurt Slocombe as President and Chief Executive Officer. The selection follows an international search that began in October 2025.**

Slocombe joined PRPA in 2019 as Vice President, Operations, Planning and Infrastructure. He has an extensive background in gateway operations including as Director of Operations and Director, Gateway Operations Centre at Fairview Container Terminal.

"I'm honoured to be appointed President and CEO of the Prince Rupert Port Authority," says Slocombe. "This port matters to people in Prince Rupert and to communities and businesses across the country, and I'm looking forward to working with our team and partners to build on the strong work already underway."

# EVENTS 2026-27

### SMM
1–4 SEPTEMBER 2026
HAMBURG
smm-hamburg.com

### TOC AMERICAS 2026
20–22 OCTOBER 2026
CARTAGENA, COLOMBIA
tocevents-americas.com

### WORLD LNG SUMMIT AND AWARDS 2026
1–4 DECEMBER 2026
ISTANBUL
lngindustry.com

### IUMI 2026
20–23 SEPTEMBER 2026
ROTTERDAM
globalmaritimehub.com

### BULK TERMINALS 2026
21–22 OCTOBER 2026
A CORUÑA
bulkterminals.org

### 3RD SHIP ENERGY EFFICIENCY
2–3 DECEMBER 2026
ATHENS
ship-propulsion.com

### BREAKBULK AMERICAS
22–23 SEPTEMBER 2026
HOUSTON
americas.breakbulk.com

### TOC ASIA 2026
10–11 NOVEMBER 2026
SINGAPORE
tocevents-asia.com

### BREAKBULK MIDDLE EAST
2–3 FEBRUARY 2027
DUBAI
middleeast.breakbulk.com

### SHIPPING UK
5 OCTOBER 2026
LONDON
events.rivieramm.com

### BREAKBULK ASIA
18–19 NOVEMBER 2026
SINGAPORE
asia.breakbulk.com

### NOR SHIPPING
8–11 JUNE 2027
OSLO
nor-shipping.com

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## CONSULTANCY SERVICES

Some of our Consultancy services include advising on:

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

## SHORT COURSES FOR INDUSTRY

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

### Pneumatic Conveying:

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

### Storage of Bulk Materials:

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

### General bulk materials handling:

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

### Specialist areas of concern:

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

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