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# CM

CONTAINER MANAGEMENT

November 2025

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£300/€370/USD480

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issn 0269-7726

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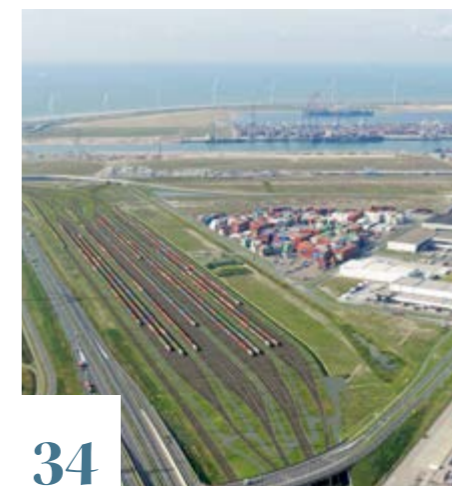
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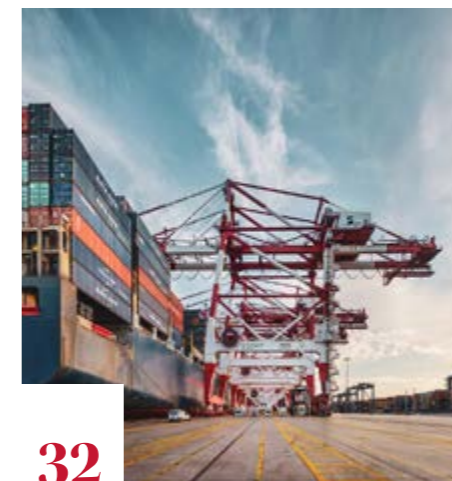
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# Bracing for the chill



Lacey Jones — Editor

## The postponement of the talks on the IMO Net-Zero Framework may trigger a slowdown in maritime's emission-reducing momentum

prehensive regulatory framework for shipping, covering aspects such as safety, environmental concerns and legal matters.

The IMO is the blueprint for many in the industry when it comes to their sustainability goals, whereby the organisation aims to achieve net-zero greenhouse gas (GHG) emissions from international shipping by or around 2050, with interim targets of at least 20% by 2030 and at least 70% by 2040.

In April of this year, the IMO approved the Net-Zero Framework, which is comprised of a set of international regulations aimed at reducing GHG emissions from ships, in line with its 2023 strategy for the reduction of GHG emissions from ships. It includes two key elements: a global fuel standard and global GHG emissions pricing mechanism.

The framework was expected to be adopted in 2025, taking effect in 2027, however, IMO member states were unable to come to an agreement during the extraordinary session of the Marine Environment Protection Committee (MEPC) in October of this year and thus it was adjourned for 12 months.

Singapore introduced the motion to delay, which was formally submitted by Saudi Arabia and was passed with 57 votes in favour, 49 against, and 21 member states abstaining. Supporters of the motion cited the need for more time to refine technical details and build consensus among developing states. A statement released by the IMO following the decision stated that the member states will use the 12-month delay to work toward a consensus.

Understandably, the delay was a dampener to many in the industry. Thomas Kazakos, International Chamber of Shipping (ICS) secretary general, said: "We are disappointed that member states have not been able to agree a way forward at this meeting. Industry needs clarity to be able to make the investments needed to decarbonise the maritime sector, in line with the goals set out in the IMO GHG strategy."

Rico Luman, senior economist, transport & logistics, at ING, noted that the progress of decarbonising the shipping sector had been limited, in part due to geopolitical disruptions

that increased sea miles and operational inefficiencies.

"The current timeline needs to be reassessed, as the projected CO<sub>2</sub> reductions by 2030 already fall short of earlier ambitions," he added. "As a result, achieving the 2040 and 2050 targets set out in the IMO's net-zero strategy is becoming increasingly challenging—particularly given the long investment horizons typical in the shipping industry."

Time plays a key part in maritime's sustainable transition, especially given that there isn't a lot left of it before the first of the IMO's interim goals are expected to be met. 2026 looms just around the corner, with 2030 not soon after it. The time it takes between ordering, delivery and the commissioning of equipment is a far shout from Amazon next day delivery.

DaChan Bay Terminals in Shenzhen, for example, recently completed a conversion programme aimed at discontinuing operation of all its diesel container trucks. The final batch of battery-swap tractors were delivered in late July 2025 and have been in operation since then. Now 72% and 28% of the internal haulage fleet at the terminal are battery-swap tractors and liquefied natural gas (LNG)-powered tractors, respectively.

In Taiwan, Taiwan International Ports Corporation (TIPC) has committed to achieving a 50% carbon reduction by 2030 and net-zero emissions by 2050. The port operator has, to date, installed 219 low-voltage and 11 high-voltage shore power systems in aid of this goal. By next year, TIPC will have a further five high-voltage shore power facilities to further cut emissions (See Page 37).

Time is a fickle thing. It is likely that we'll blink and find 2030 at our doorstep, ready and waiting for the realisation of the promised targets like trick or treaters on Halloween. Will the maritime industry be ready to greet it, the sweet promise of emissions reductions in hand, or will the door remain shut and the lights off? We can only be thankful for what the industry has achieved thus far, and hope it realises its ambitious goals and will shine as bright as the holiday lights of December.

# Ports & Terminals



Doug Otto, interim CEO and director of the Alabama Port Authority, and Brian Harold, managing director of APMT Mobile, survey expansion plans

## USA

### APMT Mobile and Alabama Port Authority agree construction of new US\$131m container berth

APM Terminals (APMT) Mobile and the Alabama Port Authority have agreed to proceed with the construction of a new, 1,300 ft container berth at the Port of Mobile.

The US\$131m project, funded by federal appropriations to the Port Authority and enhanced by private investments from APMT, marks the next major investment in the growth of the Mobile container terminal.

Berth capacity will be expanded by 50%, enabling the terminal to handle three ultra-large container vessels (ULCVs) simultaneously and significantly enhancing the Port of Mobile's service offering and capacity for container traffic in the Gulf.

Construction on the new berth is expected to begin in 2026, with completion targeted for 24 months after groundbreaking.

Once the additional dock is completed, the annual berth capacity of APMT Mobile will be 1.4m teu, supported by a total of seven ship-to-shore (STS) cranes.

Brian Harold, managing director of APMT Mobile, said: "This new berth is a strategic next step in making sure Mobile stays ahead of the growth curve. As cargo volumes grow, we're committed to scaling further in full partnership with the Port Authority and our customers."

The Phase V project is the latest piece of a multi-phase expansion effort undertaken by the Alabama Port Authority and APMT

Mobile to ensure Mobile remains one of America's most competitive and resilient container gateways.

Following the recent completion of the US\$366m Mobile Harbor deepening project to 50 ft – making it the deepest container port in the US Gulf – the new berth complements more than US\$200m in investments now underway, including a 33 acre container yard expansion, a rail capacity upgrade, and construction of a new rail flyover bridge that will enable direct on-dock rail access.

To support the long-term success of the terminal and strengthen public-private alignment, APMT and the Alabama Port Authority have also agreed to a 20-year extension of APMT's concession to operate the container terminal, now running through 2058 with two 10-year extension options, and increase the lease payments to underwrite the Port Authority investment.

Doug Otto, interim CEO and director of the Alabama Port Authority, said: "This expansion is about more than infrastructure – it's about cementing Mobile's position as the Gulf's



The Panama Canal

premier container gateway.

"With the channel deepening complete, a new berth underway, the Phase IV expansion in progress, and APMT's continued partnership, we're connecting businesses across Alabama – and across the nation – to global markets faster and more efficiently than ever before."

Once complete, the new berth will enhance the value proposition through boosting operational flexibility, reducing vessel wait times, and improving schedule reliability for carriers and shippers across the Southeast.

The berth will be located at the southern end of the existing container terminal and is adjacent to 25 acres of land that could be developed in the future for container handling, value-added logistics, or storage needs.

## Panama

### Panama Canal launches consultation process for development of port terminals

The Panama Canal has launched a consultation process with representatives of the maritime industry to identify potential partners interested in developing port terminals on both the Atlantic and Pacific sides of the waterway. Following a process like the introduction of the gas pipeline project, the Panama Canal convened a group of representatives from companies with proven experience in container port operations and container shipping lines. According to institutional rules and regulations, this session was a working meeting, accessible only by invitation to each participant.

Representatives from APM Terminals, Cosco Shipping Ports, CMA Terminals-CMA, DP World, Hanseatic Global Terminals, MOL, PSA, SSA Marine-Grupo Carriz, and Terminal Investment Limited participated, as well as CMA CGM, ONE, Evergreen, Hapag Lloyd, HMM, Maersk Line, MSC, OOCL, COSCO, Yang Ming, the Port of Houston and ZIM.

As part of this business process, a market and feasibility study will be conducted for both terminals.

Following this stage, a general project plan will be developed which will lead to the initiation of a special process to select a concessionaire.

The selection will include a prequalification phase, an interaction and dialogue stage with prequalified participants, and finally, the selection of the concessionaire.

The final phase of the concessionaire selection is expected to conclude in the fourth quarter of 2026 and the process will be transparent and competitive, with participation anticipated by leading global companies.

The Panama Canal reaffirms its commitment to transparency, responsible planning, and adherence to institutional procedures, in line with its mission to promote the sustainable and competitive development of Panama's maritime system.

Within the Panama Canal's 2025-2035 strategic vision, container terminals are the most significant components of the canal's supporting infrastructure, second only to the locks and navigation channels.

Their development will expand port capacity and maintain the competitiveness of the Panama route.

An estimated investment of B/.2.6m (US\$2.6m) is projected for both terminals, with an expected economic impact of between 0.4% to 0.8% of Panama's GDP.

Additionally, approximately 8,100 jobs are expected to be generated during construction, and around 9,000 jobs once operations begin, which include direct, indirect and induced employment.

The goal of these initiatives is to increase container transshipment capacity by 5m teu per year, strengthen Panama's position as one of the world's most competitive intermodal hubs, and expand port capacity in the interoceanic area, which is currently operating near its limit.

With this vision, the Panama Canal reaffirms its commitment to Panama and the global community to remain a driver of global trade and economic development while fostering fairer, more resilient, and sustainable progress for all Panamanians.



CMA CGM is a leading player in Northern Europe's shipping

## Germany

### CMA CGM Group to acquire 20% stake in Eurogate Container Terminal Hamburg

The CMA CGM Group has signed a term sheet to acquire a 20% stake in Eurogate Container Terminal Hamburg (CTH), with the transaction expected to be completed in the first half of 2026, subject to regulatory approval.

CMA CGM, a leading player in Northern Europe's container shipping, calls at Eurogate CTH through its FAL service which connects Asia and Northern Europe with 23,000 teu liquefied natural gas (LNG) powered vessels.

The strategic investment is fully aligned with the French group's strategy to expand its infrastructure portfolio in support of its global shipping network and, more specifically, in Europe.

Rodolphe Saadé, chairman and CEO of the CMA CGM Group, said: "I am pleased to announce this new partnership with EUROGATE, which marks an important step in the development of Hamburg Port and supports its ambition to remain a major gateway for European trade."

"Through our participation, we will help enhance the terminal's capacity, strengthen its rail connections, and support its move towards more sustainable operations."

"This reflects our confidence in Germany's long-term competitiveness and our commitment to contributing to resilient and efficient supply chains in Europe."

As an international port operator with 64 terminals worldwide, CMA CGM reinforces its presence in Hamburg, one of Northern

Europe's key maritime hubs, and further enhance the performance of its maritime and logistics services while contributing to more resilient and low-carbon supply chains across the region.

This is also supported by Eurogate's direct rail connection to EUROKOMBI, Germany's largest intermodal terminal.

Additionally, the partnership supports Eurogate's western expansion project at CTH, which will expand the facility by approximately 38 ha and add around 1,050 m of new quay wall.

The expansion has been designed to accommodate the next-generation container vessels and increase the terminal's capacity from around 4m teu to nearly 6m teu.

Furthermore, it will help to modernise and improve operational efficiency and intermodal connectivity of existing areas.

By becoming a shareholder, the CMA CGM Group actively contributes to this long-term development, strengthening Hamburg's position as a leading North European maritime hub.

CMA CGM has a long-standing and growing presence in Germany, where the group first established offices in Hamburg and Bremen in 1991.

Today, Germany serves as a key hub within CMA CGM's regional cluster covering five countries — Germany, Switzerland, Austria, Slovakia, and the Czech Republic — supported by nine offices and 23 weekly vessel calls across three major ports: Hamburg, Bremerhaven, and Wilhelmshaven.

Through CEVA Logistics and CMA CGM Inland Services, the Group is able to offer seamless end-to-end transport solutions for its German customers.



GCT Deltaport

## Canada

### GCT welcomes federal budget commitment to strengthen national trade infrastructure

Global Container Terminals (GCT) has welcomed the federal government's Canada Strong 2025 budget and its commitment to strengthening national trade infrastructure through responsible private-sector investment.

The Deltaport Expansion Berth Four Project (DP4) is a market-ready expansion of the existing GCT Deltaport terminal that will add up to 2m teu of new container capacity.

The project supports Canada's trade diversification goals, advances GCT's net zero commitment, and minimises environmental impacts.

Backed by Canadian institutional investors, GCT's advancement of DP4 reflects the kind of smart, sustainable partnership the government is calling for.

Eric Waltz, president of GCT, said: "Today's budget reinforces the importance of partnering with industry to build the trade-enabling infrastructure that drives Canada's economy. As a Canadian-owned company focused on sustainable growth, we are encouraged by the direction laid out by the Government of Canada in the budget.

"Our DP4 lines up on all counts with the vision laid out in today's budget and is exactly the kind of project Canada needs – homegrown, privately financed, and environmentally responsible."

He added: "The federal budget's focus on private investment and its introduction of the new CA\$5bn (US\$3.5bn) Trade Diversification Corridors Fund sends a clear signal that Canada is serious about modernising its gateways while protecting taxpayers and making prudent investments that meet market needs.

"DP4 delivers the trade capacity Canada

needs – without the public cost or environmental footprint of new greenfield megaprojects. GCT stands ready to partner with the Vancouver Fraser Port Authority to deliver capacity for the West Coast."

The DP4 project is well advanced in the Impact Assessment Agency of Canada (IAAC) review, with about half of milestones completed, and continues to engage indigenous communities to ensure meaningful participation and shared economic benefits.

Waltz said: "As Canada looks to the future of trade, DP4 is ready to deliver – a proven, efficient, and sustainable expansion that puts private capital to work for the public good."

## Malaysia

### Maersk launches its latest and largest warehouse in Asia Pacific

A.P. Moller-Maersk has officially opened its largest contract logistics facility in Asia Pacific, the Maersk Mega Distribution Centre (DC) which has helped to boost its warehouse footprint by more than 30% in Malaysia.

Spanning a total floor area of nearly 180,000

sq m, the Mega DC offers 100,000 pallet positions, and is a multi-client facility, purpose-built to handle a wide range of commodities including fast-moving consumer goods, food and beverage items, footwear and apparel.

Elaine Low, area managing director, Southeast Asia, Maersk, said: "Domestic consumption has been buoyant and we're seeing increasing opportunities to support businesses across diverse industry sectors in Malaysia.

"With shared resources within this multi-client facility, we're able to deliver enhanced cost-efficiency and operational agility—empowering customers to scale their warehousing and distribution seamlessly, especially during peak demand periods."

The facility is strategically located in Shah Alam, with direct connectivity to major highways including the North-South Expressway (PLUS), ELITE Highway, and Shah Alam Expressway (KESAS).

With these connections, the Mega DC enables seamless access to key industrial zones, urban centres, Port Klang and Kuala Lumpur International Airport, which helps to ensure optimal transit times for customers.

It is also situated around 340 km from the Port of Tanjung Pelepas, Maersk's key transshipment hub port in Asia.

The new facility has been designed with fast and reliable distribution across Asia Pacific in mind, connecting cargo from overseas ports and airports directly to retailers and consumers through seamless warehousing and last-mile delivery.

Daily trucking links major cities like Ipoh, Penang, Johor, Malacca, and Kota Bharu, while flexible options by sea, air, and land provide efficient access to East Malaysia and wider Asian markets.

YB Anthony Loke, Malaysia's minister of transport, said: "The opening of this state-of-the-art facility will further boost the broader logistics and supply chain landscape in



The opening ceremony of the Mega DC

# FLEX-BOX

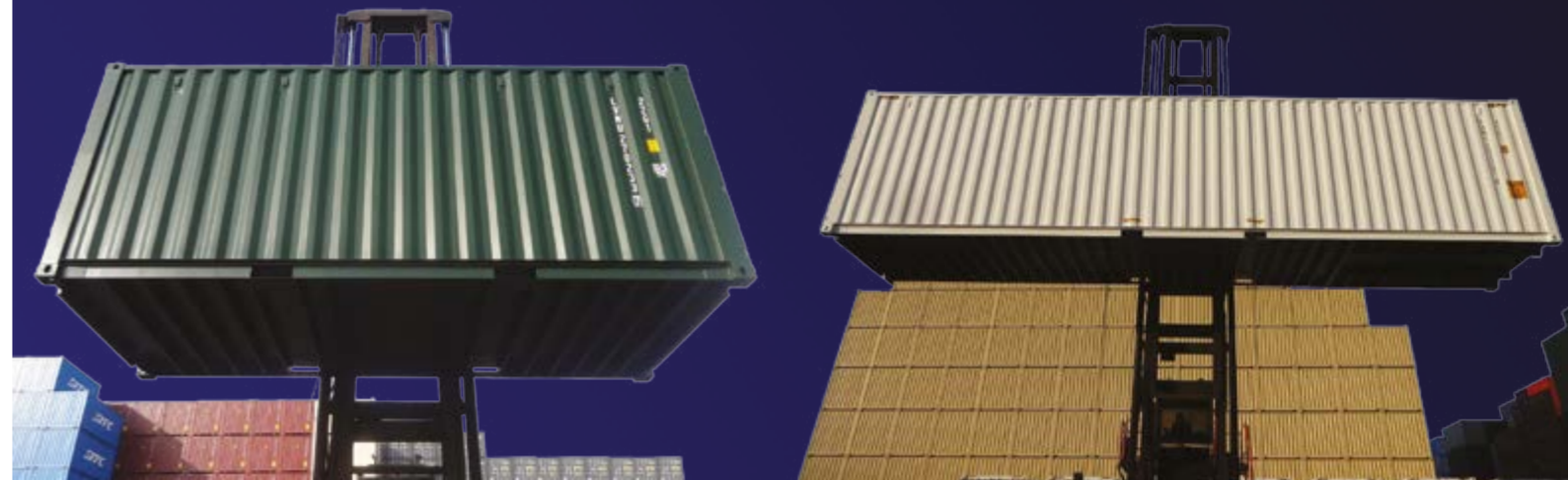
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Malaysia.

“The connectivity of Maersk’s Mega Distribution Centre is critical to enabling efficient movement of goods across the country and the region, aligning with Malaysia’s Logistics and Trade Facilitation Masterplan and bringing us closer to making Malaysia the ‘Logistics Gateway to Asia.’”

Maersk’s Mega DC is equipped with several state-of-the-art automation systems, such as autonomous mobile robots (AMRs), Put-to-Light (PTL) technology, and an automated storage and retrieval system (ASRS).

These advanced solutions enable faster order fulfilment, shorter lead times, and improved order accuracy by minimising human error and underscores the company’s commitment to delivering high-performance logistics capabilities for its clients.

The facility’s end-to-end transport management system also provides oversight of real-time tracking and monitoring of shipments, enabling enhanced visibility and control throughout the shipping process.

Maersk also offers through the Mega DC a wide range of value-added services such as tagging, labelling, re-packing, palletising, returns management, quality control and product disposal.

The facility is equipped with Maersk’s Warehouse Management System (WMS) and Electronic Data Interchange (EDI) capabilities, providing customers with real-time inventory and transaction visibility, enhanced traceability and possibilities for technological integration with customers’ existing systems.

Comprehensive safety features have been utilised as well, such as forklift safety systems to ensure correct positioning, enhance pedestrian visibility and reduce collision risks, robust fire protection and fighting systems and 24/7 CCTV surveillance.

Sustainability has played a part in its design as the Mega DC is Green Building Index (GBI) Gold and LEED Gold certified, with features to reduce energy and water usage including solar panel rooftop installations, smart LED lighting and rainwater harvesting solution.

KS Chang, head of Maersk Contract Logistics, Asia Pacific, said: “This facility marks one of Maersk’s most significant milestone investments in Asia Pacific and stands among our largest contract logistics sites globally.

“This hub reinforces our integrated capabilities to deliver reliable, flexible supply chains and modern, automated solutions that will help customers scale and reach local consumers more effectively.”



## Saudi Arabia

### Red Sea Gateway Terminal and CMA CGM to build and operate Terminal 4 at Jeddah Islamic Port

Red Sea Gateway Terminal (RSGT) and CMA CGM Group, through its subsidiary CMA Terminals, have signed a term sheet for a potential joint venture to build and operate Terminal 4 at Jeddah Islamic Port. The planned Terminal 4 SAR1.7bn (US\$450m) investment will deliver a 2.6m teu state-of-the-art new infrastructure, advanced handling equipment, and next-generation digital and sustainability capabilities, demonstrating both partners’ shared commitment to operational excellence, modernisation, and customer-centric service.

The potential sub-concession would be structured under RSGT’s existing long-term concession with the Saudi Ports Authority (Mawani) and forms part of RSGT’s option to expand Jeddah Islamic Port’s capacity on the allocated Terminal 4 area, as stipulated in the 2020 concession agreement.

The joint venture will operate as a separate 2.6m teu container terminal adjacent to the existing RSGT terminals.

Jens Floe, Group CEO of RSGT, said: “This term sheet reflects a shared intent to bring additional capacity, reliability and technology to Jeddah Islamic Port.

“By structuring a sub-concession under our existing framework with Mawani, and bringing CMA CGM to consolidate their volumes on T4, we can accelerate upgrades and service enhancements while maintaining continuity and high standards across the terminal.”

With the new Terminal 4 capable of berthing and operating mega container ships with maximum efficiency, the planned collaboration aims to strengthen service quality and network con-

nectivity for all Saudi customers, to prove and enhance the efficiency of Jeddah Port as a central transshipment hub in the Red Sea area leveraging CMA CGM’s global network with RSGT’s proven operational expertise at Jeddah Islamic Port.

It supports Saudi Arabia’s broader logistics strategy to increase gateway throughput, expand transshipment, and reinforce the Red Sea’s pivotal role along the Europe-Asia-Africa corridor.

Rodolphe Saadé, chairman and CEO of the CMA CGM Group, said: “I am pleased to announce this partnership with RSGT, which represents a new step in the development of Jeddah Islamic Port and supports Saudi Arabia’s 2030 Vision.

“By combining CMA CGM’s global expertise with RSGT’s local strength, we will contribute to making Jeddah a key logistics gateway on the Red Sea. This investment reflects our confidence in the Kingdom’s long-term ambitions and our commitment to supporting its economic transformation.”

Through this partnership with CMA CGM at Terminal 4, RSGT continues to advance Saudi Arabia’s Vision 2030 by scaling its annual handling capacity up to 8.8m teu and further establishing Jeddah container terminals as the region’s leading economic and logistics hub.

The initiative also underscores RSGT’s close collaboration with Mawani, whose framework enables private-sector investment and continuous improvement across Saudi ports.

Suliman Almazroua, president of Mawani, said: “This partnership exemplifies the Kingdom’s commitment to achieving Vision 2030 by transforming Saudi ports into world-class logistics hub. Mawani is honoured to facilitate strategic collaborations that enhance capacity, connectivity, and innovation within our network.

“We remain committed to strengthening the Kingdom’s role as a global gateway for trade, fostering economic growth, and contributing to a more competitive and sustainable future.”



## Netherlands

### Container throughput at Port of Rotterdam grows by 3% in first nine months

The Port of Rotterdam has recorded a 3% increase in container throughput to 10.7m teu in the first nine months of the year.

Due to strong import demand, particularly from Asia, the last three months showed a 4% increase in container throughput compared to 3% for the year to date.

Total throughput in the Asia-Europe shipping region increased by 9% in the last nine months and throughput on the trans-Atlantic route increased by 15% in the first nine months compared to last year.

The new sailing schedules introduced at the beginning of this year include more services from Rotterdam to this shipping region.

In terms of tonnage, throughput showed a 0.6% decrease compared to the same period last year due to the imbalance between imports and exports, resulting in more empty containers being transhipped.

Exports from Europe are still suffering from the pressure on European competitiveness, and this is particularly noticeable in the automotive industry and the chemical sector.

Total throughput in the Port of Rotterdam fell slightly by 3% in the third quarter of 2025 and throughput is down from 328.9m tonnes in the first nine months of 2024 to 320.2m tonnes, mainly due to lower throughput of iron ore and mineral products.

Boudewijn Siemons, CEO of Port of Rotterdam Authority, said: “Although total throughput volumes showed a slight decline in the first nine months of this year, developments in areas such as container throughput and the throughput of renewable fuels confirm the resilience and strategic value of the Port of Rotterdam.

“At the same time, European industry is still under enormous pressure, which underscores the need to continue investing jointly in innovation, sustainability, and logistical efficiency.”

Across all segments, dry bulk decreased by 6%, liquid bulk declined by 3% and breakbulk increased negligibly by 0.2%. Additionally, roll-on roll-off (ro-ro) throughput decreased by 0.1% and volumes to and from the UK have not yet recovered.

## Israel

### Port of Ashdod launches NIS1.5bn infrastructure investment programme

The Ashdod Port Company has announced a comprehensive infrastructure investment programme totalling NIS1.5bn (US\$461m), representing a significant milestone in the company’s strategic plan to enhance efficiency, expand capabilities, and ensure the port’s continuous operation as a vital link in Israel’s supply chain.

The investment programme includes a series of projects to modernise and optimise the port’s facilities, with a particular focus on transforming quays into specialised terminals according to cargo segments.

This specialisation is designed to streamline operations, strengthen the port’s role as a key national infrastructure asset, and position Ashdod Port as a regional leader in port innovation and sustainability.

A key investment includes the procurement

of 12 electric rubber-tyred gantry (eRTG) cranes at a cost of NIS250m (US\$77m), as part of a broader plan to acquire 34 cranes by 2030.

The port is also investing NIS180m (US\$55m) in the construction of a dedicated electrical substation, and NIS100m (US\$31m) in the expansion of the container storage yard behind Quay 21, increasing its capacity by an additional 4,000 containers.

Another NIS120m (US\$37m) will be dedicated to advanced jib cranes, along with several complementary infrastructure projects currently underway.

Shaul Schneider, chairman of Ashdod Port’s board of directors, said: “In this era of global challenges, we recognise the importance of Ashdod Port as a vital strategic facility. The decision to make massive investments in port infrastructure is part of our strategic plan and fulfills our vision of leading the world of ports.

“These investments – in state-of-the-art cranes, transformation stations, and upgrading quays into specialised segments – will best serve Israel’s economy and industry.”

The company has also launched the second phase of the Quay 21 upgrade project, totalling NIS500m (US\$154m).

This phase includes construction of a new container storage yard in the quay’s hinterland, procurement of the 12 eRTGs, and establishment of a transformation station and dedicated electrical substation.

A new transformation station has already been completed which converts high-voltage energy into low-voltage power, ensuring safe and efficient electricity supply throughout port operations.

Additionally, the dedicated electrical substation provides a stable and centralised power source for vessels and electric cranes, enhancing energy reliability and expanding capacity for reefer containers in the hinterland of Quay 21.



The substation also serves as a backup facility in emergencies, guaranteeing functional continuity and the resilience of Israel's critical maritime infrastructure.

Nissan Levy, CEO of Ashdod Port, said: "Ashdod Port is proud to lead significant infrastructure investments aimed at maintaining and operating the port at the highest level.

"This is a period in which stability, innovation, and the ability to continue providing fast and reliable service are more important than ever, and we are proud to lead projects that will preserve the port's functionality under any circumstances. I thank the port employees who are leading these projects alongside the ongoing daily operations of the port."

Ashdod Port Company is also investing in advanced jib cranes, as part of a NIS500m (US\$154m) development plan to optimise Quays 7 and 9 for general cargo and bulk operations.

These new cranes, with a maximum working radius of 48 m, are capable of handling general cargo, bulk materials, and heavy project loads weighing up to 124 tonnes.

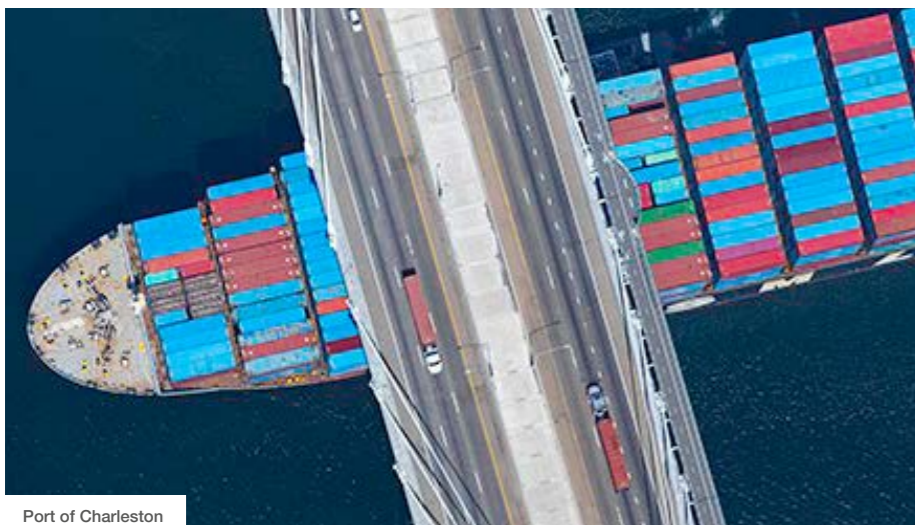
The upgraded quays will accommodate vessels of up to 100,000 tonnes, substantially boosting operational capacity and efficiency.

## USA

### Port of Long Beach's container volumes remain steady in first 10 months of the year

The Port of Long Beach has moved over 8.2m teu in the first 10 months of the year, up 4% compared to 2024, largely due to retailers ordering shipments early and stocking warehouses in anticipation of the spring tariffs.

Port of Long Beach CEO Mario Cordero



Port of Charleston

and COO Noel Hacegaba noted that although shifting trade policies have brought uncertainty to consumers and the supply chain, cargo has continued to move smoothly at the nation's second-busiest port.

Hacegaba said: "Even in the midst of the nation's longest government shutdown, cargo continues to move smoothly through our port and across the nation's supply chain.

"We continue to coordinate closely with all of our partners to anticipate and mitigate issues before they arise to keep cargo and our economy moving."

Cordero has anticipated a robust Black Friday, but he noted that consumers will likely be cautious with purchases due to rising prices.

Last month, the Port of Long Beach moved 839,671 teu, down 15% from last October which remains the port's strongest month in its 114-year history.

Imports declined 18% to 401,915 teu and exports decreased 12% to 99,817 teu, while imports were down 13% to 337,940 teu.

Cordero said: "The consumer has not seen significant tariff impacts given that manufacturers, retailers, and others have shared in incurring some of these costs and mitigating price escalation to the consumer, but that may change as we approach 2026.

"Consumers will likely see price escalation in the coming months as shippers continue to pass along the cost of tariffs on goods and a higher percentage of these costs will be passed on to the consumer."

Long Beach Harbor Commission president Frank Colonna added: "Our dedicated workforce and terminal operators are working hard to ensure store shelves are stocked and shoppers are able to purchase gifts for the holidays.

"We plan to continue delivering extraordinary customer service and building for a sustainable future into the new year."

## Belgium

### Mixed picture for Port of Antwerp-Bruges in volatile trade climate

Container traffic at the Port of Antwerp-Bruges has stabilised in the first nine months of 2025, up 2% year-on-year to 10.32m teu during this period.

In the third quarter alone, however, container throughput declined 2% despite a solid first half-year.

This slowdown is linked to the normalisation of container shipping alliances, which brought an end to the temporary overlap between calls in old and new alliances.

The normalisation led to a clear reduction in congestion, with quicker turnarounds and smoother traffic to the hinterland.

Lack of terminal capacity saw the Port of Antwerp-Bruges' market share in the Hamburg-Le Havre range drop to just under 30% in the first half of 2025.

Jacques Vandermeiren, CEO of Port of Antwerp-Bruges, said: "The slight decline in our market share is largely explained by congestion in the first half of the year. Volumes were sufficient, but available terminal capacity was inadequate.

"Rearrangements within shipping alliances also had a temporary impact on the distribution of traffic between ports. We anticipate that our market share will recover as soon as additional capacity becomes available."

The Extra Container Capacity Antwerp (ECA) project aims to tackle this bottleneck, although low container shipping schedule reliability and a series of strikes, however continue to affect operational reliability.

Conventional general cargo trade remained status quo after nine months, thanks to a recovery in steel imports, although exports remained under pressure from weaker shipments to the US and Mexico.

Meanwhile, the European Commission unveiled stricter rules to curb foreign steel dumping.

Liquid bulk declined 14%, hit by weaker petroleum derivatives exports to West Africa and persistent weakness in the European chemical sector while volumes of biofuels and energy gases continued their growth.

The European ban on the transshipment of Russian gas led to a decline in liquefied natural gas (LNG) traffic, but this was partially offset by higher imports from the US.

The Port of Antwerp-Bruges noted that recent announcements in the European

chemicals industry underline the continued pressure on the sector.

Dry bulk cargo fell 9% during the first nine months of the year, primarily impacted by weaker fertiliser shipments, partly offset by increased imports from Russia and Morocco, the former ahead of the introduction of new EU duties.

Roll-on roll-off (ro-ro) grew by 3% supported by rising imports of new cars from China, despite European import duties introduced at the end of 2024, as well as higher volumes of trucks and used vehicles.

China has now become the Port of Antwerp-Bruges leading country of origin for new car imports.

Shipments to and from the US, the port's second-largest trading partner, grew by 15% in the first nine months of 2025, primarily driven by containers and liquid bulk.

However, since the summer, the impact of US import tariffs has become apparent: exports fell in the third quarter, particularly for steel, which declined by more than a third compared to the second quarter.

Imports have remained stable for the time being, supported by a sharp increase in liquid bulk and a threefold rise in LNG volumes.

This has reinforced the Port of Antwerp-Bruges' role as a gateway for alternative energy flows replacing Russian gas. Container imports from the US also increased by 8%, although growth has slowed slightly since August.

## USA

### SC Ports records strong intermodal growth but container volumes fall at Port of Charleston

SC Ports has recorded strong intermodal and automotive growth in the first quarter of the fiscal year despite the Port of Charleston handling 212,363 teu in September, a slight dip below planned volumes as broader trade constrictions are being felt across the industry.

Recently expanded Inland Port Greer recorded 17,818 rail moves, an 18% increase marking the highest September on record for the Upstate intermodal facility.

The inland port's continued growth comes as Isuzu broke ground on its new production base in nearby Greenville County.



A vessel at the Port of Long Beach

# Equipment

## UK

### Belfast Container Terminal agrees seven-year Kalmar Care contract extension

Belfast Container Terminal (BCT) has extended its comprehensive Kalmar Care maintenance contract for seven years until the third quarter of 2032.

The contract, which was booked in the third quarter of 2025, ensures the continued supply of dedicated, 24/7 maintenance support personnel to secure the operational availability of all cargo-handling equipment at BCT's Victoria Terminal 3 (VT3).

The Kalmar Care agreement includes onsite maintenance and automation support for BCT's diverse fleet, encompassing advanced Kalmar AutoRTGs, empty container handlers, forklift

trucks, terminal tractors and third-party ship-to-shore (STS) cranes.

Joel Garmory, country director, UK and

Inland Port Dillon broke another all-time monthly record with 4,888 rail moves, a 275% increase over last September.

Micah Mallace, SC Ports president and CEO, said: "South Carolina's ability to attract new business and grow statewide employment makes our port stronger.

"As the industry begins to feel the effects of a downturn following the 90-day tariff delay, the investments companies have made in our state allow us to compensate for tempered container volumes elsewhere in our business. The continued growth of our inland port network and boost in vehicle volumes are a reflection of that."

South Carolina's maritime community moved 16,122 vehicles through SC Ports' Columbus Street Terminal, a 6% increase year-on-year marking the third consecutive month of year-on-year growth.



Belfast Harbour

our Kalmar Care service delivers.

“We are committed to providing world-class expertise to help BCT maintain their high level of operational efficiency. This collaboration is a prime example of how Kalmar works in partnership with its customers to build resilient operations.”

BCT, which is situated in Belfast Harbour, is the largest container terminal in Northern Ireland and operates under a concession granted by Irish Continental Group.

The renewed agreement is a clear indicator of BCT’s commitment to maintaining a highly efficient and reliable operation, powered by Kalmar’s expert service delivery.

Alec Colvin, terminal director at BCT, said: “Our collaboration with Kalmar is a critical element of our operational success. They have consistently delivered responsive and flexible support, which is vital for a busy terminal like ours.

“This seven-year commitment provides us with the long-term security of expert, on-site maintenance resources, ensuring maximum uptime for our entire equipment fleet as we look towards the future.”

## Global

### Conductix-Wampfler and APMT sign third collaboration agreement

APM Terminals (APMT) and Conductix-Wampfler have signed a framework purchase agreement for rubber-tired gantry (RTG) electrification products and services for terminal operations.

Over the past 14 years, Conductix-Wampfler has supplied APMT with 413 energy supply systems for electric RTGs, new and retrofitted, and 116 battery systems for its operations.

The deployment of eRTGs with grid power

supply or battery systems is a core initiative driving port decarbonisation.

François Bernès, CEO at Conductix-Wampfler, said: “This renewed partnership with APMT provides Conductix-Wampfler with a strategic anchor and practical platform for our long-term vision.

“As a strategic partner, we will continue to fully support APMT in achieving its energy-saving, emissions-reduction, and carbon-neutral goals, deeply engaging in the port operator’s decarbonisation journey and contributing our expertise to drive sustainable transformation in the industry.”

APMT is working toward achieving net-zero greenhouse gas emissions (GHG) emissions by 2040 and shifting from fossil-fuelled equipment in its ports to battery-electric container handling equipment is the main lever for reducing its scope 1 GHG emissions.

For its scope 2 emissions, the ambition is to transition to 100% renewable energy by 2030.

The eRTGs eliminate carbon emissions at the source during yard operations, while the battery systems help to enable either full zero-emission operations (FE-RTG) or provide an optimal balance of reduced emissions and operational flexibility (hybrid RTG).

Across multiple terminals worldwide, APMT has implemented large-scale diesel-to-electric conversions that replaces diesel-powered yard cranes with electric-powered ones to reduce emissions at the source.

Grant Morrison, global head of asset category management of APMT, said: “This framework purchase agreement signifies our continued partnership with Conductix-Wampfler, which will contribute to delivering on our ambitious emissions reduction targets.

“We look forward to exploring more projects with Conductix-Wampfler as we work towards a more decarbonised future.”



Konecranes RTGs

## India

### Indian container terminal invests in 30 Konecranes RTGs with E-hybrid technology

A greenfield terminal in India has ordered 30 Konecranes rubber-tired gantry (RTG) cranes which are designed to run entirely on onboard batteries charged by grid electricity, thus ensuring efficient energy consumption and zero tailpipe emissions.

Booked in Q3 2025, delivery of the RTGs are scheduled for Q1 2027 which will underpin yard operations and help to drive the terminal’s eco-efficiency mission.

Shyam Pathak, sales director, Konecranes, port solutions, said: “This greenfield project shows how far Konecranes E-Hybrid technology has come.

“We’re demonstrating to the wider container handling industry that large terminals can now launch with fully electric operations, even if their grid supply is unreliable. This is a new reference point for terminal design and investment in Ecolifting.”

Ecolifting is Konecranes’ vision to increase its handprint while reducing customers’ carbon footprints and “continue to do more with less”. All the cranes will be fitted with Konecranes’ E-Hybrid technology, which can be configured in different ways for fully electric operation.

The terminal has selected a busbar-and-battery configuration and the RTGs will be fully powered by onboard battery packs which will allow continued operations even if grid power is lost.

The batteries are charged dynamically by the busbar power supply based on need during operation.

Compared to up to 400 kW peak power demand for traditional electric RTGs, Konecranes’ E-Hybrid technology reduces peak power demand to only 60 kW per RTG which helps to ease pressure on the local grid and reduce capital expenditure on electrical substations.



The signing ceremony

**Taiwan International Ports Corporation, Ltd.**  
4 Aspects of Offshore Wind Industry at Ports

**01 Port Infrastructure**  
Taiwan International Ports Corporation, Ltd.

- Manufacturing area
- Blade and component loading area

**02 Wind Power Talent Cultivation**  
Taiwan International Windpower Training Corporation Ltd.

- CTVs
- Crane vessels
- Barges
- O&M base

**03 Heavy Cargo Transportation**  
Taiwan International Ports Heavy-Machinery Corporation Ltd.

- Wind turbine blade and unit transportation

**04 Operations and Maintenance Services**  
TIPM Marine Corporation, Ltd.



Tests are being undertaken at a hydrogen test field in Hamburg

## Finland

### Konecranes introduces its Hydrogen Fuel Cell straddle carrier to TOC Americas

Konecranes has introduced its Konecranes Noell Hydrogen Fuel Cell straddle carrier to the Americas, set to debut at TOC Americas in Panama City alongside the Konecranes electric rubber tyred gantry (E-RTG) and electric empty container handler (ECH).

The new hydrogen-driven straddle carrier is currently being tested at Hamburger Hafen und Logistik AG's (HHLA) hydrogen test field in Hamburg, and initial test results show the same high performance as hybrid versions.

Thomas Gylling, director of marketing and customer experience, port solutions, Konecranes, said: "To date, hydrogen fuel cells have mainly been used with light material handling equipment, so the workhorse Konecranes Noell Hydrogen Fuel Cell straddle carrier marks an important step forward for heavy material handling equipment.

"This introduction is part of Konecranes Ecolifting, which aims to make container handling equipment emission-free at the tailpipe with all-electric and hydrogen power options while sacrificing nothing in performance. And we remain well on track towards our goal of having all-electric variants for our entire Ports product portfolio by 2026."

Konecranes has also brought to Panama City its E-Hybrid RTG, which exploits Konecranes' proven battery technology along with conventional cable reel or busbar systems connected to the local grid.

The batteries are the primary power source, charged by the cable reel or busbar system

when needed. This solution is a game-changer for container terminals that suffer frequent power blackouts and are thus reliant on diesel RTGs.

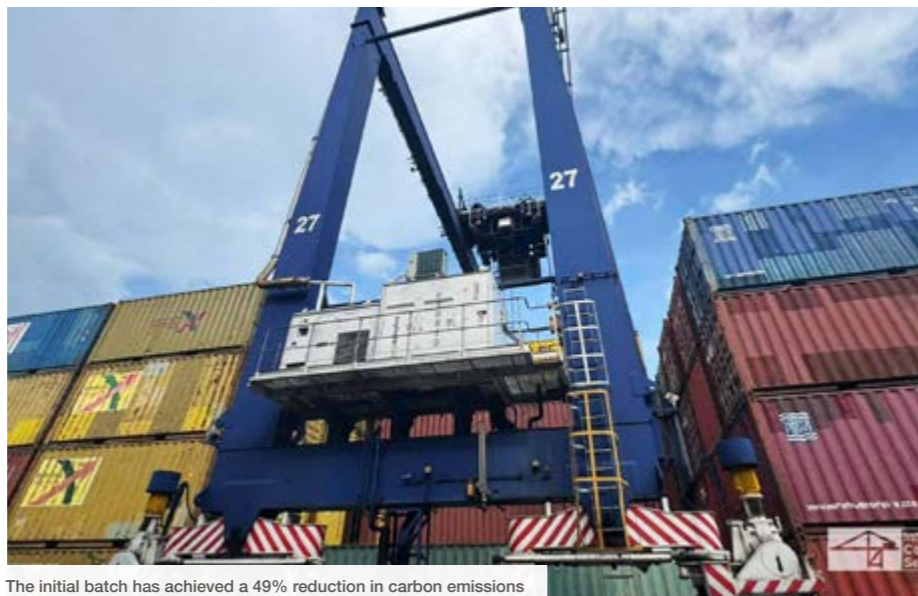
Such terminals are also able to realise significant electrical infrastructure savings versus electric RTGs powered by cable reel or busbar systems.

Additionally, the Konecranes electric ECH is now available throughout the Americas.

It utilises modern high-voltage technology to make the batteries energy-efficient, enabling up to 12 hours of operation before recharging.

Deliveries of the electric ECHs, first launched in October last year, are already well underway in other regions with very positive initial customer feedback according to Konecranes.

Through these eco-friendly products Konecranes has demonstrated its concrete steps it has taken towards offering a comprehensive portfolio of low- to zero-tailpipe-emission products.



The initial batch has achieved a 49% reduction in carbon emissions

## Philippines

### NorthPort converts six RTGs into hybrid models

NorthPort, the Philippines' lead gateway for domestic cargo operated by International Container Terminal Services, Inc. (ICTSI), has converted its rubber-tyred gantry (RTG) cranes into hybrids.

The conversion enables the RTGs to operate more efficiently while reducing the terminal's carbon footprint.

Six RTGs were converted into hybrids by replacing their diesel generator sets into smaller generators and paired with high-capacity, liquid-cooled battery systems.

These now run primarily on batteries, which are recharged by the smaller generator sets resulting in reduced diesel consumption and maintenance requirements.

The initial batch of hybrids is now fully operational, achieving a 49% reduction in carbon emissions and diesel consumption.

This lowers the terminal's average annual carbon emissions by half from 2,186 tonnes to an estimated 1,109 tonnes.

Moreover, NorthPort is expanding its hybrid RTG fleet with the acquisition of four new Mitsui hybrid units, scheduled for delivery in the fourth quarter of 2026.

The adoption of hybrid technology underscores NorthPort's commitment to environmental stewardship, world-class port operations, and exceptional customer service. The initiative supports the terminal's sustainability roadmap, aligns with global standards for responsible port operations and ensures the terminal's adaptability while contributing to the Philippines' environmental and economic goals.

# Business

## Taiwan

### Taiwan International Ports Corporation diversifies investment businesses

In line with international port management trends, Taiwan International Ports Corporation (TIPC) is seeking to diversify business scope through asset development, reinvestment, and international expansion.

Established in 2012 by the Ministry of Transportation and Communications ROC, TIPC oversees seven international ports in Keelung, Taipei, Suao, Taichung, Kaohsiung, Anping, Hualien, and operates two domestic commercial ports in Budai and Penghu.

TIPC's main business includes specialising in international commercial port management, container and bulk cargo loading and unloading, freight warehousing, international cruise terminals and other core port businesses.

TIPC has actively developed investment businesses since 2014 and now holds more than 20% of equity in a total of seven investment affiliates and subsidiaries, focusing on the main port industry such as harbour towage service, warehousing & logistics, land development around the port area to create higher economic value.

In addition, in accordance with offshore wind power policies, TIPC has developed offshore wind power related business such as O&M, logistics & warehousing, wind power talent cultivation, and heavy cargo transportation.

Meanwhile, in response to government's New Southbound Policy and TIPC's investment strategy, TIPC has worked with affiliates to explore countries in Southeast Asia with economic development potential and cargo sources, and deployed port-related and extended industries in ports, logistics and terminals to promote the diversified development.

Founded in 2014, TIPC Marine Corporation (TIPM) is a TIPC 100% subsidiary, and its main business projects are shipping related services in commercial port areas such as vessel entry and exit and berthing operations, and high-quality ship repair services.

TIPM has provided vessels and onshore facility services for major offshore wind developers and Engineering, Procurement, Construction and Installation (EPCI) companies, earning recognition for its high service quality since 2017.

The fleets of TIPM include CTVs, tugs and barges, and the subsidiary has participated in the construction of most offshore wind farms in Taiwan, providing personnel transportation, heavy cargo transport, guard vessel services and onshore facility leasing.

Notably, TIPM has built long-term partnership and project collaboration with an offshore wind developer and manages Taiwan's largest offshore wind O&M base at Taichung Port to form the industrial cluster.

Taiwan International Ports Heavy-Machinery Corporation (TIPH), established in 2020 as a joint venture between TIPC and Giant Heavy Machinery Service Corporation, specialises in heavy cargo transportation and offshore wind project management.

# TIDEWORKS



# OSCAR CABALLERO



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Port of Keelung

TIPH offers customised logistics planning, construction method design, and equipment support, including cargo-specific assessments, lifting and transport equipment configuration, and route planning — all delivered through an integrated approach to ensure high safety and execution quality.

TIPH has actively participated in numerous Taiwan's offshore wind farm projects to transport key components such as pin piles, jackets, blades, towers, and nacelles.

TIPH will take a more proactive role in clean energy industry projects in the future and with abundant experience and strong execution capability, TIPH is dedicated to becoming the hub for heavy cargo transportation and port engineering in the Asia-Pacific region.

Taiwan International Ports Logistics Corporation (TIPL), as a joint venture between TIPC and 3 private enterprises, was established in 2014 and operates warehousing and logistics businesses in Kaohsiung, Taichung and Taipei Ports, with leased warehouses located in the Free Trade Zone.

TIPL takes advantage of the Free Trade Zone to mainly provide various high value-added logistics services and operates Maritime Cargo Express Service -in Taipei Ports for the demand of goods in real time and small quantities.

The service provides a fast and efficient logistics solution for cross-border logistics in the Asia region.

In recent years, to meet the demand of offshore wind energy industry, TIPL has been actively seeking offshore wind energy

business opportunities since 2021 and provide indoor or outdoor storage area at Taichung Port for offshore wind farm O&M parts storage.

The end customers include offshore wind energy developers and equipment suppliers while in the future, TIPL will also seek to become an O&M base of offshore wind energy operator.

Kaohsiung Port Land Development Corporation (KPLD) was established in 2017, and its main business services are to promote the development of the old port areas and combine the resources and platforms of TIPC and Kaohsiung City Government to achieve the goals and benefits of regional development.

Nowadays, KW2 and Kaohsiung Port Depot have been iconic landmarks in Kaohsiung city and with the collaboration of port and city, KPLD demonstrates successfully resilience of ports from cargo transportation to waterfront recreation.

TIPC actively promotes internationalization and expands overseas investment business in line with the government's New Southbound Policy.

PT. Formosa Sejati Logistics (FSL) and Taiwan Foundation International Pte. Ltd (TFI) were established in 2018.

FSL mainly operates container distribution and logistics warehousing in Surabaya, Indonesia, and provides container consolidation, container maintenance, inland and ocean freight, and third-party logistics operations (integrated logistics).

TIPC set up TFI in Singapore by cooperating

with domestic shipping, port and logistics business operators to evaluate suitable targets in Southeast Asian countries to carry out investment planning and management business in ports, international logistics and other industries.

Founded in 2018, Taiwan International Windpower Training Co. (TIWTC) is a joint venture between TIPC and several state-owned and private enterprises affiliated with the offshore wind industry.

TIWTC is committed to cultivating offshore wind professionals who meet international standards and as one of the largest offshore wind training centers in the Asia-Pacific region, it operates advanced training facilities and delivers safety and technical training modules accredited by the Global Wind Organization (GWO).

TIWTC also offers Dynamic Positioning (DP) courses certified by the Nautical Institute (NI), providing a broad range of specialized maritime training programs.

Training more than 1,000 participants annually, TIWTC has successfully cultivated over 10,000 offshore wind professionals to date.

It has held the highest number of GWO certifications in Asia for four consecutive years and was honored with the GWO Training Team of the Year – Asia Pacific award in 2024, in recognition of outstanding training performance on the international stage.

In 2025, TIWTC was nominated for the fifth time as the GWO Training Team of the Year – Asia Pacific.

In 2024, TIWTC established a subsidiary in Japan, further strengthening regional presence and reinforcing role as a key connector of global offshore wind talent.

TIPC aims to become a world-leading port management group and due to the changes and increasingly intense competition in the international port ecosystem, to overcome the challenge in its core business, TIPC draws on the experience of international benchmark port groups to enhance corporate value and competitiveness through diversification and conglomeration.

In line with international and government green energy policies, TIPC will continue to develop diversified investment businesses, explore potential markets and business opportunities, integrate relevant resources, pursue steady and pragmatic development, strengthen risk assessment and management mechanisms, and strive for diversified investment and increasing revenue.



# Brand new look, same great spreaders

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Port NOLA

## USA

### Port NOLA receives approval to expand Federal Trade Zone to St. Tammany Parish

The Port of New Orleans (Port NOLA) has received approval from the US Department of Commerce for its application to expand the Federal Trade Zone (FTZ No. 2) service area to include St. Tammany Parish.

FTZ No. 2 already covers Orleans, Jefferson, and St. Bernard Parishes and the expansion positions the port and the broader Southeast Louisiana business community to attract new investment, support regional economic development, and create jobs.

An FTZ is a secure area under US Customs and Border Protection supervision that allows businesses to defer, reduce, or even eliminate duties on imported goods.

FTZ designation gives companies greater flexibility in supply chain management and encourages international trade.

Beth Branch, Port NOLA president and CEO, said: "This approval marks a significant milestone for Port NOLA and our regional partners.

"By expanding our FTZ into St. Tammany Parish, we are offering businesses another powerful tool to strengthen their competitiveness, increase trade opportunities, and ultimately generate new jobs across the region."

Through a strategic partnership with the St. Tammany Economic Development Corporation (EDC), Port NOLA is supporting expanded opportunities for growth on the Northshore, as well as increasing revenue across both the region and state.

Russell Richardson, St. Tammany EDC president and CEO, said: "The expansion of FTZ No. 2 into St. Tammany underscores

## Japan

### Daikin Reefer launches telematics brand Planexia

Daikin Reefer has launched Planexia, its advanced and innovative telematics brand, designed to bring practical value and advanced functionality to the reefer container industry.

The Japanese-headquartered company is a leader in the supply of refrigeration and climate control solutions for the reefer container industry and is a division of Daikin Industries Ltd.

Planexia combines Daikin's deep technical expertise with an open, collaborative framework that partners with third-party telematics vendors.

As a result it is a highly flexible offering that meets diverse customer needs while consistently delivering high-quality functionality.

Kenji Takata, director of Daikin Reefer sales division, said: "Planexia advances key goals for Daikin Reefer: safe and secure transportation of produce, reduced operational costs, and the advancement of sustainable environmental solutions.

"By combining innovation with superior functionality and all the necessary protocols, we are setting a new standard in reefer container telematics."

It combines real-time monitoring with predictive maintenance and data integration, centred around three core initiatives including a one-stop service, delivering comprehensive customer support, where Daikin Reefer provides a single point of contact for Planexia customers.

This includes sales, technical support and after-sales service to ensure customers receive complete, seamless assistance throughout the product lifecycle.

Planexia's second core initiative incorporates open innovation and collaboration with telematics vendors.

Through open data-sharing protocols and support for key functions such as data downloads, software uploads and performance insights, Planexia aims to offer greater flexibility for the market.

An original server, currently under development, will further enhance efficiency by collecting trip data, obtained and conducted with user permission, via API communication with each vendor.

Additionally, its third core initiative includes its advanced original functions whereby Daikin Reefer has drawn upon its extensive data resources to develop features that are

exclusive to Planexia, including predictive diagnostics and advanced performance detection.

The solution reinforces Daikin Reefer's position as an innovation leader in the reefer industry and, by collaborating with partners and investing in advanced telematics, Daikin Reefer noted that it has created a flexible, future-ready platform that supports operational excellence, reduced costs and sustainability.

## Shipping



CMA CGM Franklin crossing through the Suez Canal earlier this year. Credit: Suez Canal Authority

## Middle East

### Xeneta: End of Houthi attacks and largescale return to Red Sea shipping would be seismic for global container shipping

The end of Houthi attacks on Israel and shipping in the Red Sea would have a seismic impact for global container shipping but an immediate largescale return to the region will require a series of further assurances, according to Xeneta.

In a letter sent to Hamas' military wing, Kata'ib al Qassam, by the newly appointed Houthi chief of staff, Yousef Hassan Al Madani, published on X.com in November, the Houthis announced a suspension of maritime operations against Israel and declared an end to its naval blockade of Israeli ports.

Prior to the letter, a ceasefire had been in effect since October 10 and, at the time of writing, no attacks had been claimed by the Houthis since.

Peter Sand, chief analyst at Xeneta, said: "Details are sketchy and you cannot base the safety of crews, ships and cargo on the word of Houthi militia. Carriers need far more assurance than that and, perhaps more importantly, so do insurance companies.

# PlaneXia

Kazuyasu Matsui, group leader, senior engineer of Daikin Reefer, said: "Planexia will advance the future of reefer container

telematics and we remain committed to ongoing innovation to meet the future needs of the market."

rates to plunge even lower across trades at a global level, not just those directly impacted by the diversions.

"Carriers are already heading into loss-making territory and freight rates are expected to fall up to 25% globally in 2026, even with no change to the situation in the Red Sea. Shippers should be making contingency plans because a largescale return would cause severe disruption across global ocean supply chains as services transiting Suez Canal are reinstated."

He noted: "There are still many questions to be answered, but the impact of a largescale return would be seismic for shippers and carriers."

Martin Kelly, head of advisory at EOS Risk Group, noted in a post on X.com that the risk of Houthi attacks against shipping in the Red Sea and Gulf of Aden and broader region has been significantly lower.

However, he added that the Houthis retain the capability to conduct attacks against commercial shipping.

Kelly said: "Houthi infrastructure, weapons stockpiles, and coastal launch sites remain operational.

"The threat to vessels linked to Israel, its allies, or perceived Western interests therefore persists, and maritime operators should continue to treat the risk as suppressed rather than removed."

In the Houthi letter's conclusion, it affirmed Houthi support for Hamas and the Palestinian cause and Al Madani warned that continued conflict in Gaza may result in Houthis resuming military and maritime operations.

"We are closely monitoring developments and declare that if the enemy resumes its aggression against Gaza, we will return to our military operations deep inside the Zionist entity, and we will reinstate the ban on Israeli navigation in the Red and Arabian Seas," he said.



The revamped Koala service made its inaugural call to VICT with the arrival of the MSC Capetown III

## Australia

### VICT enhances Asian connectivity with inclusion on upgraded MSC Koala service

Victoria International Container Terminal (VICT), Australia's fully automated container terminal operated by International Container Terminal Services, Inc. (ICTSI), has enhanced maritime connection to Asian markets through a revamped MSC Koala service.

The service made its inaugural call at VICT on October 4, linking the Port of Melbourne directly with major ports in China and Indonesia.

VICT's inclusion in the rotation underscores MSC's confidence in VICT's capability to deliver world-class terminal performance, with fixed weekly route offering increased flexibility to supply chains serving Australia's largest consumer market and providing shippers with comprehensive coverage across the country's southern and western regions.

The Koala service rotation covers Shanghai – Hong Kong – Jakarta – Fremantle – Adelaide – Melbourne – Jakarta – Shanghai and is completed in approximately 35 days with seven vessels deployed.

With Melbourne as the final major outbound Australian port, exporters across Victoria can benefit from the direct, weekly link to key Asian markets.

Bruno Porchietto, VICT CEO, said: "The arrival of the Koala service validates VICT's key role as Australia's preferred gateway for high-frequency, reliable shipping line services.

"Our fully automated systems deliver superior berth productivity with minimal operational variability, giving stakeholders the predictability they need to plan their logistics around a consistent weekly window. We thank MSC for trusting our capability to meet the requirements of this service.

As Australia's most advanced container terminal, VICT's fully automated operations ensure rapid vessel turnaround times and schedule consistency – critical factors for

maintaining weekly service calls.

The terminal's operational efficiency, combined with the service's comprehensive coverage, provides shippers with direct and dependable options for cargo movement that reduce the need for unnecessary transshipment and improve overall transit times.

The addition of the Koala service to VICT's service offerings strengthens the Port of Melbourne's position as a key gateway in the Asia-Australia trade corridor, enhancing connectivity for importers, exporters and logistics providers across the region.

VICT continues to work closely with major shipping lines to expand service options and strengthen Melbourne's regional connections and access to global markets.

## Sweden

### Port of Gothenburg welcomes third service between the port and Asia

CMA CGM has launched a new, direct service between the Port of Gothenburg and Asia which, together with the services operated by Maersk/Hapag-Lloyd and MSC, brings the port's direct lines for containers to and from Asia every week to three.

In around 2024, around 700,000 containers were shipped between Sweden and Asia, with the vast majority being shipped via the Port of Gothenburg.



CMA CGM Symi. Credit: Port of Gothenburg

Exports consist mainly of forest products such as paper, cardboard, pulp, and sawn timber, as well as machinery and industrial components.

Imports from Asia largely include consumer goods, clothing, home electronics, and food products.

The growing trade with Asia is also an important factor behind the Port of Gothenburg moving toward a new record year in terms of container volumes.

Claes Sundmark, vice president, sales and marketing, at the Port of Gothenburg, said: "It is the first time in the port's 400-year history that we have three direct services to and from Asia, so of course this is both special and exciting – but also logical.

"Trade between Sweden and Asia has been growing for a long time, and with three weekly calls by three different shipping companies, the conditions for continued growth have never been better."

Earlier this spring, MSC launched a new direct service to Asia.

Shortly after that, Maersk and Hapag-Lloyd adjusted their Gemini cooperation, switching from using smaller shuttles to large mainliners between Gothenburg and Bremerhaven to making Gothenburg the new starting and ending point in Europe.

CMA CGM's decision to use the Port of Gothenburg as its Nordic hub for direct Asia traffic marks the third shipping company or alliance to do so.

All of them call at the Port of Gothenburg container terminal, operated by APM Terminals (APMT).

The new service will call at the following ports: Ningbo – Shanghai – Yantian – Singapore – Tangier – Dunkirk – Southampton – Gothenburg – Gdansk – Le Havre – Southampton – Port Klang – Ningbo.

*CMA CGM Symi* was the first vessel to call at the Port of Gothenburg as part of CMA CGM's new direct service.

The vessel has a capacity of 14,812 teu and runs on liquefied natural gas.



CMA CGM chairman and CEO Rodolphe Saadé

## France

### CMA CGM registers 10 24,000 teu LNG-powered ships under the French flag

CMA CGM has made the decision to register 10 new 24,000 teu liquefied natural gas (LNG) dual-fuel vessels under the French flag, illustrating the Group's determination to strengthen France's maritime competitiveness.

Each with a capacity of 24,212 teu, the LNG dual-fuel vessels are among the largest and most energy-efficient in the world.

They will operate under French law in terms of safety and working conditions.

Chairman and CEO of the CMA CGM Group Rodolphe Saadé said: "Powered by LNG, they reflect our confidence in France's maritime sector and its people, with the recruitment of 135 French seafarers and a strengthened partnership with the French Maritime Academy (ENSM).

"These vessels will serve two major French ports, Le Havre and Dunkirk, on the Asia-Northern Europe route, reinforcing our presence in France at a time when the sea plays an increasingly strategic role in global economic and geopolitical dynamics."

Compatible with biomethane and e-methane, two low-carbon alternative fuels that reduce CO<sub>2</sub> emissions by 67% and 85%, respectively, while significantly cutting atmospheric pollutants, including sulphur oxides, fine particles and nitrogen oxides, the vessels also embody the Group's efforts toward the energy transition in shipping.

Each ship will bear the name of an iconic French monument or landmark and will be named as follows: *CMA CGM Notre Dame*, *CMA CGM Panthéon*, *CMA CGM Orsay*, *CMA CGM Luxembourg*, *CMA CGM Pont Neuf*, *CMA CGM Versailles*, *CMA CGM Austerlitz*, *CMA CGM Nation*, *CMA CGM Cluny* and *CMA CGM Longchamp*.

CMA CGM noted that from their design stage, the mobilised a network of European and French suppliers, including GTT for the LNG tanks and Bureau Veritas for certification.

Gradually delivered from 2026 onwards, the ten new vessels will be deployed on the Group's flagship route, the French Asia Line (FAL 1), which connects Northern Europe to Asia, with regular calls at Le Havre and Dunkirk.

## South Korea

### HD KSOE awarded DNV AiP for SMR-powered container vessel design

Classification society DNV has awarded HD Korea Shipbuilding & Offshore Engineering (HD KSOE) an Approval in Principle (AiP) for a new 15,000 teu container vessel design powered by Small Modular Reactor (SMR) technology.

The design demonstrates the application of SMR technology in a 15,000 teu container vessel capable of operating at 24 knots.

DNV has reviewed the conceptual design of the nuclear-power ship, which incorporates a supercritical CO<sub>2</sub>-based power generation system, in line with the relevant rules and regulations and the safety levels as outlined in SOLAS Ch. VIII and the IMO Code of Safety for Nuclear Merchant Ships.

The CO<sub>2</sub>-based power generation system is able to provide higher thermal efficiency and a reduced equipment footprint compared to conventional steam-based systems.

Dr Kwangpil Chang, CTO of HD KSOE, said: "This SMR-powered container vessel concept represents a key milestone in our efforts to explore alternative fuels for decarbonising shipping.

"The design focuses intensely on the safety of the vessel and advancing the propulsion system in the application of SMR technology.

"In addition, we have developed a novel shielding and containment system, which is designed to maintain reactor safety and vessel survivability even in the event of collisions, groundings, or sinking accidents".

During the development of the ship design concept, the DNV team worked closely with HD KSOE to assess the vessel's overall safety and the design of the advanced power generation system, including the vessel's main functions, power supply and overall approach to safety.

In May 2025, HD KSOE and DNV also conducted a HAZID (Hazard Identification) workshop at DNV's headquarters in Oslo to identify potential risks and accident scenarios for nuclear-powered vessels and to guide improvements in the design.

DNV recently released a new white paper on the potential of nuclear vessels for commercial shipping.

It examines the reactor technologies, vessel construction and operation, fuel management, waste handling, and the oversight of nuclear supply chains.

Geir Dugstad, technical director at DNV, said: "Shifting environmental requirements and advances in technology are reigniting interest in nuclear propulsion as a potential solution for maritime decarbonisation.

"But with little recent experience in utilising nuclear power for cargo vessels, this AiP represents an important first step in building the technical verification process for nuclear-powered vessels.

"We are very pleased to award KSOE this new AiP, which is the well-deserved result of an intensive and productive cooperation, which we look forward to continuing as this exciting technology continues to develop."

An AiP is an independent assessment of a concept within a defined framework of requirements. It confirms the feasibility of the design and verifies that no significant technical barriers exist to its implementation.



Geir Dugstad (technical director at DNV) and Sungkon Han (senior vice president at HD KSOE) at the AiP handover



Visitors of Intermodal Europe will be able to experience the new model first-hand

## Netherlands

### UNIT45 launches new electric reefer

UNIT45 launched its newest electric reefer container, a state-of-the-art refrigerated solution specifically designed for intermodal transport by road, rail, and sea, at Intermodal Europe in Barcelona.

The latest generation reefer is equipped with the advanced Star Cool 1.1 cooling unit, able to operate with the ultra-low GWP refrigerant R-1234yf.

It caters towards the industry's need for more sustainable solutions with the combined use of LBA insulation foam and waterborne paint and has been developed to provide maximum efficiency and reliability for the next eight to

ten years.

By combining environmentally friendly materials with cutting-edge cooling technology, the unit offers operators a solution that is both future-proof and compliant with the most demanding environmental standards.

The design of the unit focuses on reducing both direct emissions and energy consumption, while the use of R-1234yf refrigerant helps to ensure a minimal environmental footprint.

The Star Cool 1.1 cooling unit has been built to operate with extremely low leakage rates and high energy efficiency, which results in one of the lowest Total Equivalent Warming Impact (TEWI) scores in the industry.

TEWI combines the direct emissions from refrigerant leakage with the indirect emissions from energy consumption, giving a complete picture of environmental impact.

# Environment

## Germany

### Daimler Truck, HHLA and Kawasaki Heavy Industries launch strategic partnership to establish liquid hydrogen supply chain for Europe

Hamburger Hafen und Logistik AG (HHLA), Daimler Truck AG (Daimler Truck), and Kawasaki Heavy Industries Ltd. have signed a Memorandum of Understanding (MoU) that aims to explore the development of a reliable and cost-effective supply chain for green liquid hydrogen via the Port of Hamburg to the European hinterland.

This collaboration, established at the international trade fair Hydrogen Technology World

Expo in Germany, is designed to enable the import of liquid hydrogen from hydrogen-producing countries to Germany, reinforcing Hamburg's role as a hub for sustainable energy logistics.

Over the coming months, the partners will assess the logistical requirements for transshipment and onward transport by road and rail.

The initiative also seeks to attract additional companies and institutions to form a consortium that spans the entire hydrogen value chain.

Anette Walter, CFO at HHLA, said: "Hydrogen is one of the keys to a climate-neutral future – and we at HHLA are committed to actively shaping this transformation. Liquid hydrogen plays a central role in this, as it can be transported independently of pipelines –

George Fösel, manager of refrigeration technology and industry affairs at Maersk Container Industry, said: "Reefers operate globally and require a refrigerant that is safe to use, efficient, climate-friendly, and readily available.

"We've engineered Star Cool 1.1 with the industry's first triple-refrigerant capability – with a design that has been found by DNV to be fully compliant with the requirements from safety standards ISO 20854.

"This gives our customers the flexibility to choose the refrigerant that best fits their operation and local conditions for today and tomorrow."

In addition to its sustainability credentials, UNIT45 has designed the reefer for long term reliability.

Its design allows for the transportation of up to 33 euro pallets, making it a highly efficient solution for large-volume shipments, while its robust construction ensures seamless deployment across intermodal networks, including road, rail, and sea.

Jan Koolen, managing director of UNIT45, said: "The container reflects UNIT45's commitment to flexibility, innovation, and sustainability. As an intermodal pioneer, UNIT45 strives to be first in delivering eco-friendly solutions and shaping a greener, more sustainable future for global transport."

UNIT45 has confirmed that reefers equipped with this new cooling unit are already available, allowing customers to benefit immediately from this innovative technology.

a decisive advantage for mobility, logistics, aviation, and especially for small and medium-sized companies.

"Our goal is to reliably supply the industry with hydrogen via our European logistics network. The partnership with Kawasaki Heavy Industries and Daimler Truck is an important step toward making liquid hydrogen more widely available and jointly advancing decarbonisation." HHLA aims to become a climate-neutral Group until 2040 and, as a European logistics group, it is also positioning itself in the area of importing and distributing hydrogen.

Furthermore, HHLA is working intensively on the use of fuel cells in handling equipment and in heavy goods transport with its Clean Ports & Logistics cluster with the aim to contribute



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Kei Nomura of Kawasaki Heavy Industries, Annette Walter of HHLA, and Dr. Manfred Shuckert of Daimler Truck

to the sustainable reduction of greenhouse gases and other harmful emissions.

The signing of the MoU underscores the strategic importance of liquid hydrogen for the energy transition and the transformation of European industry.

Dr. Andreas Gorbach, member of the board of management at Daimler Truck and head of truck technology, said: "Europe will continue to rely on green energy imports in the future and hydrogen will play a key role here."

"The partnership is an important step in this direction, and we will need more initiatives like this to strengthen Europe's position as a leader in liquid hydrogen."

The partners bring together complementary expertise to the table: Kawasaki Heavy Industries as an experienced technology provider in the field of hydrogen infrastructure, HHLA as a European network logistics provider, and Daimler Truck as a global commercial vehicle manufacturer with a focus on CO<sub>2</sub>-neutral battery-electric and hydrogen-based drive systems.

Daimler Truck is pursuing a dual-track strategy with both battery-electric and hydrogen-powered vehicles.

Since 2021, the company has been developing and testing its Mercedes-Benz GenH2 Truck prototypes equipped with fuel cells, demonstrating their reliability and performance for flexible, long-haul transport.

"What makes it special is that our Mercedes-Benz GenH2 Truck can not only be powered by liquid green hydrogen – the truck can also transport it via road," Gorbach added. "And the best thing about it: Hydrogen allows us to increase the speed of decarbonisation – and reduce the scope and cost of the already slow expansion of the power grid."

In 2023, a prototype GenH2 Truck showcased the potential of liquid hydrogen for road transport by completing a 1,047 km trip across Germany on a single tank of liquid hydrogen under real-world conditions.

Daimler Truck has also recently concluded initial customer trials, with a fleet of five GenH2 Trucks collectively covering more than 225,000 km in actual operations.

A second phase of trials with the same fleet and different customers has been planned for the upcoming year and, looking ahead, Daimler intends to produce a small series of 100 next-generation semitrailer tractors at its Mercedes-Benz plant in Woerth, Germany, with customer field operations scheduled to begin at the end of 2026.

The company aims to achieve large-scale industrialisation of fuel cell technology and commence series production of hydrogen-powered trucks in the early 2030s with its initial target being the European market.

Kei Nomura, executive central manager, hydrogen strategy division, Kawasaki Heavy Industries, Ltd. said: "Liquid hydrogen is a vital key to realising a sustainable energy society, and we have long been committed to building the technological foundation to support it."

"We are very pleased to be working with HHLA and Daimler Truck to explore the feasibility of establishing an international supply chain for liquid hydrogen in Europe, starting with Hamburg."

With its focus fixed on the realisation of hydrogen-based societies in which hydrogen is proactively realised, as detailed in the Basic Energy Plan of Japan, the Kawasaki Group is working together with government agencies and related companies, both in Japan and overseas, to develop technology for the early

establishment of a hydrogen supply chain from production to transportation, storage, and usage.

A key part of this strategy is the commissioning of liquid hydrogen (LH2) carrier ships in different sizes (small, medium and large) with up to 160,000 cubic m of liquid hydrogen on board and in the future ships comparable to today's liquified natural gas (LNG) carriers.

"Kawasaki Heavy Industries possesses proven technologies and experience in the production, storage, transportation, and reception of liquid hydrogen," Nomura said. "We will leverage this expertise to contribute to the development of a hydrogen supply network in Europe."

Nomura added that, going forward, the Kawasaki Group remain committed to expanding the use of liquid hydrogen through global partnerships and accelerating the transition to a decarbonised society."

## Europe

### Ports of Duisburg and Rotterdam aim to advance energy transition together

The ports of Duisburg and Rotterdam have signed a new letter of intent (LoI) that reinforces their goal of jointly developing sustainable transport corridors via waterways, as well as future-oriented initiatives for the energy transition.

NRW minister president Hendrik Wüst: "The port of Rotterdam – as Europe's largest seaport – and Duisburg's port – the world's largest inland port – together make a decisive contribution to the industrial future of North Rhine-Westphalia.

"Both ports will become central hubs for hydrogen and CO<sub>2</sub> in the future, making them important partners on our path to climate-neutral industry. It is good news for North Rhine-Westphalia that both ports are taking their cooperation another step further."

A central new element of the cooperation is the export of CO<sub>2</sub>, which the ports stated is crucial for 'hard to abate' industry, since decarbonising these sectors via carbon capture, utilisation and storage (CCUS) is not possible without strong ports and high-performance transport chains.

The ports of Duisburg and Rotterdam aim to create the conditions for cross-border CCU/CCS activities.

Another big focus in the agreement between the two ports lies in strengthening the Rhine corridor as a sustainable cross-border logistics

hub.

The Rhine corridor enables efficient, sustainable access for the European energy supply production sites to international markets.

Boudewijn Siemons, CEO of the Port of Rotterdam Authority, said: "13% of Europe's energy demand is imported by way of Rotterdam."

"This is still primarily made up of fossil fuels, but our long-term aim is to become Europe's port for importing renewable energies."

"Inland shipping – and thus our cooperation with Duisport – is especially important in the onward transport of these energy sources," he added. "As such, the waterway needs a strong lobby, and we are delighted that Minister President Wüst is setting a clear signal here with his visit to Rotterdam"

CEO Markus Bangen said: "We face great challenges which we can overcome much more quickly, efficiently and intelligently together."

"It is crucial for us to bundle our expertise and develop collective cross-border solutions, especially in sustainable logistics and the sectors surrounding the energy transition. Logistics is a team sport – and the Port of Rotterdam is our ideal partner."

Previously, in 2022, the ports signed a LoI on cooperation in the fields of rail and inland land development, digitalisation and the energy transition.

Examples of past successes include the partnership with the Brazilian port in Pecém for transporting green energy to Europe, the advancements made in the cooperation of digital port community systems RheinPorts and Portbase and the pilot of the first low carbon ammonia transport when the Dutch king visited in November 2023.

Wüst added: "The close cooperation between Rotterdam and Duisburg strengthens the competitiveness of our economy – and especially the resilience of our supply chains."

"North Rhine-Westphalia remains a logistics hub for Europe, for energy supply, as well as for military mobility in mutual defence. As such, Rotterdam and Duisburg stand for a strong, networked Europe – especially now in this time of global upheaval."

"Their cooperation signals confidence: by modernising infrastructure and deepening partnerships, we secure the future viability of our continent – in terms of economy, ecology as well as security policy."



Markus Bangen, CEO Duisport (sitting, front left), and Boudewijn Siemons, CEO of Port of Rotterdam Authority (front right), at the signing

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Talks will resume in 2026

## Global

### IMO votes to delay adoption of net zero framework

The International Maritime Organization (IMO) has voted to adjourn the extraordinary session of the Marine Environment Protection Committee (MEPC) to consider the adoption of draft amendments to MARPOL Annex VI, including the IMO Net Zero framework.

The extraordinary session will be reconvened

in 12 months' time but member states will continue to work towards consensus on the IMO Net Zero framework in the interim.

The IMO Net Zero framework was approved at the MEPC 83 session in April 2025 and comprises a set of international regulations aimed at reducing greenhouse gas (GHG) emissions from ships, in line with IMO's 2023 Strategy for Reduction of GHG Emissions from Ships.

It includes two key elements: a global fuel standard and a global GHG emissions pricing mechanism.

SEA-LNG, a UK-registered not-for-profit collaborative industry foundation committed to furthering the use of liquefied natural gas (LNG), liquefied bio and e-methane, stated that it will use this time to work with members and other industry organisations to continue to develop meaningful, scientific studies to support the IMO's critical work.

The coalition stated: "The industry will continue on the road to decarbonisation. The methane pathway is currently the only practical, realistic and scalable solution to the decarbonisation of the global maritime industry, as demonstrated by the rapid growth in the LNG dual-fuel fleet and new build orderbook.

"With industry initiatives dramatically reducing levels of methane emissions onboard and in fuel supply chains, the growing availability of biomethane and gradual introduction of e-methane in the coming years, the pathway will continue to deliver meaningful reductions of greenhouse gases and local emissions to the citizens of the world."

The Intersessional Working Group on the Reduction of GHG Emissions from Ships, scheduled to meet from October 20 to October 24, 2025, will go ahead to continue to work on the guidelines for implementing the Net Zero framework.

capacity, safety and efficiency – operating like a giant vending machine for containers.

Installed at London Gateway's new all-electric Berth 4, BOXBAY's Empty Superstack will be capable of holding up to 27,000 teu and will deliver significant gains in safety, operational efficiency, and environmental performance, with the project taking just over two years to complete.

Sultan Ahmed bin Sulayem, Group chairman and CEO of DP World, said: "BOXBAY technology represents a leap forward in how ports manage container storage. It is scalable, automated and sustainable.

"By bringing this ingenious design to London Gateway, we are introducing advanced technology that will unlock faster throughput and contribute to higher safety standards."

The fully electric stacker cranes can handle containers with precision, retrieving and delivering them automatically for onward transport.

Designed to integrate seamlessly into existing port operations, the modular Empty Superstack system requires no changes to landside or seaside interfaces.

By removing multiple tiers of empty containers from the automated stacking crane (ASC) yard, the system reduces rehandling and housekeeping, allowing ASCs to operate more efficiently and improve performance across the quay.

The outcome is faster truck turnaround times and a more productive, sustainable terminal.

Stephen Whittingham, executive vice president, North Europe, DP World, said: "This £170m (US\$227m) investment underscores DP World's commitment to innovation at London Gateway.

"The BOXBAY Empty Superstack will boost reliability for our customers, minimise truck visit times in port, and create a safer, smarter working environment for our people."

The BOXBAY system has already proven its capabilities through extensive trials at DP World's Jebel Ali Port in Dubai, where nearly 500,000 teu were handled using the technology.

Its modular design and energy regeneration features make BOXBAY one of the most advanced and sustainable container handling systems in the world.

As global trade evolves, the introduction of BOXBAY's Empty Superstack at London Gateway demonstrates DP World's ongoing investment in intelligent logistics and its vision to set new standards for efficiency, sustainability and safety across the global port industry.



An example of ORBCOMM's dry monitoring solution FLEX

## Taiwan

### Evergreen Line selects ORBCOMM's smart dry container solutions

Evergreen Line is equipping its dry container fleet with ORBCOMM's smart container technology which includes advanced event alerts, including door openings, temperature deviations, shock detection, and comprehensive location reporting.

These capabilities work together to protect precious cargo, improve container security, boost crew safety, drive operational efficiency, and provide customers with new digital solutions.

ORBCOMM's solutions aim to deliver greater value to its customers through enhanced cargo visibility, protection, and reliability.

Sameer Agrawal, ORBCOMM's CEO, said: "This move signals a broader shift in the maritime industry where dry containers are rapidly evolving from static assets into smart, connected, intelligent units.

"ORBCOMM is the only company in the world that has enabled more than 1m smart containers to date. We are honoured to have been trusted by Evergreen to roll out smart dry containers to their fleet as well."

New deployments will take advantage of ORBCOMM's second-generation smart dry container technology, which adds new sensors for security and cargo integrity, while continuing to enable longer sea journeys, extended years of device life, and the highest

device reliability, providing the lowest TCO and highest ROI to shipping lines.

Argawal continued: "Smart intermodal containers are no longer experimental—they are becoming the new standard.

"Deployments are moving beyond visibility to cargo protection and container security. This evolution reflects growing industry demand for real-time data, enhanced cargo protection and operational transparency across the global supply chain."

## USA

### Tideworks and TOTE complete Mainsail 10 deployment across Alaska and US mainland terminals

Tideworks Technology Inc has completed a hosted deployment of its Mainsail 10 terminal operating system (TOS) Mainsail 10 at TOTE Maritime Alaska's (TOTE) Anchorage operations.

This marks the completion of a multi-year modernisation initiative to unify TOTE's operations on a next-generation TOS platform.

Following Anchorage's go-live, TOTE has fully transitioned to Tideworks' marine TOS across all of its Alaska and US mainland terminals, succeeding deployments in Jacksonville (2020) and Tacoma (2024).

Joey Halverson, vice president of operations at TOTE Maritime Alaska, said:

# IT

## UK

### DP World invests £170m into new BOXBAY Empty Superstack technology at London Gateway

DP World has invested £170m (US\$227m) in cutting-edge container handling technology at its London Gateway logistics hub, marking a major step forward in the digitalisation and automation of port operations.

BOXBAY's new Empty Superstack represents a revolutionary approach to handling empty containers.

Using High Bay Storage (HBS) technology, the system will store 20 and 40 ft containers up to 16 tiers high inside a fully enclosed, automated facility.

The result is a dramatic improvement in yard



DP World London Gateway

“We’re proud to bring this project to completion and have every terminal now operating on the new Mainsail system.

“This is a big win for our operations and reflects the hard work and dedication of many key partners and team members across the organisation. We’re proud to take this step forward in strengthening efficiency, consistency, and reliability throughout our network.”

Mainsail 10 offers a modern, cloud-hosted TOS solution that improves visibility, automates workflows, and streamlines cargo management across terminals.

Through this deployment, TOTE has been able to enjoy a unified view of operations, improving efficiency, consistency, and performance across its network.

Mainsail 10’s flexibility has been highlighted throughout the process as the Tideworks team has collaborated with TOTE throughout the years to configure the system for specialised workflows, particularly in Alaska, and to support new process efficiencies, including expanded and modernised EDI integrations.

These enhancements ensure the platform aligns with TOTE’s business operations while maintaining continuity, resiliency, and simplified maintenance across terminals.

Thomas Rucker, president of Tideworks Technology, said: “TOTE has been a valued Tideworks partner for more than two decades, and this deployment represents our shared commitment to innovation and operational excellence.

“With our hosted Mainsail 10 TOS, TOTE gains a modern, fully supported platform that streamlines technology management, empowering their team to focus on growth and optimising terminal performance.”

With the successful transition in Alaska, Tideworks has demonstrated its ability to deliver complex implementations in active terminal environments.



Caption: Thomas Rucker, president of Tideworks Technology

# People



Axel Mattern and Hendrik Meyn

## Germany

### Hendrik Meyn appointed as new HHM executive board member

The supervisory board of Port of Hamburg Marketing (HHM) has appointed economist Hendrik Meyn as a new executive board member.

Meyn, who previously worked for a shipping group, took up his new position on November 1, 2025, and together with Axel Mattern, he will form the now two-member executive team.

Hendrik Meyn, HHM CEO, said: “The Port is the heart of the Hamburg metropolitan region and a symbol of the city’s global connection. I am excited to work with Axel Mattern to drive new initiatives and further position the port and its partners as strong and innovative players in the global network.”

Most recently, Meyn spent four years as director group band and marketing at the Harren Group, where he was responsible for corporate transformation and positioning the company as an international project logistics and shipping group.

Prior to that, he worked for four and a half years as a management consultant, focusing on energy, industrial, and manufacturing technologies.

Axel Mattern, HHM CEO, said: “I look forward to working with Hendrik Meyn. Together, we will use our expertise, experience and network to strengthen the port’s presence in global markets. This will enable us to enhance our marketing activities at home and abroad and to respond more effectively to changing demands.”

Volker Werner, chairman of the supervisory board of HHM, said: “With Hendrik Meyn, we have gained an expert in the maritime industry for the HHM executive board. His professional experience and marketing expertise will be a valuable addition to HHM.

“His knowledge perfectly complements the work of Axel Mattern, who had led the board alone for the past three and a half years.”

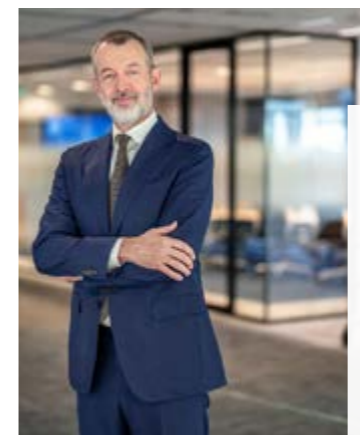
# Talking the Talk



**Simon Heaney**, senior manager, container research at Drewry on US tariffs: “If the objective was to make Donald Trump the centre of attention, then it definitely worked, but in terms of coherent strategy to build up American manufacturing, it’s not really worked”  
→ Page 34



**Geir Dugstad**, technical director at DNV: “Shifting environmental requirements and advances in technology are reigniting interests in nuclear propulsion as a potential solution for maritime decarbonisation”  
→ Page 23



**Boudewijn Siemons**, CEO of Port of Rotterdam Authority: “European industry is still under enormous pressure, which underscores the need to continue investing jointly in innovation, sustainability, and logistical efficiency.”  
→ Page 11



**Claudio Zanframundo**, president of Thermo King EMEA truck, trailer, bus and global marine, rail and air, on controlled atmosphere improvements: “Ours is a technical commitment, but it’s also an ethical and social commitment to make our units more sustainable and then better for consuming less energy, preventing the food loss, and that’s really part of the Thermo King goals”  
→ Page 44



**Sameer Agrawal**, ORBCOMM’s CEO: “Smart intermodal containers are no longer experimental – they are becoming the new standard”  
→ Page 29

# Simply the best

Over a decade ago, Hutchison Ports opened a new semi-automated container terminal at the Port of Barcelona. Today, it is one of the most efficient terminals in Spain. Lacey Jones reports.

Automation has come far and wide in terms of the technology and level of adoption across the globe these past few years. Nowadays you'd be hard pressed to find a greenfield or brownfield development project without some level of automation threaded within its blueprints. However, this wasn't always the case. The first semi-automated terminal opened in Spain around 15 years ago and a few short years later, in 2012, Hutchison Ports inaugurated the first semi-automated container terminal at the Port of Barcelona, known as Barcelona Europe South Terminal (BEST).

Hutchison Ports is the ports and terminals division of CK Hutchison and operates 53 port facilities spanning 24 countries throughout Asia, the Middle East, Africa, Europe, the Americas and Australasia.

Guillermo Belcastro, CEO of Hutchison Ports BEST for BEST told **CM**: "Hutchison Ports was attracted to the Port of Barcelona due to its strategic location in the western Mediterranean, its excellent connectivity to both maritime and inland transport networks, and the port's commitment to innovation and infrastructure development.

"The potential for growth and the opportunity to establish a modern, efficient terminal in a key European hub were also significant factors."

When BEST first opened, it featured a highly automated design, advanced equipment, and cutting-edge technology. The terminal's initial phase included a quay length of approximately 1,000 m with eight quay cranes, a depth of 16.5 m and a substantial fleet of automated stacking cranes (ASCs).

Over the years, BEST has expanded its capacity and increased its equipment fleet. Currently, the terminal boasts a 1,500 m deep sea berth capable of accommodating up to three mega vessels simultaneously. The increasing size of container vessels, in addition to other rapid changes in global shipping, has been one of the biggest challenges for BEST throughout its history, according to Belcastro.

At the time the terminal launched, the largest container vessel sailing the seas had a 16,000 teu capacity. Ships today are able to carry up to 24,000 teu which is quite a jump in just over a decade. Hutchison Ports BEST, like many other operators, has had to ensure it can keep up.

"Meeting these challenges has required continuous investment in infrastructure, technology, and staff training to ensure the terminal remains competitive and capable of handling the latest generation of ships efficiently," Belcastro added. "Additionally, BEST has made significant strides in reducing truck turnaround times, achieving an average delivery time of just 30 minutes. Over the years of operation,

the terminal has also managed to multiply by five the volume of containers transported by rail, increasing its rail share from 12% in 2012 to almost 30% in 2021"

BEST now boasts 13 quay cranes, with two more arriving in the first half of 2026, 90 ha, and 68 ASCs distributed across 34 automated blocks. One of the terminal's biggest achievements since its official inauguration is becoming one of the most productive container terminals in Europe, achieving record-breaking productivity rates, and setting new standards for efficiency and sustainability.

"The terminal has also played a key role in boosting the competitiveness of the Port of Barcelona and serving as a model for innovation in the maritime industry," Belcastro noted. "In 2021, BEST was recognised as the Best European Terminal by AFLAS, highlighting its excellence within the sector."

"Over the years, we have also received several awards acknowledging our ongoing commitment to efficiency and sustainability. In fact, BEST is the Hutchison Ports Group's terminal with the lowest CO<sub>2</sub> emissions," he added.

In addition to its maritime operations, BEST has one of the largest rail terminals in Southern Europe. The facility features eight tracks of 750 m each, and is equipped with double gauge, which enables seamless rail connectivity between BEST, the rest of Spain, and Southern Europe.

The potential to develop the hinterland was a key factor in Hutchison Ports' decision to invest in Barcelona. Belcastro explained: "The opportunity to enhance and diversify rail



**This Page:**  
BEST was inaugurated in 2012!

**Opposite Page:**  
**Top:** BEST is now one of the most productive terminals in Europe  
**Bottom:** BEST in 2014

connections from the port significantly expanded BEST's area of influence, enabling efficient access to inland markets and reinforcing its position as Southern Europe's main entry point for goods."

Hutchison Ports Group unveiled Synergy, its dedicated rail operator, to complement its core terminal operations in 2013. Synergy provides port-to-door rail connections, delivering integrated and flexible logistics solutions tailored to the needs of customers across Spain and Europe.

Furthermore, BEST has its own in-house customs department, Cargo Solutions, offering customs services to facilitate efficient cargo clearance and enhance the overall customer experience.

Belcastro added: "The main goals for BEST in the near future include further increasing operational efficiency, expanding capacity, and advancing our sustainability agenda.

"Over the next two years, we will expand the terminal with six new automated blocks and two more quay cranes, significantly boosting our handling capabilities. Notably, these new quay cranes will be the highest at the terminal, with 55 m under spreader and the ability to operate across 26 rows."

Additionally, BEST is aligning itself with the maritime industry's overall goal to become more sustainable. The terminal has set a clear target to achieve net zero emissions by 2040, reflecting its strong commitment to environmental responsibility.



# Steaming ahead

Ports and shipping companies are advancing the modal shift in the maritime industry from road to rail operations. **Charlie Evans reports**

There are many forms of intermodal transport including modes like ship, rail and truck for freight, and air, rail and bus for passenger travel. For freight, there are different combinations that the transportation of containers might take, such as ship-rail-truck, rail-truck or ship-truck, among the three methods. Lately, the maritime industry has seen major developments among rail solutions.

In October, the Port of Rotterdam Authority, ProRail and Swietelsky Rail Benelux gave the go-ahead for construction of the Maasvlakte Zuid (EMZ) Railway Yard. Container throughput at the Port of Rotterdam is expected to continue increasing in the coming years, and the EMZ is being built to prepare for further growth in rail freight transport volumes at the Maasvlakte.

“The supply and distribution of goods in Europe and the Netherlands have increased enormously in recent decades,” Bekir Calim, Port of Rotterdam Authority project manager, told **CM**. “75% of Dutch rail freight transport passes through the Port of Rotterdam. The terminal capacity at the Maasvlakte is currently being significantly expanded by Rotterdam World Gateway and APM Terminals. An important prerequisite for growth is that seaports remain easily accessible.”

Following work on the preparations and design of the bundle by Swietelsky Rail Benelux, the contractor has started construction of the first bundle. Construction at the site commenced in mid-2025 and will be completed by 2027. The largest railway works will be carried out next year and after the test phase in mid-2027, ProRail will commission and operate the railway yard. Calim noted that further expansion with extra bundles is dependent on the actual growth of rail freight transport on the Maasvlakte.

The EMZ is suitable for freight trains with a length of 740 m, which is considerably longer than the current standard length of approximately 600 m, enabling more containers to be transported on a single trip. The construction of the EMZ is part of the Port of Rotterdam Authority's efforts to facilitate rail freight transport to move greater volumes of cargo in a safe, reliable and sustainable manner.

Calim explained: “Rail freight transport produces less carbon, nitrogen and particulate emissions than road transport. This is in line with the climate goals of the EU Green Deal, which aims to reduce transport emissions by

55% by 2030 and 90% by 2050.

“The development of the EMZ will help the Port of Rotterdam Authority to reduce CO<sub>2</sub> emissions from hinterland and continental transport by 30% by 2030, in accordance with the Climate Agreement. Thanks to the railway yard, the Port of Rotterdam Authority expects to run an additional 6,750 trains a year between the Maasvlakte and the hinterland, replacing 675,000 truck trips a year.”

Additionally, the total development of the Maasvlakte includes the electrification of the distribution triangle and outer contour. To optimise the logistics process and make it more sustainable, the final sections of the Port Railway Line on the Maasvlakte are being electrified.

To reach their destination in port, trains still need to switch to a diesel locomotive, which results in longer waiting times. However, the electrification of the Distri Triangle and the outer contour will ensure that diesel locomotives are no longer necessary, resulting in lower emissions, fewer stops, and shorter waiting times.

Also, rail traffic still crosses the C2 curve, which leads to travel time losses as trains must wait before they can be driven to the terminals. Once the measures have been implemented to change the C2 bend, the crossing rail traffic will be separated, resulting in significantly more freight trains passing through the curve each day.

Calim said: “ProRail and the Port of Rotterdam Authority are fully committed to a robust hinterland rail connection. All these investments are designed to improve international rail freight transport, reduce road transport, and provide a reliable alternative to inland waterways at low water.

“This represents an important contribution to the realisation of the Climate Agreement and the European Green Deal, and we are working together to ensure greater accessibility for the Netherlands and the European hinterland.”

Last year, the Port of Long Beach began construction of the Pier B On-Dock Rail Support Facility, which aims to reconfigure, expand and enhance the existing rail yard. This year, work has focused on the East Expansion and Locomotive Facility to start building the new track to serve



Opposite Page:

Left: Port of Long Beach

Right: An artist's impression of the EMZ

This Page:

Freightliner will remain a multi-user, multi-customer standalone operator

the Pico Avenue rail corridor, improve associated infrastructure and construct a six-track, 30-locomotive support facility to refuel and service trains.

Construction is scheduled to be completed by 2032, and the facility will enhance cargo flow with the completion of each phase along the way. The footprint of the existing rail yard will be more than doubled from 82 to 171 acres and the port's capacity for on-dock rail will be more than tripled to 4.7m teu per year. Additionally, construction will add more than 130,000 ft of new tracks, build 36 support tracks and increase the number of trains leaving the port to 17 per day.

Noel Hacegaba, COO of the Port of Long Beach, told **CM**: “In general, seaports are looking for ways to get more productivity and efficiency from existing footprints. Enhancing rail infrastructure improves the ability of the nation's busiest seaport complex to move containers directly from ships to fuel-efficient trains, reducing truck traffic as well as emissions.

“Cargo from San Pedro Bay reaches every congressional district, meaning this is a project of national significance because it will speed deliveries across the entire national supply chain.”

In September, the Port of Long Beach released a draft supplemental report examining the environmental impacts of minor additions and changes to the Pier B On-Dock Rail Support Facility project. The modifications include relocating utilities and connections, adding construction staging and equipment laydown areas, adjusting rail tracks, pavement re-striping, and closing portions of Grant Street and Southern Pacific Drive in Wilmington.

Reducing the environmental impact of operations is important for the Port of Long Beach, which is part of the Clean Air Action Plan (CAAP) to reduce pollution from ships, trucks, trains, harbour craft and cargo-handling equipment. Transitioning to on-dock rail will help the port to reduce emissions in line with the plan.

Hacegaba said: “The Pier B project embodies the core values of the Port of Long Beach, allowing more cargo to move through the port with fewer impacts on our neighbours. For example, each on-dock train departing the docks eliminates about 750 truck trips worth of cargo, mitigating emissions and traffic for our surrounding communities. That's important for us as an organisation, and it will also help us meet the Clean Air Action Plan goal of moving 35% of containers via on-dock rail.

“We have US\$3.2bn in capital expenditures planned for the next 10 years. The greatest share, almost US\$1.3bn, is going toward on-dock rail projects. Pier B is the centrepiece, but we have a package of rail projects that are in progress or have been completed in the last few years, such as the recently completed US\$40m Terminal Island Wye Realignment project.”

He added: “This project also reduces switching conflicts by adding a new lead track on Pier T and two new storage tracks on Pier S on Terminal Island, which divides our port from the Port of Los Angeles.”

Shipping companies have also begun transitioning from road to rail. Recently, the CMA CGM Group acquired Freightliner UK Intermodal Logistics, encompassing rail and road operations, inland terminals, as well as the Freightliner brand, to underline CMA CGM's ambition to build a sustainable and competitive offering in Europe.

The transaction is expected to close in early 2026 and by adding a long-standing name in UK rail freight, the Group has reaffirmed its commitment to supporting the modal shift from road to rail, which is a cornerstone of decarbonising global supply chains.

Freightliner operations will remain focused on its multi-user and multi-customer approach and will be run independently with existing teams who have proven their expertise and dedication. Other Freightliner businesses – Heavy Haul, Rotterdam Rail Feeding, and Freightliner Poland/Germany - will remain under existing ownership.

Tim Shoveller, CEO of Freightliner Group, said: “This marks an exciting new chapter for intermodal and Heavy Haul, allowing each to focus on their distinct markets under separate ownership. The intermodal businesses will become a stand-alone business within CMA CGM's portfolio, with opportunities to collaborate with other arm's length CMA CGM companies.”

Rail freight is a major lever for reducing CO<sub>2</sub> emissions and with Freightliner UK's expertise and know-how, CMA CGM will further strengthen its ability to offer European customers seamless and integrated intermodal solutions including transport and terminal operations.

The addition of Freightliner opens the way to significantly enhanced value-offerings: developing comprehensive intermodal offerings combining maritime, rail and road, enhancing connectivity between Europe's major ports and the UK hinterland through strategically located inland terminals, and driving shared innovation in decarbonised logistics solutions.

Rodolphe Saadé, chairman and CEO of CMA CGM Group, said: “The acquisition of Freightliner, a leading rail freight operator, strengthens our intermodal presence in the UK, a strategic market for the CMA CGM.

“It enables us to connect sea, rail and road more efficiently, delivering better solutions for our customers. It is also a concrete step in expanding lower-carbon transport options, supporting both their needs and the decarbonisation of global trade.”

# Playing the long game

The US-China tariff war has created an uncertain, volatile environment for shippers and terminal operators in the Far East. **Charlie Evans** reports

Tensions between the US and China are nothing new and certainly not under President Donald Trump's administration. In his first term, back in 2018, he engaged in a tariff war with China and hinted about something similar in the buildup to the last election. On April 2, 2025, on what Trump called "Liberation Day", a broad package of import duties was introduced in many countries, including China. Even before this date, there had been back and forth retaliatory action in the form of tariffs since February by both countries, but this severely escalated the situation.

The main impact on the market has been uncertainty. On a day-to-day basis, it is not possible to predict when the next announcement will come and how that will affect the situation. Freight rates generally spike and taper off as deadlines approach, which has added more volatility and chaos to the market. Ultimately, this policy has eroded any remaining trust in the US as a reliable trade partner.

Simon Heaney, senior manager, container research at Drewry, told **CM**: "We have a very unpredictable main actor centre stage, so there's huge uncertainty. It's affected shipping flows in terms of their seasonality. You've had a lot of frontloading ahead of previous deadlines, so shippers looked at getting as much cargo before the higher tariff fee becomes effective, and that has a knock-on effect. If you're bringing cargo forward, there is less for later in the year.

"I think there's an understanding from cargo owners that the best way to protect yourself in this environment is to have as much diversification as possible in terms of where you're sourcing your goods from. It takes time for those new locations to be set up, but we are clearly moving away from China dominance, and there's going to be more fragmentation of manufacturing."

The latest development of this tariff war had been port fees, with the US and China charging vessels linked to the other country. However, both parties have agreed to a one-year suspension, effective from November 10, 2025. This had mirrored the trend of the conflict so far of the US introducing the policy and China responding with reciprocal measures.

Naturally, the US can influence smaller countries to its own benefit, but China is more than an equal competitor with advantages in terms of manufacturing and US debt. China can, according to Heaney, sit back and let the US rant and rave while playing its longer game.

"China obviously recognises that the tariff story is not new," he noted. "We had tariffs with the first term of Donald Trump and the writing's been on the wall that China is looking to expand its non-US markets.

"They'll lose a bit in terms of shipments to the US, but they

make up for it by exporting to other countries. If you look at the port stats, China is still growing very strong but North America is the one region in the whole world where container throughput is in decline."

So far, if the tariff war was to be deemed a success or failure for the US, the outcome has probably been the latter. "If the objective was to make Donald Trump the centre of attention, then it definitely worked, but in terms of coherent strategy to build up American manufacturing, it's not really worked," Heaney said.

While the imports into the US have been reduced, there has not been an increase in US manufacturing and exports have gone down even more sharply. The big risk is that the higher costs get passed onto consumers, and US purchases will become even lower in the future because there is less disposable income.

US companies have managed to absorb some of the additional tariff costs and shielded consumers to a certain degree, but that can only be done for a certain amount of time. If tariffs remain high, the price will eventually filter down to consumers, which will reduce demand and affect purchasing power.

As such, there will be fragmentation of trade as the US will have to replace China with other countries, but these partners will not have the same capacity to reproduce the volume of imports that were coming from China. Whatever the case may be, the shipping industry must be resilient, but there needs to be some kind of certainty about the longer-term state of play.

Heaney explained: "Even if China and the US don't meet an agreement and they set very high tariffs on each other, maybe that's not great, but at least you have certainty in terms of what you can expect going forward. At the moment, we've got this soap opera of one announcement followed by a countermeasure by the other party.

"Things de-escalate, then things get heated again. If that continues, it's a recipe for much higher transportation costs between the two regions, reduced volumes, and no one would really win in that scenario."

The US-China tariff war has had a profound effect on the Far East region. In the first half of the year 2025, Taiwan's economy grew by almost 7% due to the pre-tariff rush to ship goods to the US and robust demand for emerging technologies. However, growth is expected to slow in the second half of the year as US tariffs take effect with annual economic growth still expected to reach close to 5%.

Additionally, US-bound cargo increased in the first half due to the early shipment effect, but the impact will only fully materialise in the second half with a projected 5% decline in expected



annual US-bound export containers.

Taiwan International Ports Corporation (TIPC) told **CM**: "The US Tariff 2.0 policy has heightened uncertainty across global trade and supply chains, posing pressures on Taiwan's economic growth and trade activities. As a result, Taiwan's ports are facing declines in import and export volume.

"In response, TIPC has actively taken a range of measures. In the short-term, TIPC has introduced incentive programmes to mitigate the impact and stabilise cargo flows. In the longer term, TIPC is optimising port infrastructure, promoting multiple marketing initiatives, expanding diversified business, and integrating smart applications and sustainable transformation measures to ensure steady growth under volatile global economic and trade conditions."

Despite the challenges presented by tariffs and intensifying competition with Southeast Asian ports, TIPC has continued to strengthen container operations this year. Hung Ming Company, a subsidiary of Yang Ming Marine Transport Corporation, and Lien Hai Company renewed their contracts at the Kaohsiung Port container terminals, signing 20-year and 10-year agreements for Terminals 70. and No. 42-43.

TIPC has promoted the renovation project for the Fifth Container Center (Terminals No. 77-79), which includes dredging the depth to 18 m and adding 120 ft gauge rails, allowing ultra-large container ships of up to 23,000 teu capacity to berth. The total project cost is US\$130m with construction to be completed for 2027 that will enhance Kaohsiung Port's service capability.

Additionally, after relocating from the Second Container Center, Wan Hai Lines will expand its operations to the Fifth Container Center, covering Terminals No.79-81. Trial operations are scheduled to begin in phases starting in 2026 with nine gantry cranes and 25 rail-mounted gantry (RMG) cranes expected to be in place.

Looking ahead, TIPC has formulated a five-year development plan from 2027 with a total investment of approximately NT\$44.7bn (US\$1.4bn) to carry out 33 construction projects, including new terminal developments and facility upgrades to boost operational efficiency and competitiveness.

TIPC will continue to optimise port functional zoning and attract new cargo sources through investment promotion and incentive programmes, targeting a container volume of 15m teu by 2031.

TIPC has also embraced global trends in net-zero sustainability and smart technology. Aligned with the Taiwan Port Cluster Carbon Reduction Roadmap, TIPC is committed to achieving a 50% carbon reduction by 2030 and net-zero emissions by 2050, supporting the UN's Sustainable Development Goals.

To date, 219 low-voltage and 11 high-voltage shore power systems have been installed and by 2026, an additional five high-voltage shore power facilities will be deployed to further cut in-port emissions. The introduction of bunkering services for biofuel and liquefied natural gas (LNG) is planned, as well as exploring the application of new energy sources such as methanol, ammonia, and hydrogen.

Additionally, TIPC continues to implement digital transformation projects to enhance operational efficiency and service quality as part of its smart port development strategy.

TIPC shared: "The company's AI-driven strategy is structured around three major pillars: optimising digital operations, enhancing system integration and expanding AI applications. In terms of AI applications, TIPC will expand the use of AI-based image recognition to improve vessel detection and vehicle identification efficiency, while also developing generative AI applications for smart customer service, decision support, and predictive analysis.

"In parallel, TIPC will reinforce AI computing infrastructure and workforce development, while advancing intelligent energy management and storage systems to create a secure, sustainable, and high-efficiency smart port ecosystem."

The Far East is in an unpredictable, volatile climate but remains at the core of the global manufacturing and export supply chain, boasting advantages such as a large population, rapid growth in domestic demand and strong exports demand that makes the region attractive from a business perspective.

"China was previously regarded as the world's factory due to its labour costs and comprehensive supply chain system," TIPC noted. "However, with rising wages and the escalation of the US-China trade war, some industrial chains have shifted to Southeast Asian countries like Vietnam, Thailand, and Indonesia.

"Therefore, terminal operators investing in this region can not only reduce operating costs but also capture new cargo volumes brought by the manufacturing shift, while deepening shipping line network connections and enhancing global market competitiveness, making it a significant reason for international terminal operators to continue investing."

This Page:  
Left: US President Donald Trump  
Right: EastPort of Kaohsiung

# Oh, what a week

Terminal operators have shown their increasing interest in India with several key infrastructure projects announced at India Maritime Week 2025. Charlie Evans reports

At the end of October, India Maritime Week 2025 was held across a five-day period at the Bombay Exhibition Center, Goregaon, Mumbai, which demonstrated the country's growing influence in the maritime industry. Among the most significant announcements at the event was a pledge from DP World to invest US\$5bn in India, which is in addition to the US\$3bn that the operator has already invested over the past three decades.

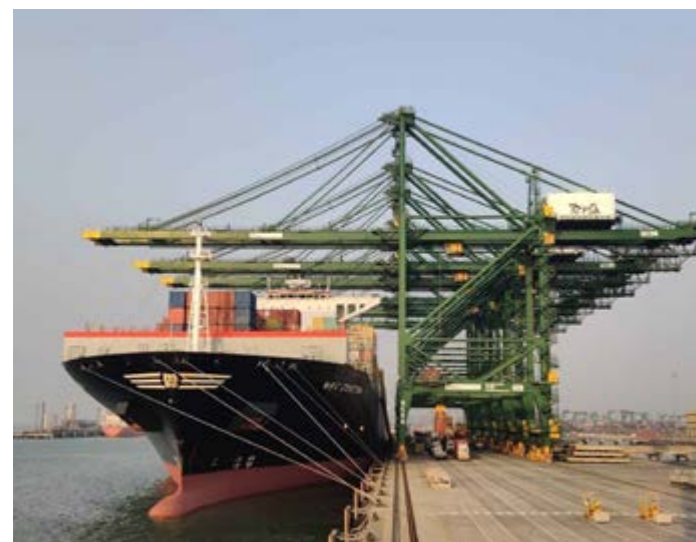
The aim of the investment is to strengthen India's integrated supply chain network and infrastructure backbone, advancing multimodal connectivity and enhancing the nation's competitiveness in global trade. This development comes after five Memorandums of Association (MoUs) that DP World signed in the presence of Shri Sarbananda Sonowal, Union minister of Ports, Shipping and Waterways, which aim to forge partnerships to unlock significant opportunities for business and employment across India's maritime ecosystem.

Sultan Ahmed bin Sulayem, Group chairman and CEO of DP World, said: "DP World has been part of India's growth story for nearly three decades. This new investment combined with the strategic partnerships, reaffirm our commitment to advancing India's maritime and logistics industry and cementing the nation's position in global trade."

"Aimed at further lowering logistics costs, supporting local manufacturing, and expanding access to markets across the country, these initiatives will strengthen India's innovative and sustainable maritime capabilities."

He added: "We are fully aligned with India's national priorities like PM Gati Shakti, Sagarmala, and the Maritime Amrit Kaal Vision 2047. Our shared commitment to building a connected, confident, and self-reliant India is helping the country chart out a bold course toward global maritime leadership."

The MoUs signed by DP World at the India Maritime Week span green coastal shipping, shipbuilding, ship repair, skill development, and advanced freight visibility. All are aimed at accelerating the sector's sustainable growth and efficiency.



These include an MoU between Unifeeder and Sagarmala Finance Corporation Limited to advance green coastal and short-sea shipping across India, a Heads of Terms agreement between Cochin Shipyard Limited and Drydocks World aimed at expanding and operating the International Ship Repair Facility in Kochi.

Cochin Shipyard Limited and Drydocks World also signed a tripartite MoU with Centre of Excellence in Maritime and Shipbuilding to jointly advance skill development in shipbuilding and repair, while Cochin Port Authority and DP World have come together to enhance maritime infrastructure in Kerala by upgrading handling facilities at International Container Transshipment Terminal at Kochi.

Additionally, DP World, Deendayal Port Authority (DPA) and Nevomo entered into an agreement to deploy a first-of-its-kind magnetic propulsion solution that enables self-propelled rail movement of bulk cargo and containers at Deendayal Port. Under the agreement, the three parties will collaborate to design and install a 750 m MagRail Booster pilot track within the port.

The system will demonstrate fully automated and sustainable cargo movement using existing rail infrastructure, reducing the need for conventional locomotives while improving port capacity, efficiency and sustainability. Alongside this installation, a strategic feasibility study will assess the potential for large-scale deployment of the technology across Indian ports.

MagRail systems are designed to automate short-haul cargo transfers, and the equipment will be installed directly onto the existing rail tracks and existing rolling stock will be modified, requiring no new track construction, ensuring minimal disruption and quicker low-cost deployment. The system will help reduce reliance on diesel-powered road vehicles, lower carbon emissions, and enhance yard efficiency.

Yuvraj Narayan, deputy CEO and CFO of DP World, said: "This agreement with DPA and Nevomo marks a pivotal step in reimagining how cargo moves within India's ports. By facilitating the implementation of MagRail technology at Deendayal Port with Nevomo, we are showcasing



India's readiness to adopt next-generation logistics that are faster, safer and more sustainable.

"This initiative sets a benchmark for future port modernisation across the country – turning innovation into a blueprint for scalable, greener infrastructure."

DP World's Indian network covers more than 200 locations, creating over 24,000 direct and indirect jobs in the country. The announcements at India Maritime Week will help the company expand its footprint and reinforce the role of trade as a force for good.

Terminal operators clearly see India as an attractive investment opportunity. A spokesperson for PSA Mumbai told **CM**: "The Indian Subcontinent's strategic location at the crossroads of major east-west and north-south shipping routes makes it a natural hub for global trade. India's fast-growing economy, expanding manufacturing base, and rising containerisation are creating strong, sustained demand for modern port infrastructure."

"Supported by initiatives like Sagarmala and Gati Shakti, the region offers a robust policy environment and improved multimodal connectivity. With businesses and shippers looking to India as an increasingly important global market, this presents a compelling opportunity for terminal operators to invest in high-efficiency, technology-driven ports that can strengthen trade competitiveness and regional connectivity."

Of late, PSA Mumbai has recorded consecutive all-time highs in throughput – over 231,000 teu in July and 243,000 teu in August – reflecting strong operational momentum. It has been a landmark year with the inauguration of its Phase 2 expansion, which has doubled annual handling capacity to 4.8m teu and positioned it as India's largest container terminal.

In addition to increased capacity, the quay length has been extended to around 2,000 m, enabling the terminal to simultaneously handle multiple mega-vessels of up to 18,000 teu. It includes 24 quay cranes and 72 rubber-tyred gantry (RTG) cranes, along with a vastly expanded container yard and dedicated rail sidings designed for Dedicated Freight Corridor (DFC) connectivity.

"Together, these developments enhance productivity, improve turnaround times, and strengthen multimodal logistics," the spokesperson explained. "With these enhancements, PSA Mumbai is now fully equipped to efficiently serve the next generation of vessel calls – as India's most advanced, high-capacity, and future-ready container terminal."

"In line with PSA International's global sustainability goals, PSA Mumbai is the first terminal in India to power operations with 100% green renewable electricity sources, following the commission of its 10 MW solar farm with O2 Power. The solar installation meets the majority of the terminal's energy requirements, significantly reducing carbon emissions, and reinforcing its commitment to cleaner, more sustainable port operations."

At the Phase 2 inauguration ceremony, a video showcased PSA Mumbai's active rail connectivity, featuring six DFC-compatible tracks that link the terminal from Jawaharlal Nehru Port (JNP) to over 63 Inland Container Depots (ICDs) across India. Once operational, the Western DFC will reduce transit time from eight days to three days.

The spokesperson said: "PSA Mumbai's Phase 2 rail sidings



Opposite Page:  
Left: PSA Mumbai  
Right: The signing of the APMT Pipavav and Gujarat Maritime Board MoU

This Page:  
Sultan Ahmed bin Sulayem (left) at India Maritime Week

and yard layout have been designed to be fully DFC-ready, allowing us to handle longer, heavier double-stack trains with faster turnaround. This will help to decongest roads, lower logistics costs, and enable more sustainable cargo movement, aligning with the government's Gati Shakti and green logistics vision.

"From a customer's standpoint, the Western DFC connection will bring greater reliability, schedule integrity, and cost efficiency for both export and import cargo. It will also open new hinterland markets, offering direct rail access to shippers and consignees, providing faster, more predictable connections to global trade routes via PSA Mumbai."

The spokesperson added: "In essence, the Western DFC will extend the port's efficiency deep into India's hinterland – making PSA Mumbai not just a gateway on the coast, but a critical logistics node in India's national freight network."

Also at India Maritime Week, APM Terminals (APMT) Pipavav signed a MoU with Gujarat Maritime Board for the proposed expansion of Pipavav Port with an investment scope of 17,000 crore (US\$2bn). The agreement is part of the announcement made by Maersk in February 2025 about its intent to invest over US\$5bn in Indian ports and maritime infrastructure.

Capacity enhancements of the expansion include enhanced capacity for containers, liquid and roll-on roll-off (ro-ro) cargo, and expanded storage and rail sliding capacity. Other improvements include specialised equipment and deeper waterfront, as well as the best-in-class multimodal ocean/rail/road transit solutions to India's Northwest.

Jon Goldner, chief executive, APMT Asia & Middle East, said: "This investment plan is not just about expanding Pipavav Port, it's about unlocking new opportunities for Gujarat, for India, and for global trade. Supporting the Hon'ble Prime Minister Shri Modi's vision, we are building the capacity, resilience, and sustainability needed to serve India's economy for decades to come."

"Our goal is to make Pipavav a model of world-class efficiency and green growth, while creating lasting prosperity for the local community and strengthening India's leadership in maritime trade."

The expansion is expected to make a substantial contribution to the economy of Gujarat and India, with the potential to generate around 25,000 new direct and indirect employment opportunities, with a strong emphasis on local employment.

# All systems go

Southeast Asian ports are aiming to strengthen supply chain resilience in the current volatile times. **Charlie Evans** reports

In an early Christmas present, on December 24, 2024, PSA Singapore reached the significant milestone of handling over 40m teu in the year, which surpassed the previous record of 38.8m teu set in 2023. This set up a very promising 2025 for the world's largest container transshipment hub, which has handled 33.1m teu from January to September 2025, an 8% increase year-on-year to the same period in 2024, amid evolving trade dynamics and geopolitical tensions.

In February, PSA celebrated another key milestone when Tuas Port, the world's largest fully automated container terminal, handled 10m teu from September 2022. PSA continues to ramp up Tuas Port with additional berths commissioned and advanced port automation systems progressively deployed to enhance operational efficiency, safety and sustainability.

Ong Chiew Suan, head of corporate communications & commercial, Southeast Asia, PSA, told **CM**: "We have also made significant strides in digitalisation and data-driven operations, leveraging advanced analytics and artificial intelligence to optimise vessel arrivals and strengthen seamless sea-air intermodal connectivity. These efforts have enhanced efficiency, reduced turnaround times and supported our customers' need for service excellence and greater supply chain visibility."

"In 2025, continued geopolitical tensions and shifting cargo patterns have disrupted trade routes, leading to continued volatility in global trade flows. PSA has mitigated these challenges through proactive communication and collaboration with customers, agile operations planning, strategic investments in technology and automation, and a steadfast commitment to workforce upskilling to ensure operational resilience and reliability."

She added: "These collective efforts have enabled PSA to uphold its service excellence and support customers in navigating the complexities of today's global supply chain landscape."

With the current volatility in the market, developing supply chain resilience has become an important focus for PSA Singapore. In June, PSA Singapore and Hainan Harbor & Shipping International Port, which operates Yangpu International Container Terminal (YPICT), signed a Memorandum of Understanding (MoU) to strengthen port-to-port connectivity and develop comprehensive logistics solutions that support the growing regional cargo flow and enhance supply chain resilience.

Under the MoU, both partners will explore opportunities to synergise, and enhance trade connectivity and service excellence through joint operational initiatives. The partnership will also aim to support the logistics and supply chain development of Hainan Island in the long term.

Hainan Harbor & Shipping International Port is a subsidiary of COSCO Shipping, which has separately, via its Goldlead Supply Chain Development subsidiary, signed another MoU to explore collaboration on dedicated warehouse and logistics capabilities within the upcoming PSA Supply Chain Hub @ Tuas (PSCH) in Singapore.

This collaboration marks a significant step forward in the longstanding partnership between PSA and COSCO, aligning both parties' strengths to advance beyond container port operations into integrated supply chain solutions.

Ong explained: "PSA maintains close and trusted relationships with our shipping line customers and industry partners, co-creating value-added solutions that reinforce supply chain resilience and improve efficiency across the ecosystem. These partnerships reflect our shared commitment to enhancing global connectivity, streamlining cargo flows and building more agile logistics networks across Southeast Asia and beyond."

"PSA seeks to reshape the logistics and supply chain landscape by connecting individual nodes, terminals, ports, port adjacencies and ecosystem, into a coordinated network that delivers higher overall efficiency and a truly seamless end-to-end flow of goods. These port adjacencies include warehousing, distribution, and visibility across the entire supply chain."

She continued: "As global trade patterns continue to evolve, PSA remains committed to working hand-in-hand with customers and partners to co-create supply chain solutions that extend beyond port operations."

"These efforts reinforce the long-term competitiveness and reliability of Singapore as a trusted global hub port and leading maritime centre and aligns with its broader goal of being a global trade and supply chain hub that attracts more cargo flows, investments and partnerships."

Earlier this year, PSA Singapore and Cargo Community Network (CCN) launched OptEModal, an intermodal shipment management platform that enables the logistics community to track multimodal shipments and manage potential risks during mode transfers. It addresses long-standing pain points in intermodal logistics and enhances cargo visibility, connectivity and efficiency across the end-to-end supply chain.

By integrating real-time data streams across PSA terminals in Singapore, ground handlers and airline partners, OptEModal creates a digital corridor for seamless cargo movement between vessel and aircraft within 24 hours of arrival. Its capabilities include multi-party visibility, AI-powered Estimated Time of Arrival (ETA) predictions, proactive delay identification and smart flight recommendations, reducing cost and complexity for shippers and



logistics providers.

"By extending our digital reach beyond the port to connect with airline, freight forwarders and logistics service providers, PSA expands its ecosystem influence," noted Ong. "The alignment of port operations with inland logistics data also enables better planning and utilisation of yard and berth capacity, resource allocation and terminal gate activities – resulting in shorter turnaround time and higher asset productivity."

"Beyond OptEModal, PSA continues to harness AI, data analytics and digital technologies to optimise terminal operations – from berth and yard planning to resource deployment and energy management. By leveraging big data insights, we enhance operational predictability, optimise resource use and strengthen service reliability for our customers."

These efforts reinforce Singapore's position as a smart, resilient and well-connected global hub port and supply chain hub. Singapore, and the wider Southeast Asia area, connects the East to West trade routes and serves as a vital gateway between the Pacific and Indian Oceans. The region's strategic location, supported by robust trade growth and expanding manufacturing and consumer markets, makes Southeast Asia one of the most dynamic and attractive regions for global investment.

Ong said: "PSA Southeast Asia has strategic investments in Thailand, Indonesia and Vietnam, reflecting our long-term commitment to supporting the region's sustainable and increasingly connected trade future."

"Through these terminals and inland container depot investments, PSA aims to enhance regional port and supply chain efficiency, foster technological innovation and contribute to the growth of Southeast Asia's maritime and logistics ecosystems."

In Singapore, Tuas Port is built to handle 65m teu when fully completed in the 2040s and brings together the latest in automation and sustainable operations, including automated yard cranes, automated guided vehicles and smart energy systems. These innovations, according to Ong, enable Tuas Port to manage the growing volumes efficiently while upholding PSA's hallmark standards of reliability and excellence.

Southeast Asia spans 11 countries and one of the major ports in the region is the Port of Tanjung Pelepas (PTP) in Malaysia. Recently, PTP signed a MoU with the Port of Melbourne, marking a significant step forward in fostering bilateral cooperations focused on sustainability, innovation, and inclusivity in port operations.

The MoU outlines a shared commitment to advancing green and sustainable practices, promoting the decarbonisation of operational activities, and enhancing social responsibility and governance. The collaboration will be anchored in three key pillars, with the first being maritime emissions and port operations, meaning joint efforts in research and development, exchange of best practices and support for international collaboration to reduce maritime emissions and improve operational efficiency.

The second pillar is alternative fuels, regarding cooperation in exploring and developing alternative fuel solutions, including infrastructure development, policy alignment, and knowledge



sharing to accelerate the transition to low-emission energy sources.

The final pillar is social inclusiveness, which relates to initiatives to promote inclusive employment practices, training programmes, and employee engagement strategies that foster diversity and equity across the maritime workforce.

Mark Hardiman, PTP CEO, said: "As we mark 25 years of PTP's growth and evolution, this MoU with Port of Melbourne underscores our belief that meaningful progress in sustainability must be grounded in partnership. It is through shared frameworks, joint action and mutual respect that we will achieve tangible results in decarbonising port operations and advancing collaboration."

The partnership between Melbourne and PTP began in June 2023, facilitated by the Australian Government's Partnerships for Infrastructure (P4I) initiative through the Department for Foreign Affairs and Trade (DFAT). Both ports share a common vision for sustainable development, aligning their environmental and social objectives to global frameworks such as the UN Framework Convention on Climate Change, the Paris Agreement, and the UN Sustainable Development Goals (SDGs).

Simon Cramp, strategic director, P4I, said: "By creating trusted spaces for technical dialogue and peer exchange, Port of Melbourne and PTP, as industry leaders, are turning shared ambition into a practical partnership that advances greener, smarter maritime operations across the region."

"Facilitating Australian-Southeast Asian partnerships is core to P4I's approach and we're thrilled to have played a part in the evolution of this MoU."

Opposite Page:

The PSCH will be situated within the same Free Trade Zone as Tuas Port

This Page:

Top: Port of Melbourne and PTP representatives at the MoU signing  
Bottom: PSA Tuas Port 10m teu container

# A natural evolution

New developments in the reefer industry make shipping look more desirable despite geopolitical challenges. Lacey Jones reports

Ever turned over a packet in a store, glanced at its ingredients and realised that though you're sure of what's inside - it's a bar of chocolate, or a pot noodle - the actual ingredients listed on the back sound like a foreign language you don't speak? To those outside the reefer market that may be what the various refrigerants sound like, but to those in the know the difference between R-513A and R-1234yf is night and day.

With ever-more stringent refrigerant regulations being put in place all across the world, the ability to adapt in order to allow customers the choice of refrigerant most suitable for their reefer unit is very important. As of January this year, intermodal containers sold for domestic use in the US must comply with new regulations mandating the use of refrigerants with a Global Warming Potential (GWP) of less than 700, unless they are designed to maintain temperatures below -35°C.

Most reefers within the intermodal container industry have historically used R-134A as a refrigerant, but the GWP of 1430 makes it non-compliant with this regulation. However, R-513A, with a GWP of 630, is compliant. Maersk Container Industry (MCI) has been proactively preparing for these changes with its Star Cool machines and, since 2017, all of MCI's reefers have been optimised for R-513A.

That said, the intermodal reefer industry is undergoing a shift from the most common refrigerant R-134A, towards R-1234yf. Of the refrigerants available on the market today, it is widely agreed upon by reefer manufacturers as the most climate-friendly choice for the refrigerated container industry. Its thermal dynamics are similar to R-134a and R-513A, making it a suitable replacement for the common set-point range of -30°C to +30°C. Many reefer units manufactured today are

designed with R-1234yf compliancy in mind.

This includes MCI's Star Cool 1.1 which was introduced to the market a little over the year ago. Anders Gamborg Holm, director of global sales and services, told **CM** that it is MCI's most significant development since the company launched the Integrated Reefer in 2007.

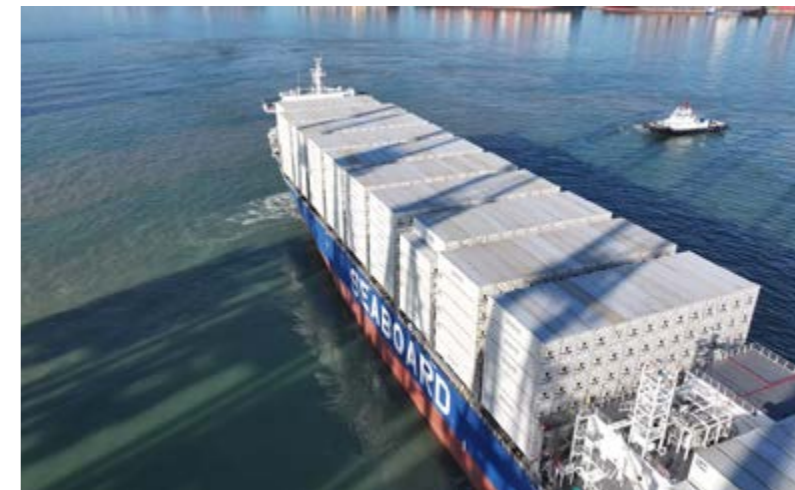
MCI's Star Cool 1.1 was built with three objectives in mind: energy efficiency, reliability and refrigerant flexibility. "The Star Cool 1.1 is first in market to offer a flexible triple-refrigerant solution, setting a new standard for versatility and compliance in container refrigeration," Holm noted. "This flexibility allows customers to adapt to regional and future regulatory changes without compromising performance. The concept has since inspired others in the industry, though Star Cool 1.1 remains the only validated solution in operation today."

More than 60,000 units are already in service globally, including over 10,000 operating with the R-1234yf refrigerant. Compared to R134A, 99.96% of the GWP is reduced should R-1234yf be leaked into the environment.

"Compared to other refrigerants, R-1234yf is as efficient as R134a when considering the full spectrum of the reefer operation, meaning that there is no efficiency penalty and thereby higher CO<sub>2</sub> emissions on board of the vessels to produce the power needed to drive the reefer," Holm added.

MCI has also implemented design changes with Star Cool 1.1, such as the coated evaporator coils and production improvements like induction brazing and 3D X-ray scanning, to reduce the likelihood of leakages. With the upgraded version, MCI's Star Cool has increased its market share to above 30%.

US-based Thermo King covers solutions from -70°C to



+40°C, that comply with these stricter regulations coming into effect in January. The portfolio now also includes the new Magnum Eco reefer unit, which is R-1234yf ready and designed to accommodate all of the refrigerants available on the market today. According to Claudio Zanframundo, president of Thermo King EMEA truck, trailer, bus and global marine, rail and air, the Magnum Eco is a reefer that has been conceived and tailored for fitting with the needs of the shipping lines.

It is based on Thermo King's Magnum platform that Zanframundo calls the "workhorse" of Thermo King's reefer lineup. The company sells 1,000s of these units per year and has over 100,000 units operating in the global market. When industry stakeholders say Thermo King Marine, they think of Magnum. The Magnum Plus version was introduced in 2008, giving the platform a strong track record. Magnum Eco is built on the Magnum Plus platform, allowing for the reuse of many parts and subsystems. The most significant change is its ability to handle A2L refrigerants, which required redesigning motors, fans, heaters and heat exchangers, as well as adding a leak sensor and an illuminated buzzer. The controls have also been upgraded to monitor and manage more operating conditions.

"It's a natural evolution of the Magnum, keeping all the points of strength of the Magnum, but with some important additional features on the unit," Zanframundo explained to **CM**.

Additionally the Magnum Eco features an upgraded A2L compressor that's been designed to be tougher, perfectly matching the customer needs. It comes with an electronic expansion valve, as well as a new evaporator section designed for improving the serviceability of the unit and new fans that help to reduce the overall weight and energy consumption of the unit. Zanframundo said: "The demand on sustainable products, from a customer perspective, is always converted into a demand of products that are consuming less energy. Products that are less impactful from an environmental point of view, hence the availability of different type of refrigerants."

Zandramundo also pointed out that 90% of CO<sub>2</sub> emissions during a unit's lifecycle result from power consumption, while 8% are due to refrigerant leaks occurring during operation, improper maintenance, or end-of-life management of the refrigerant. The remaining 2% comes from the materials used in the unit.

Thinking ahead, Thermo King has begun exploring natural

refrigerants for the maritime industry such as R290, more commonly known as propane. R290 has a GWP of just three – a huge leap when compared to the refrigerants available for use today.

The future of the reefer industry lies in identifying suitable natural refrigerants, according to Arjan Bezemer, general manager at Daikin Reefer container division EMEA. Bezemer highlighted propane and CO<sub>2</sub> as the two main types of natural alternatives currently being considered for the market.

Bezemer told **CM**: "Daikin has long advocated the need to identify environmentally-friendly and suitable alternative refrigerants for reefer containers. Our risk assessment work and comparative studies indicate that fully charged propane is not, however, in our view, suitable for reefer containers."

"One of the key reasons why a propane system is not suitable for this industry is propane's explosive and combustion power that together present significant danger for reefer containers, container operatives, crew and personnel, both on board and in terminals or depots."

Daikin is therefore conducting research into and development of an energy-efficient CO<sub>2</sub> -compatible machine. "With the regulatory risks and sustainability concerns around PFAS, this industry has to move towards a natural refrigerant," Bezemer said. "At Daikin, we have been researching this ongoing for several years, as this is a crucial development for our industry."

For now, though, Daikin has made sure that its reefer units are compatible with all three of the major refrigerants and is focusing on ways to make its offering more sustainable through other methods. The company recently conducted a lifecycle assessment (LCA) which mapped out all of the emissions at every step of the process.

Bezemer explained: "From procurement to parts, production, transportation, operational usage of machinery, as well as the disposal at the end, our mapping gives a clear view of the emissions at every stage of the entire life cycle of our containers. The operational part is actually where the emissions are the highest."

This is due to the reefer's power consumption which, when lowered, helps to lower the overall fuel consumption of the vessels that the units are shipped on, thereby resulting in lower emissions all-round. Daikin's machinery's current power consumption is already very low, but the company aims to reduce this by a further 30%. This can be achieved through

**Opposite Page:**  
Thermo King unveiled its new Magnum Eco unit at Intermodal Europe 2025

**This Page:**  
**Left:** Arjan Bezemer, general manager at Daikin Reefer container division EMEA

**Right:** Star Cool reefers on one of the new dual fuel vessels from Seaboard Marine



certain software and hardware improvements.

MCI takes energy efficiency very seriously, relying on its data to understand its units. “With over a billion operating hours logged (2bn within months) in our Sekstant fleet monitoring system, we have a very solid understanding of how Star Cool reefers perform under different conditions around the world,” Holm explained. “This allows us to see exactly how energy consumption changes depending on climate, temperature, and humidity.”

Every Star Cool unit has its own built-in Power Meter, giving customers the ability to easily measure and verify the usage of their own units.

In addition, developments in active controlled atmosphere (CA) have led to an increase in certain goods being shipped by sea rather than transported by air – a clear win for the environment. According to Climate Action Accelerator, air freight emits 1,054gCO<sub>2</sub> emissions per tonne-km while sea freight emits only 19gCO<sub>2</sub> per tonne-km.

Air was once considered the only option for sensitive perishable goods such as blueberries, bananas and avocados due to the speed at which it can deliver the goods and yet now, thanks to CA, shipping has become a much more viable solution. Pederson noted that, based on MCI’s data, over 75% of the CA reefer market is placed with Star Cool in 2025.

**IT’S ALL ABOUT CONTROL**

Thermo King debuted its TK Active Fresh system in Intermodal Europe 2024. The system is tailored for high-respiration cargo, such as fresh produce, in long-haul transport. Utilising a nitrogren membrane, the system maintains controlled oxygen (O<sub>2</sub>) and carbon dioxide (CO<sub>2</sub>) levels, significantly slowing produce respiration.

The company’s Magnum Eco is equipped with a CA system that allows customers to choose between having an active CA or passive CA. Combined with its MP-5000 controller, Thermo King is able to offer precise temperature, humidity, and air composition through the Magnum Eco, helping to preserve goods for longer periods.

Zanframundo said: “This is all about sustainability because if you think that, on average, if you consider the overall food that is produced every day, every year, in the world, 30% of the food that is produced is wasted or lost. It’s a huge amount of food.

“So, you can imagine how, without the 30% food loss, you can really save that starving countries around the world. So ours is a technical commitment, but it’s also an ethical and social commitment to make our units more sustainable and then better for consuming less energy, preventing the food loss, and that’s really part of the Thermo King goals.”

These developments have been particularly useful in today’s shipping climate where conflicts like those in the Red Sea create diversions and disruptions on shipping routes, often resulting in longer journeys for perishable produce. Daikin has seen an increase in demand for its Active CA solution not only because of such global logistical challenges, but also due to the technological advantages it now provides for shifting cargo from air to sea.

“Take bananas for example: one of the world’s most popular



fruits that is commonly shipped with Daikin Active CA with sometimes even longer transit times of up to 60 or 70 days, still arriving at destination with good quality,” Bezemer explained. “So, despite supply chain disruptions, Daikin Active CA has been proven effective in transporting perishable produce over longer distances by sea, extending shelf-life and ultimately reducing food waste”.

Daikin has further developed its ZeSTIA machinery to ensure it is also suitable for transporting pharmaceutical products. The solution offers greater control for pharma customers where the correct temperature maintenance is of utmost importance due to the high value and sensitive nature of the goods. There has been recent increase in the volume of pharma cargo being transported by reefer, Bezemer noted.

The reefer industry’s commitment to developing its telematics solutions provides additional benefits and advantages. In October this year, Daikin launched its telematics brand Planexia, bringing next-generation technology designed to meet diverse customer needs. Daikin has partnered with third-party telematics vendors to deliver a flexible offering and Planexia combines real-time monitoring with predictive maintenance and data integration. The Planexia brand will be developed further as market needs change.

Last year, Thermo King launched the MP-5000 controller that helps simplify operator interactions, giving greater control and allowing for remote monitoring. It also includes energy logging as a standard feature, enabling users to track both kWh consumption and CO<sub>2</sub> emissions for each voyage.

“It can also change the settings of the unit, adapting it according to the type of product that is transported, because you might have products that do not need a very, very precise temperature setting,” Zanframundo noted. “So, you might regulate the unit in a way that is allowing to have a more energy efficiency and a little bit wider tolerance of temperature.”

Zanframundo noted that the MP-5000 gives customers a complete knowledge of what’s going on inside their reefer “basically in their hands”. He added: “Our customers are often customers that are dealing with the with the cold chain.

“So, for Thermo King, being a leader in cold chain products, we are the only one that is able to provide products that are varying from the truck and trailer transports to the marine transport to the rail intermodal transport to the air transports.”

Above:  
A Daikin ZeSTIA unit

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# The cheat code to durability

In a world where everything is smart, tyre manufacturers are determined not to be left behind as they make the humble tyre a little more technological. Lacey Jones reports

Technology has been a fascination of humankind for hundreds of years. Decades ago, most of what we use in our day-to-day lives now would have been nothing more than a frivolous idea thrown into a story by a scriptwriter or author to give their work a futuristic edge. Clap-on lights, once the height of future technology, came and went out of fashion faster than you can, well, clap. The all-knowing, multi-talented smart house of movies past materialised in the form of a small speaker or tablet able to dim the lights (save those hands), set timers, turn on the heating, and more. Thankfully, neither Alexa, Siri nor Google Home have turned on humans like so many of their fantasy predecessors have. Yet.

In all of these futuristic ideas, however, no one predicted the smart tyre. Perhaps it wasn't as glamorous as a microwave that instantly transformed popcorn packets into a McDonalds – still waiting on that one, by the way – but it is certainly a useful tool that has brought the tyre into the digital club. There's telematics for containers, cranes and vehicles – why not tyres too?

Tyre manufacturer Continental offers a range of digital solutions to its customers that are designed to maximise the lifetime of their hardware. Continental's proprietary Tire Pressure Monitoring System (TPMS) and associated devices integrate seamlessly with vehicle systems and customer maintenance platforms. The ContiConnect portal provides a clear overview of tyre pressure status, highlighting areas that require attention.

Federico Jimenez, head of business development, port and CST product management, commercial speciality tyres at Continental, told **CM**: "Many terminals operate with tyres underinflated by approximately 10%, which can reduce tyre life by 15% and increase fuel consumption—and CO<sub>2</sub> emissions—by 1%. Continental actively supports customers in optimising tyre performance and reducing overall operating costs."

Continental's solutions deliver unique benefits to its customers, including significant cost savings, which is becoming in increasing demand due to the ongoing uncertainty within the industry. Jimenez highlighted how there has been an intense pressure to control or even reduce costs and that one of the most significant challenges as a manufacturer is the limited attention paid by end customers to the total cost of ownership (TCO).

By investing in comprehensive product performance

monitoring, Continental is able to proactively address the issue. The company's sales representatives dedicate substantial time to tracking and comparing its tyres against Continental's competitors, building a robust database that is able to clearly demonstrate its value to customers.

In addition to cost savings, Continental's solutions are able to help reduce CO<sub>2</sub> emissions, another priority for the port industry at present, and also offer enhanced operational transparency. These advantages contribute to more sustainable and efficient port operations.

"We are seeing a steady increase in demand for our digital solutions, although adoption is progressing more slowly than anticipated," Jimenez said. "The port industry is still maturing in terms of digital technology, with concerns around cybersecurity and data ownership posing barriers. Nevertheless, Continental's intelligent tyres offer immediate benefits: customers can simply mount the tyres and use the ContiConnect app to access pressure data free of charge."

For more advanced solutions, Continental's sales representatives are able to guide customers through a range of scalable options for comprehensive tyre health reporting. Its intelligent tyres are even available directly from Original Equipment Manufacturers (OEMs), ensuring seamless integration into new equipment. Customers are also able to order equipment with Continental's intelligent tyres as part of the package from the most relevant OEMs of the industry.



Jimenez added: "We are continuously innovating and developing new solutions to meet the evolving needs of the port industry.

"Several substantial advancements are currently in preparation, some of which have the potential to be true game changers. These innovations will further enhance transparency and predictive capabilities, and we look forward to sharing more details in the near future."

Nokian Tyres was recently recognised by the German Agricultural Society DLG for its next-generation smart tyre technology, Nokian Tyres Intuitu 2.0 Smart Pressure Assistant. The solution was developed for Nokian Tyres' Soil King VF tyres, suitable for agricultural use, and features load sensing. The solution uses tyre sensors to determine the axle load during driving and suggests the correct tyre pressure for use on the road and for working on the field. Nokian Tyres launched Intuitu 2.0 Smart Pressure Assistant in October 2025.

With regards to the port tyre market, the manufacturer offers a range of tyres suitable for machinery such as rubber-tyred gantry (RTG) cranes, reachstackers and terminal tractors. All have been designed with the demands of terminal work in mind.

Nokian Tyres reachstacker offering considers the challenges of excess tyre heating due to high rolling resistance, swaying lifting capacity and uneven wear of the tyre. Excessive tyre heating can help minimise the lifetime of a tyre which, in an industry where a majority of facilities run 24/7 operations, can pose a great challenge. To address this, Nokian Tyres uses an advanced rubber compound to stop heat building up, while also minimising the rolling resistance of a reachstacker tyre through a good tread design.

Meanwhile, Magna Tyres launched in May this year its new Dealer Portal. The Dealer Portal is a digital platform designed to provide European dealers with instant access to real-time stock information. Through up-to-the-minute stock data, the platform helps dealers to make informed purchasing decisions, enhancing customer satisfaction and operational efficiency.

Arno van der Linden, sales director of Magna Tyres, said: "Our commitment to supporting our dealer network is unwavering.

"The Dealer Portal is a testament to our dedication to innovation and excellence, providing our partners with the tools they need to succeed in a competitive market."

The key features of the portal include real-time inventory updates, a user-friendly interface, secure access and mobile compatibility. The Dealer Portal is a show of Magna Tyres Group's ongoing efforts to leverage technology in enhancing customer service and operational excellence. The platform is aimed at the company's most loyal dealers and is accessible by invitation only.

Magna Tyres also launched another new product in March of this year. At BAUMA 2025, Magna Tyres unveiled its latest evolution in its mobile crane tyre portfolio: the Magna M-CRANE. The next-generation tyre helped to set a new benchmark in lifting performance, durability, and operational



Opposite Page:  
The Magna  
M-STACKER

This Page:  
Top: Continental's  
ContiConnect is  
designed to maximise  
the lifetime of its  
hardware

"We are seeing a steady increase in demand for our digital solutions, although adoption is progressing more slowly than anticipated"

efficiency, reinforcing Magna's commitment to delivering cutting-edge solutions for heavy-duty applications.

According to the manufacturer, the Magna M-Crane offers the highest load/speed index on the market, enhanced structural durability, a longer tyre life and lower heat generation as well as a superior stability and grip. Magna Tyres also offers a five-year warranty and a 100% reimbursement in case of a technical failure.

Last year, Magna Tyres launched its Magna M-STACKER tyre for industrial handling vehicles, including reachstackers, empty container handlers and heavy-duty forklifts. The successor to the manufacturer's popular Magna MB01 and MB01+ tyres, the M-STACKER was designed with key improvements that optimise durability, performance and operational efficiency.

It was engineered to deliver up to 32% more operating hours in comparison to its predecessors, helping to ensure reduced downtime and a lower TCO that helps facilitate a terminal's equipment staying productive for longer. In testing, the M-STACKER's wider tread maintained a 60% tread life after 2,260 hours of use. Its larger footprint also ensured that more rubber is in contact with the ground, providing better stability and reducing wear, even in demanding conditions.

Whether it's through digital or hardware means, it's clear that the tyre manufacturers of the ports and terminals market are determined to make certain that port equipment keeps on rolling. At a time when it's never been more important to maintain uninterrupted operations, the industry is sure to be appreciative. Even if it doesn't yet have microwaves that can produce McDonalds in a matter of seconds. We'll get there one day.

# Put me in coat-ch

Regulations on VOCs grow tighter in China while coatings manufacturers explore the potential of powder coatings. **Lacey Jones** reports

For over two decades, China, the heart of the container coatings industry, has worked to implement stricter regulations designed to make coatings more sustainable. The main target of this campaign has been volatile organic compounds (VOCs). VOCs react with other pollutants such as exhaust fumes and factory emissions, contributing to the deterioration of air quality, the creation of smog, and damage to crops and human health.

Various regulations to combat the impact of VOCs on the environment have been introduced by Chinese officials over the years and 2025 is no exception. On May 30, 2025, the State Administration for Market Regulation (SAMR) and the Standardization Administration of China (SAC) jointly released two mandatory national standards: Limit of Harmful Substances of Coatings Part 1: Architectural Coatings (GB 30981.1-2025) and Limit of Harmful Substances of Coatings Part 2: Industrial Coatings (GB 30981.2-2025).

The latter is of the most relevance for the container coatings industry as it replaces GB 30981—2020 Limit of Harmful Substances of Industrial Protective Coatings, and GB 38469—2019 Limit of Harmful Substances of Marine Coatings, among others. These new regulations are designed to help facilitate a clearer and more comprehensive system for hazardous substance limits in coatings. Both standards entered into force on June 1, 2026.

At Hempel, keeping things up to standard is the standard for its products. The container coatings manufacturer has seen an industry shift towards high solid and solvent free epoxy coatings, driven by numerous reasons including the need for enhanced environmental compliance.

Chris Xu, head of container, energy & infrastructure China at Hempel, told **CM**: “These coatings have a low VOC content, helping shipowners and leasing owners meet increasingly stringent environmental regulations.

“With very little solvent emission, they significantly improve air quality in enclosed spaces like ship cabins and tanks, protecting the health of crew and applicators.”

Furthermore, Xu noted that high solid formulations often achieve the required film thickness in fewer coats, which helps to save application time and labour. “Products with long repair cycles also help to reduce long-term maintenance costs,” Xu added.

Hempel has an existing range of high solid epoxy products for the maritime market and is also making an effort to cater for various container types, including the energy storage container. Xu explained that when looking at purchasing container coatings, customers are often looking for five key factors: durability and protection, efficiency and produc-

tivity, regulatory compliance, technical support and global supply and consistency. Hempel is able to meet these requirements through its product offering and its large global reach of over 100 countries served with its products.

In the company’s 2024 annual report, a joint letter from chair of the board of directors of Hempel A/S Richard Sand and group president and CEO of Hempel A/S Michael Hansen highlighted the company’s dedication to accelerate the decarbonisation of shipping.

Last year, Hempel launched Hempaguard Ultima, a new silicone coating system designed to enhance ships’ hull performance. The coating system helps to enable optimised performance and increased fuel savings, enabling vessel owners and operators to reach their decarbonisation goals.

## THE POWER OF POWDER

At Intermodal Europe in Barcelona this year, talk turned to the use of powder coatings on containers. CIMC Containers Group (CIMC) is a key innovator of this movement, having built a powder paint production line at its Xinhui factory in 2019. According to CIMC, the factory is able to achieve zero emissions of wasted gas, wasted water and waste residues during the paint spraying process.

As of the Barcelona-based exhibition, more than 30,000 teu with powder paint had been produced and delivered. In its presentation, CIMC noted that the powder paint has better surface performance, stable quality and is environmentally friendly.

Compared to waterborne coatings, CIMC highlighted



**This Page:**

The container industry is exploring the benefits of powder coatings

**Opposite Page:**

China is cracking down on VOCs in the name of maritime sustainability

that powder coatings can reduce VOC emissions by 4.47 kg per teu, wasted water by 234 kg per teu and wasted residues by 17 kg per teu.

Powder coatings have been in the works for a number of years, as highlighted by Genuin Environmental Protection Technologies Co., Ltd. in its own Intermodal Europe presentation from 2023. The group started to cooperate with CIMC in 2008 for the exploration of this technology, signing a partnership agreement in the same year CIMC built the paint production line in Xinhui.

By 2022, the mass production of container powder coating had been achieved. Shipping lines such as CMA CGM and Hapag-Lloyd have invested in powder coatings in previous orders, according to Genuin’s presentation, showing the industry’s interest in this technology.

“Meanwhile, most container owners are still watching to see its performance from service,” Xu explained. “We consider this could take some time. We have our powder coating systems in hand as well with KTA certified in 2023. But for the moment, we’d like to focus on tank containers with powder coatings.”

The structure of the tank container makes it better suited for powder coatings than standard dry freight or specialised containers, according to Xu, as the frame and the tank is ideal for powder coating application considering its slower production speed. This makes it safer to start with.

Xu added: “Applying powder coatings to non-tank



containers (such as standard dry freight or specialised containers) requires specific adaptations in surface preparation and mass production processes to ensure durability and corrosion resistance.

“The key is to meet performance standards tailored to the harsh conditions of sea transport. I think it is too early to conclude for the moment while prototypes are still in service rounds.”



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**GRUPO PUERTO DE  
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# One to One Interview

**Megan Cook**, chief accounting officer at ShipMoney, tells **Lacey Jones** about her chaotic first trip abroad and how she handles the extreme as a risk averse old soul

**Q: Where did you grow up?**

**A:** I grew up in Grove, Oklahoma, which is a small rural community about an hour and a half from where I live now. I can trace my family roots here back to my great grandparents. It was a nice place to grow up. I actually grew up not even inside the small town but outside it in the middle of the woods.

**Q: What was your early career like?**

**A:** I considered doing psychology at University of Missouri. I actually looked into prison psychology, visited a maximum-security prison and then decided maybe I'm a little too soft hearted for that path, so I transferred to University of Oklahoma.

When you come from a small town, you're not always aware of all the opportunities that are out there, but I discovered just how large the world is during the early part of my career when I spent 12 years working in African banking at the Visa processing company Global Technology Partners.

It's perhaps funny as someone from Grove that my first trip out of the country was to Ghana. On that trip, I also went to Austria, London and Paris, all in one – just like, welcome to international travel, Megan! It was quite an experience.

My mum would tell me I picked the one career where perfection is standard, and that's how I've been since a child, a little bit of a perfectionist. Everything always balances everything, so it's in my makeup and, also, I would say I like to understand every aspect of risk. All good traits for my chosen career.

**Q: How was your first trip out of the country?**

**A:** It was eventful. Before I'd even made my way to the airport, there was a shortage of yellow fever vaccines because of an outbreak in Brazil and I needed to take a trial drug. I flew from Tulsa, Atlanta, to Amsterdam and then a second flight from Amsterdam to Ghana, during which we had no Wi-Fi. The plane was not equipped, so I was cut off for hours.

In that short period of time, my son needed to have emergency surgery, so I was just unaware the whole flight. My husband, thank goodness, he's on it. He took care of it. I landed in Ghana, had some trouble coming through because a couple of my colleagues had issues – one forgot his yellow fever card, and the other was questioned because her passport was nearing expiry.

So, I'm standing there, alone, sweating profusely because it's 150° with no AC in the airport. Everything doesn't feel right, so I called home and found out about my son's operation. That was just the beginning of my journey!

It was an intense trip. Since then, I know to plan a bit better and my son jokingly says he only has one appendix, so I don't have to worry about that again!

**Q: How did you get into maritime?**

**A:** I'm lucky to have the mentor that I've had. I started with him about 20 years ago, after college, had a couple of jobs in between, then went into African card processing. These were divisions of his business. That entity was sold 12 years ago and, almost 13 years ago, Stuart Ostrow, co-founder and president of ShipMoney, met with, I call him the patriarch, Bob Merrick, and they birthed ShipMoney.

I remember the first time I met Stuart, the idea of it, just the excitement. I really have been around since the beginning as I did file the incorporation paperwork for the company.

**Q: What do you like to do outside of work?**

**A:** I've been married for over 21 years. We have two sons – one is in college, and then a 12-year-old. So, right now, probably my hobbies outside of work involve chasing the 12-year-old to whatever he's doing. Otherwise, I'll try a little bit of anything, really. I like to craft. I'm kind of an old soul. Last week I worked on making bingo prizes for the retirement home. But my husband is way more fun than I am – we recently went spoonbill fishing. I caught a fish that was as tall as I am, which is the



sort of activity I would definitely not seek out on my own!

**Q: What's the most memorable experience your husband has talked you into?**

**A:** He took me parasailing, and I was brave that day. I was thinking, yeah, I can do this. I'm afraid of heights. Before we go up, they tell me there are schools of black tipped sharks.

So, we go up, you're sitting on the swing, and I do not feel like they fastened me in. I'm white knuckling, and telling my parents, who are on the boat, waving at us, taking my picture, while I'm saying please bring us back. They think I'm saying look at the sharks!

It was a good 10 minutes of just fear. Sometimes I agree to these things and then it's too late. I will never forget that because they usually dip you in the water and I was like, do not dip us with sharks. I have bad luck. I will, for sure, come up without a leg.

Some of the experiences he's talked me into have been very memorable – perhaps because of the mild terror or trauma! When it comes to paragliding over sharks, the good news is that I can say I've done it. I did it once, so I never have to do it again!

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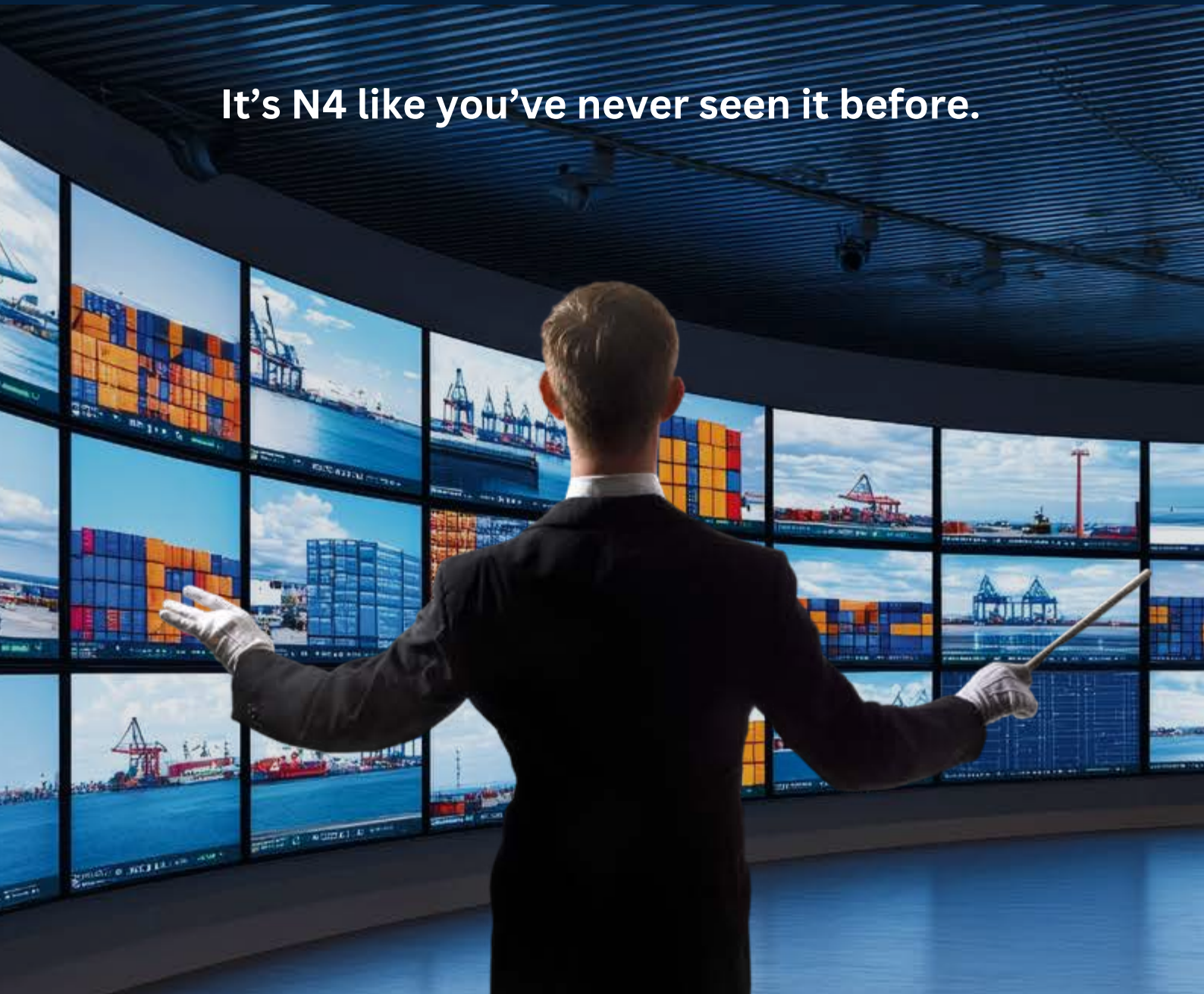
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