HEAVY LIFT
& PROJECT FORWARDING INTERNATIONAL
Issue: 88
September/October 2022

Meeting global challenges

An HLPFI supplement
Ports & Terminals

HEAVY LIFT AWARDS 2022

Brought to you by

HEAVY LIFT & PROJECT FORWARDING INTERNATIONAL

22 SEPTEMBER 2022 | HAMBURG

THANK YOU TO OUR SPONSORS

CONTACT

info@heavyliftawards.com

+44 (0) 7789 192036

www.heavyliftawards.com

AAL powered by partnerships

DHL Industrial Projects

Fracht Group

Goldhofer

Jumbo Alliance

SAL

sarens

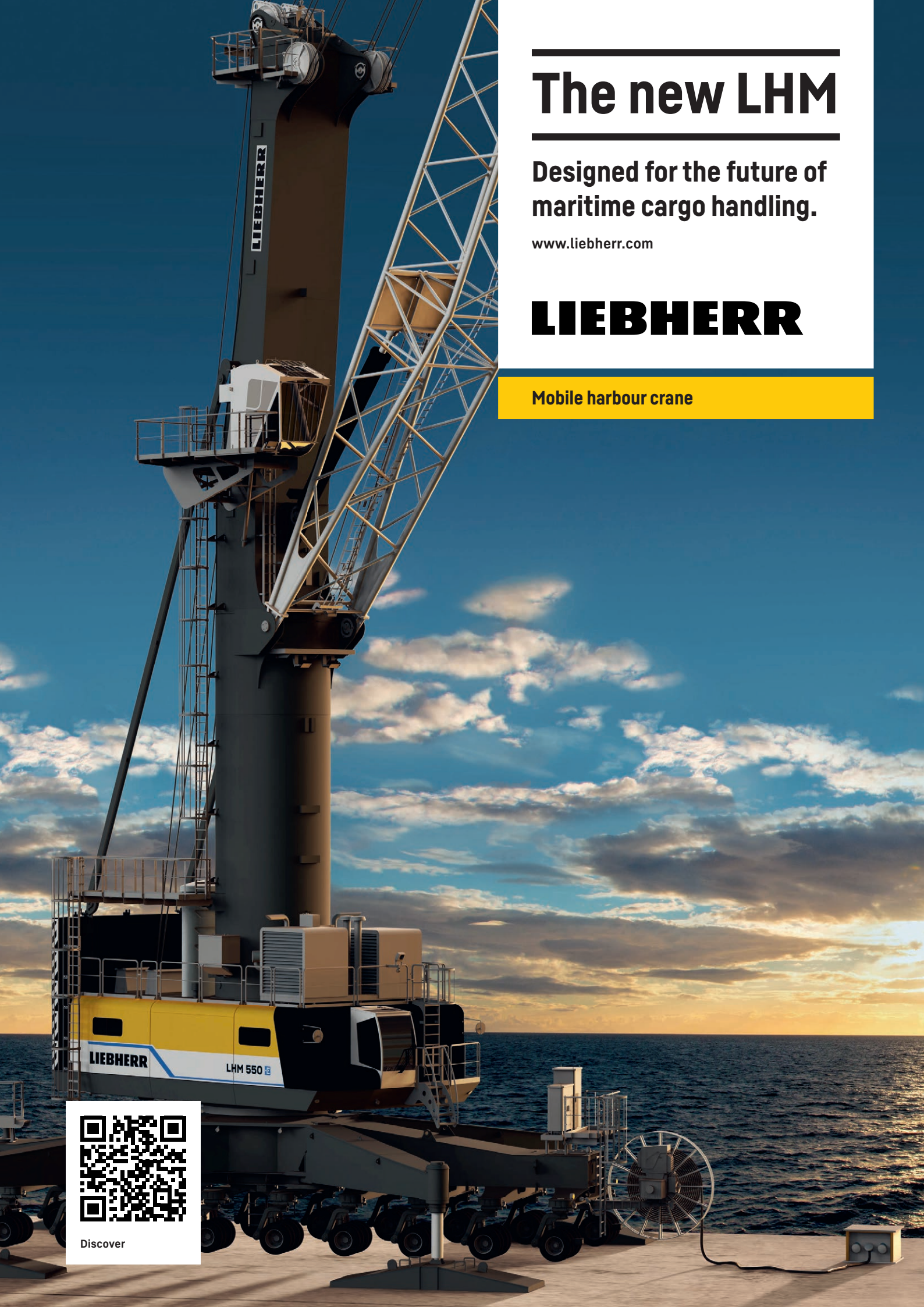
TransGlobal Group of companies

United Heavy Lift

UTC Overseas

XL Antwerp


PORT OF
LONGVIEW
• EST. 1921 •
CLOSER
ON THE COLUMBIA RIVER IN WASHINGTON STATE
FASTER
DIRECT CONNECTIONS TO MAINLINE RAIL & INTERSTATE HIGHWAYS
SMARTER
STORAGE OPTIONS & FOREIGN TRADE ZONE SPACE
BETTER
ON-DOCK RAIL & DUAL-SERVED BY BNSF & UP
CONTACT US AT SALES@PORTOFLONGVIEW.COM | PORTOFLONGVIEW.COM



The new LHM

Designed for the future of maritime cargo handling.

www.liebherr.com

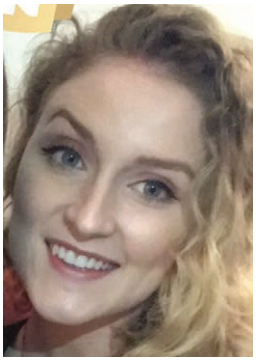
LIEBHERR

Mobile harbour crane

Discover

CONTENTS

Meeting global challenges



The supply chain, of which ports and terminals are a critical link, often falls under the radar. And for good reason: tasked with keeping trade moving smoothly, it is often overlooked because it is doing just that, with the everyday person unaware of the work that is going on behind the scenes to keep the lights on and get the goods to market. In recent years, however, focus has turned to the critical infrastructure on which the world is so dependent.

Emerging challenges – including growing freight traffic, increasing environmental pressures, operational difficulties and pandemic-induced disruption – have thrust ports and terminals into the limelight. It is hard to escape the reports of port congestion or strike action. But despite the setbacks, the gateways that handle heavy and oversized cargoes are rolling with the punches. In the pages that follow, there is an overarching sense of positivity across the market.

Volumes of project cargo are seemingly on the up and there are myriad infrastructure developments ongoing around the world to boost capacity and increase efficiency. Many ports, particularly the larger gateways, were early movers in terms of digitalisation and those that folded technology into their strategies have been able to mitigate congestion issues.

Another major pillar in the strategies of ports and terminals is sustainability. Already they play a significant role in the renewable energy sector by facilitating the movement of those cargoes – wind energy, in particular, is a major focus for a number of US and European ports – and great progress is being made with the electrification of equipment or the switch to cleaner fuels. On page 31, however, we take a look at their role in the decarbonisation of the wider industry.

There is never a dull moment in the ports sector, and we hope that this supplement provides you with some of the most pertinent developments that will help keep the goods moving.

Sophie Barnes,
Deputy editor

Front cover: Washington State – Port of Longview's on-dock rail infrastructure, combined with its interior rail system, was the ideal setup for efficiently landing of more than 20 modules and oversized drums direct to rail moving from the Pacific Rim to Northern Alberta, Canada. ILWU Local 21 millwrights and crews prepped and staged flatbed railcars on the port's 1,500 ft continuous general cargo dock preparing for the arrival of the Century. More than 2,600 tonnes of components were discharged using ship's gear to cars below, then moved to the port's interior rail system for additional securing and welding. Cargo moved to the mainline via the port's Industrial Rail Corridor, served by both Union Pacific and BNSF.

Expanding trade volumes underpin port upgrades

Port developments in the USA are going full steam ahead. Several of the leading gateways are reporting strong throughput figures, accompanied by ongoing infrastructure projects to support growth in cargo handling.

Jaxport facilitates the return of a historic made-in-Florida World War 2 tugboat.

Five years ago, the port of Jacksonville (Jaxport) in Florida embarked on a multi-year project to update and upgrade the port. It started with its heavy lift berth and subsequently saw renovation works to all 13 berths. "We now have the variety and ability to handle anything we need," noted Rick Schiappacasse, director of specialty cargo sales.

With the heavy lift berth, large pieces of cargo can be moved from the ship directly to rail, which Schiappacasse said is the most efficient mode of transport. That is, of course, if the dimensions allow. In some instances, cargoes are transhipped to barge for transport closer to the project construction site.

This was the solution used last year when Jaxport moved 1,000 tons (907.2 tonnes) of cargo over a six-month period for a power plant project. Located to the south of Jaxport's facilities, the plant was converting from coal to gas. The largest components were moved onto a barge as they were too big to make the 60-mile (97 km) journey to the plant by road. By water, the cargoes were delivered to a berth around 3-4 miles (4.9-6.4 km) from the plant.

"In terms of highway transportation, from north to south, Jaxport is connected to Interstate 95, which can go all the way to Maine or down to Miami. East to west, you can get all the way to California – we have access to good quality roadways."

In terms of heavy cargoes arriving at the port, Schiappacasse said: "Ever since the advent of ro-ro shipping using Mafi trailers, its prevalence has increased quite a bit. Every day, Mafis are bringing in generators and transformers, or the like. In that way, heavy cargoes are an ongoing piece of business – the volumes are pretty steady."

Confident outlook

He is also confident that this will continue. "Florida is very business friendly for private industry and we have developments ongoing all the time. A city west to us is in process of drawing up procedures to change a coal and oil plant to natural gas – if that project moves ahead, we will see more and more pieces move on.

"A lot closer to us – about one hour west – there is the development of a major industrial park, and it has gone through the process of bringing electric power into the site and brought in a facility for fresh water and sewage – the barebones necessities for manufacturing." He added that the park covers around 3,000 acres (1,214 ha) of space, with rail and roadways leading to the site. It has already been confirmed that there will be at least one refinery that will cleanse fuel to make diesel that trucks get from the pump cleaner. We know of one company

> **Looking into 2023, we expect the wind energy activity to pick up further and we are already seeing plans for other larger industrial projects on the horizon.**
>
> – Jonathan Lamb, Duluth Cargo Connect

> **We now have the variety and ability to handle anything we need.**
>
> – Rick Schiappacasse, Jaxport

that will be there, and this alone will involve larger tanks, processing pumps and the like, as well as refinery machinery," said Schiappacasse.

The push toward cleaner energy is also generating cargoes for the port of Duluth, as wind energy components continue to arrive at its berths driven by wind installation projects in the Upper Midwest. As North America's furthest-inland seaport, connected to the Great Lakes-St Lawrence Seaway System, its facilities provide a means for these cargoes to sail all the way to the final mile when it comes to reaching North America's heartland.

Average season

While Duluth is not projecting a record-breaking season for wind energy cargo – following record years in 2019 and 2020 – volumes are steady. Jonathan Lamb, president of Duluth Cargo Connect, said: "By its very nature, project cargo flows are often inconsistent from year to year. That has been and will continue to be our experience in the coming years. We are currently experiencing one of our more average seasons for project cargo – not our busiest year, but certainly not our slowest, either. While the flow of wind cargo is lighter this year compared with some other seasons, we are seeing a nice volume of other power generation equipment and heavy machinery for industrial projects."

Large refinery and mining pieces are arriving in Duluth, which given its geographical proximity to several of those types of facilities is typical for the port. Additionally, its ro-ro dock has been used for several oversized/overweight cargoes.

"Looking into 2023," Lamb continued, "we expect the wind energy activity to pick

Size Doesn't Matter
(Really!)

PORT OF BALTIMORE
1706
Helen Delich Bentley

- Simplified truck permitting process
- 2 Class 1 on-dock railroads
- New direct rail discharge and load capabilities
- On-dock heavy lift cranes
- Numerous choices of service providers and carriers
- Experienced labor force

marylandports.com | 1.800.638.7519 |

Governor Larry Hogan MDOT Secretary James F. Ports, Jr. MDOT MPA Executive Director William P. Doyle

An LHM 420 in use at Bellingham Shipping Terminal recently.

up further and we are already seeing plans for other larger industrial projects on the horizon. Of course, project cargo schedules can be impacted if manufacturing facilities are behind schedule and that can sometimes push the actual freight movements back some months, as was the case in 2020.

Scheduling uncertainty

"As everyone intently watches other challenges play out in the global supply chain with concerns of recession and instability in Eastern Europe, for example, more scheduling changes will likely emerge. As is always the case in our business, having the flexibility to adjust will remain imperative."

Duluth has also made some significant infrastructure investments in the past year, most notably building its US Customs and Border Protection facilities for handling containerised cargoes, as well as investing USD1 million to upgrade the most heavily used section of rail on its terminal. It will soon begin construction of a new warehouse to expand its existing warehouse capacity by approximately 56,000 sq ft (5,202.6 sq m).

Duluth has also expanded its capabilities with a maritime container service to complement its existing land-based intermodal terminal. In May, it initiated this new line of business, loading containers for export to Europe on a ship that arrived at Duluth carrying wind energy cargoes. The service, according to the port, provides an efficient way to get customers' produce to market in Europe, bypassing various supply chain snarls at more congested ports throughout the USA.

Wind energy is also a focus for South Jersey Ports, which has been investing in its facilities to support the industry; USD9 million is going on upgrades to its Salem Marine Terminal, while the Paulsboro Marine Terminal will be the base for EEW Group's first monopile manufacturing plant in the country. While the import of structural steel for the construction industry has been steady, the import of monopiles will drive the growth of project cargo and heavy lift at the port over the next 12 months.

Wind turbine facilities

Another heavy lift port is also being built in South Jersey to marshal the wind turbines and blades.

"Year-to-date cargo tonnage at the South Jersey Ports remains resilient and strong compared with the record-breaking tonnage in 2021, led by our Camden steel business which is up 38 percent," said Brendan Dugan, assistant executive director and chief commercial officer. "To mitigate the drop in steel slab cargo at our Paulsboro Marine Terminal due to the disruption in sourcing caused by the Russian invasion of Ukraine, we are in the process of re-sourcing steel slabs from Brazil and elsewhere. Meanwhile, project cargo to support the American offshore wind industry has begun to arrive at Paulsboro in the form of our first test monopile."

Other investments from South Jersey Ports include USD6.6 million to replace its fleet of forklifts and cargo movers with

electric vehicles, and another USD6 million at the Balzano Marine Terminal in Camden to increase efficiency of load times and to triple the capacity of moving rail cargo.

"Clean and green is good business," explained Andy Saporito, ceo and executive director of South Jersey Ports. "While we reduce our carbon footprint, we are also launching and supporting the offshore wind energy industry that will fuel hundreds of thousands of homes and businesses with clean energy, not planet-killing carbon."

In addition to replacing its forklift fleet with electric vehicles, South Jersey Ports is also 'relamping' its office and warehousing lighting to LED and buying two USA-made low-emission reachstackers. It is also seeking partners to convert – as much as feasible – the 1 million sq ft (92,903 sq m) of warehouse roofs it has in Camden into solar arrays that could power the port's needs and sell the excess to the grid.

Sustainable investments

On the other side of the country, the Northwest Seaports Alliance (NWSA) – comprising the ports of Tacoma and Seattle – is also making sustainable investments, replacing older cargo handling gear with new tier 4 emissions compliant equipment. In addition to the environmental benefits, this equipment has allowed NWSA to increase its lifting capability, thereby reducing costs to customers.

In 2021, six yard tractors were converted from diesel to electric with new charging infrastructure installed in the Tacoma harbour; this is the first of future investments by the NWSA in zero-emission cargo handling equipment.

Strategic infrastructure investments at the gateway also include the second phase of the Terminal 5 modernisation project, which is slated for completion in early 2024. When complete, Terminal 5 will boast 185 acres (75 ha) of terminal space, eight super-post-Panamax cranes, shorepower plugs and on-dock rail to efficiently move cargo.

NWSA manages breakbulk cargo operations in Tacoma. In 2021, NWSA set a new record – handling 366,184 tonnes of breakbulk cargo. Don Meyer, NWSA co-chair and port of Tacoma commissioner president, said: "Breakbulk cargo such as construction and agriculture equipment supports our diversified economy and numerous jobs across Washington state and the Pacific Northwest. We are proud of our port operated terminals, the port of Tacoma personnel, and the ILWU longshore workforce who have worked diligently to support our record-breaking breakbulk operations."

Project cargo being handled at the port of Duluth.

NWSA offers two terminals that handle breakbulk and automotive cargoes, which allows customers to mix their ro-ro shipments. In 2021, construction equipment made up 67 percent of breakbulk cargo with agriculture equipment and machinery as the next largest cargo segments. So far this year, machinery is the leading type of breakbulk cargo, up 38 percent year-to-date from last year.

The alliance anticipates that the robust market will continue. Following the record numbers in 2021 – with high and heavy volumes growing by over 41 percent for the full year – the first six months of 2022 is showing a 52 percent increase in business over last year. "With increased federal infrastructure funding driving additional demands for construction equipment to be used on infrastructure projects across the country, our operations team is expecting to see the strong breakbulk volumes continue well into 2023," said NWSA.

While we reduce our carbon footprint, we are also launching and supporting the offshore wind energy industry that will fuel hundreds of thousands of homes and businesses with clean energy.

– Andy Saporito, South Jersey Ports

Varied opportunities

Also in Washington State is the port of Bellingham. According to Chris Clark, marine terminals business development manager, it has seen mining trucks and other machinery traverse its wharves – "the first shipments we have had of such cargoes". He believes the opportunities for heavy cargo handling at the port will be varied. In the last 12 months, for example, it has been finalising a long-term contract with a company that will import and export steel scrap at the Bellingham Shipping Terminal.

It has also been investing to certify and upgrade a used Liebherr 420 crane that it acquired last summer, which is now up and running, and will now focus on the rehabilitation of its old barge dock.

HLPFI

MORE BIG CARGO POSSIBILITIES

THE NORTHWEST
SEAPORT ALLIANCE
SEATTLE + TACOMA

800-657-9808
nwseaportalliance.com

What happens when you combine two of America's leading ports?

The flexibility to handle alll of your diverse cargo needs.
Benefit from heavy lift capabilities and deep water, on-dock rail, and a dedicated and experienced workforce.

Experience the future of big cargo.

The Northwest Seaport Alliance is a marine cargo operating partnership of the Port of Seattle and Port of Tacoma.

Record volumes despite multiple challenges

Wallenius Wilhelmsen has terminal operations spanning North America, Europe, Asia and Australia. Over the last 12 months, it has been fortunate to experience record volumes across the majority of its ports globally.

Mike Hynekamp, executive vice president and chief operating officer, logistics services, at Wallenius Wilhelmsen said that opportunities at the company's ports around the world are not without challenges.

He noted that all the ports where it has operations have experienced some form of congestion or disruption in the last year, ranging from port shutdowns and labour availability to shipping capacity. "When combined these can have a domino effect on an integrated global network such as Wallenius Wilhlemsen's."

Congestion effects

Naturally, port congestion has different impacts geographically for Wallenius Wilhelmsen, which has operations in Baltimore, Brunswick and Port Hueneme in the USA; Southampton (UK), Zeebrugge (Belgium) and Bremerhaven (Germany) in Europe; Melbourne, Australia; and Pyeongtaek (South Korea), Shanghai and Tianjin (China) in Asia.

"The benefit for our group is that we work as one between our shipping unit and our land-based logistics operations to collaborate on mitigating the challenges to the best of our ability," said Hynekamp. "In general, we believe we have made a good effort to limit the impacts on breakbulk cargoes when those factors are within our control to influence."

Globally, we have started a journey to more sustainable equipment and have invested in equipment capacity that is low to no emission – electrifying where operationally feasible.

– Mike Hynekamp, Wallenius Wilhelmsen

In terms of the breakbulk cargoes traversing its wharves, Hynekamp said it has seen its "normal mix from various sub-sectors of cargo – railcars, heavy machinery, aviation and energy projection equipment as well as offshore wind and battery production facilities." Compared with previous years, volumes are on the up and part of this is due to a spillover of cargoes that were previously containerised but have now found the benefits of ro-ro shipping. Hynekamp expects volumes to continue at their current pace for the next 12 months but cautioned that with "the volatile macroeconomic dynamics at play it is difficult to predict".

Wallenius Wilhelmsen has also invested in its terminal infrastructure over the past year, expanding in Bastenaken West in the port of Zeebrugge. The expansion – which will double its footprint at the port – includes three new berthing positions and approximately 50 ha of yard to process vehicles and equipment for the automotive, equipment and breakbulk industries. The first phase of the expansion project was fast-tracked to accommodate increased cargo throughput; it was able to receive its first shipment of nearly 3,000 electric vehicles during March 2022.

Green technologies

The Bastenaken West expansion is designed to be carbon neutral and will combine several green technologies. Three wind turbines will supply the entire site's energy needs with the potential to sell energy back to the grid. It will also feature a water treatment facility for the vehicle processing centre as well as electric vehicle charging points.

Sustainability has also been a focus for Wallenius Wilhelmsen's investment in equipment. "Globally, we have started a journey to more sustainable equipment and have invested in equipment capacity that is low to no emission – electrifying where operationally feasible," said Hynekamp.

"We believe the overall logistics industry, and especially the ports, can leverage digitalisation today to deliver a clean, more efficient and resilient global freight system and supply chain for all. One critical step in this is data and information sharing. By standardising the exchange of freight data on an open platform we can reduce the amount of inefficiency to the benefit of the environment as well as our customers. In addition, a growing focus on digital and sustainable solutions becomes an attractive incentive for future employees who may not consider our industry today."

MSC recently handled project cargo destined for Nigeria.

Growing ports network speeds industrialisation

Ports across the African continent continue to benefit from foreign investment, drawing the attention of major companies from China, the Middle East and Europe.

The potential for project logisticians in Africa is undisputed, with oil, gas, energy, mining and civil infrastructure sectors generating a wealth of activity. Naturally, accessing those markets is reliant on efficient and capable ports. International port operators have stepped up.

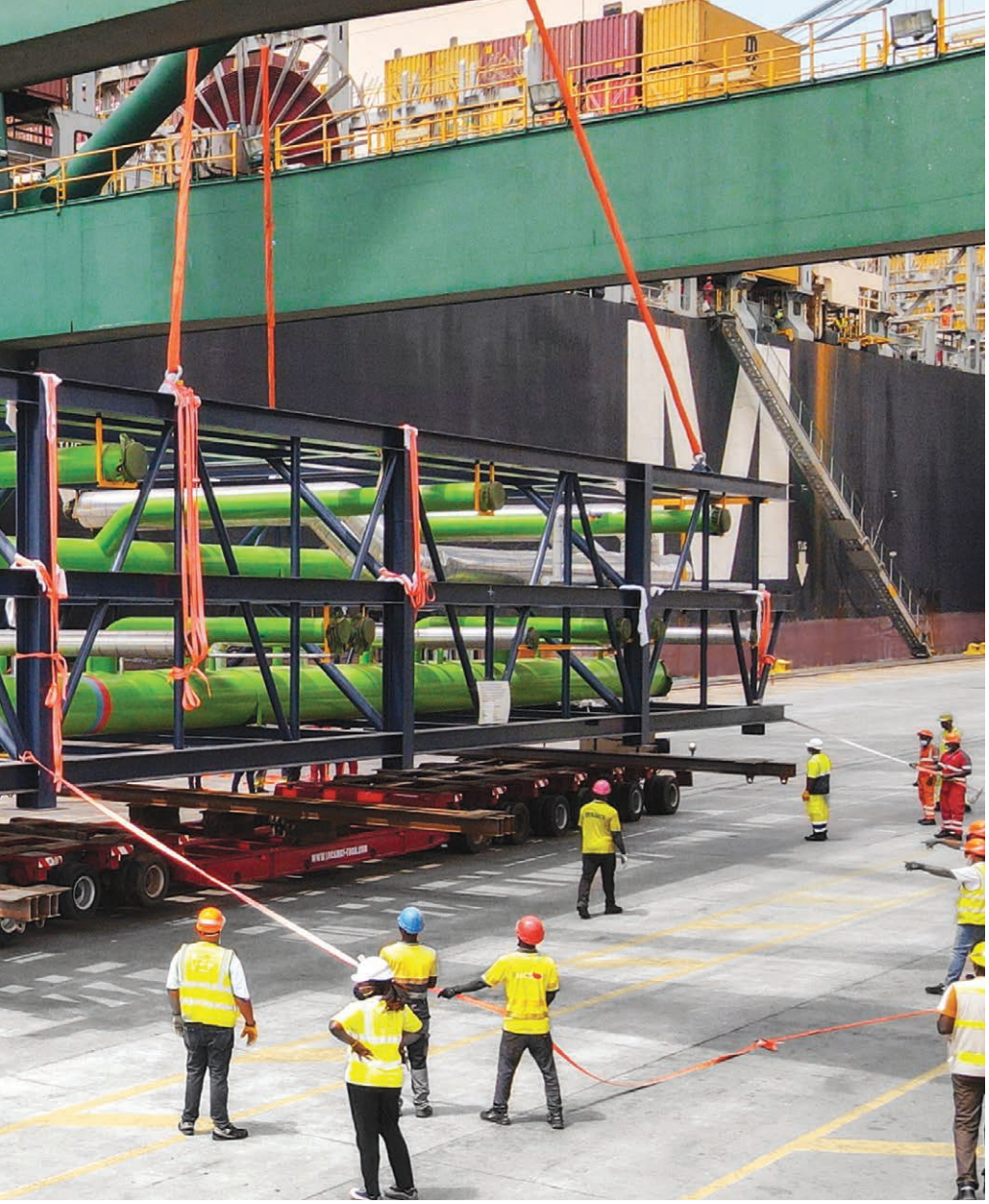
A leading port, transport and logistics operator on the continent is Bolloré. Out of Bolloré Ports' 21 port concessions worldwide, 17 are in Africa. Bolloré Africa Logistics, meanwhile, is present in 42 ports and operates in 16 container terminal concessions, seven ro-ro terminals, two wood terminals and a river terminal, in addition to its conventional stevedoring activity.

The impressive network of Bolloré Africa Logistics caught the attention of major shipping company MSC, with a deal to acquire 100 percent of its activities signed at the end of March 2022.

Subject to regulatory approvals, the agreement will see MSC purchase all of Bolloré Africa Logistics' shipping logistics and terminal operations in Africa, as well as its terminal operations in India, Haiti and Timor-Leste. The deal is slated to be completed by the first quarter of 2023.

The continent is far from a new market for MSC, which has been present in Africa since the company's inception in 1970. It is present in 40 countries, with 8,000 employees and 123 weekly calls at 60 different African ports. MEDLOG – MSC's logistics arm – is present in 14 countries and operates in more than 16 locations in Central and West Africa and has over 750,000 sq m of depot facilities, as well as a large fleet of trucks, trailers and warehouses.

In terms of its existing port activities in Africa, MSC's terminal operating company,



Terminal Investment Ltd (TiL), has four terminals: San Pedro, Ivory Coast; Tangier, Morocco; Tin Can, Nigeria; and Lomé, Togo.

"We expect demographic and economic drivers to reinforce the case to invest in Africa's shipping, ports, inland transportation and logistics facilities and networks," said Ben Collins, global head of project cargo at MSC.

Creating jobs

"We invest significantly in local infrastructure, for example by expanding and enhancing the cargo terminals at the port of Lomé in Togo and the port of San Pedro in Ivory Coast. We have invested in landside depots and warehouses and created thousands of jobs across the continent."

Collins added: "MSC believes in a bright future for Africa and is committed to invest in infrastructure, economies and people. By continuing to develop our project cargo solutions, MSC will keep on contributing to the industrialisation of Africa."

Some of the latest developments relating to its African activities include opening a shipping agency in Mauritania; launching a direct service between Lomé, Togo, Nigeria and India-Pakistan; and introducing a Guinea-Bissau-Las Palmas feeder service. It also introduced an intermodal road and rail solution between Djibouti and Ethiopia, and a road solution between Douala, Cameroon, Central Africa Republic and Chad.

For MSC and its services, the major ports in Africa for project cargo are Lomé, Tin Can/Lagos, and Onne in West Africa; and Durban, Mombasa, and Dar es Salaam in East and Southern Africa.

At its West African hub in Lomé, it recently handled 90-tonne breakbulk packages utilising its recently added mobile cranes, each with a lifting capacity of 120 tonnes. The cargoes were transhipped there for onward transport from China to Nigeria.

> **We expect demographic and economic drivers to reinforce the case to invest in Africa's shipping, ports, inland transportation and logistics facilities and networks.**
>
> – Ben Collins, MSC

In Dar es Salaam, meanwhile, MSC has delivered numerous shipments for hydropower plant development. "We are seeing continuous growth for project cargo-related sectors," said Collins.

When calling at African ports, there are a number of factors to be considered. "Once we have looked carefully at whether factors such as vessel length (LOA) and draught are suitable for an intended port of call, we also scrutinise the handling facilities at the port," Collins explained. "For each piece of breakbulk cargo we must consider its unique dimensions, weight and lifting points in order to evaluate the handling method. A lifting operation may be performed by gantry, floating or mobile crane."

Port efficiencies

At its terminal in Lomé, the teams are ready for all sorts of cargo handling needs. Equipped with nine ship-to-shore (STS) cranes with two more on the way, two mobile cranes, 27 rubber-tyred gantry (RTG) cranes and more than 70 trailer trucks, the terminal has a wide variety of resources to call on. "Mobile cranes especially allow agility and precision when handling heavy cargoes; they also allow an increase in volumes handled and a reduction in a ship's time spent in the harbour," Collins noted.

He added: "Our local teams typically work closely with the teams at the terminals, with surveyors and cargo interests from the earliest possible moment to assess the feasibility and safety of the move. We find that these challenges are more easily overcome where we have dedicated people with local knowledge at the ports, who provide a reassuring degree of expertise and safety judgement."

Across Africa, a significant portion of port investment is expected to come from foreign players. Over the last decades, China has established a significant economic presence in most African countries. Major development projects have moved forward under the Belt and Road Initiative (BRI). An over-arching trend of China's BRI projects in Africa is its focus on ports and port areas.

Recently, Ningbo-Zhoushan Port and China Merchants Port Holdings (CMPH) announced investments in East Africa.

USD787 million is reported to be slated for Kenya's Lamu port, development of which would alleviate pressure on the country's main port, Mombasa. Approximately USD740 million, meanwhile, will go to Tanzania's Bagamoyo Special Economic Zone – the country's main export gateway.

DP World began construction of a deepwater port in Ndayane early this year.

Tanzania's strategic location as a gateway to landlocked Malawi, Zambia, Democratic Republic of Congo, Burundi, Rwanda and Uganda has made it an attractive choice for investors; the UAE's AD Ports and India's Adani Ports and SEZ also recently signed a memorandum of understanding (MoU) for strategic investments in logistics infrastructure in the country.

Trading hub

Mohamed Juma Al Shamisi, managing director and group ceo at AD Ports Group, said: "This MoU with Adani Ports and SEZ is significant in its impact on both Tanzania's ability to transform itself into an African trading hub, as well as our ability to further develop our global capabilities and connections that will bring goods to market faster and more efficiently."

In West Africa, fellow UAE-based port operator DP World kicked off the construction of the port of Ndayane at the start of this year – a USD1.1 billion deepwater port located approximately 50 km from the existing port of Dakar.

Split into two phases and representing the company's largest port investment in Africa to date, the first part of the development will include a container terminal with 840 m of quay and a 5 km marine channel designed to handle two 336 m vessels simultaneously.

In Ghana, work is under way on an inland marine port and industrial park, as part of the Trans-Volta Logistics Corridor. It will be the country's first inland marine port and will be located in the northern part of the country, with the industrial park situated at Debre in the Savannah region.

The multimodal transport corridor project, undertaken by LMI Holdings, aims to develop a system to transport containers and bulk cargo from the port of Tema to Burkina Faso and other landlocked countries via the Volta Lake. The entire project is expected to be fully operational by 2025. The inland marine port represents an investment of around USD200 million, while the industrial park will cost approximately USD250 million.

Construction is also on the cards in South Africa, where the country's Transnet National Ports Authority (TNPA) is calling on port and rail developers to respond to its request for qualification (RFQ) for the design, funding and construction of a greenfield, deepwater port and associated infrastructure in the Northern Cape Province.

> **This MoU with Adani Ports and SEZ is significant in its impact on Tanzania's ability to transform itself into an African trading hub...**
>
> – Mohamed Juma Al Shamisi, AD Ports Group

The RFQ also seeks a rail solution proposal, which will connect the port to the mining and industrial hubs in the province. "The information sought through the RFQ is necessary for TNPA to chart a way forward in line with our strategic objective to operationalise a port in the region by 2026," said Magenthran Ruthenavelu, TNPA programme director. "It will bring much-needed relief to emerging miners who are currently restricted by high road transportation costs and no access to current export channels due to capacity constraints."

New terminal

Elsewhere, C. Steinweg Group opened a port terminal in Walvis Bay, Namibia, to facilitate handling of general, project, breakbulk and bulk cargo to and from the hinterlands of southern Africa.

The port terminal opened last year and has access to a 74,000 sq m area. The company's transport brokerage department has access to a range of vehicles, including a 300-ton (272.2-tonne) capacity Goldhofer modular trailer. C. Steinweg Bridge Namibia also offers conventional freight forwarding and Customs clearing services, transportation, warehousing, as well as procurement services, chartering services and marine agency.

HEAVY LIFTING DONE RIGHT

Our cargo-handling capabilities save time and money.

Let the port that *works* be your gateway to North America and beyond.

PORT OF BROWNSVILLE
the port that *works*

1000 Foust Road, Brownsville, TX 78521
(956) 831-4592 • (800) 378-5395
portofbrownsville.com

All freights. All weights. All business.

When shippers around the globe require efficient, large-scale handling, they rely on the **Port of Lake Charles** and the Calcasieu Ship Channel in Louisiana, recognized as "America's Energy Corridor."

Our capacity and efficiency have long made us a global choice.

We also offer ideal real estate for lease and development.

Let us put our capabilities to work for you.

PORT OF LAKE CHARLES

LAKE CHARLES, LOUISIANA, USA

portlc.com • marketing@portlc.com

SEE US AT
BREAKBULK AMERICAS HOUSTON
BOOTH D-14

Atlantic Port La Rochelle

The Atlantic deep sea gateway

- 360 m of quay for heavy lift certified 10 T/m²
- 6.6 ha yards already available for heavy lift parcels
- Coming soon: 250 m of quay ≥ 15T/m²
- Renowned expertise of operators
- Easy road access for exceptional convoys

Conception/Réalisation : LA TYTTLICO - Nantes - 0223122. Crédit photo : Thierry PAMBRUN©

Port Atlantique La Rochelle
Tél. 33 (0)5 46 00 53 60
contact@larochelle-port.eu

www.larochelle.port.fr

NSWA's terminal operating system allows it to electronically receive vessel manifests as well as create electronic records of delivery for the haul-a-way carriers.

Port technology offers answers to congestion

Improved efficiency through the use of technology has become increasingly important, as congestion issues come to the fore at gateways around the world.

Port congestion has been an ongoing issue at ports in North America, Asia and Europe. According to IT company project44, if port congestion is defined in terms of throughput, the capability to move both imports and exports through terminals without letting freight containers sit for days, then the port having the most difficulties in the first quarter of this year was Charleston (USA); only Charleston and Antwerp (Belgium) made both top 10 lists for the longest import and export median container dwell times.

Dwell times

Looking strictly at import container dwell times across ports worldwide, then Manzanillo in Mexico tops the list for first quarter 2022, with median dwell time of 6.97 days.

According to project44, Mexican officials recently announced that the port would be adding more gantry cranes to keep up with the container volume growth.

At the Northwest Seaports Alliance (NWSA) – consisting of ports in Tacoma and Seattle in Washington State, USA – the focus has been on terminal optimisation for several years, updating and consolidating terminals to free-up capacity that can support all lines of port business. These activities have benefited NWSA by providing available acreage for near-dock storage yards, thus reducing congestion on marine terminals, it said.

Another initiative saw the launch of a gateway performance taskforce that brings supply chain stakeholders together to identify solutions to the congestion challenges. It said that several taskforce solutions have been successfully implemented at the gateway, including expanded gate hours and empty container evacuation efforts, among other actions.

It has also invested a significant amount of capital to increase the digitalisation of its breakbulk terminals. "Our terminal operating system allows us to electronically receive vessel manifests as well as create electronic records of delivery (RODS) for the haul-a-way carriers. Sending the RODS electronically increases terminal efficiency by allowing carriers to bypass the customer service check-in desk and head straight to the terminal," said NWSA.

> **Sending the records of delivery electronically increases terminal efficiency by allowing carriers to bypass the customer service check-in desk and head straight to the terminal.** – NWSA

Certainly, digitalisation can go a long way in increasing the efficiency of operations and avoiding congestion issues. Rick Schiappacasse, director of specialty cargo sales at Jacksonville Port Authority (Jaxport) in the USA, said that it upgraded to a much more sophisticated berthing system for ships a couple of years ago. "We schedule these ships in the time slots for the space they need and berth they need rather well and, luckily, we have not had any situations with ships waiting at anchorage. They dock on arrival – efficiency is up and that is a boost for our business. Ships do not wait here, they go to work immediately," he said.

This has been a benefit for Jaxport, which has seen an increase in general cargo at its port – reaching record levels – as a result of customers seeking out ports that do not have congestion.

For heavy lift shipments, congestion is less of an issue than for their container counterparts. "We are well aware of heavy lift pieces coming into the port – we know what the dimensions are and the draught, whether it needs support tugs, etc. Any cargoes that are large, they do not just show up, so it is pretty easy to work out the details and handle the logistics up front," said Schiappacasse.

Similarly, South Jersey Ports said: "We are not immune to the capacity constraints that are impacting ports worldwide. We intensively manage vessel calls by coordinating with cargo shippers and shipping lines daily to schedule vessel calls and keep our terminals fluid.

"Berth assignments are scheduled a month in advance.

Masterplan preparations

"Our terminal side is more constrained by indoor rather than outdoor storage space; therefore, we do not see there being constraints on project cargo and heavy lift. We will also be conducting a masterplan that will be completed in 2023 to develop a strategy to handle additional growth."

Likewise, Duluth has seen little impact on heavy lift/breakbulk cargoes resulting from congestion. It said: "One of the advantages we offer is that Duluth is a free-flowing, well connected, uncongested world port. We can be a pressure relief valve for the North American supply chain, and a significant advantage in the supply chain for regional importers and exporters. We have not experienced the coastal port congestion issues. We provide efficient cargo moves to and from North America's heartland."

The port does still see the benefit of factoring digitalisation into its plans, as it

Keep your **Project** moving

Direct via Dover

Does your project require fast and direct access into Europe and the UK?

With an unrivalled strategic location, adjacent to the world's busiest shipping lane, offering minimal ship deviation and one hour pilotage to berth, plus two strategic motorway connections at its gates, the Port of Dover offers a fast and efficient solution for project cargo heading to Europe and the UK.

With a new £250m terminal development, a four crane operation and four separate berths available, we can handle all types of vessel and discharge for project cargo, whether it's Geared, Ro-Ro or land based crane discharges, we have capacity to deliver your requirements.

Our specialised and dedicated team will offer innovative handling solutions, along with the technical engineering services to manage your project completely from start to finish.

COMING TO ANTWERP XL EXHIBITION

Visit us at Stand H15 to find out how we can keep your project moving directly through Dover

www.dovercargo.co.uk

PORT OF DOVER

CARGO

"can ultimately serve as a springboard to modernisation and increased efficiencies throughout the industry and at individual port terminals", explained Deb DeLuca, executive director at the Duluth Seaway Port Authority.

"As with any time of rapid technology evolution, there will be technologies that win the market, those that lose, and there will be plenty of false starts. Concurrently, there will be terminals, steamship lines, logistics companies, etc, that will be early adopters and innovators and those that choose to wait until the dust settles to commit. The middle position will be to prepare for transitions by conducting appropriate studies, preparing flexible infrastructure, taking concrete action when the path is clear, and advancing smaller pilot projects before committing to wholesale change. This is likely the safest position for smaller terminals and operators," she added.

Customised solutions

Port of Açu in Brazil said that its Multicargo Terminal (T-MULT) operates without maritime congestion, with ample storage and customised logistics solutions for customers. "The main challenge for handling large loads in Brazil is land logistics," said the port, "especially because of long distances and unfavourable road conditions."

The location of the port of Açu, however, is perhaps one of its great competitive advantages: it is far from a populated area and a large urban centre. Carrying out operations with project cargo in public ports, for example, that are located in or near large cities, makes these operations even more complex. Açu, meanwhile, has access to uncongested highways, skilled port labour and adequate infrastructure.

"With all these credentials, Açu is able to mitigate congestion risks and has not suffered significant impacts in the last year," said the port.

Its digital solutions are also a benefit. It was one of the first ports in Brazil to establish a VTS Traffic Service Center approved by the Brazilian Navy; installed the Port Management Information System (PMIS) digital solution; and created the Center for Operations and Emergency Response (CORE), all in compliance with the international data protocol for E-navigation integration. Recently, Açu also joined Cubo Itaú – the largest startup ecosystem in Brazil – as well as its Maritime & Port hub to focus on making port operations and cargo transport increasingly efficient and safe, with a positive impact on the environment, society and governance aspects.

Jaxport upgraded to a more sophisticated berthing system a couple of years ago.

"Digitalisation makes decision-making processes more agile and integrated and allows for the analysis of medium and long-term trends, with the aim of increasing the availability, efficiency and security of ports," said the port. It intends to strengthen its Smart Port journey, increasing its operations with new sensing and automation solutions, use of artificial intelligence and knowledge management (information/database).

HLPFI

Ports invest as volumes climb

A range of heavy lift cargoes flow through European ports. Within that, renewable energy shipments are certainly on the up and ports are investing to ensure they are ready for growth.

There is a strong cluster of northern European ports that have the expertise and infrastructure to handle heavy lift and project cargoes. Despite the difficulties facing the supply chain in the past year, volumes are seemingly on the up.

The port of Rotterdam in the Netherlands, for example, reported a record half year for the breakbulk sector, handling 17.7 percent more than in 2021, which was also a record year. "We have seen strong growth in raw materials: non-ferrous, steel, forest products," said Twan Romeijn, business manager, breakbulk and offshore in the containers, breakbulk and logistics department at the port authority. "There is also strong growth in the handling of heavy lift and project cargo (HLPC), mostly related to the offshore and onshore wind energy sectors."

Infrastructure investments

Supporting that growth have been several investments in terminal infrastructure and handling equipment. Romeijn highlighted a new 200 m quay and ro-ro ramp at SIF Terminal, new factories being built (mainly relating to hydrogen production), and investments by individual terminals in electric cranes and reachstackers.

Another northern European hub for heavy lift cargo is Antwerp. In April this year, the port authorities of Antwerp and Zeebrugge officially merged and have since been operating as the port of Antwerp-Bruges. The total throughput of the merged port was 147.2 million tonnes in the first six months of this year, an increase of 1.4 percent compared with the same period last year.

Conventional general cargo grew by 22 percent in the first half of the year compared with the same period in 2021 and recorded the highest throughput volume since 2011. The main reason for this is the increase in imports of steel; imports of the metal from Russia that have been banned by sanctions are being replaced by imports from other countries. Ro-ro throughput was also on the up, with an increase of 8.9 percent.

Jacques Vandermeiren, ceo of the port of Antwerp-Bruges, said: "Given the current geopolitical and macroeconomic context, this slight growth is definitely a relief. These figures confirm that we are stronger together as a unified port. The context continues to pose significant challenges, especially in the container segment. Thanks to the merger, we can now offer two complementary platforms as a unified port, significantly strengthening our position in the international logistics chain and as one of the main gateways to Europe."

Closer collaboration is also on the cards for German North Sea ports following an event held during June this year entitled *German North Sea Ports – Heading for the Future Together*. The meeting covered future strategies of the ports, including new port development plans for Bremen and Hamburg. Lower Saxony, meanwhile, presented a paper that outlines the prospects for the ports over the next decade.

> **We can now offer two complementary platforms as a unified port, significantly strengthening our position in the international logistics chain and as one of the main gateways to Europe.**
>
> – Jacques Vandermeiren, Port of Antwerp-Bruges

One of the primary concerns was the competitiveness of German ports in relation to the ports in Belgium, the Netherlands and France. Another focus was upgrading infrastructure. Over the course of the event, it emerged that the key topics of energy security, climate neutrality, digitisation and automation will be central aspects of future port policies.

The participants agreed that the National Port Strategy would have to provide far more support for the ports to cope with these tasks. At the same time, the ports themselves were called upon to cooperate closely in order to address the forthcoming challenges.

Some of the challenges facing the heavy lift and breakbulk sector were outlined by Rotterdam's Romeijn. He said: "The world

Wind energy cargoes are a focus for Odense Port.

is heavily influenced by unstable factors – the Ukraine/Russia conflict; high inflation; high energy prices; supply chain issues; labour shortages; a predicted new wave of Covid-19. All these factors can have a negative effect on the supply chains of heavy and oversized cargo."

Labour shortages

He noted that, like many other industries, the breakbulk sector is dealing with shortages in both labour and space.

"On the other hand," he continued, "the energy transition is gaining more and more momentum. This could speed up the development of wind farms, new energy sources [such as hydrogen], for which HLPC is needed. All in all, we expect the market for heavy and oversize cargo to remain stable, with the possibility of an increase in the products handled."

This was echoed by Ole Haugsted Jørgensen, head of sales and marketing of Odense Port in Denmark: "Pandemics and wars have put further pressure on the green transition and the desire to become independent of fossil fuels. As critical infrastructure, it is our duty to facilitate cargo in and out and to support our customers' businesses – of which companies within the wind industry make up a substantial part.

"Since the components for offshore wind need to be produced near quay areas, due to their size, we see it as our purpose to facilitate the green transition and the creation of green jobs. The way to do that is by securing the capacities and necessary space for the wind industry's production and storage of critical components."

He added that Odense Port's investments in expanding the port area are specific examples of how it is getting ready to accommodate the industry's future needs: it has purchased a 1 million sq m area to establish Odsense Dryport, which will be the largest dryport in Denmark; it is constructing a 2.6 km-long and 46 m-wide road for the transport of heavy and oversized cargo, suitable for weights over 5,000 tonnes; it has extended the port area and gained 1 km of extra quay space; purchased an LHM 600 mobile harbour crane capable of lifting 208 tonnes; and started a preliminary study to expand its quay area further to cater to larger ships.

The appeal to wind energy clients is clear and two of the leading companies within this field – Vestas Wind Systems and Bladt Industries – have expanded their production in Odense. Vestas, a producer of nacelles, is preparing for the serial production of the world's largest nacelle – the V236-15.0 MW.

Bladt, meanwhile, will start to manufacture XXL monopiles that have a diameter of 15 m, weigh up to 3,000 tonnes and measure up to 100 m long.

"Because of the growing wind industry on site, our expansion and big infrastructure projects, we have huge amounts of steel and broken stones getting over our quay – a lot more than in previous years," said the port. "Due to the growing wind industry on site, where their components only get bigger and heavier to increase the power production, we have prepared for a lot more heavy and oversize cargo in the next 12 months."

Wind energy cargoes are also a focus at Port Esbjerg in Denmark. Earlier this year it ordered a second LHM 800 mobile harbour crane to handle the next generation of offshore wind turbines.

Project cargo being loaded at the port of Bilbao.

New cranes

The LHM 800 is due to be delivered in 2023 and will be the seventh Liebherr mobile harbour crane to be used at the port, following the delivery of an LHM 600 at the end of this year.

With the second LHM 800, Port Esbjerg will be able to carry out tandem lifts of up to 616 tonnes. Dennis Jul Pedersen, ceo at Port Esbjerg, said: "Our competency lies in breakbulk and in having the capacity for tandem lifts above 600 tonnes, which is necessary not only in the on- and offshore wind market, but also in supporting production in the hinterland."

A new pre-assembly site developed by Siemens Gamesa and Port Esbjerg also recently conducted its first load-out – offshore wind energy equipment destined for RWE's Kaskasi project.

Port Esbjerg has plans for two additional pre-assembly sites to be completed in 2023, which will cater for the installation of a minimum of 3 GW of offshore wind each year. This will be supported by an ongoing port expansion, which will add areas for the storage of components before installation.

While wind energy cargoes have been a steady source of cargoes for many European ports for several years now, there are two issues of concern regarding additional infrastructure needed to support such projects: the uncertainty over precisely what facilities/equipment are going to be required and the economic viability of any such investment.

Speaking with *HLPFI* earlier this year, Lucile Héritier, director of ports for the Brittany region in north-west France, explained how those challenges can impact port development planning. She cited the port of Brest as an example. While the port is already an established centre for fixed installation offshore wind turbine fabrication activities, "we are looking to work with the candidates to meet a national call for tenders for a commercial floating wind farm south of Lorient," said Héritier.

"The questions which have to be considered as far as the port is concerned include what kind of operations will need to take place – will they involve lifting or sliding the floaters and will the turbine parts be lifted for assembly?" she queried.

Development dilemma

Each of those operations, explained Héritier, has different requirements, depending on the technology and conception choices for the floater and the turbine. "The port is of course attentive to the requirements of the wind farm developers and constructors, but it cannot provide a unique solution that would encompass all those needs," she commented.

"However, once the government selects a specific project, the port can invest in the additional ad hoc equipment to support that development if it is sure that equipment can be reused without becoming obsolete in only a few years."

Investment in the Scottish port of Nigg, meanwhile, has targeted both its existing large-scale energy sector clients as well as future opportunities in the floating offshore wind sector through the construction of the East Quay, increasing the deepwater quayside capacity to over 1,200 m.

SOUTH JERSEY PORTS

CARGO HANDLING YOUR WAY

ADVANTAGES

- World-Class Ports
- Great Highway & Rail Access
- Customer Focused
- Diversified Cargo Handling

South Jersey Port Corporation SJPC

BULK | BREAKBULK | PROJECT CARGO

SouthJerseyPorts.com

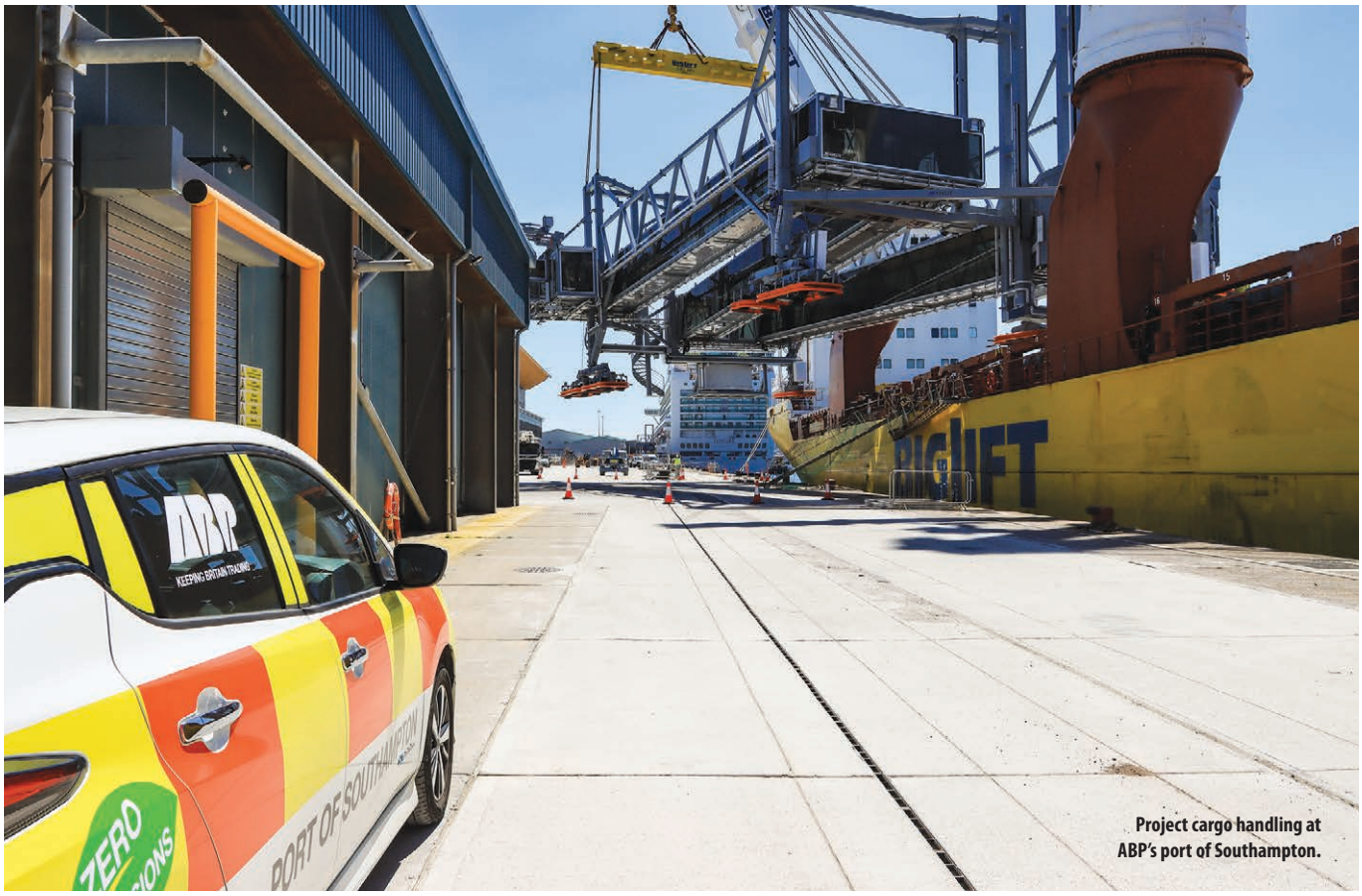
Your Multipurpose Terminal in Bilbao

Specialised in the whole range of windmill components and heavy lifts

shipping agents/stevedoring/warehouse/customs

TB TOROYBETOLAZA

SPAIN • Tel: +34 94 425 26 00 • email: consignaciones@torobe.com • web: www.torobe.com



Project cargo handling at ABP's port of Southampton.

The East Quay measures 225 m long and 50 m wide. Rory Gunn, facilities director, said: "Our new East Quay helps us better service our existing customers' needs in the renewables, oil and gas, and nuclear sectors, and the enhanced capabilities will assist us to attract inward investment with a vision to create long-term skilled manufacturing jobs at our port, which will become a national hub for renewables.

"Operationally, the additional quay and associated laydown area provides us with a lot of flexibility... It will be a huge selling point for us when tendering for the next generation of floating offshore wind projects, with the additional deepwater quayside allowing us to do the fabrication and assembly of the floating hulls at the port's South Quay area while the wind turbine integration onto the floating foundations is being conducted at the East Quay," he said.

Staying in the UK, one of the largest port operators is Associated British Ports (ABP) with a network of 21 gateways. "We tend to see enquiries relating to the import of heavy, out-of-gauge pieces such as transformers, generators and machinery parts," said ABP. "The key driver is the proximity of the port to the end destination, as typically such cargoes are not able to travel long distances and often require permissions and permits to transport."

Equipment delivery

For example, in February 2022, ABP in Swansea supported the delivery of a new piece of equipment for the GBP100 million (USD121.3 million) WEPA UK Bridgend paper mill at Llangynwyd. Known as an MG cylinder or 'Yankee dryer' and designed to remove excess moisture from pulp that is about to be converted into tissue paper, the equipment was manufactured from stainless steel and weighed up to 125 tonnes.

A recent project at the port of Bilbao saw heavy and oversized cargoes loaded onboard the DOC Carrier pontoon.

Another notable project saw ABP's port of Newport partner with Allelys Heavy Haulage to deliver a 200-tonne generator for the Rassau Grid Services project that aimed to add frequency stability to the UK's power grid, which is increasingly supplied by sources of intermittent wind and solar power.

That project was in line with the port operator's overarching aim to support the UN's sustainability goals. Not only are its ports positioned to support renewable energy sectors, such as offshore wind, but there has also been significant investment in reducing its own carbon emissions. A total 17 of ABP's 21 ports have renewable energy generation projects in place, and ABP now has circa 29 MW of operational wind and solar – 24 MW through solar energy and 5.3 MW through wind energy installed capacity.

Optimising operations

"To achieve its long-term strategy of transforming its ports and terminals into low carbon, climate-resilient hubs, ABP is improving environmental sustainability through optimising day-to-day running of operations. In February 2021, all 21 of its ports gained an ISO14001 Certification in Environmental Management," said the company.

Over the last year, electric vehicles and cranes, electric charging points, more fuel-efficient pilot boats, and the UK's first commercial shore power connectivity for cruiseships have arrived at ABP's ports. The port of Ipswich saw the arrival of the UK's first fully mains electric powered hydraulic cranes (Mantsinen model 95ER), representing an investment of GBP4 million (USD4.9 million) and marking another step towards the full electrification of all cargo handling operations at the port within the next five years.

The last year also saw the arrival of three of the new fleet of nine pilot boats, commissioned from Goodchild Marine Services, a Norfolk-based boat builder. These faster and more fuel-efficient pilot boats improve operational performance. ABP has also been investing in electric vehicles for its pilots at its ports of Southampton, Barrow, Lowestoft and the Humber.

"As we slowly emerge from a couple of extraordinarily challenging years, resulting from the Covid-19 pandemic, lives are still being severely impacted by the invasion of Ukraine. Our mission of 'keeping Britain trading' continues to lead our way, supporting our many customers' import and export of countless different goods to and from our nation. Every one of our ports has kept running, thanks to the resilience and hard work of all our frontline and marine colleagues," said ABP.

In Spain, the port of Bilbao has seen an increase in project cargo entering the port to be shipped. The port benefits from having "a highly industrialised catchment area", it said. "Moreover, several companies such as Haizea Bilbao, ArcelorMittal, Vicinay Cadenas, Navacel and Lointek, all of which are project specialists, have production plants on the port premises, while Siemens Gamesa also has a base terminal in the port from which it imports and exports all over the world."

> **ABP is improving environmental sustainability through optimising day-to-day running of operations.**
>
> – ABP

Alongside these companies, stevedoring and cargo handling companies such as Bergé, Toro y Betolaza, Servicios Logísticos Portuarios (SLP) and CSP Iberian Terminal Bilbao, all specialists in handling and loading project cargo, provide a service for the main container shipping lines that offer space for oversized cargo.

Service diversity

The Port Authority of Bilbao said: "The value of the services offered by the companies of the port logistics community goes beyond port operations covering, among others, maritime services [Bilbao is a leader in this field in terms of frequency and range of lines and destinations], turnkey operations, Customs clearance and specialised land transport and packaging. The port of Bilbao has specialists in all of these areas."

An example of this was the recent loading of cargoes weighing 1,500 tonnes manufactured by Lointek at the port.

SLP loaded the six pieces on board the DOC Carrier pontoon – chartered from Dutch Offshore Contractors (DOC) by Combi-Lift – using ro-ro and lo-lo techniques. Maritima Davila was appointed as consignee agent of the DOC Carrier, which was delivering the cargoes to the Turkish port of Haydarpasa. According to the port authority, "this towed transport was an effective solution and also addresses the lack of available multipurpose ships. This specialisation makes the port of Bilbao, with its companies, a benchmark hub in project logistics."

HLPFI

SEARCHING FOR FLUIDITY RELIABILITY & COMPETITIVENESS?

WE WELCOME ALL TYPES OF VESSELS

& ALL KIND OF BULK & BREAKBULK CARGO

OUTSIDE & INSIDE STORAGE CAPACITIES

CHOOSE DUNKIRK

For any request, please contact the Port of Dunkirk Commercial Department :
idevinne@portdedunkerque.fr +33 (0)6 16 12 19 72
dlammin@portdedunkerque.fr +33 (0)6 87 71 96 82

DUNKERQUE PORT

Your West Coast Gateway for Breakbulk and Project Cargo

PORT OF PORTLAND

For information contact: Michael Richards, Bulk & Breakbulk Manager
michael.richards@portofportland.com +1 (503)208-1951

Basra Gateway Terminal has this year handled project cargo for the Basra water supply improvement project.

Investing to meet buoyant demand

Ports in the oil rich Middle East are upgrading their handling systems and expanding facilities to cope with increasing cargo volumes.

Earlier this year, Basra Gateway Terminal (BGT) in Iraq, an ICTSI Group company, handled project cargo for the Basra water supply improvement project (BWSIP). It saw the arrival of 1,013 ductile iron pipes, weighing 6,373 tonnes in total, onboard the vessel Interlink Dignity.

The pipes will be used for the construction and rehabilitation of water supply facilities, including a water treatment plant and water distribution network, to improve the supply and quality of water in Basrah and Hartha.

Deepwater advantage

That is just one example of the types of project cargo the terminal can facilitate; oil and gas cargoes, for instance, can be handled in dedicated storage areas and Berth 19 – the only general cargo terminal in Umm Qasr port, which is itself the only deepwater port in Iraq.

To support BGT's handling of general and project cargo, the company rolled out the Navis operating system to improve and digitise the processes, billing workflow and terminal operations for those cargo sectors; it had already implemented Navis solutions for its container activities in 2016.

"The implementation of the general cargo module was a natural extension that will provide end-to-end solutions to optimise all cargo business and terminal operations in one system," said BGT. "As the general and project cargo increases, the implementation of the general cargo Navis module will help improve customer experience and efficiencies through increased access to timely data and performance metrics."

In Oman, Sohar Port and Freezone utilises its bespoke scheduling system, Sohar Navigate, to offer a complete overview of the activities, which helps the port allocate time slots effectively.

"Oman's total export volume has been reported as OMR4.4 billion (USD11.4 billion), of which 70 percent is moved through Sohar port," said Omar Al Mahrizi, ceo at Sohar Port and Freezone. "The total Sohar throughput continues to grow year-on-year with an increase of 5 percent in 2021 compared with 2020. The port saw slightly fewer vessels calling compared with 2020, but of a larger size, which is a sign of increasing efficiency."

> **The total Sohar throughput continues to grow year-on-year with an increase of 5 percent in 2021 compared with 2020.**
>
> – Omar Al Mahrizi, Sohar Port and Freezone

The port anticipates an increase in project cargo flow over the next year. "With the priorities of Oman Vision 2040 set and initiated, we expect the demand for materials and products associated with these projects will continue to rise. Should the price of oil remain high, we might also see an increase in consumer spending and economic confidence," said Al Mahrizi.

Expanding storage area

In June, C. Steinweg Oman signed an agreement with the port to expand its storage area to 27 ha in anticipation of further growth, mainly for the export of minerals but also to support the country's ongoing diversification and the development of mega projects across the region.

"The continuous expansion of Sohar Port and Freezone has created new opportunities for more throughput within the 27 ha site, along with more employment and additional investment in the complex as we progress towards becoming the leading industrial hub in the region," said the port.

In neighbouring UAE, expansion is also under way – Drydocks World in Dubai is building a South Yard facility dedicated to projects in the oil and gas and renewable energy sectors. It will span 70,000 sq m and will feature a load-out facility for heavy structures.

DP World said it is focused on efficiency improvements while maintaining the highest levels of safety and quality standards. The South Yard facility will support that strategy by developing specific infrastructure to realise the future project pipeline, thereby enabling competitive advantages in the region and globally, the company explained.

THE GREAT LAKES
ST. LAWRENCE SEAWAY SYSTEM

WE CAN HANDLE IT...

Let your cargo flow on our 3,700km marine highway straight into the industrial heartland of North America. Strategically located, Highway H_2O provides shippers with easy access to a more direct route that delivers cargo nearer to its final destination. Make your over-dimensional worries a thing of the past.

Our system provides a safe and reliable transit for your heavy-lift and project-specific cargo. Highway H_2O provides the dependability you need to keep your products moving and your clients happy. A fresh clean approach to your transportation needs.

Water way to go!

HWY/AUT H_2O

VISIT HWYH2O.COM
OR CALL 1-905-641-0309

Wind energy cargoes at the port of Bilbao.

Ports embark on a green revolution

Ports are a critical link in the supply chain – and their role in the greening of the sector is increasingly coming into focus.

Many ports and terminals around the world are investing in their own facilities and equipment to become more environmentally friendly. Across the pages of this supplement, there are myriad examples of the electrification of equipment fleets, the switch to cleaner fuels or the installation of renewable energy sources to power activities. But ports also play a vital role in the decarbonisation of the broader industry.

For instance, as fuel types for ships evolve, so too will the ports that serve as bunkering hubs. While international shipping currently uses largely marine gas oil (MGO) and low-sulphur fuel oil, sustainable alternatives such as biofuels, including biogases, are increasingly being made available. Other alternatives such as synthetic methane, hydrogen and hydrogen-based fuels including ammonia and methanol are in various stages of research and development for future trials and deployment.

Each alternative fuel has its own challenges relating to costs, availability, safety and restrictions in range due to lower energy density compared with fossil fuels. To tackle these challenges, the Port of Rotterdam Authority and the Maritime and Port Authority of Singapore (MPA) – two of the largest bunkering ports in the world – have agreed to bring together a broad coalition of shippers, fuel supplies and other companies to work on potential solutions, with the aim of establishing the world's longest Green and Digital Corridor to enable low and zero carbon shipping.

> **By bringing together parties across the supply chain along one of the world's biggest trade lanes, we can ... speed up the transition to more sustainable shipping.**
>
> – Port of Rotterdam Authority

Key industry

A spokesperson for the Port of Rotterdam Authority said: "Shipping is among the most important industries to decarbonise, owing to its large international reach and volume, which continues to grow. By bringing together parties across the supply chain along one of the world's biggest trade lanes, we can enable carriers to switch to zero-carbon fuels and speed up the transition to more sustainable shipping."

Hydrogen is also a focus for Rotterdam: Shell has taken a final investment decision to build Europe's biggest hydrogen plant on Maasvlakte 2, named Holland Hydrogen I, and Air Products and Gunvor Petroleum Rotterdam have signed a joint development agreement for an import terminal there that is expected to provide green hydrogen to the Netherlands in 2026.

Holland Hydrogen I is slated to be operational in 2025. The renewable energy

The port of Açu recently created its Açu Greenport strategy.

hydrogen produced there will supply the Shell Energy and Chemicals Park Rotterdam, by way of the HyTransPort pipeline, where it will replace some of the grey hydrogen usage at the refinery. This will partially decarbonise the facility's production of energy products like petrol, diesel and jet fuel. As heavy-duty trucks are coming to market and refuelling networks grow, renewable hydrogen supply can also be directed toward these to help in decarbonising commercial road transport.

Sustainable solutions

In Oman, Sohar Port and Freezone has also "prioritised the implementation of sustainable solutions throughout the complex and measures are under way in a number of areas". In addition to LED lighting using solar solutions on the port roads, steel plant Jindal Shadeed entered into an agreement with Hydrogen Rise from Germany to develop the supply of green hydrogen to its facilities in Sohar Port. The port is also working with Total Energies, which aims to build an LNG liquefaction and bunkering facility to supply LNG as bunker fuel to vessels calling at Sohar.

Jacksonville Port Authority (Jaxport) in Florida, USA, already has two LNG providers based near the port. "One of them recently expanded and doubled storage, while the other is likely going to break ground very soon on an additional facility on the river," said Rick Schiappacasse, director of specialty cargo sales.

The uses of the LNG are varied. One of the railroads converted one of its engines to LNG; UPS is using LNG powered trucks; four LNG-powered ships – owned by two separate lines – move between Jacksonville and Puerto Rico; ro-ro operator Siem, which has a large Volkswagen contract moving cars from Germany to the US East Coast, is also running ships on LNG; and there is a plan to load LNG onto small or medium-sized vessels to provide the fuel to the Caribbean, from where it can be transhipped to power industry.

"We are seeing more and more enquiries into whether we can or cannot handle fuelling. We are the LNG gas station," noted Schiappacasse.

Shore power is also one way that ports are able to contribute to the decarbonisation of the shipping industry. The port of Valencia, Spain, will install two electrical substations, each a capacity of 90 MW, that can be connected to ships' auxiliary engines while they are berthed in the port area.

The president of the Port Authority of Valencia, Aurelio Martínez, said that "the substations are the essential piece to be able to electrify the port, an initiative which is part of our real commitment to be a sustainable port in 2030... we want to provide the port with connection points so that all the ships can connect to the grid when they dock at the site."

> **The substations are the essential piece to be able to electrify the port, an initiative which is part of our real commitment to be a sustainable port in 2030.**
>
> – Aurelio Martínez, Port Authority of Valencia

Likewise, Bilbao is embarking on a strategy to electrify its docks. "As part of its commitment to provide new services to shipping lines while establishing itself as a green port, the port authority will deploy OPS technology to supply regular shipping services with power, enabling the vessels to switch off their auxiliary engines while berthed and still maintain essential services," it said. "The port authority will opt for a versatile system capable of supplying from 1 to 12 MW to serve any type of vessel regardless of its length, GT, design or type of traffic.

"This initiative, known as the BilbOPS project, will reduce vibration and noise levels, and is designed to cut greenhouse gas emissions by 40 percent. As a result of this and other complementary measures, the port authority is hoping to achieve the 55 percent emission reduction target set by the European Union for 2030."

Green by design

From an environmental point of view, the port of Açu in Brazil has a unique opportunity, it said. The majority of the world's ports are talking about transition but Açu, as a relatively young port, has the possibility of being as sustainable as possible from the outset.

The port created its Açu Greenport strategy, which will combine renewable energy generation from solar or offshore wind; production of cleaner feedstock such as blue and green hydrogen, green ammonia and derivatives; low carbon industrialisation, such as a Green Chemical cluster enabled by the green hydrogen; as well as a low carbon steel hub.

HLPFI

stevedoring & warehousing rotterdam

- PROJECT CARGO & HEAVY LIFTS UP TO 1800 TONS
- OPTIMIZED TRUCK EXIT FOR WINDMILL BLADES & TOWERS
- HEAVY LIFT STORAGE AREA
- SPECIAL YACHT HANDLING SERVICES
- ASSISTING OFFSHORE VESSELS

Lifting your cargoes faster

ISPS CERTIFIED

AEO-F CERTIFIED

rhb
ROTTERDAM

Waalhaven n.z. 4
3087 BL Rotterdam
P.O. Box 55092
3008 EB Rotterdam
Portnumber 2157

TELEPHONE
+31 (0)10 429 94 33

FAX
+31 (0)10 429 02 61

E-MAIL
office@rhb.nl

WEB
www.rhb.nl

shorecranes up to 208 tons

QTERMINALS

Lift Off, Trade On

QATAR WAVES TO THE WORLD

T +974 4044 5000 | F +974 4044 5001 | P.O.Box 11112 - Doha, Qatar

q_terminals q_terminals qterminals qterminals QTerminals Qatar QTerminals.com