

PORT GEAR

- hard- & software for better operations -

2
-
2
6



The Port of Opportunities

The Port of HaminaKotka is a multipurpose seaport serving trade and industry. This major Finnish port is an important hub in Europe and in the Baltic Sea region.

Welcome to the Port of HaminaKotka!



- 6 Cavotec Launches New Mobile Battery System
MAGPIE Project Confirms Safe Ammonia Bunkering in Ports
Konecranes Adds Predictive Services to Yard Cranes
- 7 New Liebherr App Simplifies Spare Parts Identification and Ordering
AIIB Lends \$300m to ICTSI for Port Expansion
Kempower and APM Terminals Partner for Port Charging Infrastructure
- 8 ShoreLink Partners with CMAL to Bring Shore Power to Scottish Ferry Routes
INFORM Optimizes Operations at Europa Terminal
- 9 TMEIC Launches E-Tanker Mobile Charging Solution for Port Cranes
DNV Whitepaper Outlines Regulatory Shift in Shore Power
Rob Smeets Appointed CEO of Port of Antwerp-Bruges
- 10 AL Port Leaders Meet Congress After Securing \$49m Funding
Georgia Ports Authority Trucker App Adoption Grows Past 4,000 Drivers
CMA CGM NOTRE DAME Makes Maiden Call in Singapore
- 11 Hamburg and Estonia Strengthen Baltic Maritime Ties
Medlog Pangaon River Terminal Near Dhaka is Now Fully Open
Electric Battery Container Trucks Pilot Launches at Port of Vancouver
- 12 Actemium Launches New Maintenance Facility in Mauritania
COSCO-PTP Alliance to Invest €116m in Port Tarragona
Six Offshore Cranes for TenneT's North Sea Wind Projects
- 13 VICT Deploys New Hybrid Container Carriers
New Long-Term Agreement Secured at Port of Cardiff
Visayas Container Terminal Launches Maersk PH6 Service
Port of Galveston Proposes Infrastructure Development on Pelican Island
- 14 Cavotec Appoints Christoffer Robertsson as New CFO
New STS Cranes for Sparrows Point Terminal
Rio Brasil Terminal Receives New Quay Cranes
ABP Invests in New Handling Equipment at Port of King's Lynn
- 15 Dredging Works Near Second Narrows at Port of Vancouver Delayed...
... while the Roberts Bank Terminal 2 Project Picks Up Steam
ABB to Acquire Marine Automation Specialist Høglund
PD Ports Expands Bulk Handling Capacity at Teesport
- 16 Halifax Port Authority Adopts OneHarbour Situational Awareness Solution
Asyad Group and CMA CGM Group Form Logistics Partnership in Oman
Cavotec Secures Shore Power Order for Southern California Cruise Terminal
Valenciaport Financial Results Grow Past 8% Reaching Nearly €163m
- 17 Belfast Harbour Reports Financial Growth in 2025 Annual Report
Antwerp-Bruges and Ukraine Launch Port Partnership
Port of Québec Advances Shore Power Infrastructure
Maputo Port Launches Digital Community System
- 18 Maersk Upgrades Reefer Fleet with Next-Gen Connectivity...
... and Expands Logistics Footprint in Northeastern Brazil
Tecon Suape Earns ESG Certification
Hamburg and Qingdao Tighten Partnership
- 19 PSW to Deliver Shore Power Facility in Tromsø
Port Saint John Reports Record Cargo Growth
HAROPA PORT Leads Grain Exports
Port of Tyne Clean Energy Park Development
- 20 Antwerp Approves Plans for New Container Cluster
Canada Joins 212CD Submarine Programme
Belfast Harbour Installs UK's First Marina Aquapod
Port of Taichung Bolsters Security with AI
- 21 SCCT Shifts to Full Renewable Power
Hannibal Launches New Melzo-Rotterdam Rail Service
Kevin Price Steps in as President of Georgia Ports
Giant Module Arrives for Project ONE Cracker
- 22 EC Presents an Electrification Action Plan and ETS Review
Hapag-Lloyd Adopts Shore Power in Hamburg
Port of Rotterdam Posts 0.4% Throughput Growth in H1 2026
- 23 Port of Antwerp-Bruges H1 2026 Results
Port of Savannah June Volumes Surge
Singapore Strengthens LNG Bunkering Operations
- 24 Valenciaport Updates Environmental Policy for Supply Chain...
... while Imports Drive its Container Traffic
MSC Launches New Sierra Service Connecting Asia and Mexico
Kalmar Electric Reachstackers Order for Portonave
- 25 HD Hyundai Samho Wins U.S. Crane Contract
Port of Long Beach and MARAD Partner on Maritime Nuclear Energy
New Cranes Launched at Tawau Port
Baltic Hub Secures 30-Year Lease for Gdańsk Expansion
- 26 Port of Taichung Upgrades Streetlights to Smart LEDs
ICTSI Reports Strong First-Half 2026 Results
Kalmar And APM Terminals Announce Strategic Partnership
WUT Terminal Upgrades Port Capacity
- 27 Portonave Electric Equipment Investment
Pilbara Ports Handles Over 800m Tonnes
GENMA Broadens Global Heavy Machinery Footprint
Tuas Port Reaches 25m TEUs and Expands Operations
- 28 Liebherr Crane Deployed at Patimban Terminal
APM Terminals Bahrain Q2 2026 Financial Results
VIMC Launches Big Data Platform to Enhance Maritime Operations
- 29 ORLEN Expands Infrastructure and Reports Q2 Financial Growth
Huisman to Supply Equipment for Offshore Installation Vessel



31 Liebherr officially opens Digital Solutions Campus in Hamburg during TOC Europe

CAROLINE KUHRT

33 Jakub Krosnicki – Sales Department Eastern Europe, Forkliftcenter

34 Jon Sojo – Tratos Export Director, Tratos

35 John Lund – Sales and Marketing Director (Global), Visy Oy

36 Fredrik Rönqvist – Material Handling Segment Manager, Fogmaker

37 Andreas Naeslund – Business Line Manager for Material Handling, Dafo Vehicle

Stephan Piworus – Co-Founder and CEO, Zenze

38 Ricky Hirani – Global Commercial Product Leader, Big Trucks & Port Equipment, Hyster

39 NICKLAS VEDIN – SVP Head of Ports & Maritime, CAVOTEC

KIRA BIERNAT – Marketing Manager, INFORM GMBH

40 TECK SENG, CHEW – Product Manager, Port Operations Global Product Segment Steering, CONTINENTAL

41 JENS PETERSSON – Head of Sales and Marketing, ELME Spreader AB

42 FELIX PAUL CZERNY – CEO, CONROO



44 BRAVING THE SUMMER HEAT

- Key takeaways from the Hamburg onshore power supply (OPS) seminar and study visit

ANDRZEJ URBAŚ

46 THE MODERN LAOCOÖN: UNTANGLING THE TECHNICAL, REGULATORY, AND SEGMENTED KNOT OF SHORE POWER

- Showcase: Shore Power in Shipping in the Latest DNV Whitepaper

ANDRZEJ URBAŚ

51 ZERO EMISSIONS. POWERFUL PORT PERFORMANCE.

- Hyster material handling solutions for port applications

RICKY HIRANI

52 SECURITY THROUGH DEPENDABLE WORKFLOWS & ADVANCED TOOLS

- What's the most dangerous data transfer in shipping – and how to spot & avoid it

ROB PRESTON

54 IN SIGHT

- Adaptive, mobile multi-sensor platforms for enhanced security and resilience of maritime infrastructure

MAXIMILIAN REIMANN, CHRISTOPH MARTIUS, AND OLE JOHN

56 MOUNTING A COMEBACK

- Ships on wings: from technological curiosities to a new class of future-aligned transportation

KRISTINE CARJOVA, AND KRISTIN KEREM

60 OFF THE FENCE

- Unlocking near-term decarbonisation with emulsion fuels

LINDA SØRENSEN





02+03 Sept 2026

CCH – Congress Center Hamburg

Introducing the platform for holistic port solutions

ALL ABOUT PORTS is the first event to take a holistic view of the transition of port infrastructure and operations – and to provide solutions designed to support cutting-edge multidisciplinary approaches.

Connect with industry leaders and innovators at the two-day conference and accompanying exhibition covering all aspects of port security, sustainability, logistics, autonomous port terminals, digitalisation, and smart bunkering.

Join us in Hamburg, the place where tomorrow's port technology is tested today, alongside SMM, the world's leading maritime industry event.

Register here



CAVOTEC LAUNCHES NEW MOBILE BATTERY SYSTEM

Cavotec has introduced PowerAccESS, a modular and mobile battery Energy Storage System (ESS) developed to support the electrification of port crane operations. Designed for demanding and evolving port environments, the system provides zero-emission power for RTG cranes during block changes as a one-to-one replacement for diesel generators. It can also be integrated into existing crane systems as a hybrid power solution, enabling more efficient and sustainable operations. The PowerAccESS system utilizes LiFePO4 batteries to ensure enhanced safety and a long service life, featuring a scalable battery capacity ranging from 62 to 494 kWh. Built with a rugged design for harsh marine environments, the unit delivers zero local emissions and low-noise operation while supporting RTG block change, hybrid, or full battery operations.



PHOTO: CAVOTEC

MAGPIE PROJECT CONFIRMS SAFE AMMONIA BUNKERING IN PORTS

The Port of Rotterdam has successfully demonstrated that ship-to-ship ammonia bunkering can be performed safely within an active port environment. Conducted under the EU-funded MAGPIE project, the full-scale simulation carried out on 12 April 2025, confirmed



PHOTO: PORT OF ROTTERDAM

that bunkering operations are safe when executed within a strong safety and regulatory framework. The final findings have been consolidated into a comprehensive, publicly available report by the Mærsk Mc-Kinney Møller Center for Zero Carbon Shipping and project partners to provide practical guidance for global ports and industry stakeholders preparing for alternative fuels. A key outcome of the project is the validation of the Port of Rotterdam's safety framework for ammonia alongside the International Association of Ports and Harbours' (IAPH) Port Readiness Tool. According to Bo Cerup-Simonsen, CEO of the Mærsk Mc-Kinney Møller Center for Zero Carbon Shipping, the project delivers practical learnings, validation sheets, and recommendations that can inform future global permitting and regulatory processes. Boudewijn Siemons, CEO of the Port of Rotterdam, noted that this pilot represents an important step in developing a complete value chain for alternative fuels, showing that innovation, safety, and scalability can go hand in hand. The MAGPIE (sMART Green Ports as Integrated Efficient multimodal hubs) project is a European initiative focused on developing, testing, and demonstrating solutions for sustainable and smart port logistics.

KONECRANES ADDS PREDICTIVE SERVICES TO YARD CRANES

Konecranes is extending its Predictive Services globally to cover Konecranes Rubber-Tired Gantry Cranes (RTGs) and Konecranes Rail-Mounted Gantry Cranes (RMGs). This expansion builds upon the existing platform previously launched for Konecranes Gottwald Mobile Harbor Cranes (MHCs). The service enables terminal operators to apply data-driven insights across their fleets, helping to reduce maintenance costs and lower spare-parts inventory requirements compared to traditional reactive approaches. The predictive system utilizes vibration sensors installed on critical rotating components, such as hoist and trolley motors, gearboxes, and bearings, which are essential for yard crane availability. Operating data is collected and transmitted to Konecranes for analysis, with findings and exception reporting delivered to customers through the yourKONECRANES portal. This allows maintenance teams to execute targeted interventions, prevent extended downtime, and plan spare parts requirements more effectively.

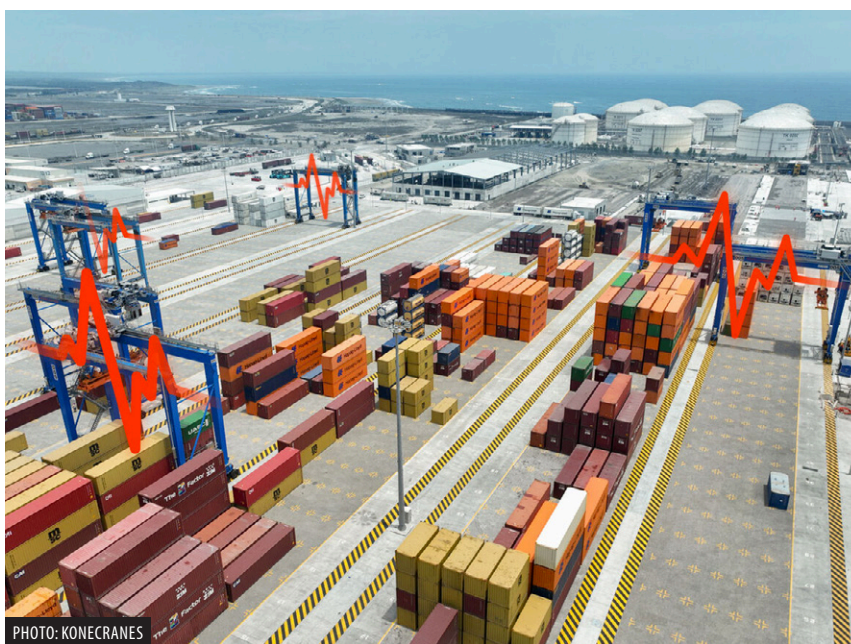


PHOTO: KONECRANES

NEW LIEBHERR APP SIMPLIFIES SPARE PARTS IDENTIFICATION AND ORDERING

Liebherr Maritime Cranes has launched “Parts Assistant,” a free digital application developed to simplify spare parts identification and maintenance preparation for mobile harbour, offshore, ship, deep foundation, duty cycle, and crawler cranes. Available globally on the App Store and Google Play for customers with a valid MyLiebherr business account, the application addresses long-standing operational challenges by providing fast, error-free access to components directly on-site. The application features an AI-based spare parts identification tool that allows users to recognize components via photo recognition, QR code scanning, item number entry, or text search in more than 100 languages. This setup enables quick identification even when nameplates are damaged or missing, and results can be cross-checked with the official Liebherr parts catalogue before ordering. Additionally, an “expert check” feature allows users to submit a verification request directly to a Liebherr service partner via a service ticket if operational certainty is required. Complementing its identification features, the application assists maintenance teams by listing actual machine operating hours alongside service kits for



PHOTO: LIEBHERR

upcoming regular maintenance intervals. These customizable lists include required spare parts, service materials, and consumables, which can be ordered through a pre-populated shopping basket.

AIIB LENDS \$300M TO ICTSI FOR PORT EXPANSION

The Asian Infrastructure Investment Bank (AIIB) has signed a USD 300m senior unsecured corporate loan with International Container Terminal Services Inc. (ICTSI) to support the expansion and upgrade of three container terminals



PHOTO: ICTSI

across the Philippines. This agreement marks AIIB's first non-sovereign-backed transaction in the country. The funding aims to boost annual container throughput capacity, improve berth productivity, and contribute to the economic growth of the Philippines while driving a green transition in terminal operations. The financing will fund technology-enabled infrastructure upgrades at the Manila International Container Terminal (MICT), the South Luzon Container Terminal (SLCT) under development in Batangas, and the Mindanao Container Terminal (MCT). Additionally, the capital will support the purchase of fully electric quay cranes and the replacement of diesel-powered yard equipment. These acquisitions are specifically intended to reduce greenhouse gas emissions from daily terminal operations. Through these investments, the project will increase MICT's capacity to 3.7m TEUs by 2027. Furthermore, the capacity of MCT will reach approximately 1m TEUs by 2028, and SLCT will achieve a capacity of 800,000 TEUs by the same year.

KEMPOWER AND APM TERMINALS PARTNER FOR PORT CHARGING INFRASTRUCTURE

Kempower and APM Terminals have signed a three-year global framework agreement for the supply of direct current (DC) fast-charging infrastructure for port terminals. The partnership supports APM Terminals' roadmap to decarbonize its operations through the use of battery-electric container handling equipment and renewable energy. Under the agreement, Kempower's high-power charging systems will be installed at various terminals throughout APM Terminals' global network over the next three years. The collaboration has already commenced with three pilot projects at APM Terminals Yucatán in Mexico, TM2 in Morocco, and Callao in Peru to accommodate the introduction of the first electric vehicles. The infrastructure is designed to provide a consistent, scalable, and reliable charging solution to optimize port operations and keep the electric fleets moving. The signed three-year framework

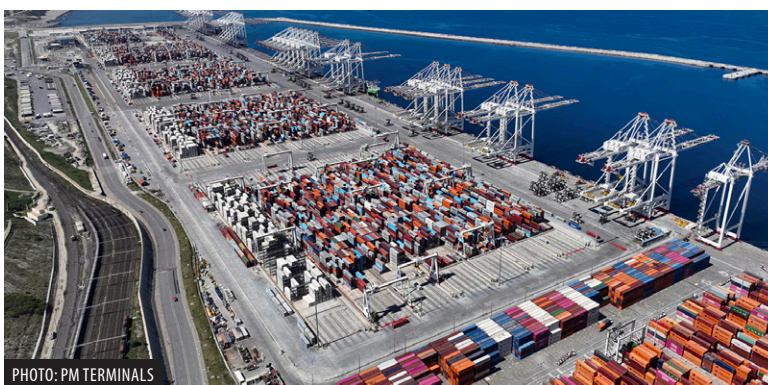


PHOTO: PM TERMINALS

agreement does not include binding order volumes. Instead, APM Terminals will place individual orders with Kempower in accordance with its specific investment plans and terminal requirements.

SHORELINK PARTNERS WITH CMAL TO BRING SHORE POWER TO SCOTTISH FERRY ROUTES

ShoreLink has announced a partnership with Caledonian Maritime Assets (CMAL) to deliver sustainable shore power solutions to Scotland's vital ferry routes. Under this initiative, ShoreLink is equipping Kennacraig Port and Port Askaig with its RoRoLink Fixed solutions. Developed in collaboration with ABB, this project marks a major milestone in decarbonizing Scotland's

maritime infrastructure. These ports serve as essential lifelines for the Isle of Islay and the inner Hebrides. The implementation of ShoreLink's shore power solutions will significantly reduce emissions and noise pollution in these areas. The project directly supports CMAL in modernizing its fleet as Scotland moves toward Net Zero, ensuring a cleaner future for the Highlands and Islands.

INFORM OPTIMIZES OPERATIONS AT EUROPA TERMINAL

INFORM and PSA Antwerp have announced the successful live deployment of the Integrated Terminal Scheduler (ITS) at Europa Terminal, completed in March 2026. The software solution supports the facility's complex modernization initiatives by dynamically managing and coordinating horizontal transport workflows across Automated Stacking Cranes, Straddle Carriers, and Quay Cranes. This implementation ensures full operational capacity and maintains established service levels during ongoing terminal transformations. The deployment operates within the Europa Terminal modernization initiative under Project Emerald by PSA Antwerp and the Port of Antwerp-Bruges. The terminal faces specific hybrid operational demands as various sections are periodically taken offline for reconfiguration. To address these complexities, the system provides real-time optimization of yard movements and equipment scheduling, minimizing unproductive assets, reducing idle times, and integrating Automated Stacking Cranes, which were first introduced to the terminal in summer 2024. The phased rollout began with

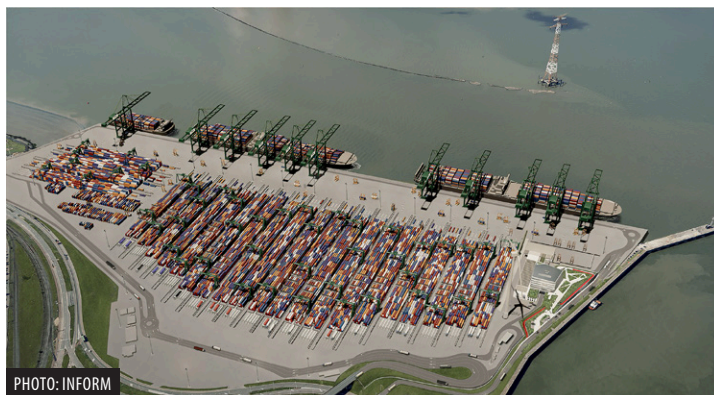


PHOTO: INFORM

Straddle Carrier and Automated Stacking Crane optimization, utilizing a control room interface that provides operational transparency and management by exception. The next stage of development includes the integration of Dual Hoist Quay Cranes following their full commissioning later in 2026.

HAMBURG YOUR PORT

global
transPORT
solutions

portofhamburg.com
info@portofhamburg.com
in @portofhamburg



© iStockphotos


Port of Hamburg

TMEIC LAUNCHES E-TANKER MOBILE CHARGING SOLUTION FOR PORT CRANES

TMEIC Corporation Americas has announced the launch of its E-Tanker, a mobile charging solution designed to accelerate port decarbonization by converting rubber-tired gantry (RTG) cranes from diesel to battery-electric power. The new system transitions terminal equipment to cleaner operations quickly and cost-effectively, bypassing the need for extensive yard redesigns, grid upgrades, or weeks of operational downtime typical of traditional retrofits. The E-Tanker is a multi-component solution consisting of a mobile lithium-ion battery charging unit, high-energy battery blocks, and a charging station. The entire setup is managed by the company's intelligent Fleet Management System (FMS), which provides real-time visibility into yard operations, including battery state of charge, job assignments, and charging schedules to maximize terminal efficiency. Housed in a standard 40-foot container and transported by terminal tractors, a single E-Tanker unit integrates into existing operations and can serve multiple pieces of yard equipment. The system's compact battery blocks easily adapt to existing cranes, offering a scalable pathway for terminal operators to reduce diesel consumption and greenhouse gas emissions.



PHOTO: TMEIC

DNV WHITEPAPER OUTLINES REGULATORY SHIFT IN SHORE POWER

Shore power is transitioning from a voluntary energy-saving measure into a critical compliance requirement for shipowners, according to a new DNV whitepaper. Regulatory pressures in Europe, California, and Asia are increasingly linking shore power access to port-stay compliance and operating costs. While the technology cuts emissions, fuel use, and noise, uneven global deployment forces shipowners to make highly route-specific and berth-level decisions to avoid penalties. DNV analysis shows that shore power could cut global fleet fuel-oil consumption for ships above 5,000 gross tonnage (GT) by 3.5%, saving about 9.24m tonnes of fuel and 29m tonnes of CO₂ annually. However, industry readiness remains fragmented, with connections on only 29% of

cruise vessels, 20% of container ships, 7% of bulk carriers, and 1% of tankers. Port-side infrastructure is similarly limited, as only about 3% of global ports offer shore power, mostly concentrated in Europe, China, and the US. Regulations are tightening to close these gaps, with FuelEU Maritime mandating shore power connections for container, passenger, and cruise vessels above 5,000 GT in key European ports by 2030. Non-compliance where shore power is available will trigger penalties, while similar measures in California and Asia link shore power capability to long-term trade viability. Investment choices must therefore target specific berth-level realities, particularly for complex sectors like tankers facing hazardous-area constraints and connection alignment issues.

ROB SMEETS APPOINTED CEO OF PORT OF ANTWERP-BRUGES

The Board of Directors of Port of Antwerp-Bruges has appointed Rob Smeets as the new CEO of the Antwerp-Bruges Port Authority for a six-year term. Smeets, who has been serving as the interim CEO, succeeds Jacques Vandermeiren following his decision to step down from the role. The appointment concludes a selection process carried out over recent weeks by a committee of the Board of Directors, which evaluated a wide range of candidates and selected Smeets as the strongest choice to guide the organization through upcoming investments, geopolitical shifts, and industrial challenges. Smeets brings more than twenty years of experience within the Port Authority, having previously held several senior roles including leader of the Towage Department in 2014, nautical operations director in 2017, and Chief Operations Officer (COO) since 2019. The Board highlighted his extensive experience in managing large budgets, investment programs, and change processes, as well as his familiar relationship with the port's stakeholders. The Port of Antwerp-Bruges serves as a global maritime hub in Europe, managing an annual throughput of 267m tonnes and supporting around 164,000 direct and indirect jobs. Smeets expressed his intent to

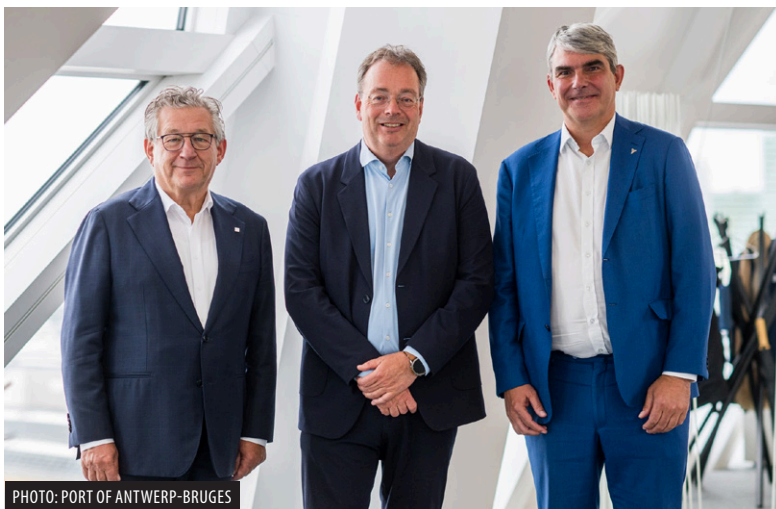


PHOTO: PORT OF ANTWERP-BRUGES

continue building a port that increases its international impact and strengthens its global position. Johan Klaps, Chair of the Board of Directors, and Dirk De fauw, Vice-Chair, both expressed full confidence in Smeets' pragmatic leadership qualities to ensure continuity and prepare the port for future challenges.

AL PORT LEADERS MEET CONGRESS AFTER SECURING \$49M FUNDING

The Alabama Port Authority Board of Directors and leadership team met with Alabama's congressional delegation in Washington, D.C., to express appreciation for securing over \$49m in federal funding and appropriations. The newly acquired funds will support strategic infrastructure projects, modernize facilities, and improve operational efficiency at the Port of Mobile. Port leaders emphasized the seaport's position as a vital economic engine, noting that it supports more than one in seven jobs in Alabama and has generated \$415b in economic impact statewide. The federal investments include approximately \$38m from the Harbor Maintenance Trust Fund Donor and Energy Transfer programs for dredging and beneficial use projects. An additional \$3.2m is directed toward developing a beneficial use site in Upper Mobile Bay for long-term dredging and wetland creation. The funding also allocates \$2m for improvements at the TASD Interchange Yard to enhance rail efficiency, \$2m for modernization at the McDuffie



Coal Terminal, \$850k for design work for a future cargo facility on the main docks, and \$500k to study increased sedimentation.

GEORGIA PORTS AUTHORITY TRUCKER APP ADOPTION GROWS PAST 4,000 DRIVERS



The Georgia Ports Authority (GPA) has reported a significant surge in the adoption of its GPA Trucker mobile app, with user enrollment growing from fewer than 900 to more than 4,000 drivers since its launch in October 2025. Designed to expedite truck moves at one of the nation's busiest container ports, the application

enhances overall productivity by streamlining terminal processes. The tool aims to reduce turn times for front-line drivers, which directly translates into a more efficient supply chain operation. From a functional standpoint, the app delivers real-time, on-terminal container locations and automatically sends digital gate transaction tickets via push notifications, completely eliminating the need for physical paperwork at the gates. It allows drivers to view their precise location relative to pinned containers and identifies the closest terminal gates to minimize driving distances. The system features biometric authentication, provides automated alerts for weather or schedule updates, and has become the exclusive method for ticketing at Ocean Terminal, while remaining optional at the larger Garden City Terminal. The digital transition comes as the Port of Savannah manages an average of 14,000 weekday truck gate moves, maintaining single transaction turn times at 32 minutes and dual moves at 50 minutes. In tandem with the app's expansion, GPA is executing a phased rollout of facial recognition technology across inbound lanes at Garden City Terminal's Gate 3 to further accelerate access. While enrolled drivers are spared from physically presenting their Transportation Worker Identification Credentials (TWIC), they must continue to maintain possession of the cards while on-site.

CMA CGM NOTRE DAME MAKES MAIDEN CALL IN SINGAPORE

CMA CGM has marked the maiden call of the CMA CGM NOTRE DAME in Singapore, a new generation liquefied natural gas (LNG)-powered vessel and the largest containership currently operating under the French flag. Following the start of its maiden commercial voyage in Shanghai, China, the vessel is calling Singapore before continuing its journey to France and Europe in early July, where it joins the French Asia Line (FAL) linking Asia and Northern Europe. The 400 m long, 62 m wide, and 75 m high containership is designed to carry up to 24,212 TEU and operates on a rotation of approximately 102 days. It is the first in a series of 10 identical LNG-powered vessels registered under the French International Register (RIF) to be delivered between 2026 and 2028. This strategic initiative involves the recruitment of 135 French seafarers trained to operate the fleet, with an official inauguration ceremony scheduled to take place in Le Havre on July 2. To support decarbonization and performance, the vessel incorporates an aerodynamic windshield

system, an 18,600 m³ LNG tank for route autonomy, and an optimized architecture that adds 280 containers of capacity without increasing its physical dimensions. Furthermore, the ship integrates a fully digitalized bridge featuring artificial intelligence and augmented reality tools for route optimization and maneuver safety. These technologies operate in coordination with CMA CGM's Fleet Centers located in Marseille, Miami, and Singapore.



HAMBURG AND ESTONIA STRENGTHEN BALTIC MARITIME TIES

The Hamburg Port Authority (HPA), Port of Hamburg Marketing (HHM), and the Port of Tallinn have signed a Letter of Intent (LoI) to enhance their partnership across the Baltic Sea region. Signed during a visit by Estonia's Minister of Infrastructure, Kuldar Leis, to Hamburg City Hall, the agreement aims to reinforce the long-standing cooperation between these major maritime hubs. The bilateral agreement builds on existing trade connections, specifically targeting the digitalisation of logistics processes, cybersecurity, and decarbonisation efforts. It addresses modern infrastructural challenges, including military mobility, while improving the trade opportunities for businesses operating within these networks. Deeper collaboration is anticipated to accelerate freight transport efficiency, making the movement of goods faster and cleaner between Germany, Europe's largest economy, and the broader European and global markets. Currently, significant cargo volumes are handled via container and Ro-Ro traffic through several weekly services connecting the Port of Hamburg with Estonian ports like Muuga and



PHOTO: PORT OF HAMBURG

Paldiski South. As a key gateway for intercontinental trade to Asia and North America, Hamburg's network will integrate more closely with Estonia's advanced digital economy.

MEDLOG PANGAON RIVER TERMINAL NEAR DHAKA IS NOW FULLY OPEN

The Pangaon Inland Container Terminal (PICT) has officially commenced operations under the management of Switzerland-based Medlog Bangladesh Private Limited. Located on the Buriganga River near Dhaka and close to the Dhaka-Mawa-Bhanga Expressway, the terminal aims to boost inland container movement, reduce pressure on congested roads, and strengthen multimodal logistics. The facility is being run in partnership

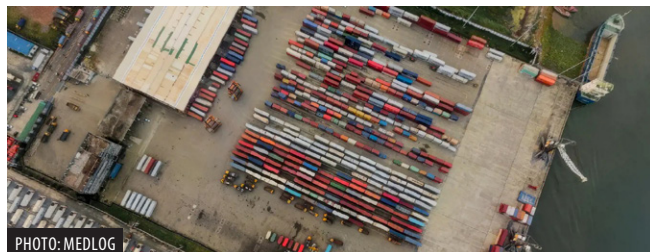


PHOTO: MEDLOG

with the Chattogram Port Authority under a 22-year concession agreement signed after the terminal sustained significant financial losses over the past decade. Under the long-term agreement, Medlog is deploying global expertise, advanced technology, and automated systems to modernize the 64-acre facility and restore its economic viability. The global logistics giant has committed to expanding the terminal's annual handling capacity from 116,000 TEU to approximately 160,000 TEU. To improve regional supply chain connectivity, the company will charter dedicated inland barges linking Pangaon directly with other local river terminals and major coastal seaports. Furthermore, the domestic distribution network will be supported by specialized road transport, including trucks, covered vans, and temperature-controlled reefer vehicles. The overarching modernization strategy includes doubling the main operational area to 10,000 square metres, installing new mobile harbour cranes, and building a dedicated cotton warehouse.

ELECTRIC BATTERY CONTAINER TRUCKS PILOT LAUNCHES AT PORT OF VANCOUVER

The Electric Container Trucking Program (ELECTRA) has launched at the Port of Vancouver, introducing battery electric container trucks into real-world port operations. This pilot program promotes the adoption of alternative fuels and technologies by providing container trucking companies with subsidized five-year leases and supporting electric charging infrastructure. During the first 12 months of service for each truck, operational data will be collected and shared with industry and government partners to inform the future adoption of battery electric container transportation. ELECTRA represents an estimated \$3m in total support from Transport Canada, the Province of British Columbia, and the Vancouver Fraser Port Authority, with additional funding from BC Hydro's EV Fleet Program. Delivered by the turnkey fleet electrification partner 7Gen, the pilot phase currently involves five trucking companies: Aheer Transportation Ltd., Lally Bros. Holding Ltd., Simard Westlink Inc., TransBC Freight Ltd., and West Coast Freight Ltd. Four battery electric trucks are



PHOTO: PORT OF VANCOUVER

already operating at the port, and two more are expected to be deployed later this year. Participating companies receive at least one battery electric truck, charging infrastructure, maintenance support, technological and engineering design assistance, driver training, and operational support. They also gain access to a software platform that centralizes vehicle, charger, and utility data on a single dashboard. 7Gen oversaw the deployment of the vehicles and infrastructure at company depots following planning and site assessments with BC Hydro to ensure sufficient electricity supply.

ACTEMIUM LAUNCHES NEW MAINTENANCE FACILITY IN MAURITANIA



PHOTO: ACTEMIUM

Actemium Oil & Gas Mauritania has opened a new 2,000 m² repair and maintenance workshop at the Port Autonome de Nouakchott to support the Greater Tortue Ahmeyim (GTA) offshore gas project. Designed and delivered end-to-end by Actemium following a 2023 contract award by bp, this facility supports multi-technical maintenance activities for the offshore Hub (located 10 km offshore) and the FPSO vessel (located 40

km offshore). The GTA project stands as a major offshore gas development on the maritime border between Mauritania and Senegal, aiming to bring benefits to the wider regional economy and energy industry. Fully operational since early 2026, the facility includes 1,000 m² dedicated to operational zones structured into mechanical, E&I, fabrication, office, and welfare areas. The workshop enables local maintenance, repair, overhaul, and inspection of critical industrial equipment – such as pumps, compressors, and valves – in full compliance with international safety and quality standards. Additionally, the site offers inspection, calibration, certification activities, and precision manufacturing, including machining, drilling, turning, and milling operations. The completion of this project reflects over five years of development, backed by the VINCI Energies Group's financial and human resources alongside the Maintenance Centre of Excellence teams. Construction began over a year ago, mobilizing more than 20,000 working hours with a peak workforce of 50 personnel, numerous suppliers, and subcontractors. Aligning with Actemium's strict QHSE standards, the entire construction phase was completed with zero accidents.

COSCO-PTP ALLIANCE TO INVEST €116M IN PORT TARRAGONA

The Board of Directors of the Port Authority of Tarragona has approved a 30-year concession for the COSCO and PTP logistics alliance to build and operate a new multipurpose intermodal terminal at the Moll d'Andalusia. The project, representing an investment exceeding €116m, covers a total area of over 418,000 m² including the entire Andalusia wharf and the La Boella railway terminal. The development consolidates Port Tarragona's position as a leading intermodal gateway in the Western Mediterranean, connecting international maritime routes with the European hinterland. The new infrastructure will handle containers, vehicles, and general merchandise, and includes a dedicated area for agro-food logistics. The joint venture combines the global terminal expertise of COSCO Shipping Ports, the multipurpose and maritime logistics experience of COSCO Shipping Bulk, and PTP's land terminal operations. The project is expected to create 150 direct jobs in its first phase, eventually scaling up to 450 direct jobs at full operational capacity, while generating substantial indirect economic activity for the region. Construction is scheduled to begin in 2026, with initial operations starting by the end

of the same year. The terminal is projected to reach full capacity by 2029, achieving a handling potential of 500,000 TEUs or equivalent general cargo. According to the business plan spanning 2027 to 2030, traffic will grow progressively, with a committed minimum volume of 200,000 teus annually starting from 2031.



PHOTO: PORT TARRAGONA

SIX OFFSHORE CRANES FOR TENNET'S NORTH SEA WIND PROJECTS

Liebherr is supplying six RL 2600 offshore cranes for TenneT's 2-gigawatt (GW) wind transmission system projects in the North Sea. The company secured the contract with Seatrium, a shipyard group based in Singapore. The cranes will be deployed in pairs on three distinct platforms: IJmuiden Ver Beta, IJmuiden Ver Gamma, and Nederwiek Beta, with staged deliveries ensuring placement ahead of the planned operational start in 2029. The RL 2600 cranes feature a weight-optimised, space-saving design with a small tail radius and low overall height, allowing them to operate effectively in confined offshore environments. Built to handle maintenance and supply operations across the wind

energy sector, each crane has an outreach of up to 45 metres and a lifting capacity of up to 25 tonnes. These technical capabilities are designed to support regular logistics and lifting tasks required to maintain the 2-GW converter platforms. To support operations on the unmanned platforms, the cranes will integrate the digital LiMain system for remote maintenance. This marks the first time an Asian-based engineering, procurement, and construction provider has selected the LiMain system, which enables key service tasks to be managed from shore to reduce site visits and environmental impact. Once operational, maintenance and support will be coordinated directly by Liebherr Netherlands.

VICT DEPLOYS NEW HYBRID CONTAINER CARRIERS

Victoria International Container Terminal (VICT), the fully automated operation at the Port of Melbourne, Australia owned by International Container Terminal Services, Inc. (ICTSI), has deployed four new Kalmar hybrid automatic container carriers (ACC). The equipment rollout is part of VICT's expansion program aimed at boosting annual capacity to over 1.6m TEUs. The deployment follows a successful commissioning and operational integration phase over the past several weeks, which concluded with an official hand-over ceremony on May 26 attended by Kalmar and VICT executives. These newly deployed ACCs have been designed in collaboration between VICT and Kalmar to incorporate several custom upgrades specifically targeting improved levels of efficiency and reduced loading times. Kalmar has been providing technology and equipment support to the facility since the beginning of its terminal operations back in 2017. In terms of technical capabilities, the hybrid ACCs feature twin-box lifting capabilities of up to 60 tonnes. They are equipped with advanced lithium-ion battery systems that enable energy recovery during daily operations, which results in a 40

percent increase in energy efficiency. Furthermore, this eco-efficient technology allows for a reduction of up to 50 tonnes in carbon emissions per unit annually as the terminal continues its role as the only fully automated container terminal in the southern hemisphere.



PHOTO: ICTSI

NEW LONG-TERM AGREEMENT SECURED AT PORT OF CARDIFF

Associated British Ports (ABP) has signed a new long-term lease and commercial agreement with Valero at the Port of Cardiff. The deal secures the ongoing operation of Valero's 12-acre liquid fuels terminal at Roath Dock, which stands as the largest facility of its kind at the port. This strategic partnership underpins the continuous storage and supply of liquid fuels across South Wales and the Southwest of England. The

agreement safeguards skilled local jobs on-site and stabilizes the regional fuel supply chain serving households, businesses, commercial fleets, airports, and the M4 and M5 corridors. Furthermore, the contract enhances logistics efficiency and environmental impact by directly linking Valero's Pembroke refinery with Cardiff, which successfully removes thousands of heavy goods vehicles (HGVs) from the public road network.

VISAYAS CONTAINER TERMINAL LAUNCHES MAERSK PH6 SERVICE

Visayas Container Terminal (VCT), a subsidiary of International Container Terminal Services, Inc. (ICTSI) located at the Port of Iloilo, has expanded its international shipping network following

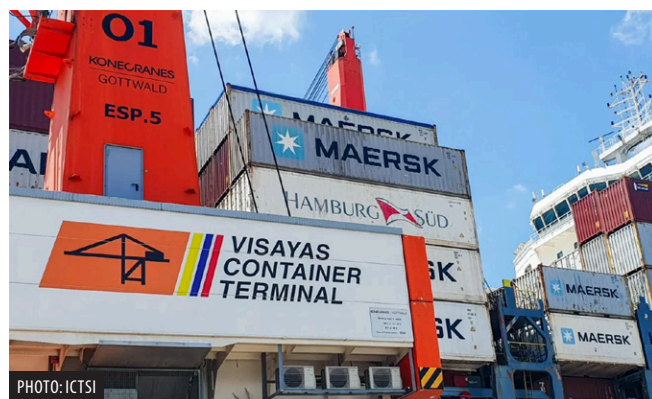


PHOTO: ICTSI

the inaugural call of Maersk's PH6 service. The connection officially commenced with the arrival of the vessel Maersk Bahamas. This new route establishes a direct link between the Western Visayas region and major global transshipment hubs, positioning the Central Philippines terminal as an increasingly vital gateway for regional trade. The weekly service links cargo owners in Panay and the wider Western Visayas directly to Yantian in Shenzhen, Mainland China, and Hong Kong. Through these primary Asian hubs, regional imports and exports gain streamlined access to broader international markets across the Asia-Pacific region, the United States, Latin America, Europe, and the Middle East. Industry stakeholders note that the direct route is projected to optimize supply chain efficiency, shorten transit times, and reduce logistics costs for key regional sectors, including agricultural and fisheries exporters. Operating on a regular weekly rotation, the Maersk PH6 service is scheduled to call at the Iloilo terminal every Tuesday. The full port rotation follows a designated loop connecting Yantian (Shenzhen)-Hong Kong-Batangas-Tagoloan (Cagayan Area)-Cebu-Iloilo-Yantian.

PORT OF GALVESTON PROPOSES INFRASTRUCTURE DEVELOPMENT ON PELICAN ISLAND

The Port of Galveston has announced a proposal to develop 357 acres of waterfront land on Pelican Island, aiming to unlock the area's potential for maritime and industrial growth. The project centers on the construction of a multi-use berth, including a 1,000-foot-long berth and 500-foot-long dock, designed to provide critical logistics support for a \$1b shipbuilding project by Davie Defense – Gulf Copper. The development is intended to be funded through a combination of port operating reserves, federal grants, and state grants, with an estimated cost of \$40m. Beyond supporting the immediate

needs of the shipbuilding expansion, the proposed infrastructure aims to enhance regional cargo handling capacity and facilitate roll-on/roll-off (ro-ro) operations. A key component of the plan includes the development of an LNG marine fuel bunkering site to supply cleaner fuel to both cruise and cargo ships, which is expected to improve air quality and attract newer cruise vessels to the port. Additionally, the initiative serves as a catalyst for long-term discussions regarding the replacement of the outdated Pelican Island Bridge and necessary road improvements to support increased traffic.

CAVOTEC APPOINTS CHRISTOFFER ROBERTSSON AS NEW CFO

Cavotec has announced the appointment of Christoffer Robertsson as its new Chief Financial Officer, effective August 17, 2026. He will succeed Joakim Wahlquist, who is departing the company for a new assignment, with a transition period continuing until September 10, 2026, to ensure an effective handover. Robertsson brings extensive international experience in performance management and business control within industrial and project-driven environments. He most recently served as CFO

at NOVO Energy, a company formed by Northvolt and Volvo Cars, and has previously held leadership positions at Northvolt and Spenncon. CEO David Pagels noted that Robertsson's background in industrial development will be instrumental as the company continues to focus on its role in decarbonizing ports and industrial applications. Robertsson holds a Bachelor of Business Management from the University of Queensland and a Master of Business from the Queensland University of Technology.

NEW STS CRANES FOR SPARROWS POINT TERMINAL

Liebherr has secured a contract to supply seven ship-to-shore (STS) gantry cranes to the Sparrows Point Container Terminal (SPCT) in Baltimore, a development led by Tradeport Atlantic and Terminal Investment Limited. This project marks a significant milestone in the redevelopment of the former Bethlehem Steel site into a global logistics hub, which is expected to increase the port's container handling capacity by approximately 70 percent. The new cranes are engineered to service the largest contemporary and future container vessels, featuring a 70-metre outreach, 25-metre backreach, and a lift height of 51 metres above the rail. These units will serve as the core of terminal operations, supporting the facility's ability to handle two ultra-large container vessels simultaneously. This order brings the total number of Liebherr STS cranes ordered for the U.S. market since 2020 to 27.

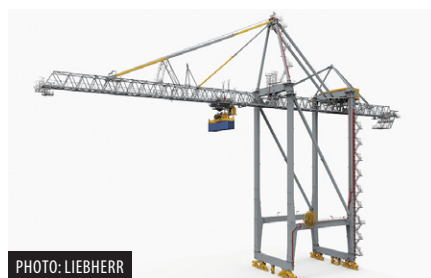


PHOTO: LIEBHERR

RIO BRASIL TERMINAL RECEIVES NEW QUAY CRANES

Rio Brasil Terminal (RBT), International Container Terminal Services, Inc.'s (ICTSI) operation in the Port of Rio de Janeiro, Brazil, has taken delivery of two new quay cranes. The acquisition is part of the terminal's ongoing expansion and modernization program,

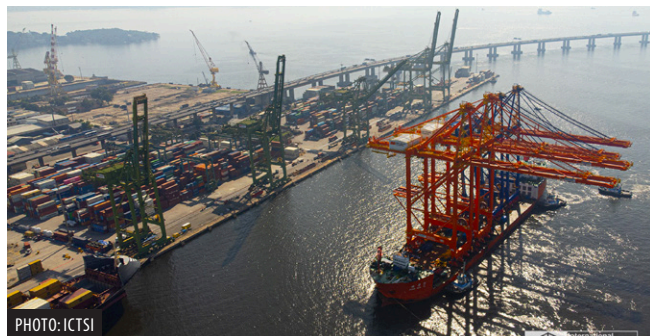


PHOTO: ICTSI

which is scheduled for completion in 2029. The introduction of these assets increases RBT's total number of quay cranes to six, aiming to improve overall vessel handling capability, service quality, and operational efficiency across its berths. The newly acquired equipment allows the terminal to service larger ships of up to 400 meters in length overall and with capacities reaching 20,000 TEUs. This upgrade directly addresses the significant growth in container volumes at the Port of Rio since 2023, driven by a robust increase in Brazilian foreign trade and a regional trend toward larger vessels calling the east coast of South America. In addition to new port equipment, the broader infrastructure program includes expanding and unifying storage yards, reorganizing operational areas for optimized internal process flows, and implementing automation and advanced technologies. Once fully implemented, the expansion will boost RBT's annual capacity to 750,000 TEUs, mitigating bottlenecks in other ports and solidifying the Port of Rio as a key logistics hub for Brazil's Southwest and Midwest regions.

ABP INVESTS IN NEW HANDLING EQUIPMENT AT PORT OF KING'S LYNN

Associated British Ports (ABP) has invested £150,000 in two new vacuum lifting attachments at the Port of King's Lynn to enhance safety and efficiency in cargo handling operations. The new equipment, supplied by B&B Attachments, is designed to reduce manual handling risks and improve load stability during lifting operations. This investment reinforces the port's capabilities in handling critical cargo and supporting national infrastructure and regional supply chains. The specialized attachments use advanced suction technology to securely grip pipe surfaces, giving operators greater control and reducing the need for personnel to work close to suspended loads. The equipment has already been deployed, completing its first operation on June 13, 2026, with the import of water pipes intended for UK infrastructure upgrades. Beyond safety improvements, the technology increases operational precision and allows for faster loading and unloading, reducing vessel turnaround times at the East Coast port.

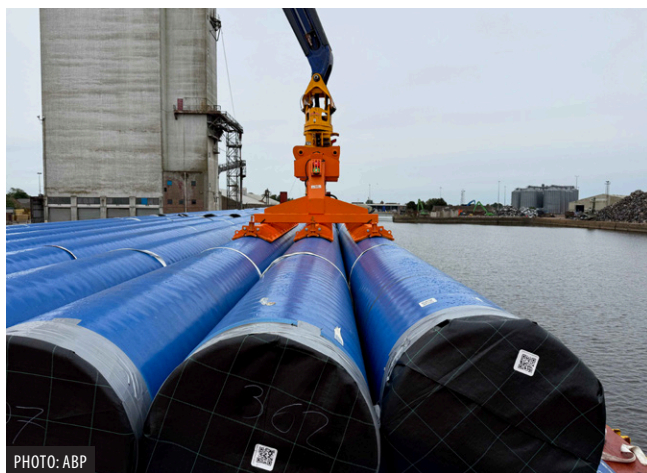


PHOTO: ABP

DREDGING WORKS NEAR SECOND NARROWS AT PORT OF VANCOUVER DELAYED...

The Vancouver Fraser Port Authority is moving ahead with plans to dredge near Second Narrows in Burrard Inlet after receiving federal regulatory approval via a Fisheries Act authorization from Fisheries and Oceans Canada. The proposal involves slightly deepening the edges of the existing shipping lane to increase port capacity, enhance supply chain efficiency, and allow ships to fully load. The project directly supports Prime Minister Mark Carney's goal of doubling Canadian exports to non-U.S. markets over the next decade. Scheduled to start in September, the project includes dredging east of the Ironworkers Memorial Bridge, removing segments of decommissioned Metro

Vancouver waterlines, and installing new navigation aids to support safe vessel movements. Deepening the channel edges will specifically allow Aframax-class ships leaving Trans Mountain's Westridge Marine Terminal to load to full capacity by overcoming current draft restrictions. To address environmental impacts, the federal authorization contains over 100 legally binding conditions to protect fish and fish habitat, which were informed by First Nation consultation. Next steps for the project require completing a Pacific Pilotage Authority-led Navigation Risk Assessment and a port authority-led review of navigation procedures to ensure safe transit for fully loaded ships.

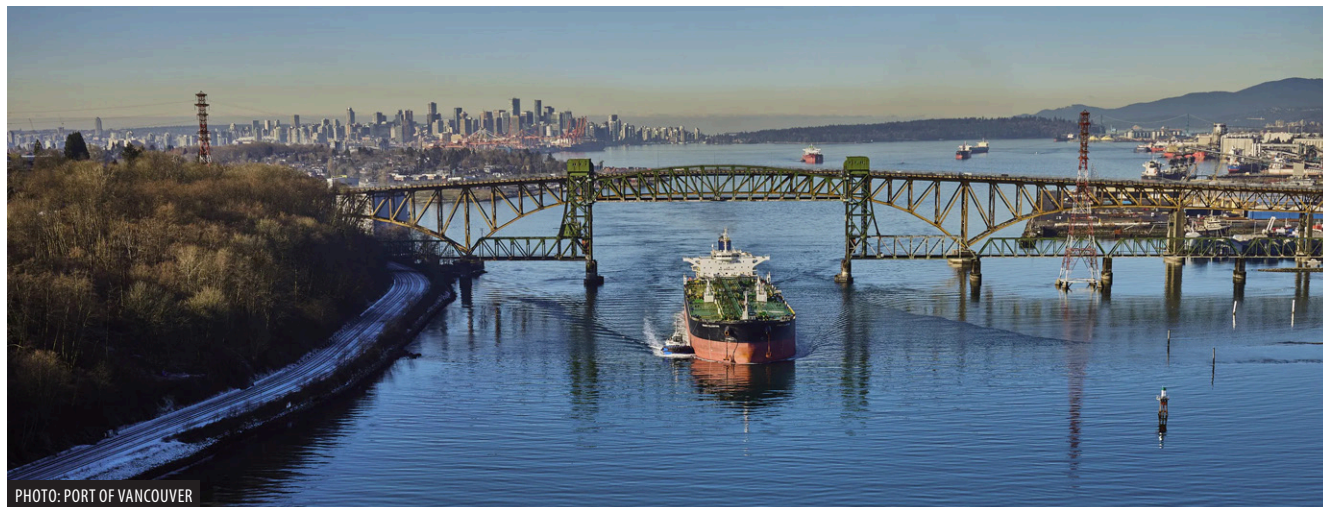


PHOTO: PORT OF VANCOUVER

... WHILE THE ROBERTS BANK TERMINAL 2 PROJECT PICKS UP STEAM

The Vancouver Fraser Port Authority has selected TerraMarine as the preferred proponent for the landmass and wharf component of the Roberts Bank Terminal 2 Project. This infrastructure initiative is designed to expand container capacity on Canada's west coast by more than 30% through the construction of a new three-berth marine container terminal on approximately 320 acres of reclaimed waterfront land. The project aims to unlock more than \$100bn in annual trade capacity, contribute over \$3bn annually to Canada's GDP, and support major pool of supply-chain jobs. TerraMarine,

a consortium comprising FlatironDragados Canada, Van Oord Canada, Aecon Constructors, and Carlson Construction Group, will utilize a progressive design-build model with a target price approach to enhance cost and schedule certainty. Financial close, construction mobilization, and early works are targeted for late 2027, with land reclamation scheduled to begin in 2028. Terminal operations are expected to commence in the mid-2030s, following the acquisition of final permits and successful completion of collaborative construction planning with First Nations and regulators.

ABB TO ACQUIRE MARINE AUTOMATION SPECIALIST HØGLUND

ABB has entered into an agreement to acquire Norway-based Høglund AS, a specialist in marine automation, to strengthen its portfolio and support growth across diverse vessel segments. The transaction, expected to close in the third quarter of 2026 pending regulatory approval, will integrate Høglund's global operations, including its workforce of over 80 employees in Norway, Poland, Romania, and China, into ABB's Marine &

Ports division. Høglund provides an Integrated Automation System (IAS) designed for modern vessels, which currently operates on more than 600 ships. By utilizing ABB's control system hardware, the modular and scalable solution manages onboard automation, monitoring, and control tasks to enhance safety, energy efficiency, and operational performance. In 2025, Høglund reported revenues of approximately 30m euros.

PD PORTS EXPANDS BULK HANDLING CAPACITY AT TEESPORT

PD Ports has invested £5.4m in a third electric-hydraulic Liebherr LPS 550 crane at Teesport to enhance its bulk and breakbulk handling capabilities. This follows an £8.6m investment in two identical models in 2023, supporting the port's ability to facilitate tandem lifts and complex project cargo for the offshore and carbon capture sectors. The upgrade includes

the introduction of task-specific equipment, such as a new scrap metal grab that increases handling capacity from 7.5 to 17m³ per lift. These improvements are designed to boost discharge rates and lower operational emissions, aligning with the company's target of reaching net zero by 2040. Tees Dock currently manages over 3m tonnes of cargo annually.

HALIFAX PORT AUTHORITY ADOPTS ONEHARBOUR SITUATIONAL AWARENESS SOLUTION

The Halifax Port Authority (HPA) has signed a Managed Service Agreement with Datifex to implement its OneHarbour™ platform for harbour management. Built on Datifex's DATiVerse 3D™ technology, the solution integrates complex operational data,

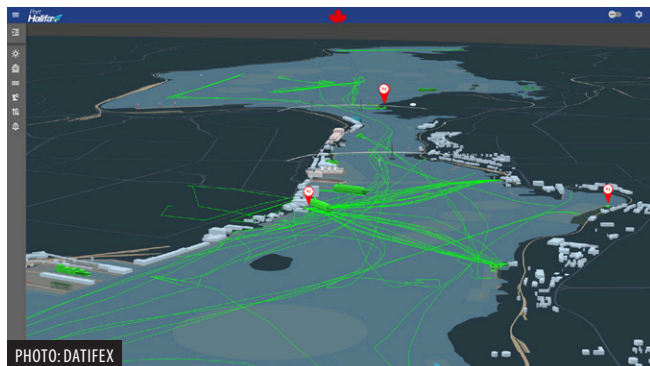


PHOTO: DATIFEX

including vessel traffic, berth scheduling, and environmental conditions, into a single, browser-based, interactive 3D environment. This transition aims to improve real-time decision-making within the HPA's Operations Centre. Beyond standard operations, the platform delivers automated alerts for risks such as potential vessel collisions, unauthorized movements, and hazardous weather. By integrating data from AIS transponders, radar, and computer vision, OneHarbour provides a unified view of vessel tracks, improving the detection of vessels without AIS. The technology was developed and tested at The PIER, the HPA's living lab for transport and supply chain innovation. Datifex, a 2026 NATO DIANA Innovator cohort member, is currently leveraging the platform's capabilities for broader defence applications. Following trials at the Digital Ocean Lab in Germany, the company is demonstrating the system's effectiveness for maritime security to the German Navy and Baltic Maritime Command, highlighting its utility for both commercial ports and conflict-affected maritime theatres.

ASYAD GROUP AND CMA CGM GROUP FORM LOGISTICS PARTNERSHIP IN OMAN

Oman's integrated logistics provider, Asyad Group, and CMA CGM Group, have signed a Framework Agreement to develop, manage, and operate a new multipurpose logistics terminal in Sohar. The initial conditions agreement was finalized during the official visit of His Majesty Sultan Haitham bin Tarik to France, signaling enhanced economic cooperation between the two nations. The long-term partnership establishes a framework for a USD 400m terminal

designed to expand integrated logistics services and supply chain solutions. The project aims to boost cargo handling volumes, reinforce regional and international trade corridors, and strengthen the connection of Omani ports to global shipping networks and international markets. The initiative leverages Asyad Group's extensive ecosystem, which operates across more than 76 cities in 24 countries with a fleet of over 100 vessels serving 90 destinations.

CAVOTEC SECURES SHORE POWER ORDER FOR SOUTHERN CALIFORNIA CRUISE TERMINAL

Cavotec has won an order worth approximately EUR 1.5m to supply shore power equipment for a cruise terminal expansion project in Southern California, USA. The specialized shore power systems enable cruise ships to connect directly to the local electrical grid while docked. This technology significantly reduces environmental emissions and noise levels by eliminating the need to run onboard diesel engines during port stays. The contract includes the delivery of Cavotec's proprietary shore power technologies, specifically the PowerMove, PowerFeed, and PowerCover systems. Equipment deliveries for the expansion project are scheduled to take place during Q3 2027.



PHOTO: CAVOTEC

VALENCIAPORT FINANCIAL RESULTS GROW PAST 8% REACHING NEARLY €163M

Valenciaport closed the 2025 financial year with a net turnover exceeding €163m, marking an increase of over 8% compared to 2024. Announced by Mar Chao, president of the Port Authority of Valencia (APV), at the Board of Directors meeting, the consolidated pre-tax income reached over €43m, a 47.8% jump driven by cost containment and management efforts. To support its 2026–2030 Investment Plan, the Board approved a financial transaction for

a credit facility worth up to €160m. In operational updates, LCR HISPÁNICA S.A. received authorization to provide commercial rail shunting services, bringing the total to 11 rail companies operating at the ports of Valencia and Sagunto. This follows a strong rail performance through May 2026, with 2,187 trains handling over 1.17m tonnes of cargo (+19%) and 125,352 container units (+17%). Additionally, the Port of Sagunto will expand its capacity after authorizing Terminal Marítima de Graneles Sagunto SL to increase its commercial area by 3,376m at South Pier One and North Pier Two. The Board also extended the port management master's degree agreement with the Polytechnic University of Valencia for 4 years, transferring operating rights to the Valenciaport Foundation. Personnel changes were finalized following the departure of Luis Fernando Sánchez to become Director of the Port Authority of Alicante. Manuela Gras was named the new contract manager for the container quay in the northern expansion of the Port of Valencia, while Cristina Rodríguez joined Infoport. Furthermore, José Vicente Morata and Carlos Prades were appointed to leadership roles across the Port and Navigation Councils of Valencia, Sagunto, and Gandia.



PHOTO: VALENCIAPORT

BELFAST HARBOUR REPORTS FINANCIAL GROWTH IN 2025 ANNUAL REPORT

Belfast Harbour has released its 2025 Annual Report, highlighting a year of strong financial growth and project delivery. Operating as a self-funded Trust Port, the organization increased its turnover by

10.2% to £97.1m, while underlying profit before tax rose by 21.0% to £44.4m. An economic impact report confirmed that trade through the port supports £8.8bn in Gross Value Added (GVA), which accounts for 15.7% of Northern Ireland's total economic output. During the year, Belfast Harbour allocated £39.4m to capital expenditure and committed £77.1m to future projects. Major milestones included breaking ground on D3, a £90m deepwater quay that marks the largest single capital project in the port's history, and securing a £100m agreement with JERA Nex bp for offshore wind development. Trade volumes remained steady at

24.3m tonnes of cargo, and the cruise sector delivered 147 ship calls and 320,000 passengers and crew, contributing an estimated £25m to the local economy. The port also launched its new five-year strategy, "Advance Regional Prosperity," detailing a £313m self-funded investment programme as part of its £1.3bn 2050 Masterplan. On track to become the first net zero port operator on the island of Ireland, the organization has reduced operational carbon by 70% since 2015, targeting net zero ahead of 2030. Additionally, the port advanced residential projects including plans for over 600 homes at Clarendon Wharf and invested £335,000 directly into local communities, supported by £250,000 of in-kind assistance.



PHOTO: BELFAST HARBOUR

ANTWERP-BRUGES AND UKRAINE LAUNCH PORT PARTNERSHIP

The Ukrainian Sea Ports Authority (USPA), Port of Antwerp-Bruges International, and the APEC Antwerp/Flanders Port Training Center have signed a memorandum of understanding to foster knowledge exchange and infrastructure resilience. Endorsed during the Ukrainian Recovery Conference, this partnership aims to support the reconstruction of Ukrainian maritime facilities while strengthening logistics corridors between the regions. The agreement focuses on critical areas including port management, safety, environmental protection, and the development of public-private partnerships. With only 7 of the 14 USPA-managed ports currently under its control due to ongoing conflict, the collaboration prioritizes operational continuity and crisis management. APEC will facilitate specialized training programs, workshops, and study visits for USPA staff to bolster expertise.



PHOTO: ANTWERP-BRUGES

PORT OF QUÉBEC ADVANCES SHORE POWER INFRASTRUCTURE



PHOTO: PORT OF QUÉBEC

The Port of Québec has secured \$5.1m in financial support from the Government of Québec to electrify wharves 30 and 101,

marking a significant milestone in its decarbonization strategy. This investment enables compatible cruise and cargo ships to connect to shore power and shut down auxiliary engines while docked, reducing emissions and noise pollution in the area. Wharf 30, dedicated to international cruises, expects a 90% reduction in greenhouse gases associated with port calls, totaling nearly 70,000 tonnes over 10 years. Meanwhile, wharf 101 will become the first cargo-focused wharf on the St. Lawrence to offer shore power connectivity, projected to prevent 5,600 tonnes of fossil fuel emissions over the same period. The total investment for these initiatives reaches \$28.1m, supported by federal funding, the Government of Québec, and the Port of Québec itself. Both projects are scheduled to be operational by autumn 2028.

MAPUTO PORT LAUNCHES DIGITAL COMMUNITY SYSTEM

The Maputo Port Development Company (MPDC) has awarded its Port Community System (PCS) project to Kale Logistics Solutions, marking a significant step in the port's digital transformation to become a premier logistics hub in Southern Africa. This initiative aligns with the government's digital agenda by providing a unified platform for secure information exchange and process automation. The platform will support a broad range of operations including vessel management, imports, exports, transshipment, cabotage, truck and rail movements, customs interactions, and warehouse operations. Furthermore, it will enable performance monitoring across the ecosystem. The system will integrate with existing infrastructure, such as the

Customs Single Window, Terminal Operating Systems, Vessel Traffic Management Systems, and various banking and payment platforms.



PHOTO: PORTO DE MAPUTO

MAERSK UPGRADES REEFER FLEET WITH NEXT-GEN CONNECTIVITY...

A.P. Moller – Maersk has commenced the roll-out of next-generation IoT connectivity devices across its entire fleet of refrigerated containers (reefers). This upgrade aims to standardize hardware and deliver a more consistent, reliable data flow for cold chain customers throughout the container journey. To date, approximately 30% of the reefer fleet has already been equipped with the new technology. The upgraded devices feature increased processing power, 4G/5G connectivity with 2G/3G backwards compatibility, and integrated solar panels for continuous energy harvesting. Beyond enhancing real-time cargo visibility through the Captain Peter platform, the technology is designed to evolve into an intelligent tool that interprets data to provide actionable recommendations. The installation process is scheduled to continue over the coming years.

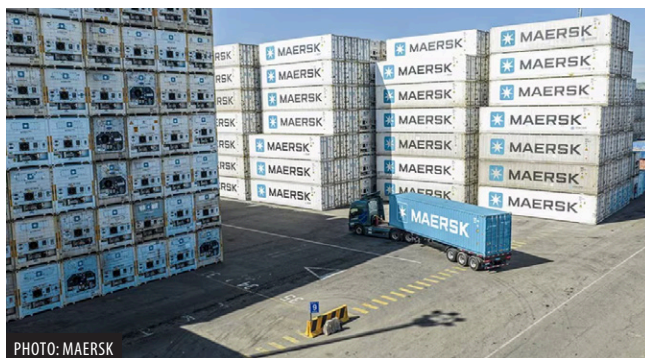


PHOTO: MAERSK

... AND EXPANDS LOGISTICS FOOTPRINT IN NORTHEASTERN BRAZIL

A.P. Moller – Maersk has opened a new distribution centre in Cabo de Santo Agostinho, Brazil, to strengthen its integrated logistics network in Latin America. Located approximately 20 km from the Port of Suape and Recife International Airport, the facility is designed to support the region's rising trade and industrial activity by connecting ocean, cabotage, inland transport, and warehousing services. The 11,920 m² site features 11,297 pallet positions, 36 loading docks, and 4 access ramps, with a clear height of 12 m. It is equipped with LED lighting and 100% electric material handling equipment, aiming to lower greenhouse gas emissions. The facility is managed via Maersk's global warehouse management system to provide real-time inventory visibility for industries including retail, automotive, technology, and consumer goods.

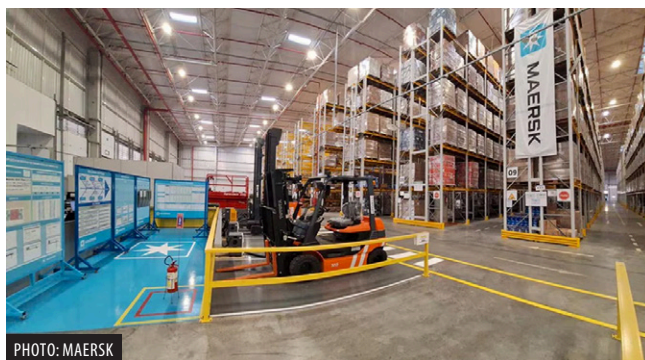


PHOTO: MAERSK

TECON SUAPE EARNS ESG CERTIFICATION



PHOTO: ICTSI

Tecon Suape, the ICTSI operation in Brazil's Port of Suape, has been awarded the 2026 Green Company Seal by the Government of Pernambuco. This marks the second consecutive year the terminal has received the recognition for its commitment to environmental, social, and governance (ESG) practices. The award ceremony, held on June 10 at the Palácio do Campo das Princesas, honored 16 organizations that demonstrate a balance between economic growth, environmental preservation, and social inclusion. Administered under State Law No. 16.112/2017, the certification is valid for two years. This achievement follows Tecon Suape's recent recognition with the Ocean Friend 2025 seal. The company continues to integrate innovation into its operations to support sustainable development within the Brazilian port sector and the local production chain.

HAMBURG AND QINGDAO TIGHTEN PARTNERSHIP

The Hamburg Port Authority (HPA) and SPG Qingdao Port Group signed a Port Partnership Agreement in Qingdao on June 23 to strengthen their exchange of expertise. This new agreement expands on a cooperation that began with a Memorandum of Understanding in 2016 and a joint declaration for a Green Shipping Corridor in 2025. Both entities aim to deepen their collaboration particularly in port planning, sustainability, and intermodal transport. The signing occurred during a wider trade roadshow in China from June 23 to 26, which featured a Hamburg delegation comprising representatives from the HPA, HHLA, EUROGATE, TSIT, and Hafen

Hamburg Marketing. The delegation promoted Hamburg's logistics capabilities at roundtables in Qingdao and Shanghai and participated in the transport logistic Shanghai exhibition under the "German Ports" umbrella alongside exhibitors Greiwing and Metrans. During this period, Hamburg was also named the "Best Sustainable Port" at the Asian Freight, Logistics and Supply Chain Awards organized by Asia Cargo News. China remains the largest trading partner for the Port of Hamburg, accounting for 2.3m TEU and around 19.9m t of cargo handled in maritime trade in 2025. The port maintains



PHOTO: PORT OF HAMBURG

direct connectivity to China through 17 regularly operated liner services. These maritime connections consist of 12 container services, four general cargo services handling heavy-lift cargo, and one RoRo service.

PSW TO DELIVER SHORE POWER FACILITY IN TROMSØ

PSW Power & Automation has secured a turnkey contract with Fjuel Tromsø to install a new shore power facility at Kai 8, Prostneset, in central Tromsø. The project aims to provide emission-free electricity to cruise ships and large vessels, including the Norwegian Coast Guard's fleet, while they are at berth. The delivery features a 5 MVA system operating at 11 kV and 6.6 kV, alongside low-voltage connection points for additional vessel types. PSW's optimized design reduces the facility's overall footprint, freeing up over 100 m² of space for Fjuel's further charging infrastructure development. This initiative is a critical component of Tromsø's strategy to address the 38% of municipal climate emissions currently attributed to shipping.



PHOTO: PSW POWER

PORT SAINT JOHN REPORTS RECORD CARGO GROWTH



PHOTO: PORT SAINT JOHN

Port Saint John has released its 2025 Annual Report, titled "Foundation Forged: From Investment to Impact," announcing

the completion of its \$247m West Side Modernization Project. The newly expanded terminal delivers increased capacity, a new berth, and strengthened intermodal connections, enabling the port to handle more than four times its previous container volumes. Operational figures for 2025 reveal substantial cargo growth across multiple sectors. The port handled 239,364 TEUs of container cargo, representing a 29.4% increase compared to 2024, alongside 24.5m metric tonnes of liquid bulk and 1.3m metric tonnes of dry bulk. The cruise sector also achieved a record season, welcoming 196,000 passengers during 83 vessel calls. Milestones for the year include Port Saint John joining the Gemini Cooperation network. Additionally, the port broke ground on Americold's \$100m import-export hub to enhance capabilities in temperature-controlled, agri-food, breakbulk, and containerized trade.

HAROPA PORT LEADS GRAIN EXPORTS

HAROPA PORT has reaffirmed its status as a premier hub for French grain, handling 8.4m tonnes through its Rouen terminals during the 2025/2026 marketing year. This performance represents a 61% increase over the previous campaign and surpasses the ten-year average of 7.4m tonnes, securing more than 50% of France's total seaborne grain exports despite regional competition. The export volume was primarily driven by 5.6m tonnes of milling wheat and 2.6m tonnes of barley, with an additional 0.6m tonnes consisting of oilseeds, protein crops, and malt. These goods reached 41 countries, led by Morocco with 2.6m tonnes, followed by China and Côte d'Ivoire. To support this ongoing demand, the port has expanded its infrastructure, including a new 55,000-tonne capacity grain silo at the Petit-Couronne terminal.



PHOTO: HAROPA PORT

PORT OF TYNE CLEAN ENERGY PARK DEVELOPMENT

The UK government has appointed the Marine Management Organisation (MMO) as the lead environmental regulator for the Port of Tyne's proposed £175m Clean Energy Park. This initiative establishes a single point of contact to coordinate planning and regulatory approvals, aiming to streamline development and minimize potential project delays. The project involves the redevelopment of a 230-acre industrial site on the River Tyne, featuring 400m of new deep-water quayside. This

infrastructure is designed to facilitate offshore wind manufacturing, assembly, storage, and logistics, strengthening the UK's capacity within the North Sea offshore wind sector. Forecasts suggest the development could support up to 12,000 jobs and contribute over £5.6bn to the economy. The MMO will coordinate with partners, including the Environment Agency and Natural England, to ensure rigorous environmental standards are maintained throughout the construction and operation of the park.

ANTWERP APPROVES PLANS FOR NEW CONTAINER CLUSTER

The Flemish Government has approved the draft project decision for the Left Bank Container Cluster (CCL) in Antwerp, marking a significant milestone for the Extra Container Handling Capacity Antwerp (ECA) project. This initiative aims to increase the port's container handling capacity by 7m TEU to accommodate rising global demand and ensure the facility remains competitive. The core of the project involves constructing a second tidal dock adjacent to the existing Deurganck Dock and developing the Three Docks logistics area. Additional components include filling in the Northern Cut Dock for a new terminal, establishing a marshalling yard for rail freight, and creating nature areas in Doelpolder South and Prosperpolder South. The development integrates environmental and community protections, including a landscaped buffer zone with an earth berm to mitigate noise and light pollution. A public consultation period is currently underway, running until 10

August 2026, after which feedback will be assessed before the Flemish Government moves toward a definitive project decision.



PHOTO: PORT OF ANTWERP-BRUGES

CANADA JOINS 212CD SUBMARINE PROGRAMME

Canada has officially moved to acquire 212CD submarines, joining an established partnership with Norway and Germany to bolster allied underwater capabilities. This collaboration facilitates joint development and standardization among the participating nations, with Canada now entering formal contract negotiations to define its role in the program. The Canadian programme intends to procure up to 12 modern submarines, with contracting expected to conclude by the end of 2027. Under the current schedule, the first four vessels are slated for delivery in 2034. Kongsberg, a key industrial partner, will continue supplying combat system elements for the 212CD fleet through its joint venture, kta naval systems. The company, which already maintains operations in Canada, plans to further invest in industrial cooperation with local partners to support the production and maintenance of the ORCCA combat system.



PHOTO: KONGSBERG

BELFAST HARBOUR INSTALLS UK'S FIRST MARINA AQUAPOD

Belfast Harbour has become the first marina in the UK to deploy an Aquapod, an innovative system designed to capture and remove litter, natural debris, and microplastics directly at the waterline. Developed by Northern Ireland-based firm NETZERO Alchemists, the device operates just below the water's surface, reducing the need for intensive manual cleanup efforts in busy marina areas.

The Aquapod integrates Clean Impact View software, which monitors collected materials over time to provide data on debris volume and composition while preventing wildlife from entering the unit. This deployment supports the harbour's ongoing environmental stewardship initiatives, including its oyster restoration program and the effort to maintain Blue Flag Marina accreditation.

PORT OF TAICHUNG BOLSTERS SECURITY WITH AI

The Port of Taichung has officially launched a new Breakwater Entrance Intrusion Detection System (IDS) to enhance port safety and water security. This smart infrastructure upgrade, which entered service on January 16, 2026, marks a significant milestone in the port's ongoing transition into a state-of-the-art smart facility. The system utilizes high-definition bullet, pan-tilt-zoom (PTZ), and thermal-imaging cameras installed at the port's signal tower to provide 24-hour, all-weather surveillance. By integrating AI-powered vessel image recognition with the existing Automatic Identification System (AIS), the port can now automatically identify unauthorized vessels and abnormal movements, triggering immediate alerts and cross-departmental response mechanisms. By automating the detection of security threats, the system ensures more effective monitoring of vessel traffic and improves the overall safety and resilience of port operations.



PHOTO: TIPC

SCCT SHIFTS TO FULL RENEWABLE POWER



PHOTO: APM TERMINALS

Suez Canal Container Terminal (SCCT) has signed a power purchase agreement with Egypt's New and Renewable Energy Authority to transition to 100% renewable electricity. Facilitated by the Suez Canal Economic Zone, this partnership marks the first time a container terminal in Egypt will operate entirely on green energy, setting a new standard for sustainable port operations in the region. The initiative aims to reduce carbon emissions by approximately 30,000 tonnes of CO₂ annually by replacing grid electricity with wind and solar power. This move represents a 6% reduction in APM Terminals' global group emissions against its current baseline, supporting the company's objective to reach 100% renewable energy use by 2030 and net-zero emissions across its value chain by 2040.

HANNIBAL LAUNCHES NEW MELZO-ROTTERDAM RAIL SERVICE

Hannibal, the multimodal transport operator of the Contship Group, has introduced a new rail service connecting the Melzo Rail Hub Milano (RHM) terminal with Europoort Rotterdam. Operational since July, this link strengthens the group's intermodal network, connecting to major European logistics corridors and facilitating transport to Benelux, Germany, and the United Kingdom. The open rail shuttle service supports semi-trailers, containers, and swap bodies, operating with six weekly trains capable of carrying up to 38 load units. Departures from Melzo occur on Mondays, Wednesdays, and Fridays, while trains leave Europoort on Tuesdays, Thursdays, and Sundays, achieving a transit time of approximately 24 hours. The service is operated in partnership with SBB. This expansion brings the total number of weekly rail services between Melzo and the Netherlands to 36, completing the group's operational coverage of Rotterdam's main port facilities.



PHOTO: CONTSHIP

KEVIN PRICE STEPS IN AS PRESIDENT OF GEORGIA PORTS



PHOTO: GEORGIA PORTS

Kevin Price has officially assumed his role as the President of the Georgia Ports Authority (GPA) on July 1, 2026, reporting directly to CEO Griff Lynch. This leadership transition, originally announced in February, serves as the first step in a succession plan where Price

is scheduled to take over as President and CEO on August 1, 2027. His ascension to the chief executive role will coincide with the retirement of Lynch, who will conclude a 38-year career in the maritime industry, including 15 years with the GPA. Price joins the GPA with more than 30 years of operational experience, having most recently served as the President of Gateway Terminals in Savannah since 2021. His extensive professional background in the port terminal industry also includes tenure as the Chief Operating Officer of Virginia International Terminals. He takes over leadership at a time when the GPA is executing a self-financed investment plan of nearly \$5b over the next 10 years, which will expand capacity at its primary facilities. The authority's ongoing expansion projects include adding five big ship container berths in Savannah and a fourth roll-on/roll-off (RoRo) berth in Brunswick to accommodate future commercial growth. These initiatives build on a decade of development during which the GPA board approved \$4.13b in infrastructure improvements. Additionally, as part of its community outreach programs, the authority is donating \$6m to port communities to support local workforce housing initiatives in the Savannah area.

GIANT MODULE ARRIVES FOR PROJECT ONE CRACKER

A massive industrial module for INEOS's Project ONE ethane cracker has arrived at the Port of Antwerp-Bruges, delivered by the ship Jin Xu Xiang 88 from Abu Dhabi. The 55-m-high module weighs nearly 7,000 t, ranking among the most significant pieces of project cargo received by the port in recent

years. A second module weighing just under 7,200 t is expected to arrive in the first half of August. The facility will convert ethane into ethylene for applications such as medical devices, car parts, wind turbines, solar panels, and insulation materials, with the groundbreaking having taken place on 15 December 2022.

EC PRESENTS AN ELECTRIFICATION ACTION PLAN AND ETS REVIEW



PHOTO: EUROPEAN COMMISSION

The European Commission has adopted an Electrification Action Plan and a review of the EU Emissions Trading System (ETS) to position Europe as the world's first electro-powered continent. This initiative addresses vulnerabilities linked to imported fossil fuels, aiming to bolster the clean transition, support industry, and enhance energy independence. While roughly 70% of EU electricity currently stems from home-grown clean sources, the electrification demand rate has stagnated at 23% over the past decade. To bridge this gap, the Commission introduces an indicative electrification target of 46% by 2040, alongside measures to future-proof electricity

bills, expand smart meters, and accelerate deployment across heating, transport, and industry. The revised ETS framework integrates an industrial decarbonisation fund backed by €100bn, alongside mandatory reinvestment of 50% of national ETS revenues into sector decarbonisation. Furthermore, the strategy maintains targeted free allocations tied to climate investments and extends market rules to maritime, aviation, and waste incineration to secure a level playing field. To advance maritime transport and fisheries, the plan prioritises deploying high-power charging infrastructure and onshore power supply across ports of all sizes, integrating them into grid planning, electricity demand forecasting, energy storage, and local energy systems to transform them into clean energy hubs. The policy framework for ports puts a particular focus on the role of onshore power supply and the potential of ports to become energy hubs, drawing on the Alternative Fuels Infrastructure Regulation, FuelEU Maritime, and the March 2026 EU Port Strategy. Furthermore, the framework emphasises transparent and non-discriminatory pricing of onshore power supply services, including tariff structures and cost components, while designating ports as industrial acceleration areas under the proposed Industrial Accelerator Act. The Commission invites relevant stakeholders, including within the European Sustainable Shipping Forum, to develop best practices on transparent and non-discriminatory pricing, and states readiness to take further measures to enhance price transparency and comparability across the EU if needed.

HAPAG-LLOYD ADOPTS SHORE POWER IN HAMBURG

Hapag-Lloyd has signed an agreement with the Hamburg Port Authority to use shore power across all terminals in the Port of Hamburg. This initiative marks a crucial step toward lowering vessel emissions in ports and advancing the company's objective of achieving net-zero fleet emissions by 2045. The operational rollout has already commenced, with the vessels "Al Muraykh" and "Tihama" successfully utilizing shore power during port calls on the Asia-North Europe Service NE2. Shore power technology enables appropriately equipped ships to satisfy their onboard electricity requirements via the local onshore grid while berthed. Currently, approximately 35% of Hapag-Lloyd's active fleet features full equipment for shore power operations. The shipping line continues to ensure that all newbuilds come ready for shore power while actively retrofitting compatible vessels within its existing fleet wherever infrastructure availability permits.



PHOTO: HAPAG-LLOYD

PORT OF ROTTERDAM POSTS 0.4% THROUGHPUT GROWTH IN H1 2026

Total throughput at the Port of Rotterdam reached 212.0m tonnes in the first half of 2026, marking a 0.4% increase compared to H1 2025. Despite market uncertainty and geopolitical disruptions, including the closure of the Strait of Hormuz, the port maintained operational resilience and stable financial performance. Revenues grew by 3.2% to €477.0m, while net income rose to €144.8m. Performance across cargo segments remained mixed during the six-month period. Liquid bulk rose 2.4%, supported by an 11.5% increase in oil products to 25m tonnes and a 1.6% rise in crude oil. Dry bulk grew 1.7%, driven by a 17.8% recovery in coal and an 18.5% increase in raw construction materials,

offsetting a 14.2% decline in agribulk. Container volume dipped 0.1% in TEU and 2.6% in tonnage to 98.5m tonnes, while overall breakbulk fell 1.1%. The port invested €126.0m in key sustainability and security projects during H1 2026. Highlights included activating the first 32km section of the national hydrogen network between Maasvlakte and Pernis, completing its first ethanol fuel bunkering, and expanding shore power installations. To enhance operational safety and digital defense, the authority requested Pre-U-space air designation for drone management and launched a cybersecurity shield monitoring over 15 critical organizations across thousands of connected systems.

PORT OF ANTWERP-BRUGES H1 2026 RESULTS

Port of Antwerp-Bruges handled 133.9m tonnes of maritime cargo in the first half of 2026, marking a 2.4% decline compared to the same period last year due to geopolitical tensions, trade conflicts, and operational disruptions. Despite a challenging European economic climate, the port limited overall losses, stabilized its container market share, and continued strategic investments in future capacity and infrastructure. The decline in overall volume was primarily driven by the container segment, where throughput fell 1.5% in TEU and 3.6% in tonnes, heavily impacted by weak Western European export demand (-5.7%) and regional disruptions. Operational events, including two pilot strikes and an oil spill in the Deurganck dock, resulted in a combined loss of approximately 260k TEU, while Middle East geopolitical shifts caused a 57% drop in Persian Gulf imports and a net cargo loss of 2.2m tonnes. Conversely, RoRo traffic showed resilience with a 5.9% increase to 1.695m new vehicles, and dry bulk grew by 2.2%. To secure long-term competitiveness, the port advanced key infrastructure projects, including progress on the Extra Container Capacity Antwerp initiative and Flemish government approval for the Left Bank Container Cluster



PHOTO: PORT OF ANTWERP-BRUGES

draft decision. Positioned as a core European gateway, the port also strengthened its liner network through new commitments from major ocean carriers, including Gemini Cooperation and Premier Alliance.

PORT OF SAVANNAH JUNE VOLUMES SURGE

The Port of Savannah reported June volumes increased 18% compared to the same month in 2025, capping off fiscal year 2026 on a strong note according to the Georgia Ports Authority. Cargo owners shipped 5.67m TEUs across the Port of Savannah docks during the fiscal year, coming just shy of the 5.7m TEUs reached in the previous year. Infrastructure developments bolstered regional logistics capabilities, including the Appalachian Regional Port handling a record 49,319

intermodal containers and the May opening of the \$134m Gainesville Inland Port. Additionally, the Georgia Ports Authority moved 541,405 containers by rail at Mason Mega Rail, marking the third straight year exceeding 0.5m units. The Port of Savannah maintains 40 ship calls a week, 42 doublestack trains per week, and 14,000 truck gate moves daily, supported by a self-financed master plan of nearly \$5bn designed to add five big ship container berths over the next decade.

SINGAPORE STRENGTHENS LNG BUNKERING OPERATIONS

The Maritime and Port Authority of Singapore (MPA) has announced the issuance of eight new licences to supply liquefied natural gas (LNG) as a marine fuel, effective from 1 September 2026. This initiative aims to expand Singapore's bunkering capacity, strengthen the supporting ecosystem for growing demand, and reinforce its position as a multi-fuel bunkering hub. The licences have been awarded to Aramco Trading Singapore, Equatorial Marine Fuel Management Services, ExxonMobil Asia Pacific, PetroChina International, Shell Eastern Trading, Sinopec Fuel Oil, TotalEnergies Gas & Power Asia (TEGPA)-Sembcorp Fuels Joint Venture,

and Vitol Bunkers. Selection was based on supply capabilities, commercial plans, operational experience, safety standards, and the ability to mitigate methane slip while supporting lower-emission alternatives like liquefied bio-methane and e-methane. Valid for five years until 31 August 2031, the licences require providers to deliver end-to-end services, including fuel supply, storage, cargo transfer, and delivery. Additionally, MPA and Enterprise Singapore will upgrade the Technical Reference for LNG Bunkering to a Singapore Standard in August 2026 to enhance safety requirements, bunkering procedures, and crew competencies.

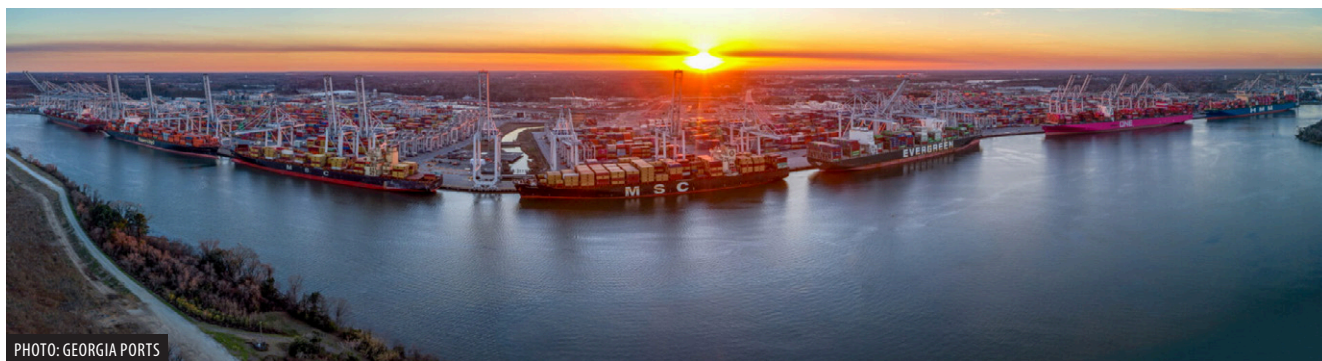


PHOTO: GEORGIA PORTS

VALENCIAPORT UPDATES ENVIRONMENTAL POLICY FOR SUPPLY CHAIN...

The Port Authority of València (PAV) Board of Directors has updated its Environmental and Energy Policy to align with its Strategic Plan 2035 and Net Zero Plan, reinforcing decarbonisation across the entire supply chain. This strategy seeks to embed sustainable management responsibilities throughout the organization, extend ethical commitments to companies operating in the public domain, and engage customers, suppliers, and stakeholders in the port and logistics sector. To support this environmental transition, the board approved launching a tender for a new 110-megawatt substation with a budget of €15.6m, co-financed

by the European Commission via the Connecting Europe Facility (CEF). This infrastructure will double the port's power capacity to ensure maximum operational reliability and environmental sustainability while calculating carbon footprints and managing environmental risks. Additionally, the board approved an agreement with the City Council of València to establish a training and development centre for water sports at La Marina, selected Valencia Innovation District for the EFO 16 Building concession, and authorised a substantial amendment for Bersolaz Spain to expand aquaculture facilities in the Port of Sagunto by 39,785 sq m.

... WHILE IMPORTS DRIVE ITS CONTAINER TRAFFIC

Strong import volume propelled overall container activity across Valenciaport's facilities in the first half of 2026. The Valencia Port Authority (APV) handled 2.82m TEUs between January and June across the ports of Valencia, Sagunto, and Gandia, a 0.20% increase compared to the same period last year. Full import containers drove this expansion, climbing 11.14% to 559,825 TEUs, while full export containers dipped 0.84% to 451,669 TEUs. Total goods handled reached 39.92m tonnes (-3.12%), with unloaded cargo increasing 6.43% to 12.76m tonnes and loaded cargo falling 2.94% to 12.23m tonnes. Rail freight and automotive sectors maintained strong upward momentum. Goods moved by rail expanded 19.51% to 1.96m tonnes, corresponding

to 144,803 TEUs (+16.78%). Automobile shipments rose 9.33% to 276,930 units, led by the Port of Sagunto, which handled 110,001 vehicles (+24.26%). Overall passenger traffic dropped 9.63% to 612,305 travelers, largely driven by a 23.88% decline in cruise passengers (237,547), despite a 2.53% rise in regular ferry passengers (374,758). China solidified its position as Valenciaport's top foreign trading partner, generating 469,504 TEUs (+25.14%) and over 5.1m tonnes (+26.33%). The United States followed with 167,540 TEUs (-14.01%) and nearly 3m tonnes (-6.09%), while trade with Algeria reached 156,822 TEUs (-3.78%). Container traffic with Türkiye stood at 97,833 TEUs (-24.95%), and trade with Italy totaled 53,083 TEUs (-19.96%) and over 3.1m tonnes (-12.58%).

MSC LAUNCHES NEW SIERRA SERVICE CONNECTING ASIA AND MEXICO



PHOTO: ICTSI

Contecon Manzanillo, International Container Terminal Services, Inc.'s (ICTSI) Mexican business, has welcomed the inaugural call of MSC's Sierra service with the arrival of the vessel MSC Domitille. The new route expands direct maritime connectivity between Northeast Asia and Mexico through the Port of Manzanillo, serving as MSC's second dedicated Far East-Mexico service. The Sierra service follows a port rotation connecting Qingdao, Tianjin, Busan, Manzanillo, Lázaro Cárdenas, and returning to Qingdao. The launch coincides with Contecon Manzanillo's ongoing fourth phase expansion project, an investment focused on increasing terminal capacity to support growing cargo volumes. According to ASIPONA, the Port of Manzanillo handled more than 1.7m TEUs between January and May 2026.

KALMAR ELECTRIC REACHSTACKERS ORDER FOR PORTONAVE

Kalmar has reached an agreement with Brazilian terminal operator Portonave, part of Terminal Investment Limited (TiL), to supply five electric reachstackers for the Navegantes terminal in Santa Catarina State, Brazil. The order was booked in Kalmar's Q2 2026 order intake, with delivery scheduled to be completed during Q4 2026. Portonave started operations in October 2007 as the first private container port terminal in Brazil and handled 1.1m TEU in 2025. The terminal's existing equipment fleet includes four Kalmar Essential empty container handlers and a Kalmar Eco reachstacker. The new electric machines will enable efficient, agile, and reliable cargo-handling that generates zero emissions at source, addressing Portonave's sustainability goals.



PHOTO: KALMAR

HD HYUNDAI SAMHO WINS U.S. CRANE CONTRACT

HD Hyundai Samho has signed a contract with Washington United Terminals Inc. (WUT), a U.S. subsidiary of HMM, to supply four port cranes for the Port of Tacoma in Washington State. This agreement marks the company's entry into the U.S. port crane market and serves as the launch of the Korea-U.S. shipbuilding cooperation initiative known as the MASGA project. The project involves a terminal modernization initiative to replace two aging quay cranes and add two new yard cranes, utilizing high-quality steel produced by POSCO. These additions will enable WUT to expand its annual cargo-handling capacity and better accommodate larger container vessels. HD Hyundai Samho will execute the entire project on a turnkey basis, encompassing design, manufacturing, transportation, installation, and commissioning, with delivery scheduled for completion in 2028. Since 1985, the company has supplied a total of 20 port cranes to major ports across the United States.



PORT OF LONG BEACH AND MARAD PARTNER ON MARITIME NUCLEAR ENERGY

The Port of Long Beach has signed a nonbinding Memorandum of Cooperation with the U.S. Department of Transportation's Maritime Administration (MARAD) to advance small modular reactor (SMR) technology across commercial vessels, port operations, and maritime assets. The agreement marks the first formal partnership between MARAD and a U.S. seaport aimed at exploring nuclear power for commercial shipping, aligning federal policy with port electrification goals. Under the framework, the Port and MARAD will collaborate with the U.S. Coast Guard, Department of Energy, and Nuclear Regulatory Commission to establish operational protocols, safety standards,

and inspection procedures for SMR-powered vessels calling at U.S. ports. The initiative builds on MARAD's May 2026 Request for Information regarding U.S.-built scalable reactors and complements a recent lease with BlueCore Energy Inc. to assemble, test, and store maritime power modules at the port. The agreement requires no financial commitments, procurement decisions, or reactor deployments. Currently moving \$300b in cargo annually and supporting 2.7m U.S. jobs, the Port of Long Beach projects its annual throughput to double to 20m TEUs by 2050, driving up long-term energy demand as cargo handling equipment and terminal operations undergo further electrification.

NEW CRANES LAUNCHED AT TAWAU PORT

The official launching ceremony of the new cranes at Tawau Port took place at the beginning of August, at the Main Jetty, officiated by Chief Minister of Sabah YAB Datuk Seri Panglima Haji Hajiji bin Haji Noor. The event began with a closed briefing detailing the installation of the new port cranes and their operational benefits, followed by the attendance of key state ministers, port authority officials, and industry stakeholders. Procured as a strategic initiative by the State Government,

Sabah Ports Authority (LPPS), and Sabah Ports Sdn. Bhd. (SPSB), the two new cranes aim to strengthen port infrastructure. Their operation is expected to significantly increase operational efficiency, cargo handling capacity, and port service delivery. Ultimately, these infrastructure enhancements will boost the competitiveness of Tawau Port and support the development agenda of the State of Sabah in alignment with the Hala Tuju Sabah Maju Jaya (SMJ) 2.0 aspirations.

BALTIC HUB SECURES 30-YEAR LEASE FOR GDAŃSK EXPANSION

The Port of Gdańsk Authority has signed a 30-year land lease agreement with Baltic Hub for a 27-hectare site adjacent to the T2 deepwater terminal, following a competitive tender process. This expansion aims to develop a new intermodal rail and container handling area to reinforce Poland's position as a primary logistics gateway for Central and Eastern Europe. Baltic Hub will invest in a new rail siding capable of handling 750-metre-long trains, new container storage yards, and container handling equipment, with upgrading works to be completed in phases. The project supports sustainable development objectives by facilitating a modal shift from road to rail, improving supply chain efficiency, and reducing emissions. The agreement aligns with PSA Group's Node to Network strategy and enhances hinterland connectivity for markets including the Czech Republic, Slovakia, and Ukraine. The leased land already benefits from existing rail access and proximity to the T2 terminal, providing a timely location for the new facility as shipping networks adapt to larger vessels.



PORT OF TAICHUNG UPGRADES STREETLIGHTS TO SMART LEDS

Taiwan International Ports Corporation subsidiary Port of Taichung is completing a major green transformation project replacing over 3,000 traditional streetlights with smart LED fixtures. Initiated in 2021 and set to conclude in August 2026, the upgrade significantly cuts electricity demand while enhancing safety and integrating advanced smart solutions across the port area. By replacing high-pressure sodium lamps, power consumption drops from 400W to 140W per light, cutting annual

energy use by around 2.84m kWh and electricity costs by nearly NT\$10m. The move also reduces annual carbon emissions by 1,327mt. Beyond efficiency, the interlinked lighting system automatically detects defects to streamline maintenance, while water- and salt-proofing measures protect fixtures from harsh sea spray along key routes like Linhai Road. Improved color rendering and uniform illumination boost visibility along vital roadways and around container gates to protect port staff and road users.

ICTSI REPORTS STRONG FIRST-HALF 2026 RESULTS

International Container Terminal Services, Inc. has released its unaudited consolidated financial results for the first half of 2026, delivering double-digit growth across key operational and financial metrics. Excluding the nonrecurring charge from the sale of Yantai International Container Terminal, the group's recurring net income attributable to equity holders increased by 25% to US\$604.69m. During this period, consolidated throughput rose 16% to 8.12m TEUs, driven primarily by contributions from newly added terminals such as the Durban Gateway Terminal in South Africa and the Batu Ampar Container Terminal in Indonesia, alongside stable performance across the existing portfolio. Total revenues from port operations grew 27% to US\$1.92bn compared to the same period in 2025. Earnings Before Interest, Taxes, Depreciation, and Amortization improved by 24% to US\$1.23bn, while diluted earnings per share increased by 23% to US\$0.289.

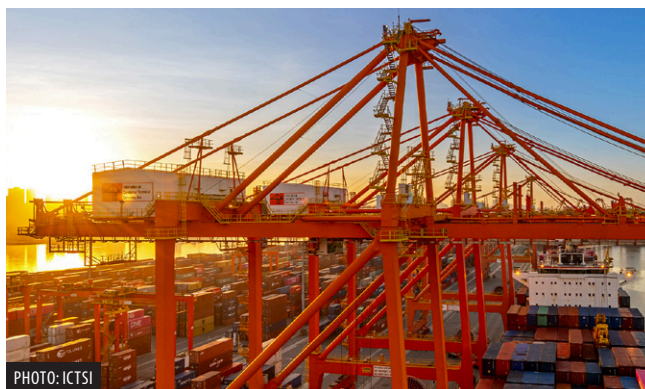


PHOTO: ICTSI

KALMAR AND APM TERMINALS ANNOUNCE STRATEGIC PARTNERSHIP

Kalmar and APM Terminals have established a strategic partnership to advance the development of next-generation terminal technology and ensure resilient, safe terminal operations. This collaboration brings together equipment and software capabilities with operational and technology expertise to shape future terminal automation through joint initiatives. The partnership focuses on two core areas: joint software development and deployment of the Kalmar One solution, alongside product roadmap alignment to deeply integrate APM Terminals' operational know-how into the automation system. A key component of this initiative is creating shared value through an Automation as a Service approach. APM Terminals currently deploys Kalmar One at its Pier 400 terminal in Los Angeles, California, which is the largest container port terminal in the Western Hemisphere. The collaboration aims to reduce complexity and enhance operational efficiency through a common platform across automated terminals, benefiting all current and future users of Kalmar One.



PHOTO: KALMAR

WUT TERMINAL UPGRADES PORT CAPACITY

HMM has announced that its U.S. subsidiary, Washington United Terminals Inc. (WUT) located at the Port of Tacoma in Washington state, has signed a contract with HD Hyundai Samho to acquire four new port cranes. The modernization project includes replacing two aging quay cranes and adding two new yard cranes to handle larger container vessels effectively. Under the turnkey agreement, HD Hyundai Samho will oversee design, manufacturing, transportation, installation, and commissioning, with delivery scheduled for completion by 2028. This infrastructure upgrade will expand WUT's annual cargo-handling capacity from 590,000 TEU to 880,000 TEU. This investment forms part of HMM's broader strategy, following previous port infrastructure initiatives such as developments in Vadhvan, India, and expansions at the TTIA terminal in Algeciras, Spain.



PHOTO: HMM

PORTONAVE ELECTRIC EQUIPMENT INVESTMENT

Portonave has purchased 30 electric terminal tractors from Terberg and five electric reach stackers from Kalmar as part of its energy transition and operational productivity strategy. This acquisition totals approximately r\$61m and forms part of the company's broader r\$2b investment plan. The equipment will be used to move containers in the terminal yard and will be delivered gradually, with all units expected to operate by January 2027. Compared with diesel-powered machinery, the new electric models significantly reduce greenhouse gas emissions, estimating a reduction of around 80% for the reach stacker fleet and 30% for the terminal tractor fleet. The company will operate 61 terminal tractors in total, including 31 electric units and 30 diesel-powered vehicles, alongside six electric reach stackers and one diesel machine. To support the new fleet, Portonave will build a charging station with nine chargers and provide specialized training for operations teams.



PHOTO: PORTONAVE

PILBARA PORTS HANDLES OVER 800M TONNES

Pilbara Ports has set a new annual trade record for the 2025-26 financial year, handling 804.1m tonnes of imports and exports across its facilities. This surpasses the previous 775.7m tonnes record set in 2024-25, marking the largest year-on-year increase since 2017-18 and generating an estimated \$150bn in export value. The Port of Port Hedland led the total throughput with 580.4m tonnes, followed by the Port of Dampier at 178.3m tonnes and the Port of Ashburton at 45.2m tonnes. Commodity breakdowns show total iron ore exports climbing to 759.4m tonnes, alongside 26m tonnes of LNG and 5.3m tonnes of salt. Additionally, the network facilitated 9,499 safe vessel visits during the annual period.

GENMA BROADENS GLOBAL HEAVY MACHINERY FOOTPRINT

GENMA has advanced its global heavy machinery footprint through major international equipment milestones spanning port electrification and heavy shipyard infrastructure. The company successfully completed the loading and shipment of its first batch of six zero-emission rubber-tired gantry cranes destined for a key infrastructure initiative in Turkey. Concurrently, the manufacturer finalized the delivery of high-capacity heavy lifting systems tailored for industrial shipyard operations. This delivery features two massive shipbuilding gantry cranes comprising one 1,800 t unit and one 400 t unit.



PHOTO: GENMA

TUAS PORT REACHES 25M TEUS AND EXPANDS OPERATIONS

PSA Singapore has reached a milestone by handling 25m TEUs at Tuas Port since operations commenced in September 2022, highlighting the continued ramp-up of the fully automated container terminal. Serving as a key pillar of the PSA Group's Node to Network strategy, the port connects Singapore's transshipment capabilities with a wider global ecosystem. Group CEO of PSA International Ong Kim Pong emphasized that the integrated port ecosystem streamlines terminal and logistics services to enable agile and confident cargo movement, while Regional CEO Southeast Asia Nelson Quek credited the achievement to the trust and collaboration of customers, partners, unions, and employees. The facility currently operates 14 operational berths and remains on track to reach 18 by 2027 as PSA advances sustainable and smart technologies to raise benchmarks across operational, service, and environmental standards.



PHOTO: PSA SINGAPORE

LIEBHERR CRANE DEPLOYED AT PATIMBAN TERMINAL

A Liebherr LHM 550 mobile harbour crane with up to 54 m outreach has been delivered to establish early container handling capabilities at Indonesia's Patimban Global Gateway Terminal (PGT). Operated by a consortium comprising Africa Global Logistics (MSC Group), Toyota Tsusho Corporation, and Samudera Group, the deep-sea facility near Jakarta is designed to relieve regional port congestion, strengthen logistics capacity, and support long-term trade ambitions. Delivered within a three-month timeframe, the container-focused crane bridges the

operational transition ahead of the progressive introduction of permanent quay and ship-to-shore equipment. Its mobility enables flexible workflows as berth layouts evolve, supporting both domestic container and general cargo markets. The machine's sturdy design is engineered to withstand demanding coastal environments near West Java's manufacturing corridor. The project is backed by a structured supply scope, including early operator familiarisation, on-site support during commissioning, and long-term service assurance. Patimban port's staged development



PHOTO: LIEBHERR

plan targets multi-million TEU capacity ranges, with phased equipment arrivals aligning operations through 2026 and beyond.

APM TERMINALS BAHRAIN Q2 2026 FINANCIAL RESULTS

APM Terminals Bahrain reported a significant decline in revenue and profit for the first half of 2026 compared to the previous year. This downturn is primarily attributed to the continued effective closure of the Strait of Hormouz, which has caused substantial disruptions to regional shipping activity. The company's three

business segments all faced reductions, with marine services revenue falling by 42.7%, container terminal revenue by 25.4%, and general cargo by 9.8%. Total profit for the period dropped by 71.7% year-over-year, despite some support from increased temporary general cargo handling related to shifting regional supply chains.



PHOTO: APM TERMINALS

VIMC LAUNCHES BIG DATA PLATFORM TO ENHANCE MARITIME OPERATIONS

Vietnam Maritime Corporation (VIMC) has officially launched a new Big Data system, marking a strategic shift toward data-driven governance. By transitioning from periodic reporting to real-time operations, the corporation aims to streamline decision-making across its port, shipping, and logistics divisions. This digital transformation project aligns with VIMC's technology development goals to boost competitive capacity. The initiative utilizes a Data Lakehouse architecture to integrate and standardize fragmented data from member enterprises, focusing on production,

finance, customer, and human resources. VIMC has also implemented an Intelligent Operations Center (IoC) featuring nearly 100 multi-dimensional dashboards. This infrastructure enables leadership to monitor performance, identify operational bottlenecks, and optimize resource allocation across the supply chain. Moving forward, VIMC plans to expand this platform by integrating external data sources and incorporating artificial intelligence and machine learning. These future applications will focus on forecasting market demand, optimizing fleet scheduling, and



PHOTO: VIMC

analyzing customer behavior. This transition aims to build an intelligent management ecosystem capable of proactive forecasting and enhanced efficiency.

ORLEN EXPANDS INFRASTRUCTURE AND REPORTS Q2 FINANCIAL GROWTH

ORLEN has opened a new Marine Transshipment Terminal on the Martwa Wisła River in Gdańsk, a key infrastructure project built largely by Polish companies. Designed to handle over 1.8m tonnes of cargo annually, the facility enables direct transshipment between the refinery and tankers, eliminating the need for intermediate transport. The terminal features a 380-metre quay with two berths, capable of accommodating vessels up to 10,000 dwt and facilitating the export of base oils and marine gas oil, alongside imports of vital biofuel components like FAME and ethanol. Simultaneously, the Group announced strong financial results for Q2 2026, generating PLN 76.5bn in revenue, PLN 13.9bn in lifo-based ebitda, and a net profit of PLN 7.7bn. International

markets served as a major performance driver, with foreign service stations contributing a record 43% of the segment's profits. This operational success supported a record capital expenditure of PLN 14.7bn in the first half of 2026, aimed at strengthening energy security and the group's transition strategy. The new Gdańsk terminal is expected to handle approximately 100 vessels and 0.5m tonnes of product in its first year, significantly reducing logistics costs and reliance on road and rail transport. It is projected to handle approximately 100 vessels and 0.5m tonnes of product within its first year of operation. The project, which cost nearly 500m PLN, is intended to increase the operational flexibility of the Gdańsk refinery and reduce dependence on external port facilities.

HUISMAN TO SUPPLY EQUIPMENT FOR OFFSHORE INSTALLATION VESSEL

Huisman has secured a contract from CIMC Raffles Offshore to deliver an integrated lifting and handling package for a new deepwater installation vessel, currently under construction for a joint venture between Solstad Offshore and SBM Offshore. This project marks Huisman's first collaboration with this partnership and reinforces its commitment to the Norwegian offshore market. The equipment package consists of a 350mt A-frame, a 500mt knuckle boom crane, a 20mt auxiliary crane, and a 2,500mt basket for the storage of flexibles, fibre ropes, and mooring chains. The 350mt A-frame is equipped with Huisman's patented active heave compensation technology, designed to ensure safe deployment of ropes from the vessel's main winch during complex offshore operations.



PHOTO: HUISMAN

Advertisement

BTJ's on issuu.

CLICK [HERE](#) TO START
FLIPPING THE PAGES





**THE ALL
INCLUSIVE
PORT**

Unlocking the power of a port

The role of ports is changing. And at the Port of Oxelösund, we aim to be first in line. Today, we talk about ports as transport nodes but also future energy nodes. It's a role that suits us well. We have a well-developed collaboration with many different industries regarding sustainable energy. One example is our contribution to the transition to Swedish fossil-free steel production. Our investment in a natural gas terminal in the port is a prerequisite for its success, but through that investment, we will also be able to deliver sustainable energy to both shipping and other industries.

The Port of Oxelösund is more than a port. We are a business partner who solves your logistical challenges and helps optimize your goods' journey, from start to finish. Our goal is to be the Baltic's leading port terminal, with Europe's best stevedoring services.

LIEBHERR OFFICIALLY OPENS DIGITAL SOLUTIONS CAMPUS IN HAMBURG DURING TOC EUROPE

by Caroline Kuhrt, Marketing Manager – Exhibitions & Events, Liebherr

- Liebherr presented its maritime technologies, digital solutions and services at TOC Europe in Hamburg, Germany.
- As a central platform for the global port and terminal community, TOC Europe provided the ideal context for Liebherr to position its portfolio within the industry's transition towards electrification and automation.
- The participation at TOC Europe was defined by the opening of a Digital Solutions Campus and the presentation of the new Parts Assistant App, accompanied by intensive customer dialogue and strong visitor engagement.

More than a product showcase, Liebherr's presence at TOC Europe centered on proven solutions and tangible customer value, combining digital, service and equipment expertise in a setting designed to encourage meaningful exchange.

Rostock (Germany), 22 May 2026 – A platform for shaping tomorrow's terminals. At TOC Europe, Liebherr presented a comprehensive maritime portfolio combining digital tools and its established maritime crane ranges. A central focus was the new Parts Assistant app, an AI-powered tool that helps identify the correct crane component quickly using photo, QR-code, part number or text search, and enables direct verification and ordering. The app was introduced through live demonstrations at the stand, giving visitors practical insight into how digital solutions can support day-to-day service processes.

These were complemented by life-cycle services including Liebherr Transform and Care Packs, as well as the company's range of mobile harbour cranes, ship-to-shore container cranes (STS) and rubber tyre gantry cranes (RTG). Additional engagement was created through the LiSIM move simulator, a mobile, high-precision crane simulator for flexible, sustainable training anywhere. A preview of the new Liebherr distance alerting feature added

a forward-looking perspective on safety and assistance systems for mobile harbour crane operation.

Beyond the exhibition hall, Liebherr also offered a dedicated bus tour to the HHLA container terminal in Hamburg, where participants were given the opportunity to experience the company's automated dual trolley ship-to-shore container cranes in operation, as well as a visit to the LiSIM ROS, a crane simulator designed specifically for Remote Operator Station (ROS) of Liebherr ship-to-shore container cranes. This provided direct insights into real-world application scenarios and enabled more detailed, practice-oriented discussions with customers and partners. In addition, selected customers were invited to visit the Liebherr production facility in Rostock, offering insights into manufacturing and engineering.

Across discussions with customers, operators and partners, conversations focused on electrification, operational efficiency and the increasing importance of integrating digital tools into everyday terminal processes.

A new booth concept and the debut of the Digital Solutions Campus as key highlights

At stand C40 in Hall B6, Liebherr Maritime Cranes presented its largest exhibition presence of recent years. The new booth concept featured two central interaction zones: a dedicated customer service and a sales island. This structure enabled visitors to engage directly with the relevant experts depending on their needs, creating a clear and intuitive flow between service-related discussions and commercial topics.

A central highlight was the Liebherr Hamburg Open House evening event, marking the official opening of the new Digital Solutions Campus in the presence of Executive Board Member and a Member of the administrative board of the Liebherr Group, Mrs. Patricia Rüb. The campus is designed as a central training environment for crane drivers and port operators, underlining Liebherr's commitment to supporting customers with technology as well as operational expertise and skills development. During the event, the training



A VISITOR IS TESTING THE LISIM MOVE AT THE LIEBHERR BOOTH, PHOTOS: LIEBHERR



THE PARTS ASSISTANT APP IN ACTION AT TOC EUROPE



CUSTOMERS VISITED THE LIEBHERR SITE IN HAMBURG TO MARK THE OPENING OF THE DIGITAL SOLUTIONS CAMPUS



THE LIEBHERR STAND AT TOC EUROPE IN HAMBURG OFFERED VISITORS A UNIQUE EXPERIENCE

capabilities of the Liebherr Rostock facility were also presented, offering insights into how practical training and digital solutions are combined within the company's overall approach.

About Liebherr-Rostock GmbH

Liebherr-Rostock GmbH is one of the leading European manufacturers of maritime handling solutions. The product range includes ship, mobile harbour and offshore cranes. Components for

container cranes are also included in the product portfolio.

About the Liebherr Group

The Liebherr Group is a family-run technology company with a highly diversified product programme. The company is one of the largest construction equipment manufacturers in the world. It also provides high-quality, user-oriented products and services in a wide range of other areas. The Liebherr

Group includes over 150 companies across all continents. In 2025, it employed more than 55,000 staff and achieved combined revenues of over 14 billion euros. Liebherr was founded by Hans Liebherr in 1949 in the southern German town of Kirchdorf an der Iller. Since then, the employees have been pursuing the goal of achieving continuous technological innovation, and bringing industry-leading solutions to its customers. ■



JAKUB KROSNICKI
Sales Department Eastern Europe
FORKLIFTCENTER

■ How do you like this year's edition of TOC Europe?

It was interesting event even though there were not many visitors compared to previous editions. The last day was quite empty. The reason could be to small scale of event and lack of broad deeper marketing. Also Hamburg has limited flights connections, that's why flights from many countries to Hamburg are more expensive than to other big cities in Germany.

■ How, from your perspective, does the current situation on the market look?

Market faces problems caused by multiple factors. War in Ukraine, destabilization of situation in Iran and and Hormuz straits, Red sea freight threats. Economical wars. impact is visible. Inflation is growing. Liquidity problems. Investment obstructions. Uncertainty and cashflow problems play crucial role on investments and contracts.

■ What new solution/product you presented to your customers?

As Forkliftcenter – new and used machinery seller for terminals, we presented more electric machinery: terminal tractors, Reachstackers, Empty stackers. ■



PHOTOS: INFORMA/TOC EUROPE





■ How do you like this year's edition of TOC Europe?

Overall it was very positive for TRATOS. Our booth was busy and we fulfilled the expectancy when it comes to number of visitors, but most importantly we had decision makers from large global Port Operators showing interest on our products. There was a lot of interest to check how the change of venue and dates were going to affect the event, but we didn't feel major changes.

■ How, from your perspective, does the current situation on the market look?

The market keeps moving, ports do not stop, neither do the investors and key industry stakeholders. Of course, the geopolitical situation may affect the traffic and maritime routes at the present, and generates uncertainty; but we are by now used to manage uncertainty and disruption. At TRATOS we are satisfied on how our brand is currently performing on these sector, and we believe investment will continue to take place.

■ What new solution/product you presented to your customers?

This year is TRATOS 60th anniversary. That was the main topic in our booth these year, a retrospective of 6 decades of innovation on the cable making and a history of cooperation with our major clients, including Ports and major OEM, all the way to become a brand of reference on reeling cables for Port electrification and automation. Of course, we continue to innovate on new cable types, with improved materials and resistance and reduced diameters for high speed reeling applications of shore power, just to mention few. ■





■ **How do you like this year's edition of TOC Europe?**

This was my 20th TOC Europe, and I seem to enjoy the event more each year. Hamburg was busy, the halls were full, and there was a lot of energy throughout the event. What stood out most to me was the quality of the conversations. The industry is focused on delivering major projects right now, and there is a real sense of momentum. The ports and terminals industry is a great space to be part of right now.

■ **How, from your perspective, does the current situation on the market look?**

The market is dealing with a mix of uncertainty and pressure, but I came away from TOC feeling optimistic. There seems to be a general acceptance that the world is a challenging place and that won't change anytime soon, so we might as well get on with our projects. The appetite for digitalization is stronger than I've ever seen. A few years ago, many discussions were about pilot projects and testing new ideas. Today, operators are talking about implementing, integrating, and scaling. The conversation has shifted from "Should we do this?" to "How quickly can we make this work across the terminal?" That's a significant change.

■ **What new solution/product you presented to your customers?**

At our stand, we demonstrated Visy AREA using a scale model of a container terminal. AREA gives terminals real-time visibility of trucks and trailers as they move through the yard and updates the TOS with accurate location information. We also showcased the Visy Wharf Application Suite, a set of applications that improve quayside productivity. The common theme behind both solutions is simple: automatically provide accurate operational data in real time so people can make better decisions and terminals can maximize productivity. ■

VISOY

KNOW YOUR TERMINAL WITH AI VISION TECH

Track, Trace & Locate Systems to Enhance Terminal Performance

John Lund
Sales & Marketing Director

TOC EUROPE Stand **VISOY C-74**
Hamburg, Germany
19 May 2026

Expand
Your vision

SMART GATE AND TERMINAL AUTOMATION SOLUTIONS



FREDRIK RÖNNQVIST

Material Handling Segment Manager

FOGMAKER

■ **How do you like this year's edition of TOC Europe?**

We had many visitors, partners and customers, new and old. For us, the exhibition was a great success and the new location in Hamburg worked very well.

■ **How, from your perspective, does the current situation on the market look?**

The Market is getting tougher and there are more low-cost solutions (where the quality corresponds with the price) entering the market. We do our best to navigate this landscape, and our quality, dependability, and outstanding global network for service and support make Fogmaker the obvious choice for the customers.

■ **What new solution/product you presented to your customers?**

We continue to highlight our section valve as well as a holistic approach to port equipment, and we presented our increased presence in Americas with the establishment of Fogmaker USA Inc. ■





ANDREAS NAESLUND

Business Line Manager for Material Handling
DAFO VEHICLE

■ **How do you like this year's edition of TOC Europe?**

Very productive show and Hamburg was a good choice for venue. Better than Rotterdam for sure. As with last year, which was my first year at TOC, the visitors and exhibitors were quite relevant for our business. We will be back next year!

■ **How, from your perspective, does the current situation on the market look?**

We are seeing increased interest, particularly in electrification.

■ **What new solution/product you presented to your customers?**

We focused on our modular approach to mitigating and suppressing fires on electrical vehicles. ■



STEPHAN PIWORUS

Co-Founder and CEO
ZENZE

■ **How do you like this year's edition of TOC Europe?**

TOC Europe 2026 was an excellent event. The move to Hamburg gave the conference fresh energy and created a very positive atmosphere. It was great to see strong participation from across the industry and, in particular, many innovative startups bringing new ideas and promising solutions to the market.

■ **How, from your perspective, does the current situation on the market look?**

Despite ongoing challenges, the market remains dynamic. We see strong interest in digitalization, automation, electrification and energy solutions as terminals continue to modernize and improve sustainability. At the same time, ports are increasingly being recognized as strategic assets, putting greater emphasis on resilience, security and critical infrastructure.

■ **What new solution/product you presented to your customers?**

At Zenze, we presented our CVN eSeal solution for real time container integrity monitoring and automated breach detection. As ports are increasingly recognized as strategic assets, we see growing interest not only from terminal operators, but also from port authorities, customs agencies and governments, all placing greater emphasis on security, transparency and resilient supply chains. Technologies that provide proof rather than assumptions are becoming increasingly important. ■





RICKY HIRANI

*Global Commercial Product Leader,
Big Trucks & Port Equipment
HYSTER*

■ **How do you like this year's edition of TOC Europe?**

For us, it was a strong and positive edition. Bringing TOC back to Hamburg for the first time in many years created a fresh dynamic, with a great mix of familiar faces and new contacts, and a strong presence of key players from across the industry.

Visitors to the Hyster stand had opportunities to explore a range of internal combustion engine and electric solutions designed to enhance port and terminal operations, giving the Hyster team a platform for meaningful

conversations. Overall, it was a valuable chance to connect, exchange ideas, and explore opportunities.

■ **How, from your perspective, does the current situation on the market look?**

The market is always changing, and that is nothing new. Manufacturers are always operating against a backdrop of constant change.

Our manufacturing footprint, sourcing strategy, and compliance processes are designed to support resilience, delivering the solutions our customers need without compromising delivery, quality, or customer support.

What's more interesting, and what we're seeing strongly at events like TOC Europe, is how this uncertain environment is reinforcing customer demand for reliable, efficient, and lower cost to operate equipment. That's really where investments in areas like fleet optimisation, energy efficiency, and power solutions come into play.

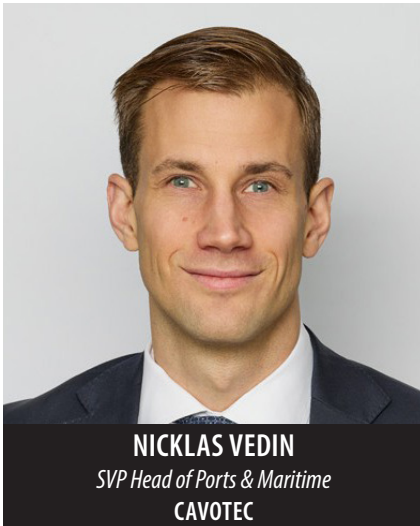
No two operations are the same, and that's why our approach is to provide configurability and performance to meet ports and terminals where they are, with solutions that work on their terms. We have the breadth of equipment and commercialised power technologies to put ports and terminals in control of how they equip their fleet to meet business requirements.

■ **What new solution/product you presented to your customers?**

At TOC Europe this year, Hyster highlighted high-capacity solutions that deliver uncompromised performance, with configurability to match operational requirements. Hyster focused on how to help guide port and terminal operations through configuring the best-fit forklift and container handling solutions to meet their operational requirements, regardless of power source, and shared the latest insights on lithium-ion battery power, hydrogen fuel cells, diesel and other alternative power solutions like HVO100 fuel.

A key highlight was the Hyster® J16XD12 integrated lithium-ion high-capacity forklift. This electric truck exemplifies the performance and flexibility Hyster offers to match operational requirements, with performance comparable to an ICE alternative and scalable battery options to match duty cycle and charging requirements. As standard, all Hyster electric big trucks incorporate the Combined Charging System (CCS), a global electric vehicle charging standard that enables port and terminal operations to cost-effectively scale charging for multiple applications and equipment through a single, standardised charging connector used across numerous industries and geographies. ■





■ **How do you like this year's edition of TOC Europe?**

The event was once again a valuable opportunity to meet customers, partners, and industry colleagues from around the world and discuss the future of port operations. We saw strong interest in our electrification and automation solutions, and had many productive conversations that will help shape how we continue to support our customers.

■ **How, from your perspective, does the current situation on the market look?**

Despite the uncertain geopolitical environment, we have seen a strong start to the year. The cautious, wait-and-see approach that we saw much of last year has largely been replaced by real project activity, and we have recorded solid order intake across our portfolio. The European shore power market remains very active, while interesting opportunities are also emerging in other parts of the world. We are seeing increased momentum in crane procurement, with strong engagement from end users globally, as well as continued interest in technologies such as our automated mooring solution, MoorMaster, which secured a major order earlier this year. Overall, there is a clear sense that the market is moving from planning to implementation, with electrification and automation becoming business priorities. We are excited to continue these conversations with our customers and help bring their projects to life.

■ **What new solution/product you presented to your customers?**

At TOC Europe 2026, we introduced PowerAccESS, Cavotec's new modular and mobile battery Energy Storage System (ESS) designed to support the electrification of port crane operations. The system helps terminals reduce emissions while maintaining operational flexibility and efficiency. We also discussed our established solutions for shore power, crane electrification, and automated mooring with visitors throughout the event. ■



■ **How do you like this year's edition of TOC Europe?**

Having TOC Europe in Hamburg this year was a real highlight for us. It brought the international container terminal community to Germany and to one of Europe's most important ports. As a German software provider serving both the domestic and the international market, it was good to welcome the industry to our part of the world.

■ **How, from your perspective, does the current situation on the market look?**

For us, the current situation is above all about resilience. I don't need to remind anyone of the geopolitical headlines. These moments are uncomfortable, but a little less so when you've prepared for them. The real question is how you build a system that works with uncertainty rather than against it. Forecasting is a large part of that: machine learning lets you see what's coming before it arrives. And we're moving steadily towards agentic AI, where the system optimizes itself, flags bottlenecks before they form, and proposes moves you might never have arrived at on your own. The aim isn't to predict the weather perfectly, it's to make sure the ship reaches port whichever way the wind blows.

■ **What new solution/product you presented to your customers?**

We've recently started to offer Process Mining projects, which work like an X-ray: We turn the event logs already sitting in your existing systems into a true picture of how every case really moves through the process, making deviations and bottlenecks measurable rather than anecdotal. Another success we celebrated shortly after TOC was the go-live of our Integrated Terminal Scheduler (ITS) at the PSA Antwerp Europa Terminal – a real milestone for the team and for the solution. ■



TECK SENG, CHEW

Product Manager

Port Operations Global Product Segment Steering
CONTINENTAL

■ How do you like this year's edition of TOC Europe?

Continental attended TOC Europe for the 13th time, reaffirming its importance as a key networking platform for the port industry. Following the move from Rotterdam to Hamburg, visitor origins shifted slightly, with a stronger presence from Nordic countries and fewer participants from the Middle East, likely reflecting regional conditions rather than the new location.

■ How, from your perspective, does the current situation on the market look?

The market environment remains volatile, influenced by developments in the Middle East, while accelerating trends such as electrification and digitalization. Terminal operators increasingly favor intelligent tire solutions like ContiConnect Yard, which enables automated data collection via Yard Reader infrastructure in closed environments such as container yards. ContiConnect Live is used for real-time monitoring in more complex operations where uptime is critical, while ContiConnect Lite offers a simple, cost-effective option for smaller fleets. Emerging markets are also rapidly adopting digital technologies.

■ What new solution/product you presented to your customers?

Continental showcased the new DockMaster Radial, launching this year in size 18.00R25. Designed for AGVs, reach stackers, and heavy forklifts, it features a wear-resistant tread compound and slick design for long service life under harsh abrasive conditions. The radial construction ensures cool running over long distances. In addition, Continental presented its comprehensive digital portfolio to enhance efficiency in port operations. ■





JENS PETERSSON
Head of Sales and Marketing
ELME SPREADER AB

■ How do you like this year's edition of TOC Europe?

Very satisfying – we had a great number of visitors and customers showing interest in our new product line, Pioneer. We also had the opportunity to catch up with our customer base to discuss future business and revisit some old memories. Coming back to Hamburg was a pleasure, and we are already looking forward to next year's event.

■ How, from your perspective, does the current situation on the market look?

The year started well and so far we are satisfied with our sales performance. The ongoing conflict in the Middle East is naturally not beneficial for business, and the market is currently a bit hesitating as a result.

■ What new solution/product you presented to your customers?

We presented our new product line, Pioneer – a spreader designed for customers with special demands regarding container size or weight. The spreader is available in several configurations to meet different operational needs, including 55-tonne capacity for 20–40 ft containers, a 45-tonne durability configuration, and a 45 ft lift position with 45-tonne capacity. Pioneer addresses a clear gap in the market and has already generated strong interest among customers. ■





■ **How do you like this year's edition of TOC Europe?**

For us this was one of the strongest editions, credits to the organizers for the great work as well. What stood out was the tone of the conversations at our stand. As you know, we help terminals to handle trucks more efficiently, by connecting drivers with the operators through our app, and conversations evolved from "what does it do" to "show us the numbers and who already runs it".

■ **How, from your perspective, does the current situation on the market look?**

The market has stopped asking whether, and started asking how. Issues like truck congestion, limited yard visibility and manual gate processes are not new, but the tolerance for them and expensive hardware investments has run out. Add the driver shortage, tighter compliance expectations around ISPS identity and GDPR, and terminals no longer treat digitization as optional. A few years ago terminals wanted to be first with a new solution, but now they want to find the right solution for them.

■ **What new solution/product you presented to your customers?**

CONROO presented to terminals the fully connected journey of truck drivers rather than a single feature, because that is where the value compounds. With no new hardware and no capex, the driver's smartphone becomes an intelligent sensor from pre-arrival to exit. Before the gate, Pre Connect predicts arrivals. At the gate, Gate Pass and Gate Connect check in the driver and open the barrier. On the yard, Yard Connect tracks the truck to the exit. The result is up to 43 percent faster processing and minimizing yard reshuffles. ■

Advertisement



170+ operators
620+ ports
1,130+ services
1,150+ terminals

EUROPE:
all over the ro-ro & ferry, container, and rail maps

www.europeantransportmaps.com



BALTIC GREEN MAP 2025



Overview of products, infrastructure, services, and many more greenstuff in one place - on your wall, computer, or phone! Plus the digital **BALTIC GREEN MAP CATALOGUE** with plenty of wholesome details!

BRAVING THE SUMMER HEAT

by Andrzej Urbaś

The air in Hamburg on June 26, 2026, was thick with the sweltering, intense heat of a midsummer day. As delegates arrived, the scorching temperatures set a fitting backdrop for a day dedicated to tackling one of the shipping industry's "hottest" and most urgent challenges: the global transition to shore-side electrification.

A central reference in the context of security for port operators is the International Ship and Port Facility Security (ISPS) Code, a supplement to the Safety of Life at Sea Convention. It sets minimum security arrangements for ships, ports and governmental agencies.

Gathering in Hamburg for the Port Gear OPS Seminar and Study Visit, participants braved the summer heat to explore how major European ports are navigating the regulatory, financial, and technical hurdles of maritime decarbonization. Rather than merely discussing abstract policy, the seminar was structured to ground these complex debates in concrete realities, transitioning from a morning of rigorous strategic discussion into a hands-on look at operational infrastructure.

Lessons learned

The day's agenda kicked off with a deep dive into the operational mechanics of the seminar's host – the Port of Hamburg's – pioneering OPS infrastructure. Hanno Bromeis (HPA) offered a detailed and technical deep dive into the sheer engineering scale required to silence a large vessel's auxiliary diesel engines while at berth, highlighting numerous lessons learned while tackling this ambitious challenge. The presentation was underscored by a follow-up by a dynamic duo comprising Tarik Rürup (igus) and René Wulff (Powercon), switching the point of view from the user to the provider of OPS solutions. It was the

perfect background for the boat trip awaiting the participants at the end of the event.

With the fundamentals established, it was time to move on to the real meat of the onshore part of the seminar. The core debates of the seminar took place during an extensive panel discussion featuring representatives from Spanish, French, and German port authorities, alongside the aforementioned tech suppliers. The discussion illuminated the regulatory, financial, and electrical hurdles that ports must overcome in the next 5 to 10 years.

Someone has to pay

A primary point of consensus among the panelists was the absolute necessity of keeping the European Union's 2030 regulatory deadlines. Temptation to water down or delay the upcoming regulations should be avoided. Without a guaranteed, unchanging compliance timeline, the business case for multi-million-euro infrastructure investments completely collapses, rendering funding impossible to secure.

One of the most complex questions related to topics linked to big investments is, not surprisingly, one having to do with finances. As an example, Valenciaport initially leveraged strong public funding, applying to generation funds and the Connecting Europe Facility (CEF) program (which covers 30% of the works and studies) to finance its first pilot projects entirely under the port authority's control. Now that the technical knowledge is established, the Spanish state is

promoting private investment. In the next phase, terminal operators are expected to invest in shore power, incentivized by public funds, and attractive extensions on their terminal concessions.

There is, however, a risk of missing what can be seen as a major "blind spot" in the European legal framework. While the regulations dictate *what* must be done, they are silent on who is responsible for building and funding the infrastructure. This has sparked a multi-month governance struggle in France, Belgium, and the Netherlands over shifting the capital costs from port authorities to private terminal operators. To make OPS economically viable, France is considering a targeted model that prioritizes high-traffic terminals where the infrastructure can be utilized to its maximum potential.

Grid congestion and priority access

Plugging in massive ships requires massive electricity, raising immediate concerns about overloading local power grids. The discussion revealed starkly different national strategies to handle grid capacity.

Under Spain's Sustainable Mobility Law (passed in December), port authorities have been granted statutory priority over heavy industries and data centers when applying for grid connection points at national substations. While local grid congestion remains a technical challenge, this law ensures Spanish ports are at the front of the queue. Germany opted for a pragmatic compromise. There ports

do not enjoy grid prioritization; instead, they operate as the last in the food chain. In Hamburg, the port authority bypassed years of grid negotiation by accepting non-N-1 security. This means that if the local grid faces an unexpected outage or severe congestion, the port's shore power is immediately dropped off to protect critical municipal infrastructure. Because ships always have onboard auxiliary diesels as backup, the port deemed this an acceptable operational risk to secure immediate connection. Hamburg also routinely taps into the unused "reserve capacities" of neighboring industrial players to power its berths. Lacking both Spain's statutory prioritization and Germany's flexible risk-sharing, France faces severe delays, as national operators struggle with the long timelines required to physically extend the high-voltage grid.

Hoist the colours

With the shoreside portion of the seminar concluded, it was time for the boat trip. Stepping out of the conference hall and challenging the intense afternoon summer temperatures, delegates embarked on an exclusive participant boat trip along the busy waterways of the Port of Hamburg. This waterside study tour served as the perfect conclusion to the event, offering participants a fantastic up-close view of the deployed OPS installations in action. Gliding past towering container giants and multi-deck cruise ships, the group witnessed the physical connection systems supplied by engineering leaders igus and Powercon, all the while enjoying detailed commentary by their representatives, as well as the team members of the seminar's host.

The Hamburg event proved that while the maritime energy transition is fraught with local grid constraints, complex governance issues, and funding puzzles, standard technology solutions exist and are ready. As emphasized by the panelists in their closing remarks, the ultimate path forward relies on knowledge sharing and collective industry collaboration, as well as listening to your supplier of choice, not just the consultants. Decarbonization cannot be treated as a competitive advantage. By learning from pioneering frontrunners like Hamburg and Valencia, and collaborating across national borders, the global maritime industry can confidently navigate toward an electrified, zero-emission future at berth. ■



PHOTO: PORT OF HAMBURG



PHOTOS: PORT GEAR



THE MODERN LAOCOÖN: UNTANGLING THE TECHNICAL, REGULATORY, AND SEGMENTED KNOT OF SHORE POWER

by Andrzej Urbaś

Drawing on the empirical findings, activity-based modeling, and financial life-cycle simulations presented in the DNV whitepaper, Shore Power in Shipping: Technology, regulation and implementation, this article analyzes the current state and future trajectory of Onshore Power Supply (OPS).

In classical Hellenistic sculpture, *Laocoön* and His Sons are captured in a perpetual, agonizing struggle, their muscular forms hopelessly bound by the crushing, undulating coils of giant sea serpents. Today, the global maritime industry, a modern commercial Leviathan, finds itself locked in a similar wrestling match. The constricting forces are not mythological beasts, but a matrix of tightening regional decarbonization regulations, rigid municipal grid constraints, and a persistent "chicken-and-egg" dilemma. Ports hesitate to deploy capital for shore-side infrastructure without guaranteed vessel demand, while shipowners delay costly retrofits in the absence of a reliable, globally accessible shore-side network.

An entangled bundle of hurdles

This systemic tension converges on Onshore Power Supply (OPS), historically designated as "cold ironing," a term dating back to the steamship era when coal-fired vessels extinguished their boilers at berth, allowing the heavy cast iron

of their propulsion machinery to go cold. In modern logistics, OPS represents a critical mechanism for environmental mitigation. By drawing electrical energy directly from the local land-side grid, ships are able to completely shut down their auxiliary diesel engines while moored, effectively eliminating localized emissions of sulfur oxides, nitrogen oxides, particulate matter, and greenhouse gases.

At the high-capacity end of commercial shipping, the electrical requirements of large vessels necessitate high-voltage shore connections (HVSC) operating at 6.6 kV or 11 kV. Managing these high-power loads requires highly coordinated, capital-intensive technical systems on both sides of the quay. On the shore side, the infrastructure comprises high-voltage grid connections, step-down transformers, galvanic isolation, frequency converters (essential for matching 50 Hz land-side grids to 60 Hz shipboard distribution systems), and specialized cable management systems (CMS). These CMS installations rely on motorized reels, hoists, or

articulating boom arms to safely deploy and manage heavy cables, compensating for tidal changes and vessel draft shifts during cargo operations.

On the ship side, the vessel must be equipped with dedicated connection sockets, onboard transformers to align grid voltage with shipboard distribution networks, safety-critical circuit breakers, and load-transfer control systems. To prevent catastrophic equipment mismatch and ensure safe operational interfaces across international jurisdictions, these systems are governed strictly by the IEC/IEEE 80005 standard series. IEC/IEEE 80005-1 establishes the global technical architecture and safety protocols for high-voltage connections, while IEC/IEEE 80005-3 standardizes low-voltage shore connections (LVSC) typically up to 1 kV for smaller tonnage classes.

The global landscape

Despite the technological maturity of shore-side electrification, the global distribution of active systems reveals a starkly



LAOCOON, PHOTO: WIKIPEDIA

A perfect storm of regulations and costs

The metaphorical sea serpents constricting the shipping lanes are now taking the form of rigid, overlapping regional compliance frameworks. Across the globe, major maritime jurisdictions are tightening their regulatory grip, turning shore-side electrification from an environmental aspiration into a baseline license to operate.

At the vanguard of this movement is the European Union's double-pronged policy mechanism. Beginning January 1, 2030, the FuelEU Maritime regulation mandates that all containerships and passenger vessels (including cruise ships and RoPax) exceeding 5,000 GT must connect to onshore power supply (OPS) when moored for more than two hours in Trans-European Transport Network (TEN-T) ports. By 2035, this obligation extends to any European port where compatible shore power is available. The financial penalty for non-compliance is severe: EUR 1.50 per kilowatt-hour (kWh) of non-compliant energy consumed. Operating in tandem with these mandates, the EU Emissions Trading System (EU ETS) imposes direct carbon costs on tank-to-wake emissions generated at berth. Because the EU ETS treats shore power as a zero-emission source, plugging in directly shields ship operators from the volatility of the carbon allowance market.

Outside Europe, the legislative pressure is equally acute. In the United States, the California Air Resources Board (CARB) enforces its stringent At-Berth Regulation. Having mandated compliance for containerships, refrigerated cargo vessels, and cruise ships, CARB expanded its scope in 2025 to include roll-on/roll-off (RoRo) ships and tankers berthing at the Ports of Los Angeles and Long Beach, with all regulated California terminals applying these requirements to tankers by 2027. Meanwhile, China's Ministry of Transport updated its Administrative Measures for Port and Ship Shore Power on May 13, 2025. These measures dictate that technically capable ships must utilize shore power if berthing for more than two hours in river ports or three hours in coastal ports. Under China's Marine Environmental Protection Law (MEPL) and the Yangtze River Protection Law, failure to comply triggers steep fines, ranging from CNY 10,000 to CNY 100,000, and escalating up to CNY 500,000 under serious circumstances.

fragmented and unequal landscape. Data from the DNV whitepaper highlights a profound gap between legislative ambition and maritime reality: only about 4% of the global fleet (representing 4,136 of 116,000 vessels) is currently equipped with higher-voltage shore power connections. On the land side, the deficit is equally pronounced, with only approximately 3% of ports (out of 3,400 ports frequented by vessels above 5,000 GT) providing high-voltage shore power availability.

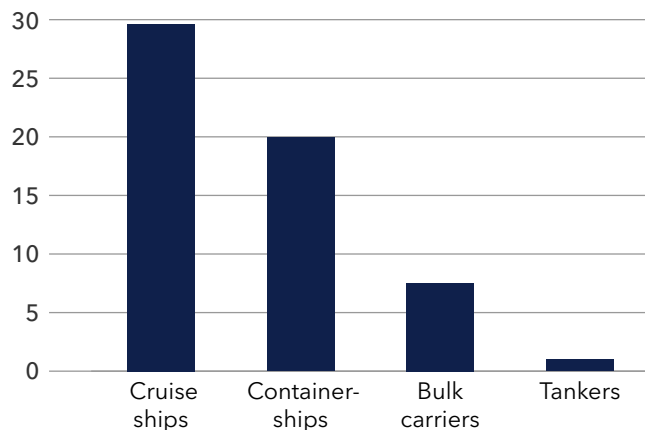
This sparse global average masks a severe structural asymmetry across different shipping segments. The uptake of shore power is concentrated almost exclusively in the cruise and container sectors. Led by predictable, highly repetitive port rotation patterns and substantial baseline electrical requirements at berth, the cruise segment leads with 29% of its global fleet (188 out of 639 ships) registered with high-voltage shore connections. The container segment follows, with 20% of its active fleet (1,419 out of 7,095 ships) equipped to receive onshore

power. This rapid container-side adoption is further accelerated by stringent regional compliance frameworks, such as the EU's Alternative Fuels Infrastructure Regulation (AFIR) and FuelEU Maritime, which mandate shore power connectivity for passenger and containerships above 5,000 GT starting in 2030.

Conversely, the bulk carrier and tanker segments exhibit extreme inertia. Dry bulk fleets record a minor 7% shore power connection rate, while the global tanker fleet languishes at a negligible 1%. Tankers present a particularly acute set of operational and physical barriers. The presence of flammable cargo requires complex explosion-proof connection architectures and strict safety zoning guidelines. Furthermore, the tanker segment is severely hindered by a historic lack of standardization regarding the onboard location of the shore power interface (aft versus midship), compounding terminal integration uncertainties and stifling standard capital investment on both the vessel and the terminal side.

Share of ships per segment¹⁵ registered with shore power connection per April 2026

Units: Share of ships (%)



©DNV 2026

Source: Clarksons Research (2026b)

Segment-specific friction

From the high-altitude viewpoint of global shipping, the theoretical benefits of shore power are compelling. Activity-based modeling utilizing DNV's MASTER model indicates that approximately 5.6% of the world fleet's fuel consumption (for vessels above 5,000 GT) occurs while moored at berth. By shutting down auxiliary engines and substituting land-side grid electricity, the shipping industry has the potential to achieve a 3.5% reduction in total annual fuel-oil demand. This translates to a global savings of 9.24 million tonnes of oil equivalent (Mtoe) of fuel and a direct reduction

of 29 million tonnes of carbon dioxide emissions per year.

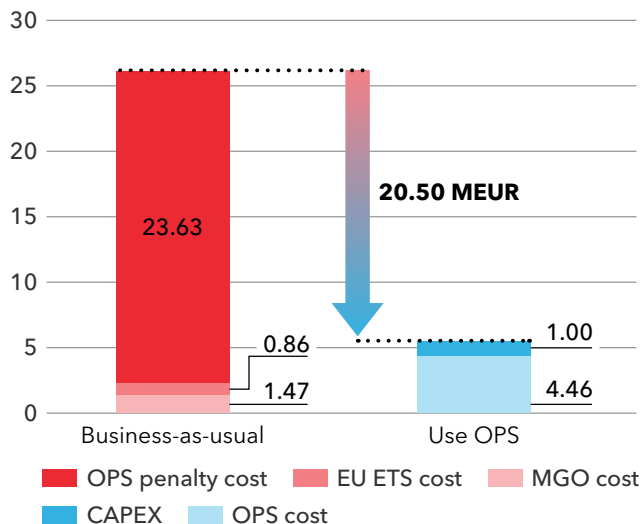
However, translating this global reduction potential into actual operational reality reveals deep friction across different vessel classes. Cruise ships operate with high, constant hotel loads at berth, causing them to expend roughly 9% of their total fuel consumption on engines while moored. This extreme concentration of energy use, paired with highly predictable route profiles,

has naturally positioned the cruise and container sectors as early adopters.

A major technical barrier across all cargo segments is the distinction between electrical power and thermal energy. While auxiliary engines are shut down, ships often continue to run oil-fired boilers at berth to generate high-temperature steam and hot water for domestic heating, cargo tank cleaning, and operating cargo pumps. Although boilers are highly thermally efficient, they are incredibly difficult

Costs 2026-2040 from shore power cost modelling for a containership

Units: Total expenses (MEUR)

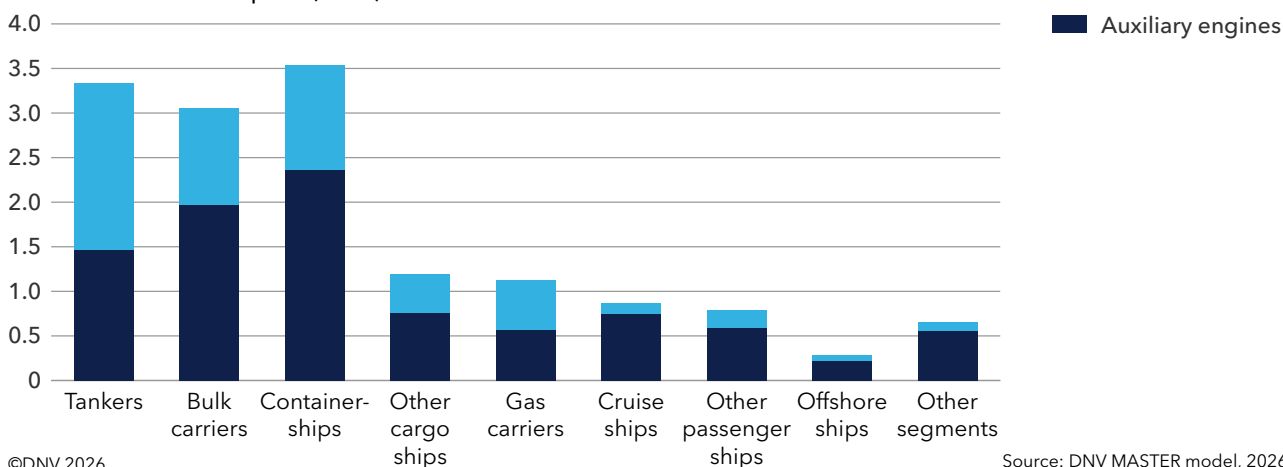


©DNV 2026

Key: capital expenditure (CAPEX); marine gas oil (MGO); onshore power supply (OPS)

Modelled world fleet fuel consumption in 2025 occurring at berth, by ship segment, split between auxiliary engines and boilers¹⁶

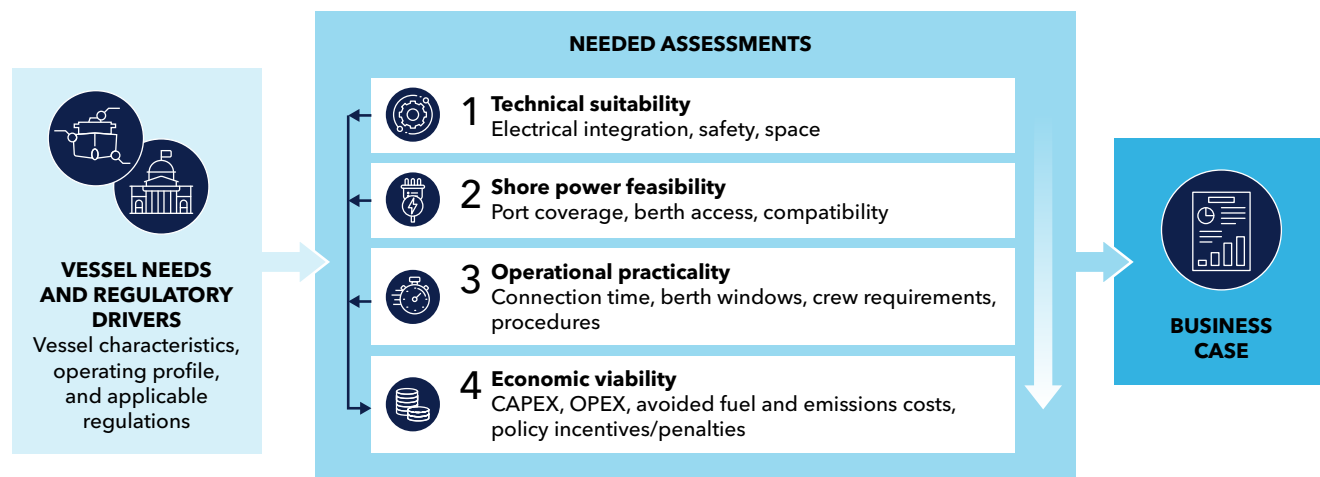
Units: Port fuel consumption (Mtoe)



©DNV 2026

Source: DNV MASTER model, 2026

Business case development framework for shipowners considering shore power installation



©DNV 2026

to replace with standard electrical shore connections and can account for up to 40% of port-related fuel consumption.

This thermodynamic constraint is most visible in the dry bulk and tanker segments, which collectively languish at a minor 7% and 1% shore power connection rate, respectively. Tankers, in particular, represent the industry's most challenging technical frontier due to their highly volatile cargo profiles. Electrifying a tanker requires navigating several distinct hurdles, such as hazardous safety zones, the lack of onboard standardization, as well as the limitations related to the physical reach of the cable management systems.

While industry bodies like the Oil Companies International Marine Forum (OCIMF) have issued recommendations for tankers and terminals, and DNV updated its mandatory class notations in 2023 to specify safe midship connection requirements, the tanker segment's onboard connection location remains unregulated. This regulatory vacuum perpetuates investment uncertainties, stalling standard shore-side and vessel CAPEX allocation.

A framework for action

To prevent shipowners from becoming permanently bound by the regulatory and financial coils now tightening around the industry, a systematic, project-specific diagnosis is required. Because shore power is not a uniform, "one-size-fits-all" solution, its viability depends heavily on case-by-case assessments at the ship or fleet level, accounting for highly localized trading patterns, tariff structures, and vessel

designs. To guide shipowners through this diagnostic process, DNV outlines a structured four-step business case development framework comprising of technical stability, shore power feasibility, operational practicality, and economic viability.

Underpinning this entire framework is the industry's historic "chicken-and-egg" dilemma. Ports hesitate to commit massive capital to build grid connections without a guaranteed stream of shore-power-ready vessels, while shipowners delay retrofits in the absence of a reliable, cost-competitive network. Overcoming this structural inertia requires active value-chain coordination. Risk-mitigating mechanisms – such as public co-funding, long-term usage agreements to guarantee base demand, aligned and predictable tariff structures, and flexible third-party service models – are essential to distribute financial risk and make the economic transition viable for all stakeholders.

Untangling the knot

Returning to the agonizing composition of the Laocoön, the maritime industry's struggle against emissions and tightening regional mandates can easily be viewed as a battle against an inescapable, constricting force. Yet, as the DNV whitepaper demonstrates, the serpentine coils of regulatory penalties, infrastructure bottlenecks, and capital risks are not unbreakable. Rather than a tragedy of physical entrapment, the onshore power supply transition is yielding to systematic, technical untangling.

The tools to loosen these coils are now actively in hand. Globally unified

technical standards provide the mandatory blueprint to resolve ship-to-shore incompatibility and eliminate operational safety hazards at the quay. Concurrently, clear regional regulations are forcing a synchronized shift; by imposing parallel requirements on both shipowners and port authorities, frameworks like those in the European Union, China, and California are successfully aligning incentives and taming the historic "chicken-and-egg" dynamic. Finally, rigorous lifecycle cost modeling proves that the financial penalty of business-as-usual operations has become too steep to ignore, transforming shore power from a voluntary environmental gesture into a core requirement for commercial survival.

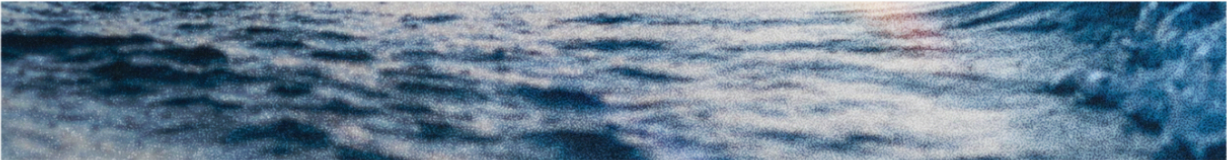
Ultimately, the potential of this technology is real, offering a direct pathway to eliminate 29 million tonnes of CO₂ emissions and save 3.5% of the global fleet's fuel consumption every year. Beyond these immediate atmospheric and public health benefits, shore power serves as an invaluable transitional stepping stone toward the broader electrification of global transport. By utilizing the structured business frameworks, safety standards, and economic pathways established by class leaders like DNV, the maritime industry is proving that it can tarnish the myth of the entangled giant. Through coordinated capital investment and rigorous engineering, the modern commercial Leviathan is actively loosening the coils, taming the operational chaos, and securing a sustainable maritime future. ■



- BTJ TRIP 2026-27 SEASON IS OPEN! -



We travelled the beautiful Baltic Sea region
far & wide, visiting 14 **seaports** in Finland,
Germany & Sweden **in 2022-26.**



YOUR STORY BELONGS **HERE TOO!**

- ping us at po@baltic-press.com -



ZERO EMISSIONS. POWERFUL PORT PERFORMANCE.

by Ricky Hirani, Director, Product Management Big Trucks, Hyster

Ports and terminals are under pressure to do more with less: move heavier loads in tighter spaces, reduce emissions and maintain high uptime in demanding, around-the-clock environments. That's where Hyster comes in.

With nearly a century of experience, Hyster has built a global reputation for manufacturing rugged materials handling equipment that thrives in the most intense environments on earth. In ports and terminals, that means building trusted solutions designed to help operators tackle everything from container handling to unpredictable breakbulk cargo with confidence. As emissions rules tighten and electrification initiatives gain momentum, many operations are rethinking the significant role that internal combustion engine (ICE) equipment has traditionally played in their applications. But decarbonisation doesn't have to come at the cost of performance. The Hyster® J10-18XD series of electric high-capacity lift trucks is designed to prove exactly that.

Adaptable ICE-like power for ports applications

Purpose-built for demanding port applications, the J10-18XD combines

zero-emission operation with the performance operators expect from equivalent diesel-powered equipment. It features a capacity range of 10 to 18 tonnes and an integrated lithium-ion battery system that delivers instant torque, smooth control and consistent power across grueling duty cycles, helping teams maintain throughput while supporting strict sustainability targets. Flexibility matters in busy ports and terminals, where every second counts. And, because every operation is unique, the truck can be tailored to meet your operation's needs. With a configurable battery system and fast and opportunity charging, the J10-18XD can get up to approximately one hour of work time from just 11 minutes of charging at 90 kW. Plus, multiple performance modes allow operators to tailor deceleration and regeneration to suit specific tasks. Based on the selected mode, regenerative braking sends energy back to the battery, further increasing time between charges.

Streamlined maintenance and fleet reliability

The J10-18XD is also built with the operator in mind. The ergonomically designed high-visibility cab puts greater productivity within easy reach. Inside, there is more space, with the largest entry area in the industry; more control, with a full-color 7-inch screen displaying performance; and more comfort, with an exclusive lateral sliding seat, adjustable steering column and foot pedal. But even the best forklift only delivers value when it is in service. That's why the J10-18XD was designed with easy access to mechanical components, advanced diagnostics and low-maintenance electric systems to help reduce downtime and operating costs. The result is a truck that is ready for intensive use, day after day, with reduced maintenance demands and zero tailpipe emissions. For ports and terminals looking to balance throughput and decarbonisation, the Hyster J10-18XD offers a compelling path forward. It is a heavy-duty electric forklift engineered for the realities of modern materials handling. ■



PHOTOS: HYSTER



What's the most dangerous data transfer in shipping – and how to spot & avoid it

SECURITY THROUGH DEPENDABLE WORKFLOWS & ADVANCED TOOLS

by Rob Preston, Senior Technical Sales Engineer, GTMaritime

Shipping has always been pragmatic. If something works, it stays. If it fails, people route around it. That instinct has served the industry well for decades, but in today's increasingly connected environment, it's creating a new – and often overlooked – cyber-security risk.

Modern vessels are no longer isolated systems. They are part of a constantly connected operational network, exchanging navigation data, compliance reports, maintenance updates, and business-critical information between ship and shore. With the rise of VSAT, LEO connectivity, and hybrid communications, expectations around digital performance have increased significantly. At the same time, cyber threats targeting maritime organisations continue to grow in frequency and sophistication. In this environment, the reliability of data transfer is no longer just an IT concern; it's a fundamental part of cyber resilience.

A hidden failure mode

Consider a familiar scenario: a vessel is scheduled to receive a critical software update. The connection is unstable, though. The transfer starts, stalls, resumes, and eventually appears to complete. There is no clear confirmation of integrity. The crew assumes the update is done. Later, it becomes clear that the files were incomplete or corrupted. The process is repeated. Eventually, under time pressure, a technician arrives in port with a USB drive to 'just get it done.' Nothing in that chain feels like a failure. Infact, at each step, the system 'nearly worked.' In cyber-security, that is often more dangerous than something that fails outright.

When a transfer fails completely, it's visible. It triggers investigation and resolution. When it nearly works, it creates a pattern of behaviour. Crew begin to compensate. Files are re-sent manually. Processes

that should be automated become dependent on human intervention. Physical media reappears because it feels more predictable. Over time, these workarounds become normalised. This is a hidden failure mode in maritime IT. It does not present as an incident. Rather, it presents as friction; and friction drives people to bypass controls.

Fragile necessity

The result is a gradual erosion of the security posture. Files are copied locally to 'be safe.' Policies are quietly ignored to meet operational deadlines. Patching is delayed because transfers cannot be trusted. Data is assumed to be complete when it is not. None of these actions are malicious. They are logical responses to unreliable systems.

USB usage is an obvious example of this dynamic. Despite years of investment in cyber defence, removable media remains widely used across fleets. Not because organisations are unaware of the risks, but because it solves a practical problem. When digital delivery is slow, unreliable, or unpredictable, physical transfer feels dependable.

However, that convenience comes with significant exposure. USB devices introduce a well-documented malware vector. They bypass network-based controls. They often lack proper audit trails. In regulated environments, this creates compliance challenges alongside security risks. Frameworks such as the International Maritime Organization's cyber risk management requirements and TMSA increasingly expect demonstrable control over data flows. Physical media makes that harder

to achieve. The issue is not negligence; it's a necessity created by fragile systems.

Reliability vs pilling up (in)visible costs

This is why automated, encrypted, and integrity-checked transfer should be viewed not as an IT enhancement but as a core risk control. Reliability is cyber-security's quiet sidekick. It determines whether controls survive real operating conditions. A perfectly designed security policy is irrelevant if the underlying system cannot deliver updates consistently. If patches do not arrive, vulnerabilities persist. If training content fails to reach vessels, awareness degrades. If logs and reports cannot be transferred reliably, visibility is lost. The industry is not short of data; it lacks dependable delivery thereof.

Meanwhile, digitalisation on board continues to accelerate. E-navigation systems, performance monitoring tools, compliance platforms, and remote support solutions all depend on the continuous movement of data. Each additional system increases reliance on stable and predictable transfer mechanisms. More connectivity has not reduced this dependency – it has amplified it.

This creates a compounding effect. As fleets scale their digital capabilities, any weakness in data transfer becomes more significant. What was once an inconvenience becomes an operational risk. There is also a clear commercial dimension. Unreliable transfers increase the workload for both the crew and shore teams. IT departments chase failed deliveries instead of focusing on higher-value security tasks.



PHOTO: CANVA

Delayed updates can lead to downtime or degraded system performance. In some cases, incomplete or corrupted data can impact operational decision-making. These are not always visible costs, but they accumulate quickly across a fleet.

No drama!

The human layer is critical in this equation. Crews operate in demanding environments, often under fatigue and time pressure. They are not cyber-security specialists, nor should they be expected to manage complex data workflows. Systems that require constant monitoring, retries, or manual intervention increase the likelihood of errors; those that work quietly in the background reduce it. In maritime, 'user-friendly' does not mean intuitive interfaces or better dashboards. It means minimal interaction. The most effective systems are those that remove the need for human involvement altogether.

This is where the concept of 'data transfer without drama' becomes important. It is not a marketing phrase; it's an operational requirement. Reliable transfer should be invisible. Regardless of connectivity conditions, files should move automatically, securely, and completely. Interruptions should be handled seamlessly. Integrity should be verified

without user input. Audit trails should be available without additional effort.

Achieving this requires a shift in how solutions are evaluated. Buyers often focus on features, performance metrics, or cost. Less attention is paid to behaviour under real-world conditions, particularly when vessels are offline or operating with limited bandwidth. Before signing the next technology contract, organisations should ask a simple question: what happens when the vessel is offline? If the answer is unclear, it's not resilience that's on offer; it's a cat-in-a-bag special in the form of future workarounds. A yield-less venture with a headache ROI...

A resilient approach to data transfer typically includes several key principles. Store-and-forward capability ensures that data is not lost during connectivity gaps. Automation removes the need for crew intervention. Encryption protects data in transit. Integrity checks confirm that files arrive complete and unaltered. Resume functionality allows transfers to continue without restarting from scratch. Comprehensive logging provides visibility and supports compliance. None of these elements are new in isolation. The

challenge is ensuring they work together consistently in the maritime environment, where connectivity is inherently variable.

Secure ≠ complex

As the industry continues to digitise, the margin for error is shrinking. Cyber-security is no longer defined solely by firewalls and endpoint protection. It is shaped by the reliability of everyday processes. The most secure environments are not necessarily the most complex. They are the ones where systems work so consistently that nobody feels the need to bypass them.

This is particularly important as regulatory pressure increases and cyber risk becomes more visible at the board level. Organisations are being asked not just to implement controls, but to demonstrate that they work in practice across entire fleets operating in inconsistent conditions. Reliability is what turns policy into reality.

In shipping, security is built as much through dependable workflows as through advanced tools. The most dangerous data transfer is not the one that fails; it's the one that nearly works, because that is the one people learn to live with. ■



GTMARITIME GTMaritime delivers reliable maritime IT solutions, keeping 17,500 vessels connected, compliant and secure worldwide, daily. Visit gtmaritime.com to learn more.

IN SIGHT

by Maximilian Reimann, *Team Leader Maritime Operations Management*, Christoph Martius, *Scientific Researcher*, and Ole John, *Head of Department Ship and Information Management, Fraunhofer Center for Maritime Logistics and Services*

The maritime industry is facing a growing number of security-related challenges that are increasingly pushing traditional monitoring and control approaches to their limits. Besides traditional risks such as marine accidents or severe weather, deliberate disruptions and hybrid threats are on the rise: sabotage of subsea cables, GNSS jamming and spoofing, or drone flights over ports and terminals demonstrate that maritime infrastructure has become an integral part of hybrid threat scenarios. Port authorities, waterway administrations, and offshore operators, therefore, face challenges in providing a robust maritime situational picture under dynamic conditions.

Until now, maritime monitoring and surveillance have relied primarily on stationary sensor systems. Radar stations, AIS receivers, and cameras are permanently installed and configured to cover specific, predefined areas. Their deployment involves significant administrative, organisational, and infrastructural effort. While fixed systems provide a continuous flow of data, they are limited in their coverage and adaptability. High investment costs, lengthy approval processes, space requirements, and complex IT integration contribute to long lead times for deployment.

In rapidly changing situations, such rigid structures can only respond to a limited extent. Furthermore, data sources are often evaluated in isolation, meaning that the interactions between cyber and physical events remain only partially visible.

From static to responsive

One way to overcome these limitations is to deploy mobile, adaptive, multi-sensor platforms. Rather than relying solely on fixed infrastructure, such platforms

can be rapidly moved to where they are currently needed the most. Land-based and waterborne sensor platforms shift the monitoring paradigm from static presence to demand-driven responsiveness – without prolonged set-up phases or permanent alterations to existing infrastructure. Such systems can be put into operation within a very short time and removed just as quickly once an operation is concluded. They complement stationary solutions and significantly expand the scope of action for operators and authorities.

The real challenge, however, lies not only in data collection but also in processing the resulting volumes efficiently: vessel movements, radio signals, GNSS data, radar information, operational data, and environmental parameters. Only by intelligently linking these sources can a consistent maritime situational picture be created.

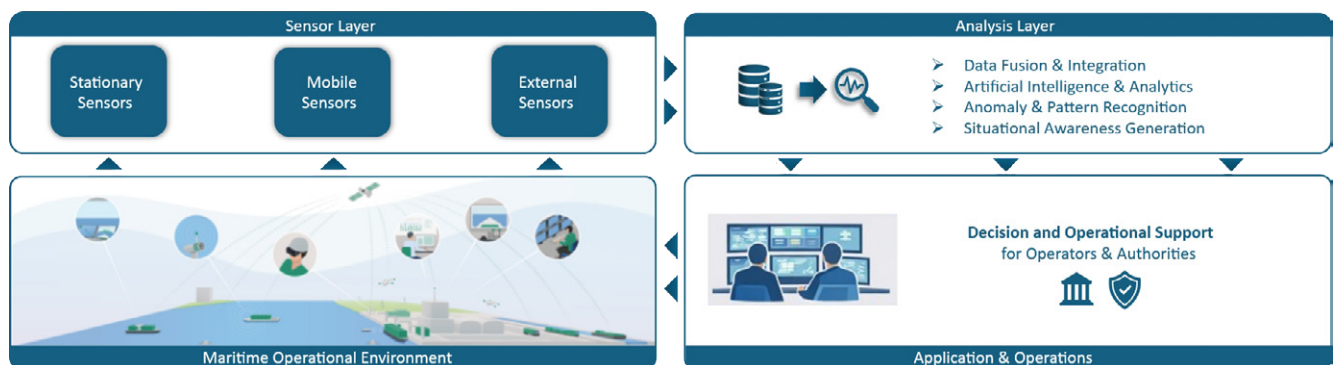
For operators of critical maritime infrastructure, this approach means not only more data but also better decision-making. Ports, terminals, offshore wind farms, or key waterways can be monitored in a targeted and needs-based manner – without

having to install new fixed systems across entire areas. AI-driven analytics detect anomalies – such as suspicious vessel movements, disruptions to navigation signals, or drone overflights – prioritise events and reduce false alarms, crucial in a crisis.

Monitoring thus evolves from mere observation to a proactive situation assessment that actively supports decision-making. These systems do not replace human judgment – they enhance transparency and situational awareness.

To identify and assess threats – across air, sea, and cyber

The Fraunhofer Center for Maritime Logistics and Services combines expertise in data and sensor fusion, system integration, and AI-based decision support. By combining real infrastructure with an in-house analytics platform, research concepts can be validated directly under real-world operating conditions. To this end, Fraunhofer CML operates a sensor network of four mobile, adaptive, multi-sensor platforms. Three land-based cell-on-wheels and the research vessel *Vektor*,



serving as a maritime carrier platform, form the core of this network.

Equipped with a wide range of sensors, this combination makes it possible to capture the maritime domain from both land and sea, and to merge these different perspectives into a single common situational picture. All collected information is fused into a cyber-physical situational picture within an independent (and safe) data and analytics platform. AI and analytical tools – for example, for traffic flow analysis or speech recognition – are used to extract relevant information from data streams and to link them in a way that creates operational value.

Building on the data and analytics platform, Fraunhofer CML develops application demonstrators for various use cases as part of its research and development. For example, the adaptive, mobile multi-sensor platforms are being used in the **DIEB** research project (data-driven identification, assessment and addressing of hazards for LNG terminals) to supplement the situational picture at the LNG terminal in Wilhelmshaven with additional data sources. Based on this enhanced situational picture, data-driven algorithms are being developed to identify and assess threats posed by espionage and sabotage activities across the domains of air, sea, and cyber. The goal is to shorten response times significantly in addressing these threats.

The DIEB project is being carried out in collaboration with Niedersachsen Ports and other industrial and governmental partners, including the Association for Unmanned Aviation, the



PHOTOS: FRAUNHOFER CENTER FOR MARITIME LOGISTICS AND SERVICES

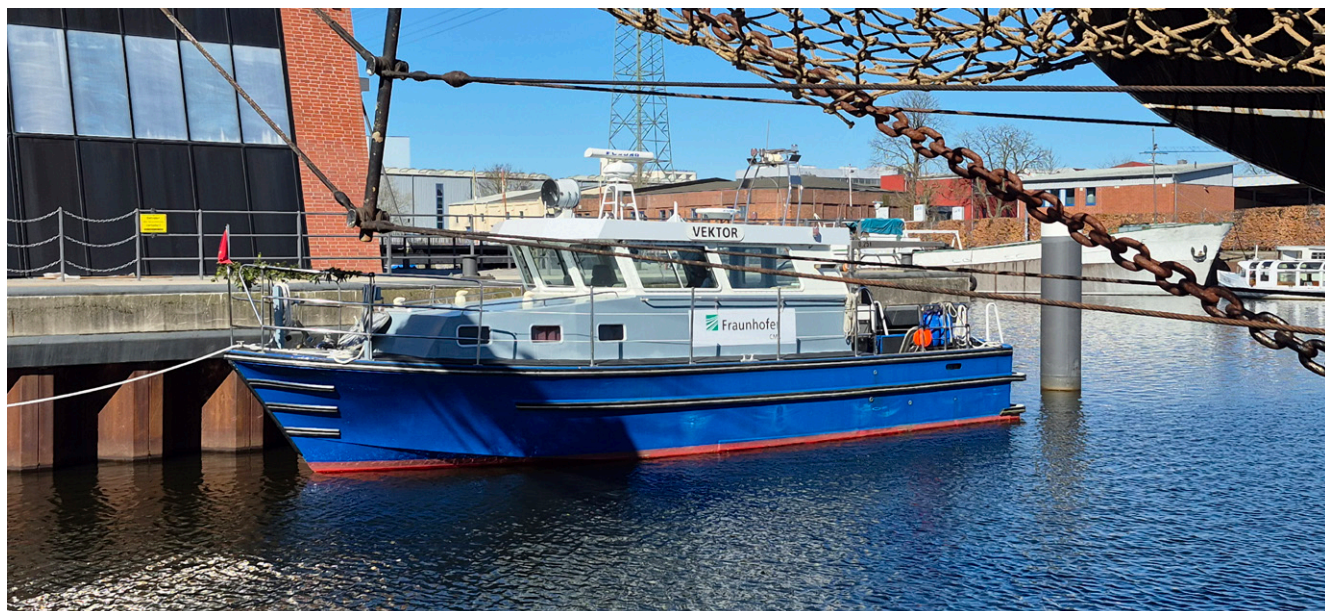
German Federal Waterways and Shipping Agency, Deutsche Energy Terminal, the State Office of Criminal Investigation of Lower Saxony, and the German Navy. The Federal Ministry of Research, Technology and Space funds the project as part of the Research for Civil Security programme.

Flexible scaling within hours

The development of AI-supported situational awareness systems and the integration of adaptive, mobile multi-sensor platforms represent an important step towards greater maritime resilience. One conceivable scenario would be the rapid deployment of mobile sensor platforms around a sensitive port facility or along

a heavily trafficked waterway to provide a robust, context-specific situational picture within a matter of hours in response to a changing threat level.

The future of maritime security does not lie in replacing stationary systems but in strategically complementing them with mobile multi-sensor platforms and utilising the data they generate wisely. These platforms enable flexible scaling of monitoring capabilities and direct integration of data-driven analytics into operations. For operators of maritime infrastructure, this ultimately means greater responsiveness, increased transparency, and enhanced resilience in the face of dynamic threat scenarios. ■



Ships on wings: from technological curiosities to a new class of future-aligned transportation

MOUNTING A COMEBACK

by Kristine Carjova, Dr.sc.ing., Senior Researcher, TalTech Estonian Maritime Academy,
and Kristin Kerem, CEO, Refit & Maintenance

The drive towards increased efficiency in maritime transport has renewed interest in alternative modes of coastal mobility. Among them, a wing-in-ground (WIG) craft exploits aerodynamic advantages when flying near the water's surface and offers the potential for significantly reduced energy consumption and higher speeds compared to traditional ferries or surface vessels.

Historically, however, WIG crafts (known under many names: ground/surface-effect vehicle/craft/machine, wingship, flarecraft, ekranoplan, or screenglider) have faced commercial stagnation. Several established companies have nevertheless persisted in developing the technology. Aron Flying Ship in South Korea since 2008 and AirX (previously Wigetworks) in Singapore since 2004 continue to advance Lippisch-based¹ designs for operational readiness. More recently, a new generation of developers has emerged, among them REGENT Craft in the US, actively developing all-electric WIGs intended for zero-emission coastal transport since 2020.

Tech curiosities

Experiments dating back to the early-to-mid-20th century^{1,2,3} showed that flying just a few metres above the water dramatically increases lift and reduces drag, improving efficiency and payload capability. Soviet-era⁴ ekranoplans proved that large WIG vehicles could indeed reach high speeds, but their practical use remained limited. Most designs struggled with wave tolerance, harbour manoeuvrability & stability issues, demanded specialised piloting skills due to the unique handling characteristics of ground-effect flight, and required long take-off runs.

As such, WIG crafts remained technological curiosities rather than practical transport solutions. But their ability to operate without runways and follow direct over-water routes continued to attract interest in their potential advantages. The renewed wave of development observed today builds on lessons from these early attempts, combining improved control systems, lighter materials, and clearer operational strategies to address shortcomings that historically prevented widespread adoption.

Four steps to a successful liftoff

An analysis covering the companies above shows that advancement is shaped by several interconnected factors: technological & certification readiness, organisational capability, market alignment, and safety & operational compliance.

To move beyond experimental status, a WIG craft must demonstrate stable performance in varying sea states, predictable low-speed manoeuvrability, and the ability to satisfy emerging regulatory expectations. Earlier concepts frequently failed in one or more of these areas, highlighting the importance of mature testing programmes and a clear path towards classification.

Developing WIG crafts requires sustained engineering effort, interdisciplinary expertise, and structured design & testing processes. Companies that can secure stable funding, maintain experienced teams, and coordinate development activities effectively are more likely to achieve consistent progress.

Commercial success depends on whether a WIG craft can offer operators a clear value proposition, including high speed, energy efficiency, emission reductions, and route suitability. Integration with existing port infrastructure and early engagement with coastal communities influence acceptance and determine whether operators view WIGs as practical additions to their networks.

Any commercially viable WIG craft must satisfy modern safety expectations. This involves control systems, stability augmentation, and predictable handling characteristics that enable safe operations within maritime environments. Without robust safety foundations, broader deployment remains unlikely.

Comparison of developers

Applying these success factors to the three active WIG developers reveals

significant differences in their maturity and strategic positioning. The comparative evaluation ranked REGENT Craft highest with a score of 77, followed by Aron Flying Ship with 52, and AirX with 42.

Aron Flying Ship and AirX benefit from long development histories and accumulated operational experience with Lippisch-derived configurations. Their strengths are in refinement, repeated prototype testing, and a solid understanding of stability & control behaviour in ground effect. However, both operate with comparatively modest financial and organisational resources, which limits their ability to scale production or accelerate certification efforts.

REGENT Craft has achieved a higher overall result due to strong investor engagement, a broad portfolio of commercial partners, and a development model that integrates aerodynamic innovation with electric propulsion, digital control systems, and hydrofoil-assisted operation.

All three companies aim to address the same operational and regulatory challenges. Their varying levels of resource capability, investment, and technological innovation explain why their progress diverges. REGENT Craft was chosen for a closer look, as its strategy aligns most strongly with the

¹ Alexander Lippisch developed ground-effect configurations in the 1960s, most famously the X-113 and X-114 prototypes.

² Alexander Espenlaub (Germany, 1920s-30s) conducted low-altitude glider experiments that demonstrated early manifestations of the ground-effect phenomenon

³ Claude Dornier (Germany, 1920s-30s) led flying-boat development, whose near-surface take-off and landing trials provided early empirical observations of ground-effect lift.

⁴ Toivo Juhani Kaario (Finland, 1930s) considered the first to experiment with motor-powered ground-effect craft.

⁵ Rostislav Alexeyev (Soviet Union, 1960s-80s) developed KM Caspian Sea Monster, Orlyonok series, Lun-class.



PHOTOS: REGENT CRAFT

success factors outlined above and demonstrates how a new generation of developers is redefining the WIG concept.

Resources + testing + commitment

REGENT Craft aims to develop a fully electric, zero-emission WIG craft intended to combine maritime accessibility with aircraft-like speed and comfort. Interviews confirmed that the development strategy centres on integrating advanced propulsion technologies, digital control systems, and, potentially, future AI-supported functions to enhance operational predictability & safety.

The company's product development focuses on two models: *Viceroy*, a 12-seat craft prototype that saw its first sea trials in 2025, and *Monarch*, a 50-100-seat variant aimed for commercial operation by 2028. The former is expected to reach speeds of up to 291 km/h with a range of 290 kilometres, operating solely on battery power recharged at ports. The latter is projected to achieve a 650-km range with a significantly higher payload capacity.

Over the past five years, REGENT Craft has secured several billion US dollars in pre-orders through pre-sale agreements and strategic collaborations, supported by a wide

investor base comprising airlines (23.5%), ferry and shipping operators (17.8%), logistics companies (3.9%), strategic corporate (5.0%) & individual investors (10%), and venture capital firms (40%). The company maintains the largest portfolio of technical development collaborations, community engagement initiatives, and commercial distribution agreements among the evaluated WIG developers. These include partnerships with Hawaiian Airlines, Japan Airlines, and Surf Air Mobility; Brittany Ferries and UME Shipping; and strategic industrial partners such as TotalEnergies, Lockheed Martin Ventures, and Yamato Holdings. Regulatory readiness is supported through cooperation with Lloyd's Register and test approvals from the U.S. Coast Guard. REGENT Craft has announced a \$322 million investment plan for a dedicated manufacturing facility in Rhode Island, with \$100m raised to date.

In the comparative evaluation, REGENT achieved the highest environmental score owing to its fully electric propulsion strategy and integration of

sustainability objectives across technical, operational, and commercial planning. Although its models are still in prototype and design stages, the company's ability to mobilise resources, accelerate testing, and secure high-value commitments from operators gives it a strategic advantage over more established competitors.

Commercial reality push

After almost a century of episodic progress, WIG crafts are re-entering the innovation cycle with new momentum. Modern engineering tools, digital control systems, and the shift towards electrified maritime mobility are turning their challenges into advantages. They might even compete with both ferries and regional aircraft.

The approaches taken by WIG craft developers show the field is no longer defined by technical curiosity but by a clear push towards commercial reality. WIG crafts may soon deliver a new class of fast, efficient, and climate-aligned coastal transportation. ■

**TAL
TECH**

The Estonian Maritime Academy, a structural unit of the Tallinn University of Technology (TalTech), provides multi-level education and carries out professional research in marine sciences and fields related to them, making it the only competence centre of its kind in Estonia. Sail to taltech.ee/en/estonian-maritime-academy to discover more.

OFF THE FENCE

by Linda Sørensen, Head of Marine, Quadrise

The shipping industry is undergoing a decisive transformation, but the pace of change is mismatched with the tools available to deliver it. Practical progress remains constrained by uncertainty over fuel availability, infrastructure readiness, and the escalating cost of regulatory compliance. Shipowners are being asked to decarbonise faster than the supply chain can support, and the gap between ambition and operational reality is widening.

The sector's caution around alternative fuels is unavoidable. Green ammonia, methanol, and e-fuels are central to long-term decarbonisation plans, but today they remain limited in supply, expensive to scale, and reliant on infrastructure that will take decades to build. Safety frameworks and certification pathways are advancing, but not fast enough to give the market the confidence to commit. Meanwhile, compliance obligations continue to rise.

Nowhere near sufficient

Regional regulation is now accelerating the industry's exposure to carbon costs. FuelEU Maritime (FEUM) and the EU Emissions Trading System are reshaping compliance planning by tying greenhouse gas (GHG) intensity directly to fuel choice and requiring owners to show measurable emissions reductions every year. FEUM's introduction in 2025 has already pushed operators to re-evaluate fuel strategies, integrate efficiency technologies, and quantify the financial impact of every percentage point of GHG performance. The EU ETS compounds those pressures by adding a rising carbon-price obligation that cannot be offset without some change to fuels.

This is forcing owners to make strategic decisions on their own transition pathways before the global regulatory

pathway is fully settled. And in October 2025, the International Maritime Organization's Marine Environment Protection Committee added another layer of uncertainty by postponing adoption of a mandatory Net-Zero Framework for shipping until October this year. That delay extends the period in which shipowners must make high-stakes fuel and compliance decisions without clarity on the long-term structure of global rules. It reinforces the commercial need for practical options that cut emissions immediately, reduce exposure to carbon costs, and remain compatible with future regulations – regardless of which long-term fuel pathway ultimately dominates.

At the same time, the physical capacity to convert the global fleet to alternative fuels is nowhere near sufficient. **Lloyd's Register estimates** only 16 shipyards worldwide possess the expertise and facilities required, with a combined annual capacity of just 300 conversions, located primarily in China and the Middle East. By the mid-2030s, this capacity is expected to support as little as 10% of projected demand. Furthermore, conversion lead times are already lengthy, averaging 18 months according to Everllence (formerly MAN Energy Solutions); in 2024, only three vessels were converted to run on methanol,

highlighting the significant challenges in scaling alternative fuel adoption. In such an environment, near-term decarbonisation solutions are essential.

Tested & ready to scale

Emulsion fuel technologies have emerged as one of the few pathways capable of delivering immediate emissions reductions at scale without requiring new engines, newbuilds, or disruption to established bunkering processes.

The Quadrise MSAR® and bioMSAR™ fuels are at the forefront of this opportunity. By converting heavy fuel oil (HFO) into a low-viscosity oil-in-water emulsion, they deliver measurable emissions reductions and compliance benefits through existing systems and at significantly lower cost than alternative-fuel adoption. MSAR® reduces CO₂ emissions by up to 9.0% compared to HFO. bioMSAR™, which incorporates renewable bio-components, achieves over 20% emissions reductions. Both fuels cut NO_x emissions by up to 45% and eliminate visible particulate soot, while improving combustion efficiency.

This performance is already compatible with over 40% of the world's installed marine diesel engine capacity. Production can be scaled rapidly using modular, containerised units deployable at refineries and terminals in months

– not years – and at a fraction of the cost associated with building green fuel infrastructure.

In recent years, Quadrise has collaborated with leading maritime partners to test and prove the viability of MSAR® and bioMSAR™ in a live operational environment. Our company conducted a 1,500-hour operational trial with Maersk aboard the 48,788-gross tonnage *Seago Istanbul*, using fuel produced at Cepsa's San Roque refinery in Spain, which demonstrated MSAR's™ end-to-end performance capabilities, from refinery production to bunkering and combustion. A successful trial has also been undertaken on a MAN 4-stroke engine for Sparkle Power in Panama, expanding the fuels' application potential, and further trials are planned for Morocco in collaboration with the OCP Group.

On the front foot

A mix of transitional and transformative solutions will ultimately shape shipping's decarbonisation. But meeting long-term goals depends on the choices made now, not the fuels that might become available in the 2030s or 40s.

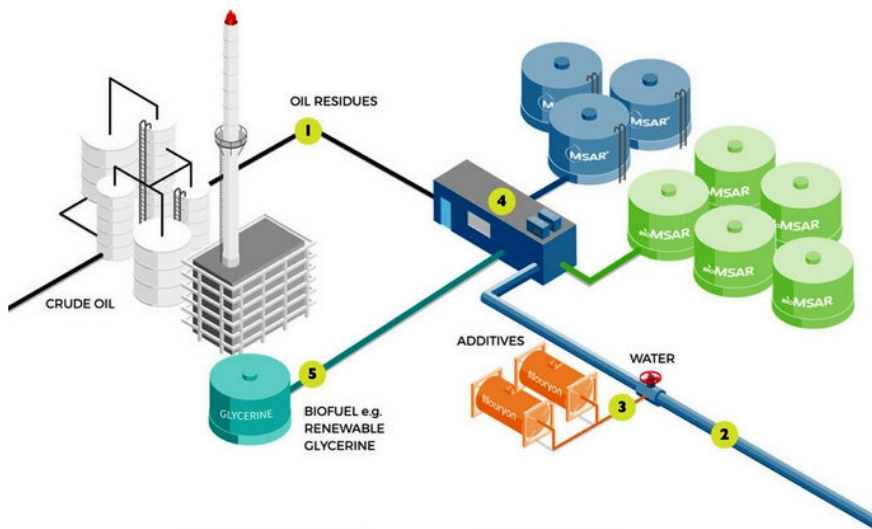
With regulatory pressure rising, carbon costs increasing, and global rules still taking shape, the industry is entering a period where delay carries its own operational and financial risk. Geopolitical uncertainty – be it shifting tariffs, evolving trade patterns, and the impact of conflicts on voyage routes – adds further pressure on owners' bottom lines, making costly investments even harder to justify. This is the moment and opportunity for owners to come off the fence – not by locking into a single fuel pathway, but by adopting solutions that deliver immediate, verifiable progress while preserving strategic flexibility.

Emulsion fuels provide that option; they lower emissions today, reduce exposure to carbon pricing, and avoid dependence on infrastructure that does not yet exist. Quadrise's technologies give shipowners and refiners a practical, scalable way to stay ahead of regulation, protect competitiveness, and maintain freedom of choice as the long-term fuel landscape evolves.

Acting now is not about choosing winners. It is about ensuring the industry remains on the front foot while the future of global fuel regulation and supply continues to take shape. ■



PHOTOS: QUADRISE



- 1 Oil residues are taken from the refinery or heavy oil production and cooled to under 200°C to achieve the required viscosity.
- 2 Water, which can be derived from several utility or waste-water sources is added to the residue.
- 3 Special additives provided by our long term chemical technology partner Nouryon are included in the water phase to stabilise the emulsion for long-term storage and transport, and to promote complete combustion.
- 4 The mixture is processed in a proprietary emulsion module to produce a highly-stable oil-in-water emulsion with enhanced fuel properties.
- 5 A biofuel component such as renewable glycerine can be added to produce bioMSAR™ as an alternative to MSAR® for further carbon dioxide savings. bioMSAR™ and MSAR® can be made interchangeably and are compatible with each other.



Quadrise is an energy technology provider whose solutions enable the production of cheaper, cleaner, simpler, and safer alternatives to fuel oil and biofuels, proven in real-world applications. Go to quadrise.com to learn more.



Baltic Transport bimonthly-daily companion
Journal



170+ operators
620+ ports
1,130+ services
1,150+ terminals



EUROPEAN
TRANSPORT
MAPS

EUROPE:

all over the ro-ro & ferry,
container, and rail maps

www.europeantransportmaps.com



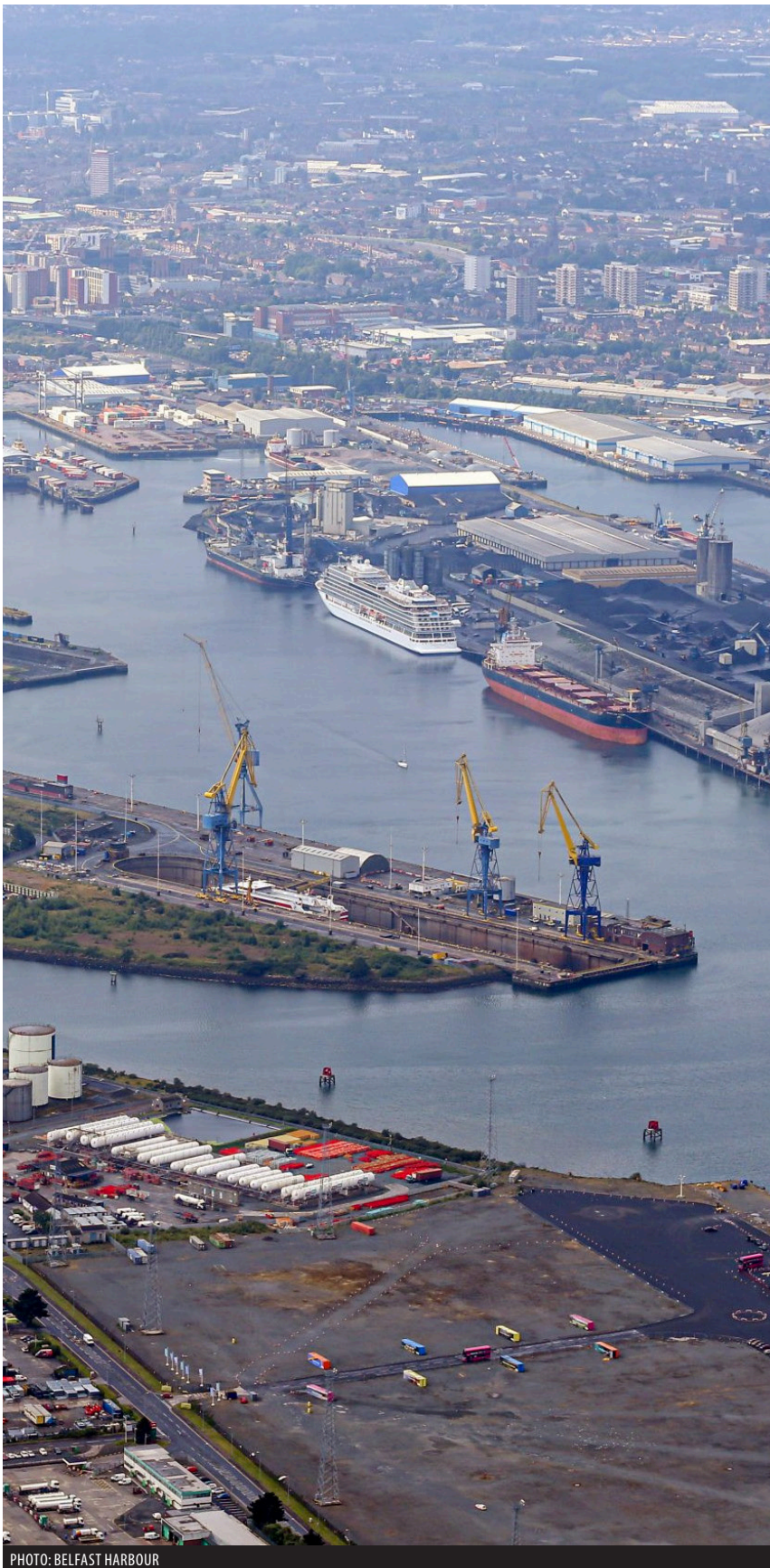


PHOTO: BELFAST HARBOUR

PORT GEAR

Publisher

BALTIC PRESS SP. Z O.O.
Address: Aleja Zwycięstwa 96/98
81-451 Gdynia, Poland
office@baltictransportjournal.com

portgear.org

www.baltictransportjournal.com
www.europeantransportmaps.com
www.linkedin.com/company/baltic-transport-journal

President of the Board
BOGDAN OŁDAKOWSKI

Managing Director
PRZEMYSŁAW OPŁOCKI

Editor-in-Chief
PRZEMYSŁAW MYSZKA
przemek@baltictransportjournal.com

Issue Editor
ANDRZEJ URBAŚ

Proofreading Editor
EWA KOCHAŃSKA

Contributing Writers
KRISTINE CARJOVA, RICKY HIRANI,
OLE JOHN, KRISTIN KEREM,
CAROLINE KUERT, CHRISTOPH MARTIUS,
ROB PRESTON, MAXIMILIAN REIMANN,
LINDA SØRENSEN

Art Director/DTF
DANUTA SAWICKA

Head of Marketing & Sales
PRZEMYSŁAW OPŁOCKI
po@baltictransportjournal.com

If you wish to share your feedback or have information for us,
do not hesitate to contact us at: editorial@baltictransportjournal.com

Contact us:
PRZEMYSŁAW OPŁOCKI
tel.: +48 603 520 020

Cover
Informa/TOC Europe



Subscriptions

Go to www.baltictransportjournal.com and click:
SUBSCRIPTION or contact us at
subscription@baltictransportjournal.com